



Environmentally sound management of hazardous wastes containing POPs and Mercury

Part I: Project Information

GEF ID

10721

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT

NGI

Project Title

Environmentally sound management of hazardous wastes containing POPs and Mercury

Countries

Panama

Agency(ies)

UNDP

Other Executing Partner(s)

Ministry of Health

Executing Partner Type

Government

GEF Focal Area

Chemicals and Waste

Taxonomy

Chemicals and Waste, Focal Areas, Persistent Organic Pollutants, New Persistent Organic Pollutants, Polychlorinated Biphenyls, Unintentional Persistent Organic Pollutants, Open Burning, Mercury, Emissions, Plastics, Best Available Technology / Best Environmental Practices, Waste Management, Hazardous Waste Management, Sound Management of chemicals and waste, Influencing models, Strengthen institutional capacity and decision-making, Stakeholders, Type of Engagement, Consultation, Information Dissemination, Private Sector, SMEs, Communications, Behavior change, Awareness Raising, Civil Society, Non-Governmental Organization, Gender Equality, Gender results areas, Knowledge Generation and Exchange, Participation and leadership, Capacity Development, Gender Mainstreaming, Sex-disaggregated indicators, Gender-sensitive indicators, Beneficiaries, Women groups, Capacity, Knowledge and Research, Knowledge Generation, Training, Learning, Adaptive management, Theory of change, Indicators to measure change

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

259,350.00

Submission Date

9/28/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CW-1-1	GET	2,730,000.00	19,000,000.00
	Total Project Cost (\$)	2,730,000.00	19,000,000.00

B. Indicative Project description summary

Project Objective

Prevent, Reduce and Eliminate the presence and emission of POPs and Mercury in Panama to protect public health and the environment in compliance with the Stockholm and Minamata Conventions.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Strengthening legal and institutional capacities for sound management of POPs and Mercury.	Technical Assistance	A) Legal and institutional capacities for sound management of POPs and Mercury strengthened.	A1) Legal and regulatory framework for sound management and elimination of POPs and Mercury strengthened and enforcement enhanced. A2) Institutional coordination for sound management of POPs and Mercury strengthened (including national training programme)	GET	300,000.00	800,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
2. Prevention and reduction of POPs emission.	Investment	B) Unintentional POPs emission from waste burning and incineration reduced (6 gTEQ/yr)	<p>B1) Programme to decrease incidence of waste burning of dump sites/landfills and of hospital's waste disposal in Panama developed and implemented.</p> <p>B2) Pilot projects (2) for PCCD/Fs reduction emission through BAT/BEP implementation in a dump site combined with plastics waste minimization in touristic area.</p> <p>C1) PCB contaminated equipment elimination plan established based on full national inventory.</p> <p>C2) Two hundred (200) t of PCB equipment and waste from sensitive sites eliminated.</p> <p>C) Sound elimination of PCB contaminated equipment/material achieved (200 ton)</p>	GET	1,180,000.00	8,050,000.00
			D1) Programme for reduction of use of Expanded Polystyrene (with prevention as basic			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
3. Prevention and Minimization of Mercury Emissions.	Investment	E) Mercury emissions in the Health Sector prevented and reduced through the implementation of good practices and improved management of mercury containing products and wastes (350 kg).	E1) Pilot projects (5) for replacement of mercury containing equipment/products and establishment of a management and temporary storage system of mercury waste, in large hospitals and small priority health centres. E2) Pilot projects (2) in hospitals for reduction of emission of mercury through prevention and application of BAT/BEP for management and disposal of waste.	GET	870,000.00	8,550,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)	
4. Monitoring, Evaluation and Dissemination of Project Results and Awareness-Raising and Training	Technical Assistance	F) Project results monitored, evaluated and disclosed.	F1) M&E and adaptive management applied in response to the needs and results of the mid-term assessment. F2) Lessons learned and best practices extracted and disseminated at the national, regional and global level.	GET	250,000.00	650,000.00	
Sub Total (\$)					2,600,000.00	18,050,000.00	
Project Management Cost (PMC)							
					GET	130,000.00	950,000.00
Sub Total(\$)					130,000.00	950,000.00	
Total Project Cost(\$)					2,730,000.00	19,000,000.00	

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Government of Panama (Health Ministry)	In-kind	Recurrent expenditures	10,500,000.00
Recipient Country Government	Government of Panama (Waste Authority)	In-kind	Recurrent expenditures	5,000,000.00
Recipient Country Government	Public Hospitals (CSS, MINSA), Canal Authority	In-kind	Recurrent expenditures	1,500,000.00
Private Sector	Panamanian Electricity Sector Companies	Grant	Investment mobilized	500,000.00
Private Sector	Private Hospitals	Grant	Investment mobilized	1,200,000.00
Private Sector	Panamanian Construction Companies	Grant	Investment mobilized	300,000.00
			Total Project Cost(\$)	19,000,000.00

Describe how any "Investment Mobilized" was identified

Co-financing was estimated based on preliminary discussions with public entities and private companies. Final amounts must be confirmed during project preparation (PPG development). The amounts listed under Investment mobilized are indicative figures based on preliminary discussions with the co-financiers. The final amounts will be confirmed during the PPG phase. Investment mobilized refers to additional investment that the private sector companies would have to do as a result of the project and can therefore not be considered recurrent expenditures. Recurrent expenditures have been listed under the Government in-kind contributions. Whereas the project will receive real and tangible support from the Ministry of Health, the human resources (as well as other resources) will be part of the annual budget that is being allocated to the Ministry.

D. Indicative 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	Panama	Chemicals and Waste	POPs	1,720,000	163,400	1,883,400.00
UNDP	GET	Panama	Chemicals and Waste	Mercury	1,010,000	95,950	1,105,950.00
Total GEF Resources(\$)					2,730,000.00	259,350.00	2,989,350.00

E. Project Preparation Grant (PPG)

PPG Required

PPG Amount (\$)

100,000

PPG Agency Fee (\$)

9,500

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Panama	Chemicals and Waste	POPs	100,000	9,500	109,500.00
Total Project Costs(\$)					100,000.00	9,500.00	109,500.00

Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	6765.94	0	0	0
Expected metric tons of CO ₂ e (indirect)	0	0	0	0

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

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

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

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	6,765.94			
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting	2023			
Duration of accounting	4			

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

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

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

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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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)
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202.85	0.00	0.00	0.00
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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)
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Select Polychlorinated biphenyls (PCB)	200.00			<input type="checkbox"/>
Select Hexachlorobutadiene (HCBD)	2.50			<input type="checkbox"/>

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)
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0.35

Indicator 9.3 Hydrochlorofluorocarbons (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)
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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)
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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)
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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)
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530.00

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)
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6.00

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)
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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)
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3

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

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	1,099			
Male	585			
Total	1684	0	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

6. Greenhouse gas emissions mitigated (metric tons of carbon dioxide equivalent) Component Sub-Indicators: Emissions avoided outside Agriculture, Forestry and Other Land Use (AFOLU) sector Due to the results of the prevention of waste burning at the national level, an impact on greenhouse gas emissions related to this activity is expected. Taking into account the estimated amount of material burned in landfills reported in the national inventory of dioxins and furans (65,660 t/year or 65.66 Gg/year) and using the methodology set out in Volume 5 (Waste) Chapter 5 (Incineration and Open Burning of Waste) of 2006 IPCC Guidelines for National Greenhouse Gas Inventories and the composition of waste in the National Waste Management Plan, emissions due to waste burning in the base scenario were estimated at 33,829.71 t CO₂ eq./year (19,269.60 t CO₂/year, 426.79 t CH₄/year and 9.85 t N₂O/year). In the scenario with the implementation of the project a reduction of 6,765.94 t CO₂ eq./year (equivalente to 20% of the total emissions) in the emissions of the sectors covered is estimated, thus achieving a reduction or prevention of 27,063.77 t CO₂ eq. for the 5-year period of the project, considering that a reduction in the emissions will be achieve from the second year of project implementation. The 100-year time horizon GWP values used are those published in the IPCC Fifth Assessment Report, 2014 (AR5).

