

Reduction of unintentionally-produced persistent organic pollutants and mercury through an environmentally-sound approach on health care wastes management in the Philippines with a special focus on the pandemic

Part I: Project Information

GEF ID

10798

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Reduction of unintentionally-produced persistent organic pollutants and mercury through an environmentally-sound approach on health care wastes management in the Philippines with a special focus on the pandemic

Countries

Philippines

Agency(ies)

UNIDO

Other Executing Partner(s)

Executing Partner Type

GEF Focal Area

Chemicals and Waste

Taxonomy

Focal Areas, Influencing models, Stakeholders, Hazardous Waste Management, Waste Management, Chemicals and Waste, Strengthen institutional capacity and decision-making, Participation and leadership, Gender results areas, Gender Equality, Conference, Knowledge Exchange, Capacity, Knowledge and Research, Best Available Technology / Best Environmental Practices, Mercury, Persistent Organic Pollutants, Unintentional Persistent Organic Pollutants, Emissions, Sound Management of chemicals and waste, Open Burning, Convene multi-stakeholder alliances, Demonstrate innovative approaches, Civil Society, Non-Governmental Organization, Academia, Type of Engagement, Information Dissemination, Partnership, Participation, Local Communities, Communications, Awareness Raising, Education, Strategic Communications, Beneficiaries, Private Sector, SMEs, Knowledge Generation and Exchange, Capacity Development, Gender Mainstreaming, Sex-disaggregated indicators, Knowledge Generation, Workshop, Seminar, Training

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

463,600.00

Submission Date

3/24/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CW-1-1	GET	4,880,000.00	34,700,000.00
	Total Project Cost (\$)	4,880,000.00	34,700,000.00

B. Indicative Project description summary

Project Objective

Protection of human health and the environment through the reduction of unintentionally-produced POPs and mercury in the healthcare waste sector promoting environmentally-sound approaches

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
-------------------	----------------	------------------	-----------------	------------	----------------	-------------------

1.a Unintentionally-produced POPs release reduction in the healthcare waste sector	Technical Assistance	1.1 Policies and environmentally-sound procedures developed for the minimization of health care wastes, focusing on the wastes generated during pandemic	<p>1.1.1 Strengthening of relevant national policies on healthcare wastes management with special focus on responses during pandemics</p> <p>1.1.2 Inventory procedures and guidelines for the calculation of additional waste generated during pandemic, with special reference to the current COVID-19 pandemic established</p> <p>1.1.3 Assessment of the lifecycle impact of PPEs and protective measures with reference to the consumption of material and generation of potentially contaminated wastes and POPs completed</p> <p>1.1.4 Analysis of the impacts of different chemical disinfection procedures for wastes and surfaces with specific consideration on the differential risk for men and women and to the associated generation of uPOPs in air and water completed.</p> <p>1.1.5 Support to small manufacturers and women enterprises to increase the production of fabric reusable PPEs based on WHO guidelines</p>	GET	450,000.00	3,150,000.00
--	----------------------	--	---	-----	------------	--------------

1.b Unintentionally-produced POPs release reduction in the healthcare waste sector	Investment	1.2 Environmentally sound technology for the treatment and recycling of wastes generated during pandemic implemented	1.2.1 Capacity of waste service providers upgraded in terms of availability of technologies and BAT/BEP compliance 1.2.2 Technologies for the low-cost, small scale non-combustion pre-treatment of wastes generated during pandemic, suitable for small scale and remote hospitals, implemented in a cluster of health care facilities, demonstrated.	GET	1,850,000.00	12,950,000.00
2a. Management of mercury, mercury-added products (MAPs) and mercury wastes in the healthcare sector according to the Minamata Convention on Mercury and the Philippine National Action Plan for MAPs phase-out	Technical Assistance	2.1 Improved synergies to support the phase-out of Mercury-added Product (MAPs) and environmentally-sound management of mercury and mercury wastes, especially in the healthcare sector	2.1.1 Harmonized policies and updated action plans on mercury, MAPs, and mercury wastes across responsible agencies developed 2.1.2 Inventory and monitoring systems for MAPs and mercury wastes, emissions, and releases institutionalized	GET	300,000.00	2,800,000.00