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) Component Sub-Indicators: Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type) and Contextual Sub-Indicators: Quantity of products/materials containing POPs/Mercury directly avoided The PCB inventory (2008) identified 117 PCB equipment (230 t) in use and 419 PCB equipment (173 t) in disuse, totaling 403 t. This was obtained when an inventory of 21,654 transformers out of the 58,146 total transformers was performed (in 2007). If the 403 t amount is linearly extrapolated to the total national number of transformers, an amount of 1,084 t still present is determined. Alternatively, if it is considered an average contamination ratio of about 6% (as in other countries of the LAC region), the number of transformers would be about 3,600, which at the unit weight of the smaller distribution transformers (which are majoriy in figures) an amount of 1,260 t is obtained as existant. In the period between 2014 and 2017, Panama

eliminated 360 t of transformers, dielectric oils and PCB waste. Therefore, in the country there are between 724 and 900 t of PCBs contaminated materials that require to be disposed. The project proposes to eliminate 200 t (i.e. about 25% of total), which is equivalent to 70 t of contaminated oil. The national inventory of HBCD based on the import data and fabrication of expanded polystyrene products in 2017, indicates a annual production of 1,408.70 ts of EPS sheets which generates approximately 15 t of residues of EPS sheets containing HBCD that are not environmentally sound managed. Because EPS sheets are a fragile material in which losses due to improper handling or transportation occur, it is estimated that also a percentage of the product that is imported and sold for use in the construction sector is lost into waste, which can add another 15 t. Additionally, if it further considered that a reduction of use of 20% of EPS import/use will be sought with the project interventions, a total of 330 t of materias/waste will be obtained with HBCD content (2.5 t pure HBCD), representing about 22% of the total emissions for that period. Component Sub-Indicators: Quantity of mercury reduced and Contextual Sub-Indicators: Quantity of products/materials containing POPs/Mercury directly avoided Based on the results of the last official mercury inventory in Panama (2013), the liberation of mercury related to the use of mercury containing products in the medical sector is estimated to be 2,044.4 kg/year. Within the scope of the project, the reduction of 205 kg Hg for health products is estimated. In addition, health facilities at the national level also present the use of other general mercury products such as thermostats, mercury lamps, batteries and other laboratory products. It was estimated that the liberation of mercury from these type of products from the health sector included in this project is at least 150 kg. Therefore, a total reduction of about 350 kg of Hg is expected during the project period. Further analysis of potential additional contributions will be conducted during the PPG phase. Based on the results of the last official mercury inventory in Panama (2013), the emission of mercury related to the use of mercury containing products in the medical sector is estimated to be 500 kg/year. Within the scope of the project, the reduction of 100 kg Hg for health products is estimated. Contextual Sub-Indicators - Number of countries with legislation and policy implemented to control chemicals and waste: 1 10. Reduction, avoidance of emissions of POPS to air from point and non-point sources (grams of toxic equivalent g TEQ) According to the update of the Dioxins and Furans inventory (2015), the emission from category 6b, burning of waste and accidental fires, is 22.76 g EQT/year (39.81% of the annual total), which is the largest source of the total emission. Within that category, 20.35 g EQT/year corresponds to the burning of waste at dump sites and 2.41 g EQT/year to open burning of domestic waste. These two sources will be addressed in the project through the activities detailed in output B2. The reduction of most landfill-related releases and about 50% of domestic burns is expected to be reduced as part of the project's impacts, equivalent to 17.49 g EQT/year. In addition, a reduction of 1.67 g EQT/year of other unintentional POPs related to open cast burning is estimated. For emissions due to the incineration of medical waste, a minimum reduction of 1.68 g EQT/year is estimated. Another reduction of 0.912 g EQT/year is estimated, because of the strengthening of the legal framework, the subsequent implementation of the strategy for the integration of POPs and mercury wastes in the national waste management plan, segregation, treatment and/or disposal of waste that is generated due to the project activities. Based on the above, interventions in those sectors have the potential reduction of 21.75 g EQT/year, representing 38% of the total (according to the results of the last inventory of dioxins and furans - 2015). Project proposes to reduce about 25% relative to the potential reduction of this sectors, which is 6 gTEQ/yr. Contextual Sub-Indicators - Number of countries with legislation and policies implemented to control emissions of POPs to air: 1 Contextual Sub-Indicators -

Number of emission control technologies/practices implemented: 3: one in Output B2, one in output D2 and one in output E1 11. Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment. Based on the number of health care facilities in Panama, their classification (based on complexity of services provided), the government authorities (such as MINSA, MiAmbiente, Customs Authority, National Waste Authority, Senafront, etc.), private counterparts (such as the power distribution and construction companies, hotels, Colon Free Trade Zone, Panama Canal) and Civil society organizations that will be involved in the implementation of the project, it is estimated that The project will directly impact 1,684 persons through its different components (585 male and 1,099 Female). Indirectly, the project will impact 2,798,262 (1,399,131 male and 1,399,131 female) users of the health care network around the country. During the PPG phase further analysis will be conducted to estimate the impact of the project.

Part II. Project Justification

1a. Project Description

1) THE GLOBAL ENVIRONMENTAL AND/OR ADAPTATION PROBLEMS, ROOT CAUSES AND BARRIERS THAT NEED TO BE ADDRESSED (SYSTEMS DESCRIPTION)

Panama ratified the Stockholm Convention by the Act No.3 January 20, 2003, one of the first countries of Latin America. Panama presented in 2009 its first National Implementation Plan (PNI 2009), based on national studies and inventories carried out: pesticides, PCB, and unintentional POPs (Dioxins and Furans). Due to the effects on health and the environment derived from the wide application of these chemicals, the country has formalized the prohibition and elimination of various POP pesticides for agricultural use. Although Panama has made progress in the control and elimination of POPs pesticides and PCBs, which have allowed reducing risks in some sectors, it is necessary to strengthen the actions mostly in PCBs and extend them to other sectors related to the management of waste that must be addressed in view of the emission of unintentional POPs.

These needs were further reflected in the updated NIP that Panama prepared in 2019 (PNI 2019), which executed 8 studies/inventories in its preparation. Among them, the first inventories for the new POPs included in the Stockholm Convention after 2008 were developed . Considering that the new POPs are widely used in consumer goods and the near absence at national level of industries that use POPs in their production processes, the main challenge for the country is the prohibition of the entry of these products and the environmentally sound management of their waste.

Panama has mechanisms such as the National Environmental Information System, National Statistical System and the National Authority for Government Innovation that can facilitate the implementation of a more formal system related to the management of POPs.

Regarding the situation of the specific POPs, the problem that must be addressed is detailed below:

PCBs : The PCB inventory (2008) identified that the vast majority of PCBs were located in power distribution companies, with an estimated total of 117 PCB equipment (79 t PCB dielectric oil and 151 t empty equipment) in use and 419 PCB equipment (59 t dielectric oil with PCB and 114 t empty equipment) in disuse, in addition to 45 t of waste and oils with PCB, totaling 448 t. This was obtained when an inventory of 21,654 transformers out of the 58,146 total transformers (in 2007) was performed. If the 404 t amount (transformers weight only) is linearly extrapolated to the total national number of transformers, an amount of 1,084 t still present is determined. Alternatively, if it is considered an average contamination ratio as in other countries of the LAC region, of about 6%, the number of transformers would be about 3,600, which at the unit weight of the smaller distribution transformers (which are majority in figures) an amount of 1,260 t is obtained as existant. In the period between 2014 and 2017, through the efforts of most distribution and transmission companies, Panama eliminated 360 t of transformers, dielectric oils and PCB waste. Therefore, between 724 and 900 t of PCBs contaminated materials are still present in the country and have yet to be eliminated, from those that have not yet been fully inventoried by difficulties in access, identification and remotion, not only in the electrical distribution sector, but also all public bodies and the private sector with own PCB containing equipment. Preliminary information from the distribution companies indicates a current presence of approximately 10 t of PCB equipment in ENSA and 40 t of PCB equipment in Naturgy (EDEMET/EDECHI). These figures must still be confirmed.

Electric companies are limited by the costs that represent the interruption of the services for the withdrawal of the identified equipment, as well as the costs that the processes for the treatment and the appropriate final disposition entail. Identification of all PCB containing transformer equipment advances very slowly. It is necessary to develop a comprehensive programme to complete the inventory of the entire electrical system, as well as to establish control and coordination actions for the removal and disposal of these substances. There is no PCB elimination schedule in the country with mandatory compliance regulations, other than that of the Stockholm Convention. All public and private sector instances related to PCB equipment need to also be verified .

Dioxins and Furans and other unintentional POPs : The first revised dioxin and furan inventory in 2005 (adjusted baseline) resulted in a total emission of 25.92 g EQT/year and the second inventory in 2015 showed a 120% increase to a total emission of 57.2 g EQT/year. Four source groups: Open Burning Processes (40.5%), Sanitary Disposition/Landfills (24.3%), Production of Ferrous and Non-Ferrous Metals (copper wire burning) (11.7%) and Waste Incineration (14.2%) as a whole are responsible for 90.6% of the total emission of dioxins and furans. Waste burning in landfills is the category of greatest impact in the total emission with an estimated generation of 20.4 g EQT/year (35.6%) of the total. Clearly, open burning and waste incineration should be minimized for the reduction of unintentional POPs emission. Burning and incineration are directly related to waste management in the country. The most recent study and action plan for solid waste management in Panama was implemented by the National Waste

Authority (AAUD). The prevention and minimization of waste burning and incineration needs to be included in the National Waste Management Plan 2017 – 2027 (PNGIR) of AAUD.

In 2017, the Health Ministry (MINSA) adopted a resolution on hospital waste treatment systems prohibiting the final disposal of hospital waste in landfills or dumps. It is very likely that this resolution has further increased the amount of hospital waste being incinerated, as there is not ample availability of other technologies in the country.

New POPs. In 2018, the first inventories of other POPs included in the Stockholm Convention after 2008 were prepared, specifically PFOS, HBCD, PBDES and PCP. The inventories demonstrated a wide use of multiple products with possible content of POPs, mainly PFOS, HBCD and PBDES. There are no controls for identifying products with (new) POPs and they are not prohibited yet. Joint work between importers, Customs Authority and Ministry of Health is required to achieve a regulatory framework and effective control of products with these POPs substances . Nor, the country has the right technology and the capacity for the destruction of these substances or products containing new POPs , which is a challenge for the country as most applications are related to products that at the end of their life cycle are not managed correctly and are disposed of with other household waste.

Efforts are required to integrate the management of the new POPs into the different policies and plans of the related institutions, mainly those related to the regulation and control of waste. Panama currently does not have the technical capacity to address this problem and the presence and quantity of POPs in landfills and dump sites is unknown . Studies evidence a lack of knowledge on the part of key actors on the risks posed by these substances to health and the environment, limiting decision-making and control for environmentally sound management. The lack of available information is also reflected and awareness is required in relation to the new POPs and their risks, not only to the economic sectors related to these products, but also to the general population .

In Panama, the substance HBCD is not directly produced and the only identified use is for insulation purposes in construction, specifically related to the production and import of expanded polystyrene (EPS) and extruded (XPS) sheets. In the case of EPS, there are currently three industrial plants where the sheets are manufactured, using imported raw material in the form of expanded polystyrene beads that incorporate the HBCD flame retardant additive. In relation to XPS, there is no production of such sheets in the country. However, import of this type of product was identified, indicating 11.1 ton of pure HBCD contained in 1,449 ton of sheets and residues, mostly of type EPS (97.9%). However,

the quantities present in the buildings are unknown, which are significant due to the great boom of this type of light material in the construction sector in recent years due to the low costs in labor and other advantages.

The main challenges to be addressed in relation to HBCD management are: (i) Management of non-recyclable waste from production and end-of-life of products containing HBCD. There is currently no recycling of products containing HBCD at the end of life cycle; (ii) Raising awareness of key actors about the health and environmental risks associated with HBCD, as well as BAT/BEP, to gradually reduce national releases; and (iii) A strong regulatory framework and information available for environmentally sound management.

Mercury:

Panama deposited its instrument of ratification of the Mercury Minamata Convention in September 2015. In 2017, with the support of the Global Environment Facility (GEF) and the United Nations Development Program (UNDP), the country developed the project “Support in Initial Evaluation (diagnosis) and definition of national requirements and needs on mercury for the ratification of the Minamata Convention”.

The results of the diagnosis show that there is an active trade of mercury within the national territory and that there is no capacity for management, storage and adequate final disposal of waste from products with added mercury, e.g. fluorescent lamps, dental amalgams, batteries, among others. This represents one of the main challenges, since the three inventories of mercury emissions and releases carried out coincide that consumer products with intentional use of mercury, waste disposal and incineration are the largest sources of emission in the country, as well as potential contaminated sites with mercury.

The Minamata Initial Assessment (MIA) reflects that Panama has dispersed regulations and only certain individual capacities of the institutions in charge (MINSA, ANA, etc.) that support compliance with the requirements stipulated under the Agreement, that are required for the development of specific regulations for mercury and the control of mercury products in different sectors and in the country's free zones. It also highlights the need to strengthen coordination, monitoring of mercury releases, training of key actors and promoting the creation of a national strategy on the management of the complete life cycle of mercury products.

The facilities of the health sector are an important source of waste related to products with intentional use of mercury such as thermometers, medical tensiometers, dental amalgams, among others. Although by Resolution 560, issued by the Ministry of Health in 2017, the disposal of this waste is prohibited without being previously treated, practices such as mixing hospital waste with common waste and open burning often occur in certain areas. Therefore, it is important to intervene in the management of this waste to avoid affecting the health of the population and the environment.

According to the results of the last official inventory (2013), consumer products with the intentional use of mercury present a emission of 19,379 kg/year, which contribute 92.49% of annual emissions. Within this category the applications with the highest incidence in the total liberated are mercury batteries (18,278.7 kg/year), dental amalgams (521.09 kg/year), manometers and meters with mercury (511.11 kg/year) and fluorescent lamps with mercury (63.1 kg/year) . Similar to the results of the inventories of unintentional POPs , the disposal of waste in sanitary landfills and wastewater treatment plants, constitute the second largest source of emission (10.48%), within which the highest priority sites are informal landfills. In addition, the common practice of open cast burning of waste in landfills makes them potentially contaminated sites with a greater impact on the environment and the health of the population. The foregoing highlights the importance of proper waste segregation and the establishment of comprehensive waste management at the national level. It is estimated that emissions derived from specific products of the health sector (medical thermometers, medical tensiometers , dental amalgam , etc.) reach a total of 2,045.64 kg/year, of which the majority are associated with medical amalgams and tensiometers. It is also important to highlight that in the health facilities there is the presence of other products with mercury such as thermostats, lamps with mercury, batteries and others related to laboratories, so the contribution of the health sector to annual general emissions is significant compared to other economic sectors.

In this regard, progress has recently been made with the development of a technical standard for the comprehensive management of mercury wastes in public and private health facilities. This norm establishes that the health establishments must carry out an inventory of supplies, equipment and devices with mercury, that are in use, in stock or stored as waste and deliver it to the General Subdirectorate of Environmental Health, no later than 3 months after the entry into force of the standard.

The implementation of this standard in conjunction with the National Plan on the management of the complete life cycle of mercury products, contemplated in the 2018-2025 Action Plan, will allow compliance with the obligations of the Minamata Convention.

The following barriers were identified for elimination of POPs and the sound management of mercury:

- Legal framework: regulations that control the entry and use of POPs are dispersed and coordination of the law enforcement by different public bodies is lacking. Also, there is a lack of a legal framework related to new POPs management and elimination.
- Insufficient Technical and Analytical Capacity: control activities are limited due to lack of accredited laboratories for the detection of POPs in different media. (POPs pesticides are monitored by Ministry of Agricultural Development laboratories).

- Lack of updated and Consolidated Information: inventories reflect the lack of information available for the management of POPs and an organized system that may allow data collection.
- Lack of segregation of waste and therefore its inadequate final disposal in common waste landfills.
- Lack of information and mechanisms to control the entrance of pure mercury and/or products with added mercury in free zones and the prevention of being diverted for inappropriate uses under the Convention. It is considered that the volumes that may be transited through Panama (Panama Canal, the Colon Free Zone, etc.) are much larger than those found in the rest of the country, so their management should be a priority.
- A database or registry of importers of mercury and products with mercury has not yet been established.
- Lack of specific mercury regulations with regards to emission limits, waste management and disposal. There is currently no ban on mercury products in Panama, except for mercury-based fungicides.
- Limited institutional and technical capacity to address the analysis, monitoring and control of releases, awareness of Mercury, as well as coordination between institutions is required (Ministry of Health, National Customs Authority, Ministry of Environment, SENAFRONT, Public Ministry).
- No appropriate solutions for temporary storage and proper final disposal of mercury exist.

2) THE BASELINE SCENARIO AND ANY ASSOCIATED BASELINE PROJECTS

The first national studies and inventories conducted for PNI 2009 were those of POPs pesticides, PCBs, and unintentional POPs (Dioxins and Furans). Recently, Panama has updated its National Implementation Plan (PNI 2019) and has executed 8 studies and inventories in preparation for it. These included the first inventories of the new POPs included in the post-2008 Stockholm Convention.

Panama has an inventory of emissions and releases of mercury prepared in 2008, as well as an update of that inventory made in 2013, which have been developed by government entities under projects on mercury risk management at the national level and storage and disposal, with the support of the United States Environmental Agency (US EPA), the United Nations Institute for Training and Research (UNITAR) and the United Nations Environment Programme (UNEP). More recently (2017) the country initiated a project on “Support in Initial Evaluation (diagnosis) definition of national requirements and needs on mercury for the ratification of the Minamata Convention”, with support from the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) , with which have developed a series of activities in conjunction with the initial assessment of Minamata (MIA), whose results have been identifying sources of major mercury emissions and obtaining basic information for the preparation of the Action Plan 2018-2025 .

Specifically, the regulation of the entry of products with the new POPs has not been developed, issued and implemented, as part of the National Health Policy 2016 - 2025 and the 2017-2027 PNGIR guidelines; Bill 17 for regulating the “Integral Waste Management in the Republic of Panama” is under discussion as part of an essential public health issue.

Other baseline projects

UNIDO project “Strengthening national initiatives and improving regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Devices (WEEE) in Latin American Countries” financed by GEF (Project ID 5554) , which is the first initiative to improve the management of WEEE equipment at the end of its useful life in the country. The inventory has yielded a first estimate (level 1) of the presence of PBDES in electrical / electronic equipment, transport vehicles and other products with the following results: 269.4 tons in cables, 193.1 tons in WEEE, 26 tons in other products, 4.3 tons in vehicles and 17.2 tons in other products (such as foams and textiles).

These amounts add 510 tons of pure PBDES contained in various products with a total weight of almost 3,000 tons. It should be noted that this result only refers to the quantities derived from imports, which means that a larger scope inventory is required to quantify the presence of PBDES in equipment that is kept in use or has been discarded.

“Socio-economic study focused on solid waste management to know the impact of poor management of waste”, Financed by GEF in 2018 through the NIP Update (project PAN10 COPS PS93530). In at least 51% of waste disposal sites, open burning occurs, 96% do not have geotextiles or some form of waterproofing and at least 13% there is a confirmed impact on water resources, including water sources of populated areas. The estimate of the volume of waste in these landfills is 16.2 million m³ (INECO, 2016). Additionally, the presence of organochlorine substances, heavy metals, concentrations of organophosphorus pesticides has been detected, with levels above local and EPA standards. There is no standard that establishes minimum requirements for their location, operation and closure (e.g. distance to populated places, perimeter fences, type of waste management, road access).