<p>2b. Management of mercury, mercury-added products (MAPs) and mercury wastes in the healthcare sector according to the Minamata Convention on Mercury and the Philippine National Action Plan for MAPs phase-out</p>	<p>Investment</p>	<p>2.2 Demonstrated capacity to adopt best available technologies and best environmental practices for the environmentally-sound management of mercury wastes from the healthcare sector</p>	<p>2.2.1 Capacity of mercury waste service providers upgraded in terms of availability of technologies and BAT/BEP compliance</p> <p>2.2.2 Environmentally sound management of of MAPs and mercury stockpiles in the healthcare sector demonstrated</p>	<p>GET</p>	<p>1,400,000.00</p>	<p>9,800,000.00</p>
--	-------------------	--	---	------------	---------------------	---------------------

3. Capacity building and awareness raising	Technical Assistance	<p>3.1 Enhanced capacities to implement policies and workplans for the environmentally-sound management of infectious and hazardous wastes in the health care sector.</p> <p>3.2 Increased awareness and knowledge on infectious and hazardous wastes to promote a whole-of-nation approach toward health and environmental protection</p>	<p>3.1.1 Capacity building activities related to the environmentally-sound management of infectious and hazardous wastes in the healthcare sector for government authorities, staff of healthcare facilities and TSDs, and civil society organizations undertaken</p> <p>3.1.2 Technical assistance to help MSMEs in the healthcare sector, including waste Treatment, Storage and Disposal (TSD) facilities and manufacturers of PPEs and other non-mercury-containing medical devices to access green financing schemes to facilitate the transition to mercury free-products in the healthcare sector.</p> <p>3.2.1 Awareness raising and advocacy programs targeting the general public, community leaders, schools, enterprises, private sector players, and other stakeholders conducted</p> <p>3.2.2 Information, Education and Communication (IEC) materials and relevant reports created, published and disseminated.</p>	GET	400,000.00	2,100,000.00
--	----------------------	--	--	-----	------------	--------------

4. Monitoring, Evaluation and Lesson Learnt	Technical Assistance	4.1 Project monitoring and evaluation based on a lesson learnt process ensured	4.1.1 Project monitoring implemented 4.1.2 Independent midterm review and final evaluation undertaken 4.1.3 Knowledge management system established	GET	250,000.00	1,750,000.00	
Sub Total (\$)					4,650,000.00	32,550,000.00	
Project Management Cost (PMC)							
					GET	230,000.00	2,150,000.00
Sub Total(\$)					230,000.00	2,150,000.00	
Total Project Cost(\$)					4,880,000.00	34,700,000.00	

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	Environmental Management Bureau, Department of Environment and Natural Resources	Grant	Investment mobilized	500,000.00
Recipient Country Government	Environmental Management Bureau, Department of Environment and Natural Resources	In-kind	Recurrent expenditures	1,000,000.00
Recipient Country Government	Department of Health	In-kind	Recurrent expenditures	1,000,000.00
Recipient Country Government	Local Government Units	Equity	Investment mobilized	6,000,000.00
Recipient Country Government	Development Bank of the Philippines	Loans	Investment mobilized	25,000,000.00
Private Sector	TSD Facilities	Equity	Investment mobilized	1,000,000.00
GEF Agency	UNIDO	Grant	Investment mobilized	100,000.00
GEF Agency	UNIDO	In-kind	Recurrent expenditures	100,000.00
Total Project Cost(\$)				34,700,000.00

Describe how any "Investment Mobilized" was identified

Investment mobilized will be sourced out mainly from the loan instituted by the Development Bank of the Philippines under its "Green Financing" platform. It is envisaged that the loan could be accessed by local government units (LGUs) or private and public hospitals for their environmentally-sound approach to health care waste management. A minor fraction of the investment will be coming from the private sector (TSD facilities) which will be participating in the project. TSD facilities have their own investment plans to update their equipment and infrastructures. The project also plans to partner with local government units in the project sites (Quezon City and Tacloban City) and equity investment will provide baseline funding in the form of facilities and infrastructures. Budgets from related

activities on healthcare wastes management of DENR and DOH will be reflected as mobilized co-financing. All related investments from various project partners will be quantified and elaborated in detail during the project preparatory phase.