According to data from the Population and Housing Census of 2010, in the waste management sector there were about 5,208 people employed in different activities. 980 of these were engaged in processing and material collection activities. The PNGIR report reflects that in 56% of landfills people were present working in recovery activities. The majority of workers in the waste management sector are engaged in non-hazardous waste collection tasks (71%), followed by those dedicated to the processing and recovery of materials (19%) and sanitation and other services of waste management (6%).

“Study on the Cost of Inaction of the Rational Management of Chemicals, POPs and Mercury wastes”, conducted in 2018, demonstrates the deficiencies of the current waste management system in the Republic of Panama. In part this is due to the lack of information on the amount of waste generated and the lack of a register of chemicals contained in the waste. The population served by waste collection amounts to 2,647,427 inhabitants in 336 districts, which means that 65% of the inhabitants of the country receive a service of collection of household and industrial waste. This figure is consistent with the document prepared by MINSA (2015), which indicates that 66% of the country's homes have a collection service (INECO, 2017). However, the country assumes the cost of poor management of waste disposal and its consequences (soil and river contamination). At the same time, the practice of open burning liberate dioxins and furans. It is noted that there are four (4) public laboratories capable of analyzing POP pesticides and PCB, but there is no capacity for the analysis of dioxins and furans. An evaluation of the actual analytical capacity must be carried out within the laboratories also in view of the new POP substances such as PFOS, PBDES and HBCD. The accreditation of laboratories is also a pending issue.

The study indicates that the country assumes all the costs of mismanagement of POPs and mercury products and wastes, and that it must start to develop a systematized system to recover these costs to achieve sustainable financing for rational management.

In 2014 the Ministry of Health in collaboration with the University of Panama (through the CIIMET institute) and nine hospitals (public and private) together with the NGO "Salud sin Daño" (Health Care Without Harm - HCWH) launched the program "Mercury-free hospitals" in order to replace medical equipment with mercury, mainly sphygmomanometers and thermometers.

Although there have been some additional initiatives such as the identification of potential temporary storage sites and other programs such as those developed by the Zero Mercury Mission of the Zero Pollution Alliance in Panama ("Ponte Vivo con Tus Bombillos" y "Ponte Pilas con las Pilas"), greater efforts are required to regulate the management of this waste in different sectors and the involvement of the general population.

3) THE PROPOSED ALTERNATIVE SCENARIO WITH A BRIEF DESCRIPTION OF EXPECTED OUTCOMES AND COMPONENTS OF THE PROJECT

Component 1: Strengthening Legal and institutional capacities for sound management of POPs and Mercury.

Outcome A) Legal and institutional capacities for sound management of POPs and Mercury strengthened.

Output A1) Legal and regulatory framework for sound management and elimination of POPs and Mercury strengthened and enforcement enhanced.

A review of the legal provisions in force will be made to ensure the elimination of gaps and duplication of competencies within the different public institutions. The objective is promotion, drafting and discussion of a comprehensive policy that defines the national requirements and standards for the environmentally sound management of POPs and mercury waste, which include the following: registration, monitoring and control of products containing HBCD and Mercury; control and generation of maximum limits for unintentional emissions; label or declaration of content of POPs of products entering the country; which must also address all stages (classification, segregation, collection, transport and disposal) and promote the use of available alternative substances and adopt technological changes and integration of POPs in national waste management plans as well as management of products with POPs throughout their life cycle.

Regarding Mercury, a start will be the regulation of the law that approves the Minamata Convention and support given to the elaboration of a regulation for the control and import of products with added mercury. The latter should establish guidelines on the maximum permissible levels, restrictions and limit of mercury in related products.

Output A2) Institutional coordination for sound management of POPs and Mercury strengthened.

To facilitate the execution of actions and the National Plan for Implementation of the Stockholm Convention, an Inter-Agency Commission on Chemical Substances will be established, led by MINSA, to improve cooperation and coordination and as a mechanism for the exchange, collection and analysis of information for the management of POPs and mercury, including relevant national stakeholders such as the Colon Free Zone and the Panama Canal Authority. It will also invest in knowledge capacities for comprehensive management of POPs and mercury in public entities. A training plan, aimed at institutions with competence in the management of POPs and mercury will be developed and implemented, that include senior officials/decision makers, officials who directly monitor the use and management of POPs and mercury, and public officials in general. Clear mechanisms of enforcement at national scale will be established. A programme of monitoring and control of POPs emissions and the management of POPs will also be designed and launched based on a National Information System.

Provision of technical capacity to municipalities and regional entities for the integral management of POPs, which facilitates the implementation of actions will be supported. This activity is in line with the decentralization process initiated by the central government. A key component in the monitoring and management of POPs and mercury is the analytical capacity of the laboratories of public institutions. Capacity of laboratories at the national level for the detection and control of POPs in emissions, products and waste will be assessed.

Component 2: Prevention and Reduction of POPs' emission.

Outcome B) Unintentional POPs emission from waste burning and incineration reduced (6 gTEQ/yr).

Output B1) Programme to decrease incidence of waste burning of dump sites/landfills and of hospital's waste disposal in Panama developed and implemented.

This set of activities aims to break with the culture of burning waste in open pit dumps and landfills and to a lesser extent in the courtyards of the residences, with an ultimate aim of reducing PCDD/F emissions. Work will be carried out jointly between the Health Ministry (MINSA), the National Waste Authority (AAUD) and the municipalities, to achieve the drastic change required by the objective. To start off, an inventory of landfills and dumps with the highest incidence of burning will be developed, with their potential risks assessed and the selection of 10 landfills for implementation of BAT/BEP measures, to be achieved with municipalities and AAUD and with the staff responsible for the implementation of the PNGIR at the national level, for the reduction in the emission of dioxins and furans by disposition.

Guidelines of the management of waste that generates unintentional POPs will be developed and integrated with the National Waste Management Plan (PNGIR), which will be implemented by the Panamanian government. The goal is to develop a programme to create 6 large regional Treatment Centers or Management Units, together with 21 Transfer Stations that have the potential to drastically reduce the emission of dioxins and furans by open burning of waste. Project will also address the specific problem of the practice of burning copper cables, which occurs in open pit dumps and landfills, by the recyclers present in them in order to recover and sell copper.

Alternatives of BAT/BEP such as wet heat or autoclave treatment, chemical disinfection and micro-wave treatment, already present in some hospitals as an alternative to open disposition of medical waste in dumps, will also be assessed and success stories disseminated. These BAT/BEP will be promoted and implemented in at least 10 hospitals nationwide to minimize incineration of this waste in inadequate facilities and reduce the emission of dioxins and furans.

The activities under this Output will incorporate COVID-19 impacts, the increased healthcare waste generated and other management considerations and will look for opportunities into all activities developed throughout its implementation that can help reduce the risk of current or future infectious diseases.

Output B2) Pilot projects for PCCD/Fs emission's reduction through BAT/BEP implementation in a dump site/landfill combined with plastics waste minimization in touristic area.

The Pilot projects for implementation of best practices and methodologies will be designed to fulfill two objectives. First to foster and develop a group of the workers that make their living from waste collection. The objective will be to creating a community-centric approach in institutionalizing and mainstreaming the men and women waste pickers in small self-help groups (SHGs), to facilitate their linking to banks, ensuring social security measures and identity cards issued through the Municipality. Additional to this institutional part, workers will be trained into plastic (and other valuable waste) Collection/Segregation/Preprocessing in an adhoc facility, in one selected city/municipality at the coast side of Panama, where the plastic (main potential source of PCDD/Fs formation when burnt) waste will be collected, sorted, segregated based on their qualities and thickness; and pre-processed (e.g. shredding, bailing, extruding, etc.) as per the end use requirement. For back-end recycling referring only to mechanical recycling including category-wise segregation, melting and extrusion, and for other plastic waste management options (down-cycling included), referring to Co-incineration , use in road construction, producing goods with less demanding properties, etc. Workers will also be trained in best practices to take care and protect the dump site/landfill from catching fire.

On the other (prevention) side, activities will be developed with a hotel or hotels, at the beach preferably, where workers will be trained to separate/classify waste streams, in particular plastic to prevent its potential reach into the dump sites/landfills and into the sea. The waste collectors group will also take advantage of the separated waste streams for their own profit. The two activities are to be operated by a OSC or a microenterprise, including the technical assistance and social support.

Outcome C) Sound Elimination of PCB contaminated equipment/material achieved (200 t).

Output C1) PCB contaminated equipment elimination program established based on full national inventory.

An environmentally sound management/elimination plan with set dates and responsible entities up to 2028 will be developed and established for the approximately 724 to 900 t of materials contaminated with PCBs still remaining. This is to be support in the first instance by an inventory, mainly to identify transformers containing PCBs in use in power poles in distribution lines. A comprehensive system based on law enforcement and on the information system of Output A2, will be developed to complete the inventory of the entire electrical system at accessible cost. While most of the effort will be within the electricity distribution sector, all public (including the Panama Canal Authority - ACP) and private sector bodies related to PCB equipment will also be verified. Likewise, the control and coordination actions by MINSAs will be established for the withdrawal of these PCB transformers and a withdrawal schedule will be established. The ultimate goal is to phase out 100% of PCB containing equipment.