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(\$)
UNIDO	GET	Philippines	Chemicals and Waste	POPs	2,690,000	255,550	2,945,550.00
UNIDO	GET	Philippines	Chemicals and Waste	Mercury	2,190,000	208,050	2,398,050.00
Total GEF Resources(\$)					4,880,000.00	463,600.00	5,343,600.00

E. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

150,000

PPG Agency Fee (\$)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNIDO	GET	Philippines	Chemicals and Waste	POPs	82,500	7,837.5	90,337.50
UNIDO	GET	Philippines	Chemicals and Waste	Mercury	67,500	6,412.5	73,912.50
Total Project Costs(\$)					150,000.00	14,250.00	164,250.00

Core Indicators

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

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

10.43	0.00	0.00	0.00
-------	------	------	------

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

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

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)
-------------------------------	---	-------------------------------	------------------------------

10.43			
-------	--	--	--

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)
-------------------------------	---	-------------------------------	------------------------------

--

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

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

1			
---	--	--	--

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

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

--	--	--	--

Indicator 9.6 Quantity of POPs/Mercury containing materials and products directly avoided

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

14,834.00			
-----------	--	--	--

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)
--	--	--	---

422.60

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

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

1

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)
--------------------------	--------------------------------------	--------------------------	-------------------------

1

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	480			
--------	-----	--	--	--

Male	320			
Total	800	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

The core indicators on uPOPs emission reduction was estimated based on a conservative estimate that around 10% of the average generation of healthcare wastes and additional wastes load due to the pandemic is open burned. For mercury, the estimate is based on the inventory conducted during the development of the National Action Plan on Mercury. As COVID-19 infections continue to rise in the country, it is expected that the amount of health care wastes (both COVID- 19 and associated medical devices) will increase. For Indicator 9.6, a yearly estimate of 14,400 tons of uPOPs generating wastes and 434 tons of mercury-containing devices could be avoided and is considered as co-benefit of the project. Detailed discussion is presented in Section F para 83-86 of the PIF. These values will be ascertained during the preparatory phase of the project. For direct beneficiaries disaggregated by gender, the healthcare wastes sector in the Philippines, as per initial gender assessment, comprise of more women staff (more than 70%). Thus, a 60-40 ratio of women to men beneficiary out of an estimate of 800 DIRECT project beneficiaries is envisaged, aiming at increasing the less represented gender (men) and ensure gender parity. The project will, however, endeavor to increase the target beneficiaries as the project resources permits.

Part II. Project Justification

1a. Project Description

A. The global environmental and/or adaptation problems, root causes and barriers that need to be addressed

1. Health care waste (HCW) refers to all wastes generated as a result of any of the following activities such as: diagnosis, treatment or immunization of human being and research pertaining to these activities, research using laboratory animals for the improvement of human health, production or testing of biological and other activities performed in all health care facilities. HCW includes broad range of materials, from used needles and syringes to soiled dressing, body parts, diagnostic samples, blood, chemicals, pharmaceuticals, medical devices and radioactive materials. As such, improper or poor management of these wastes may potentially expose health care waste management workers and personnel, patients and the community to health risks. It may also threaten the quality of the environment through environmental contamination.

2. The healthcare waste management sector in least developed and some developing countries is already stressed and the situation was exacerbated by the COVID-19 health crises. On 11 March 2020, the World Health Organization (WHO) declared COVID-19 a pandemic, pointing to the over 118,000 cases of the coronavirus illness in over 110 countries and territories around the world and the sustained risk of further global spread. Around 5 months later (as of August 19 2020), around 22.2 million people have been infected and more than 700,000 deaths have been reported because of the virus. The COVID-19 pandemic is, therefore, considered the worst pandemic affecting mankind in recent years, after the 1918 Spanish flu. The COVID-19 pandemic is still ongoing, at a rate approaching 200,000 additional individuals testing positive daily based on swab tests. The figures can be much higher considering that only a very limited fraction of the population has been tested.

3. Moreover, global data shows that the COVID-19 pandemic has led to a significant increase of infections in a relatively short time, which requires a dramatic rise in demand of resources, from human (e.g. medical personnel, waste handlers, etc.) to material resources (e.g. healthcare facilities, medical supplies such as personal protective equipment (PPE), hand hygiene, etc.), to effectively control the spread of the virus infections and its economic impact (Yu et al., 2020). With the high rate of infections worldwide and economic standstill in developed countries and China, the scarcity of supply of essential and critical products and resources such as those mentioned above has been experienced. This situation has also demonstrated that countries are not prepared and have varying capacities to respond to such pandemics.

4. The lack of preparedness among countries for this pandemic has led to a tremendous increase in demand for medical supplies such as COVID-19 diagnostic testing equipment and consumables, PPE for medical personnel of healthcare facilities (HCFs), testing centers/laboratories, MW disposal services, and even PPE used for patients and the general population. There is a need to strengthen the local capacities and infrastructure in countries on supply of the above to precede problems such as limited supply, transport and increase in prices during events of pandemics. At global level, the mercury emission generated through unsound management of mercury containing health care waste is significant. In 2015, global level emissions from unsound management

of mercury-added products (MAP) comprised about 7% of the total global Hg emission (around 155 t). Emission in the Philippines generated by MAP are estimated to be around 40 t /y. Around 25% of this emission is caused due to unsound management of mercury containing health care waste.

5. The global COVID-19 outbreak placed an immense strain on societies and economies around the world including the Philippines. Healthcare systems in the country that were unprepared to face a health crisis at this scale and magnitude were put under pressure, facing shortages of facilities, manpower, medical equipment and supplies of PPE, and challenges with the management of excessive medical wastes. The emergency has also resulted to response measures that have caused disruptions across economic and social sectors, causing urgent issues around food security and safety, nutrition, and income-generation; and endangering employment and livelihood. The long-term socio-economic impacts are expected to be immense and far-reaching.

6. The management of medical waste in the country was already under stress before the outbreak of the COVID-19 pandemic. There is not enough disposal capacity to treat in a safe way the estimated 54,644 tons of infectious waste generated per year, due to the financial situation of the LGUs (Local Government Units), and the lack of technical expertise or specialization in such aspects like generation, transport and treatment of HCW.

7. As of 2018, there are about 107,508 total bed capacity in the Philippines. Throughout the country, there are 790 private hospitals and 434 hospitals run by the national and local governments, 48 of which are located in Metro Manila. Based on the report generated by the EMB regional offices, the amount of infectious wastes generated in 2018 was 54,644 tons, corresponding to an amount of 1.39 kg of waste per bed per day. Mercury in mercury wastes (D407) from the healthcare sector, clinics, laboratories, including household medical devices is estimated at 10.4 tons/yr as reported in the 2018 Philippine Mercury Inventory, composed of mercury-containing thermometers, sphygmomanometers, mercury reagents from laboratories, and mercury stockpile for dental procedures. Mercury from thermometers and other medical devices in household settings is estimated to be at 540 kg/yr.

8. Based on the data extracted from the Environmental Statistics of the DENR-EMB website (<https://emb.gov.ph/hazardous-waste-management-data/>), as of 15 April 2021, there are 111 registered registered TSD (Treatment, Storage and Disposal) facilities in the country handling various types of hazardous wastes. Of these, only 28 TSDs can handle healthcare wastes (M501), 46 TSDs handle mercury wastes (D407) while only 5 can handle both healthcare and mercury wastes. Most of the TSDs handling healthcare wastes apply non-burn technologies for disinfection. The total combined disposal of the registered M501 facilities is only around 37,500 tons/year. In areas unserved by TSDs, health care facilities are employing chemical disinfection, and the treated health care wastes are stored in the designated storage facility or disposed of in a concrete vault located within the health care facility's compound or premises. For mercury wastes, there is very little information on the technologies being employed for disposal.

9. Data collected from several hospitals in the country showed that the generation of infectious waste increased due to the increasing cases of COVID-19 infection in Metro Manila. The current pandemic has caused a significant ramp-up of the generation of wastes associated with single-use PPE (face masks, gloves, gowns), both from households and hospitals, increased usage of medical devices containing mercury and a massive increase on the use of chlorine-based chemicals for disinfection. With the country also preparing now for the deployment of vaccines as outlined in the country's National Deployment and Vaccination Plan for COVID-19 Vaccines, released in January 2021, an increase in the usage of syringes and other immunization paraphernalia nationwide to reach 108 million Filipinos is anticipated. This will cause additional pressure on an already stressed healthcare waste management system dealing with risks associated with infectious and hazardous substances. With the increase of wastes generated, poor waste management systems and chemical disinfection activities, it is expected that there will be an increase in the amount of U-POPs and mercury emissions from the healthcare sector. The Philippines has to address a number of barriers to ensure the health care waste is managed in an environmental, social and economic sustainable manner. The following barriers have been identified:

Capacity and awareness barriers	Institutional and regulation barriers	Technology and practice barriers	Financial barriers
Capacity and knowledge for ESM health care waste low among waste service providers	Incoherent policies and regulation on ESM of hazardous health care waste	BAT/BEP for ESM of hazardous health care waste not applied and tested	Limited access to green financing for health care and hazardous waste management in general
Low awareness on the negative impact and risks of unsound management of hazardous health care wastes Low knowledge on the ESM of hazardous health care waste	Lack of coordination and collaboration among relevant governmental institutions/entities	Lacking of technical guidance for the application of BAT/BEP	
Awareness of non-hazardous health care products low			

10. The proposed project aims to set-up an environmentally-sound healthcare waste management system in the country to address the current pandemic and to ensure that measures are in place to address challenges of the same nature in the future. The increased protection of the environment from emissions of substances of global concern like POPs and mercury will contribute to the improvement of human health at national and global level. This will, as well, assist the Philippines to strengthen their resilience in managing future global pandemics and crisis of similar nature.