Output C2) Two hundred (200) t of PCB equipment and waste from sensitive sites eliminated.

The elimination of the 200 t of PCBs contaminated materials is to be achieved in the most cost effective possible manner. Two groups are selected as the target: First, those to which larger part of GEF contribution will be directed: in or nearby sensitive sites, including hospitals, water wells instalations and educative organizations or schools. For these sensitive sites, the chemical analysis required by the inventory will be conducted and paid for by the Project and PCB elimination will be facilitated by the Project. Secondly, private PCBs equipment holders will be identified through promotion by the System referred to in Output A1 and/or through the inspection campaign conducted by enforcement authorities (Output A2). Through logistics coordinated by the Project and after owners agreement, PCBs will be eliminated.

Together with the electric power distribution companies, this disposal of both equipment and liquids stored in tanks as well as the equipment withdrawn will be coordinated. Within this activity, in coordination with the Project, MINSA will have the task of overseeing the process of removing PCBs from the country. Due to the lack of PCB disposal capacity within the country itself, all waste containing PCB content should be exported to other countries in accordance with the Basel Convention's guidelines.

The improved coordination, legal framework and information exchange that will results of the implementation of the Component A, plus the activities that will be conducted under Outputs C1 and C2 of this project will assist Panama with the planning of the management and with the disposal of remaining stocks of PCB contaminated equipment in the country; this approach would put Panama well on track to comply with its obligations under the Stockholm Convention on PCBs for the years 2025 and 2028. The country would not require additional assistance from the GEF for PCB management and disposal in the future.

Outcome D) Use of HCBD containing materials minimized (300 t) and elimination of HCBD containing waste achieved (30 t).

Output D1) Programme for reduction of use of Expanded Polysterene (with prevention as basic concept) as building material for reduction of HBCD developed.

A programme for reduction of use of Expanded Polysterene (prevention as basic concept) as building material will be established. Based on this, a technical/economic feasibility assessment and a comparative analysis for the transition to alternative substances to expanded polystyrene waste (EPS) with HBCD will be implemented, taking into account the guidelines of the Stockholm Convention, the Basel Convention's technical guidelines on the environmentally sound management of wastes with HBCD, and the concentration levels of the substance present in products/waste (thresholds). The goal of this program will be to gradually decrease the use of EPS in building, 5% per year accumulative, until reaching 20%, equivalent to 300 t at the end of the project, with respect to baseline of 1,500 t/yr.

Output D2) Pilots (2) of final disposal of 30 t of EPS waste with HBCD in production and construction enterprises tested

The Pilots project for implementation of best available techniques/best environmental practices (BAT/BEP) in the use of EPS and in management of (EPS) waste with HBCD will be designed to fulfill two objectives in two areas of work: large commercial buildings and normal households. First of the objectives, to adopt BAT/BEP in the use of the EPS in large buildings, looking for the minimization of its use along the building processes. This will encompass activities with building companies and professional employees and workers. While in the second area, regular households building, the work will be mainly directed to awareness raising in the normal citizen and building workers at a smaller scale.

In the first pilot with buildings, activities will also be developed with regards of EPS containers that building workers make use of. Although by weight the amount may not be so significant, it will give elements for a building policy in the control of this type of plastics in working areas.

Component 3. Prevention and Minimization of Mercury Emissions.

Outcome E) Mercury emissions in the Health Sector prevented and reduced through improved management of mercury containing products and wastes (350 kg)

Output E1) Pilot Projects for replacement of mercury containing equipment/products and establishment of a management and temporary storage system of mercury waste, in large hospitals and small priority health centres.

This Programme will be tested in a group of 2 large hospitals and 3 prioritized small health/hospital centres in the development of activities for replacement of mercury-added equipment/products through the application of best available techniques and the purchase of mercury-free alternatives. Available alternatives and/or recommended technologies will be evaluated to ensure their cost effectiveness, as well as a replication strategy designed and started to implement in all hospitals of Panama.

Activities will include the identification, assessment and selection of Mercury free medical devices, that meet WHO technical specifications, are cost effective and preferably available in the country. These devices will be tested and used by the selected group of hospitals and clinics, with reports on their findings being produced. **It is expected that the finding of the pilot projects could be replicated in the 908 health care facilities that conform the government health care network.**

Output E2) Pilot projects (2) in hospitals for reduction of emission of Mercury through prevention and application of BAT/BEP for management and disposal of waste.

The project will focus mainly on pure mercury products in the health sector: medical thermometers, sphygmomanometers and dental amalgams, but will also include other products identified as fluorescent lamps, batteries with mercury and thermostats according to the priorities of each facility. The project aims to manage and dispose of **350** kg of pure mercury related to the use of mercury-added products in the health sector.

Pilot will include the implementation of a plan for introduction of best practices and establishment of a system for the management and temporary storage of mercury waste, providing the physical requirements for this system. The plan developed for each of the priority facilities should include policies, internal procedures and guidelines for the management of mercury waste in accordance with individual conditions, current national legislation and guidelines established by the Minamata Convention and the Technical Guidelines for the Environmentally Sound Management of Wastes consisting of elemental mercury and mercury-containing or -contaminated wastes of the Basel Convention. In the case of priority health centres, internal capacity for storage or the creation of disposition centres will be assessed on the basis of limitations and regions in which they are

located. Activities will be accompanied by a continuous training programme at all levels on available BAT/BEP, mercury waste management and health risks associated with the use of mercury products. This output is closely related to output B1.

In order to identify potential options for interim, long-term storage of Mercury wastes and final disposal options, pilot will include identification of potential sites for the final disposal of mercury residues at the national level. The criteria for the selection of final mercury disposal sites will be established based on international standards and the country's needs (in line with national hazardous waste management related strategies/plans and priorities, Minamata Convention and Basel Convention Guidelines). The pilot shall also produce guidelines for adequacy, operation and control of storage sites, as well as potential responsible parties for their management.

As the project aims for the establishment of BET/BAP for the management of Healthcare Waste management, this will include COVID-19 pathological wastes. Through the Project's Pilots, demand and supply channels of Healthcare facilities will be strengthened, fostering the decisionmakers' capability to understand the challenges of waste management and its implications for human health and the environment. Output E2 will incorporate COVID-19 and healthcare waste management considerations into all activities developed. These activities assess opportunities where the Project's initiatives and Pilots can help reduce the risk of emerging infectious diseases such as COVID-19.

Component 4: Monitoring, Evaluation and Dissemination of Project Results and Awareness-Raising and Training.

Outcome F: Project results monitored, evaluated and disclosed

Output F1) M&E and adaptive management applied in response to the needs and results of the mid-term assessment.

A project monitoring and evaluation system will be established in line with the policies and guidelines established by the GEF and UNDP. Performance indicators will be determined in relation to project activities and criteria for medium-term evaluation to monitor the environmental objectives/benefits envisaged for the project and to take

corrective action if necessary. The integration of gender equality issues and the inclusion of stakeholders in the monitoring system will also be ensured. The results of the follow-up and evaluation will be presented in a medium-term and end-term report/publication.

Output F2) Lessons learned and best practices extracted and disseminated at the national, regional and global level.

The project envisages the development of a strategy for knowledge management and dissemination at the national and regional levels of project results, lessons learned and replication tools through different means such as workshops and conferences aimed at key players in the sectors served. Decision makers, policy makers and project makers, academia and other organizations that can broaden the scope of dissemination will be taken into account. This component will support the enabling of a space on the MINSA website to share good practices for the management of mercury, PCBs, HBCDs and unintentional POPs.

A specific outreach and awareness campaign will be carried out for vulnerable groups involving the development of a communication plan (through radio media and social media) for the dissemination of health and environmental risks associated with the management of POPs and mercury. The focus group for raising awareness of management of POPs are the population of the most vulnerable sectors such as manual workers in the waste sector, recyclers, health workers, people working or residing close to landfills or dumps (3 km) and NGOs working with this population.

4) ALIGNMENT WITH GEF FOCAL AREA AND/OR IMPACT PROGRAM STRATEGIES;

The proposed project is aligned with the GEF-7 Programming Directions and with the Chemicals and Waste Focal Area Strategy. Particularly, the project is aligned with the GEF-7 Program 1 (Industrial Chemicals), as the project is entirely focused on control, reduction and elimination of chemicals regulated under the Stockholm Convention on Persistent Pollutants and the Minamata Convention on Mercury.

The investment framework of GEF-7 aims (among other objectives) specifically at control, restriction and elimination of chemicals regulated by those two conventions, as follows:

- Eliminate/restrict/control emissions of the chemicals listed in Annex A, B and C of the Stockholm Convention,
- Eliminate emissions and releases of mercury in activities and processes listed in Annexes A, B, C and D of the Minamata Convention on Mercury, particularly those activities that emit or uses the highest level of mercury as well as support the control of supply and trade, waste and sound management and storage of mercury and mercury containing waste.

The Chemicals and Waste specific areas that will be addressed by the proposed project outputs in line with the GEF-7 Industrial Chemicals Programme 1, are the following:

Chemicals and Waste at end of life:

- Elimination of the use of polychlorinated biphenyls (PCBs) in equipment by 2025:
 - o Output C1) PCB contaminated equipment elimination program established based on full national inventory.
 - o Output C2) Two hundred (200) t of PCB equipment and waste from sensitive sites eliminated.
- Environmentally sound waste management/disposal of mercury/mercury containing waste or persistent organic pollutants including liquids containing PCBs and equipment contaminated with PCBs having a PCB content above 0.005%, in accordance with paragraph 1 of Article 6 and part II of Annex A of the Convention, as soon as possible and no later than 2028:
 - o Output C1) PCB contaminated equipment elimination programme established based on full national inventory.
 - o Output C2) Two hundred (200) t of PCB equipment and waste from sensitive sites eliminated.

- o Output D2) Pilots (2) of final disposal of 30 t of EPS waste with HBCD in production and construction enterprises tested.
- o Output E2) Pilot projects (2) in hospitals for reduction of emission of Mercury through prevention and application of BAT/BEP for management and disposal of waste.
 - Prevention of waste/products containing persistent organic pollutants from entering material recovery supply chains (including e-waste management with the aim of preventing e-waste from entering solid waste):
- o Output D1) Feasible BAT/BEP measures/ strategy for reduction of HBCD in EPS buiding materials developed.

Chemicals used/emitted from/in processes and products:

- 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:
 - o Output B1) Programme to decrease incidence of waste burning of dump sites/landfills and of hospital's waste disposal in Panama developed and implemented.
 - o Output B2) Pilot project for PCCD/Fs emission's reduction through BAT/BEP implementation in a dump site/landfill combined with socio-technic approach for plastics waste minimization in touristic area.
 - o Output E1) Pilot Projects for replacement of mercury containing equipment/products and establishment of a management and temporary storage system an facilities for mercury waste, in large hospitals and small priority health centres.

5) INCREMENTAL/ADDITIONAL COST REASONING AND EXPECTED CONTRIBUTIONS FROM THE BASELINE, THE GEFTF, LDCE, SCCF, AND CO-FINANCING;

Component 1. Strengthening Legal and institutional capacities for sound management of POPs and Mercury.

Contributions from the baseline:

Projects funded by GEF "Support in the review and updating of the Stockholm Convention's National Implementation Plan on Persistent Organic Pollutants (Project 93530)" and "Support in initial assessment and definition of requirements and national needs for the ratification of the Minamata Convention on Mercury (Project 93529)", have resulted in a number of government institutions becoming aware of the problem of products and waste with POPs and Mercury. There is an interest in implementing the National POP Implementation Plan and Mercury Action Plan to improve the current situation of the management of these substances. However, both projects have clearly demonstrated that national capacity for the management of POPs and Mercury has major weaknesses that must be strengthened, both in the legal and regulatory framework, technical and analytical capacity and the availability of up-to-date and consolidated information. All costs of bad management of POPs and Mercury are borne by the country without a systematized system to prevent and/or recover those costs to achieve sustainable financing. A study on the cost of inaction has been conducted (see numeral 1.a 2) "Study of the Cost of the Inaction of Rational Management of Chemicals, Waste POPs and Mercury", without being able to estimate these costs assumed by the country.

Contributions from Co-financing:

MINSA (and other governmental entities) will strengthen human resources to address the implementation of both conventions and establish an inter-agency Commission on Chemicals to improve and strengthen cooperation and coordination between government authorities with competence in the area and for a smooth exchange in the information required for the management of POPs and mercury.

Contributions from GEFTF:

The funding will be used for the support of a specialist/legal advisor for the strengthening of the legal and regulatory framework (*output A1*), design and execute a training plan for the different governmental institutions with three different approaches and for the design and implementation of a POP information system (*A2*).

Component 2. Prevention and Reduction of POPs emission.

Contributions from the baseline:

The largest emissions of unintentional POPs come from poor solid waste management in the country, including the burning of open-pit waste. Much depends on the implementation of the new National Plan for Integral Waste Management 2017 – 2027, whether the management and malpractice of burning in landfills and domestic burning improves. It is clear that it will be a major and long-term challenge for Panama to achieve improvements and that cooperation from many actors is required. Just the first step is being taken with the presentation of Bill 17 "That regulates the Integral Management of Waste in the Republic of Panama as an essential topic of Public Health", which is currently under discussion in the Legislative Assembly. Baseline contribution is expected in reducing long-term open burning.

With regard to the incineration of hospital waste, it is highly likely that the issuance of resolution #560 of 2017, which prohibits the disposal of untreated hospital waste in landfills, has resulted in an increase in the incineration of the amount of these wastes in recent years (the inventory of unintentional POPs has 2015 as its baseline year) being a technology available in the country. However, some hospitals are initiating changes in the management of their waste towards new technologies, which would result in a reduction in dioxin and furan releases.

The three (3) electricity distributors and the state-owned transmission company ETESA have withdrawn transformers and dielectric oils with PCBs from the country in the past years and are committed to continuing the elimination of them over the next years. However, the inventory of pole transformers in use must be strengthened in order to phase-out PCB-identified equipment. There is no withdrawal schedule in the country for use and subsequent disposal of PCB. Similarly, verification of the presence of PCB equipment in all public bodies and in the private sector with own transformers must be carried out and there is currently no plan for this task. The company EDECHI has been assigned a new previously private concession area (banana farms in the province of Bocas del Toro), which has an unidentified number of transformers with PCBs. The company EDECHI will face increased costs to inventory this new concession area and subsequently eliminate the PCB equipment.

The current situation for the new POP HBCD is much less advanced than for other POPs such as PCBs and Dioxins and Furans. The inventory carried out is incomplete and a lot of data is missing, mostly in the area of residues with these substances. There is currently no specific management for these types of waste with HBCD and this project should establish plans for the proper segregation, elimination and final disposal of EPS sheet construction waste with HBCD content.

Contributions from Co-financing:

The implementation of the National Plan for Integral Waste Management (PNGIR) 2017 – 2027 by the government will be the co-financing for this project, as it would improve the management of solid waste in the country and consequently result in a smaller amount of waste that is burned in the open. However, it is important to realize that the PNGIR will not specifically focus on short-term burning prevention or reduction measures. On the other hand, investments for the implementation and operating costs of new technologies for the treatment of hospital waste by public and private hospitals is also a contribution for this output.

As for PCBs, the private sector, through the 3 distribution companies, will continue to contribute financial and human resources to the inventory and disposal of its own PCB equipment. In addition, MINSA will provide human resources to establish an audit programme for both inventory and the disposal process.

Co-financing by the private sector (one company that imports EPS raw material with HBCD content) comes in the form of an additional cost of importing EPS material without HBCD content. There are currently no high management and disposal costs for companies that generate EPS waste with HBCD, also because waste generation is occurring only at the end of the life cycle of the product. In the design phase of this project, more information is expected to be available to determine the amount and origin of the required co-financing. The public sector is currently facing the costs of managing and the final disposal of this waste.

Contributions from GEFTF:

The support of the GEFTF is to fully assess the problem of open burning in the different landfills, the selection of priority landfills and the development of BAT and BEP to prevent and reduce burning practices in these landfills through establishment of a program for the prevention, and integration of prevention and reduction measures in the PNGIR (output B1 and output B2).

Regarding PCB's, the requested financing will be used to establish a contaminated equipment elimination plan supported by the integral inventory of PCB equipment. Likewise, for the disposal phase the project will support the elimination of the 200 t of remaining equipment, (*output C1 and output C2*)

For management of waste containing HBCD the project will support the establishment of a programme for reduction of use of Expanded Polysterene, with prevention as basic concept, and a pilot for final disposal of EPS sheet waste with HBCD (*output D1 and output D2*).

Component 3. Prevention and Minimization of Mercury Emissions.

Contributions from the baseline:

Proper mercury waste management is incipient in the country. Although the disposal of untreated hospital waste (with or without mercury) is prohibited, inadequate open-pit disposition and even burning practices are maintained in the interior of the country. The health sector is a well-defined sector to start with proper management of its hospital waste with mercury and progress has also been made recently with the development of a technical standard for the comprehensive management of mercury wastes in public and private health facilities. This project should establish plans for the proper segregation, disposal and final disposal of waste containing POPs and mercury.

Contributions from Co-financing:

The co-financing comes from both the hospitals in the private sector (4 large hospitals in Panama City) and the public sector (Social Security Hospitals (CSS) and MINSA), in the form of investments for the implementation of replacement of mercury equipment/products or the application of better available technologies as well as investments for new temporary disposal sites.

Contributions from GEFTF:

The project will support the design and execution of pilot projects at selected hospitals for replacement of mercury containing equipment/products and establishment of a management and temporary storage system and facilities for mercury waste (*output E1*) is also supported. In addition, the project will finance 2 Pilot projects in hospitals for reduction of emission of Mercury and UPOPs through prevention and application of BAT/BEP for management and disposal of waste. (*output E2*).

Component 4: Monitoring, Evaluation and Dissemination of Project Results and Awareness-Raising and Training

Contributions from the baseline:

The projects financed by GEF for updating the Stockholm Convention National Implementation Plan (Project 93530) and the diagnosis and action plan for mercury products and waste (project 93529) have incorporated companies from the private sector, and to a lesser extent civil society organizations in participation in workshops. The POP project has also generated brochures, pamphlets and articles that assist in raising awareness of the private sector, non-governmental organizations and the general population. However, there is a lack of a specific training and awareness-raising programmes for the private sector, civil society and the general population, which has to be developed

Contributions from Co-financing:

The government as well as guilds or private sector associations will provide in-kind contributions in the form of human resources and/or facilities for holding events, forums, workshops, trainings, courses and awareness-raising

Contributions from GEF/TF:

The project will finance the establishment of a project monitoring and evaluation system with its mid-term and final evaluation reports (*output F1*), as well as the reporting and outreach based on lessons learned (*output F2*).

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

- 200 t equipment and materials containing PCB
- 330 t materials/residues containing HBCD, corresponding to 2.5 t HBCD.
- 350 kg de mercury
- 6 g TEQ unintentional POPs
- 27,063.76 t CO₂ eq.

COVID-19 Responsiveness

This project will support the GEF's COVID-19 response and mitigation of Future Pandemics through the promotion of activities that minimize human health risks while reducing pollution. Specifically, through Component 2, the project will assist Panama on improving the management of hospital's waste disposal where a programme to decrease the incidence of waste burning will be developed, and also through Component 3, where the project will support the country on the establishment of Best Practices for the management of Healthcare Waste management, including COVID-19 pathological wastes. Through the Project's Pilots, demand and supply channels of Healthcare facilities will be strengthened, fostering the decisionmakers' capability to understand the challenges of waste management and its implications for human health and the environment. Components 2 and 3 will incorporate COVID-19 and healthcare waste management considerations into all activities developed throughout the implementation of the project. These activities assess opportunities where the Project's initiatives and Pilots can help reduce the risk of emerging infectious diseases such as COVID-19.

In this regard, it is worth mentioning that Panama, through Law No. 139, published on April 2, 2020, declared a national health emergency that is still currently in force. The current context led to the issuance of differentiated protocols on solid waste management, reason why the execution of the activities proposed in Components 2 and 3 of this project is of great interest regarding the improvement of the management of hospital waste and its contribution to the best response to the COVID-19 context.

Furthermore, the project will also benefit from UNDP's extensive experience with Pandemic responses. In the past, UNDP has been key in the management of the Ebola pandemic, helping countries to promote and adopt actions that assure sustainable mechanisms to avoid future outbreaks.

7) INNOVATION, SUSTAINABILITY AND POTENTIAL FOR SCALING UP.

Innovation:

The proposed project is the first of its kind in Panama to address the problem of the reduction and elimination of POPs and mercury. Although in the elimination of PCB, Panama has had experience gained with the disposal of PCB equipment from the electricity sector, the prevention and reduction of the release of dioxins and furans and other unintentional POPs through the implementation of Best Available Techniques and Best Environmental Practices is completely new and innovative for the country, as well as for the proper management of waste with HBCD from the construction sector. As for hospital waste contaminated with mercury, there exists an initiative through the NGO's initiative "Salud sin Daño" of Green and Healthy Hospitals, and the Hospital de Specialties Pediatrics of the Social Security Fund is a member of its global network, and has taken some actions to remove mercury from its facilities. However, the management of hospital waste in Panama presents a huge challenge and this project would be the first to address this problem through pilot projects executed in several hospitals and health centers. Considering the associated increase in the generation of HCW due to the COVID-19 pandemic, it is fundamental for Panama to improve the management of HCW.

Sustainability:

This project is largely focused on the proper management of (hazardous) waste. Panama currently has both unsustainable and a contaminating hazardous and non-hazardous waste management. This project contributes to the conversion of current poor waste management containing (or releasing) POPs and/or mercury into environmentally reasonable and sustainable management. In addition, the actions in component 1 contribute to the prevention of entry into the country of products with POPs and mercury through the regulatory framework, which is the first priority to achieve a sustainable solution.

Potential for Scaling Up:

Components 2 and 3 include pilot projects in landfills and hospitals or health centers. The design of the project is such that the results of these projects can be replicated in other landfills and hospitals or health centers in the rest of the country to multiply the experiences gained and implement success stories.

1b. Project Map and Coordinates

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

The project will be implemented at the national level. However, project-specific interventions will be implemented in selected landfills, as well as in selected hospitals and health centres. These locations cannot yet be indicated at this stage of the project and will be selected during the PPG phase.

2. Stakeholders

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

Indigenous Peoples and Local Communities

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

In this phase of the PIF project the private sector has been involved, to ensure its participation in the project with both human resources and economic resources and co-financing in the project. The three (3) power distribution companies existing in the country (EDEMET, EDECHI and ENSA) have participated in the workshops held on the preparation of this PIF document and contributed the content of component 2 (PCB). Also, the four (4) large private hospitals in the capital city (Centro Medico Paitilla, Hospital San Fernando, Hospital Nacional and Hospital Punta Pacifica) have participated in the workshops and cooperated on the project concerning hospital waste with or without mercury.

Type of stakeholder	Name or description	How stakeholder will be engaged in the project's preparation	Potential Role of stakeholder in the project
Private Sector	Power distribution Companies (EDEMET, EDECHI, ENSA).	The companies will support in designing component 2 – PCB.	Supply data on the inventory of PCB equipment both in use and stored and finance its disposal.
Private Sector	Private Hospitals (CM Paitilla, HSF, HN, Pacifica Salud, others).	The private hospitals will support in designing components 2 – Hospital Waste and 3 – Equipment and hospital residues containing mercury.	Supply data on hospital wastes generated with or without mercury and finance its management, storage and final disposal.
Private Sector	Production and importing companies of EPS sheets containing HBCD (4 companies).	All 4 companies will support designing component 2 – HBCD.	Supply data on production and importation of raw material or products containing HBCD and generation of wastes. Financing change to HBCD free raw material and sound management of HBCD containing wastes
Civil Society	“Salud Sin Daño” (NGO) Asociación Nacional para la Conservación de la Naturaleza (ANCON). (NGO)	The NGO will support designing components 2 – Hospital Wastes y 3 – Hospital Equipment and residues with added mercury The NGO will support in designing componente 2 – reduction of emission of UPOPs and Component 4 – Awareness rising.	Participation and supporting pilot projects in hospitals and elaboration of guides as well as outreach and multiplication of outcomes in other hospitals and health centres.

Type of stakeholder	Name or description	How stakeholder will be engaged in the project's preparation	Potential Role of stakeholder in the project
Local Communities and indigenous groups	Communities residing within the vicinity of landfills and dumps affected by open burning practices.	Support in designing project components 2 and 4	Supporting programs to minimize open pit burning at dump sites and landfills and supporting awareness-raising and training

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Gender equality and women's empowerment will be included in the design phase of the project (PPG phase). A gender analysis will be executed at that stage in order to implement the results in the project execution phase. There are indications that women and children are more vulnerable to the effects of POPs and mercury, as a placentas health study in Panama of first-time pregnant women detected the presence of POPs. It is also known from the socio-economic study that there is a vulnerable population close to landfills and dumps with burning problems and exposed to emanent pollution. It is estimated that there is increased exposure to women in these cases. The above topics will be included in the design phase of the project to protect women's health, as well as identify opportunities to create additional benefits for them.

Panama, like many countries in Latin America, needs more gender and sex disaggregated information related to the level and frequency of exposure to toxic chemicals and their impacts on human health, as well as on developing indicators to measure hazardous chemical's impacts on women and men. Data gathering in the labor market and health sector is especially important because gender-determined occupational roles have a direct impact on the exposure to chemicals. Specific policies to focus on gender and hazards of this and other polluting substances need to be produced.

Component 1 foresees the deployment of a collaborative approach to policy making that is sustained and continuously improves, integrating gender related issues across the implementation of the proposed activities.

Components 2 and 3 for POPs and Hg phaseout and management activities will benefit from other initiatives in the region to perform an in-depth review of existing Guidelines for update and expansion, adding an operational guide for maintenance practices based on Best Available Techniques/Best Environmental Practices (BAT/BEP), participating all relevant market stakeholders involved in the relevant elimination chains. The guidelines and pilot projects will include gender equity considerations indicating how the development of this activity considers different roles for women and men in the workplace, for instance, at the health care facilities.

Component 4 will provide gender-sensitive knowledge management and implement an outreach communication strategy that will allow the dissemination of BAP/BEP for the development of a national-level platform to create awareness for compliance. This strategy will also publish success stories and will provide recommendations for other potential actors. It will also include a gender approach for communication, education, training and capacity building workshops aimed at the FSP team, participating entities, key stakeholders and beneficiaries, related to risk management of hazardous waste.

Finally, a Gender Analysis and Action Plan will be prepared during the PPG phase. This plan will focus on three objectives as part of the project: 1) Capacity building for gender mainstreaming, 2) Women empowerment; 3) Information gathering regarding gender and hazardous wastes by conducting a national survey. The proposed actions to support these objectives will be undertaken to address the identified gender risk and leverage it for multiple benefits. Opportunities for improving the lives of women will be identified in the Gender Analysis and prepared at the PPG stage.

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

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

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

generating socio-economic benefits or services for women.

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

TBD

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The relevant private sector related with the topic has participated in the development of the PIF, specifically the electricity sector (the three power distribution companies EDEMET, EDECHI and ENSA) and the four largest private hospitals in the capital city (Centro Medico Paitilla, National Hospital, San Fernando Hospital and Punta Pacifica Hospital). There is a great interest from these companies to cooperate with the development of the project in the design phase (PPG) and participate in the implementation of the project in their sector since the project meets their needs. Four companies related to the production and import of EPS sheets with HBCD content have been identified. They will also be contacted to be able assure their participation in the project.

The companies not only participate in the project, but also provide co-financing for its execution both in mobilized and in-kind investments. In addition, companies will participate in the exchange and provision of data relevant to the project to improve the amount of information available and keep the data up to date.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Risk	Mitigation Measure
Absence of (exchange of) data (reliable), confidential data	Inter-agency coordination and implementation of an information system should mitigate this risk, as well as direct participation and cooperation by the private sector.
Weak inter-agency coordination / Conflict of competencies	The competencies between the various institutions will be improved with the integral waste management bill (in discussion) as well as the establishment of the Inter-Agency Commission on Chemical Substances.

Lack of technical capacity / Human Resources / Inspection and Law enforcement	The project includes strengthening of technical capacity in the public sector. The trainings envisaged in this project for the public sector will mitigate this risk.
Impact on source of income of recyclers present in landfill (“pepenadores”)	The social and economic component of integral waste management should include a solution for the population currently living off the income from the recovery of recyclable materials. Professionalizing the recycling activity can improve their living, health and economic conditions.
Lack of cooperation from the Private Sector to eliminate or apply alternatives due to increased costs or due to financial constrains resulting by COVID-19 pandemic.	Close cooperation with the private sector minimizes this risk. The private sector is aware of the (high) costs of hazardous waste management and the need to reduce and eliminate the generation of hazardous waste, especially containing or generating POPs and mercury. The project will facilitate communication channels between the government and the private sector, so private sector can express their concerns and needs while getting information of stimulus packages or financial aids that may be available for them.
COVID-19 pandemic threat	<p>1. To avoid change of priorities of central government due COVID-19, which could include lack of availability of human and financial resourcers, the project will have close cooperation with stakeholders to highlight the links of the project with the governmental policies to deal with the COVID-19 pandemic.</p> <p>2. Develop innovative virtual and remote methods for working and implementation.</p> <p>3. Since the World has not yet found a vaccine for this virus, for the implementation of those activities that require social gathering, the Project will assume COVID-19 as a public health crisis, implementing the solutions for which are social distancing, careful sanitization, widespread testing, access to safety equipment, and immediate competent medical care, if needed. During the preparation of terms of reference, conditions will be included to request that service provider take into consideration the COVID-19 pandemic in their implementation plans.</p>

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

This Project will be implemented under the National Implementation Modality (NIM) in accordance with UNDP’s rules and regulation. The Ministry of Health – MINSA will be the National Executing Agency and will be responsible for the implementation of the project in Panama. UNDP will play the standard role as a GEF Implementation Agency and will provide clear implementation support to the Government of Panama. The Monitoring and Evaluation Coordination will follow standard UNDP-GEF policies as standard practice in all UNDP projects that are being financed by the GEF.

The National Project Director is a staff member of the MINSA and s/he will have overall responsibility of the project implementation. The Project Coordinator will be hired with Project Funds and will oversee the day to day management of the project. He/She will report directly to the National Project Director. The National Project Director will at least annually report to the Project Steering Committee which is composed of the Government of Panama and UNDP.

The project will be coordinated within MINSA by the Sub-directorate of Environmental Health, and implemented in close cooperation with Ministry of Environment, Municipalities where pilot projects will be developed and other institutions related to the subject. The Inter-Agency Commission on Chemical Substances to be established will be a key element in coordinating the implementation of this project with the various institutions.

The project will interact with other PCB and POPs projects in LAC, especially those implemented by UNDP, to exchange experiences, lesson learned and good practices to ensure a smooth and impactful implementation of all activities. The project will benefit particularly from the experiences and expert network that UNDP gained during the implementation of projects on health care waste management during the Ebola epidemic in Africa and the COVID-19 response network.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

- Minamata Initial Assessment (MIA).

- Stockholm National Implementation Plan (NIP).
- Stockholm National Implementation Plan Update.
- Basel Convention.
- Rotterdam Convention.
- Strategic Approach to International Chemicals Management (SAICM).
- 2030 Agenda and its Sustainable Development Goals (SDGs).
- National Plan for Integral Waste Management (PNGIR) 2017-2027.

The components that make up the project results framework have been developed based on the priorities identified and the activities highlighted in the 2015-2018 National Inventories (mainly unintentional POPs and New POPs), the National Implementation Plan of POPs (2019-2028), the Initial Assessment and The National Profile of Mercury, as well as the National Mercury Implementation Plan 2019-2025 under the Stockholm Convention and the Minamata Convention, to which the country is a signatory.

By including activities related to environmentally sound management, elimination and final disposal of waste that can be exported, the project also generates synergies with the Basel Convention and the Rotterdam Convention.

In addition, the proposal aligns with other initiatives related to the management of chemicals developed worldwide, such as the Strategic Approach to International Chemicals Management (SAICM) for the objective set for 2020 to minimize the adverse effects of chemicals on human health and the environment. This project works on four of the six main areas of activities identified in SAICM: 1) Improving stakeholder responsibility, 2) Establishing and strengthening national legislative and regulatory frameworks for chemicals and wastes, 3) Incorporate sound chemicals and waste management into the sustainable development agenda and 4) Promote access to information. It is important to note that in this context recently the country has developed a roadmap for the management of chemicals at the national level. It is therefore expected that the project's activities will be integrated with the measures defined in the roadmap, as well as be able to enrich and contribute to their improvement.

This project contributes to the Effect 3.2 of UNDP Panama's Country Programme which consists of: "By 2020, the State has strengthened its capacities for the design and implementation of Policies, Plans and Programmes that contribute to environmental sustainability and food and nutrition security, climate change adaptation, disaster risk reduction and resilience building"; and the specific product of the Programme aimed at improving compliance with commitments relating to international environmental agreements.

Similarly, the project relates to the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) and the National Strategic Plan of Panama 2030 (PEN). The project is linked to the following objectives of the PEN: To grow more and better (by promoting capacity building and the use of environmental technologies), institutionality and governance (by developing mechanisms for citizen participation and consensus-building), partnership for development (coordination of resources from public and private agencies, institutions and actors). Likewise, the results and products of the project align with two of the SDGs prioritized in the PEN: O3. Health and Welfare and O16. Peace, justice and strong institutions.

At the national level, the objectives of the project are integrated with the National Plan for Integral Waste Management 2017-2027, by guiding the implementation of best available techniques and best environmental practices that will optimize waste management, promote related policies and regulations, as well as strengthen the coordination and availability of related information within institutions with competence on the subject.

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Knowledge management in the project will be carried out through the following elements:

- The POPs management information system (output A2) will provide access to up-to-date information, which in conjunction with the generation of technical capacity in the institutions will improve decision-making and facilitate coordination, as well as implementation of the National Implementation Plan (PNI 2018).

- Within Component 4, through its outputs F1 and F2, strategies and mechanisms will be developed for the dissemination of information and replication of the knowledge acquired during the execution of the project, including both the private sector, as well as NGOs, the academics sector and the population in general
- The private sector technical training plan, as part of the output A2, will provide companies with information on the management of POPs and mercury, not only to the sectors covered by the project's activities, but to all economic activities with potential use of these substances identified in the National Implementation Plan (PNI 2018) and the Initial Assessment and Mercury Profile (MIA). These trainings will enable the dissemination of information from a practical approach and according to the characteristics of each sector, improve decision-making in companies, protect workers from risks on POPs and mercury and support for the generation of replication projects.
- Likewise, the enabling of information within the MINSA website will allow the general population to have publicly available and up-to-date information on the management of POPs and mercury in Panama, as well as boosting citizen participation in relation to these issues.
- Lessons learned and good practices of the project will be documented and disseminated, together with the materials and guides developed to orientate the population in the management of POPs and mercury.

The project will have the opportunity to learn from previous and ongoing initiatives from other countries in the region implemented by UNDP, those projects will share their good practices, approaches, results of the activities, examples and expert's network created by the different projects.

The specific Knowledge Management Strategy will be developed during the PPG phase.

9. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification *

PIF

CEO Endorsement/Approval

MTR

TE

Medium/Moderate

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Kindly refer to the project's Social and Environmental Screening Procedure (SESP) template.

Supporting Documents

Upload available ESS supporting documents.

Title

Submitted

PIMS 6527 - Panama - PIF - ESM hazardous wastes containing POPs Hg - pre-SESP 20200924

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Gustavo Padilla Corro	Operational Focal Point GEF-Panama	MiAMBIENTE	9/28/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

The project will be implemented at the national level. However, project-specific interventions will be implemented in selected landfills, as well as in selected hospitals and health centres. These locations cannot yet be indicated at this stage of the project and will be selected during the PPG phase.