B) The baseline scenario and any associated baseline projects

Current situation of healthcare wastes generation and management in the Philippines

11. The DENR through the Environmental Management Bureau is mandated to enforce and implement RA 6969 (Toxic Substances and Hazardous Waste Management Act of 1990) and its IRR to regulate all hazardous waste generators, transporters and TSD operators. The Act requires to ensure that all hazardous wastes including infectious wastes (M501) are properly handled, collected, treated and disposed of in a sanitary landfill. Hospitals, clinics and

other healthcare facilities are required to register as hazardous waste generators. or specialization in such aspects like generation, transport and treatment of HCW. On the other hand, the DOH is the agency implementing the Sanitation Code of the Philippines (PD 856) that provides sanitary requirements for the management of solid wastes including biomedical or health care waste management within the hospital premises.

12. Based on the data collected through the Self-Monitoring Reports (SMRs), the amount of healthcare wastes generated in 2018 (Table 1) is around 55,000 tons with the highest generation in the National Capital Region (NCR) or Metro Manila.

Table 1: M501 wastes generated per region in 2018

Region	2018
I	986.89
II	41.58
III	699.74
IV-A	2589.14
IV-B	4.10
V	285.61
VI	740.15
VII	168.35
VIII	7919.91
IX	107.50
X	196.61
XI	-
XII	287.48
NCR	25532.15
CAR	64.14
CARAGA	15019.89
Total	54643.24

Source: DENR-EMB

13. Healthcare wastes, by definition, include mercury-containing medical devices. Mercury can be found in medical devices such as thermometers and sphygmomanometers, as well as in lighting products used in the healthcare sector. It is also used in procedures conducted in laboratories, clinics, hospitals, dental clinics and other healthcare facilities. Weak capacities and fragmented policies, however, led to existing undisposed mercury from these sources, amounting to an estimated 10.468 tons Hg (refer to Table 2) in 2018. From 2017 – 2018, six health incidents involving mercury from mercury stockpiles and undisposed wastes were reported, affecting up to 600 individuals.

Table 2: 2018 Estimated Mercury Inventory from laboratories, clinics, and other healthcare facilities in the Philippines

Source	2018 Estimated Volume (kg Hg/yr)
Thermometers (including from household)	1,794
Sphygmomanometers	2,593
Mercury from laboratories	3,635
Mercury from dental clinics	2,408
Mercury in lighting products from laboratories, clinics, and healthcare facilities	38
TOTAL	10,468

14. As previously mentioned, there are currently 28 registered TSD facilities in the Philippines that can handle health care wastes and mostly, applying non-burn waste treatment technologies such as autoclave, microwave and pyrolysis, majority of which are located in Luzon. A list of some treatment facilities (some with known capacity) is reported in Table 3 below. From the data, it may be seen that non-combustion facilities for which data are available may account for a total capacity of around 37,500 tons per year. Out of this, 3000 tons per year is disposed through pyrolysis (which should not be classified as non-combustion) and around 15,000 tons are disinfected through the autoclave plant, covering therefore 40% of the total non-combustion capacity.

Table 3 List of some treatment facilities in the country

Name of TSD	Facility Address	Type of treatment (data from EMB or service provider)	Capacity per annum, tons per year
1. Eco Safe Hazmat Treatment Inc.	Lot 7 West Los Angeles Street, California Village, San Bartolome, Novaliches, Quezon City	Chemical treatment – NaOH, H ₂ O ₂	
2. Integrated Waste Management, Inc.	Lung Center of the Philippines Compound, Quezon Ave. Quezon City	Autoclave (steam at 121 C) – 10 tons per day	3000
3. Maya Med Waste Corporation	WH#30 Toprite Industrial		

	Compound, 1617P, Jacinto St. Sitio Malinis, Bagbaguin, Valenzuela City		
4. Udenna Environmental Services, Inc.	#004 Sta. Maria Drive, Sta. Maria Industrial Estate, Bagumbayan, Taguig City	Autoclave, 10 tons/day	3000
5. Clean Leaf Environmental Services	Cutcut, Tarlace	Autoclave, 10 tons/day	3000
6. Total Organic Environmental Solutions, Inc., B	Brgy. Longos, Pulilan, Bulacan		
7. Safe Waste Inc.	Mabalacat Pampanga	Autoclave – 50 tons per day	15,000
8. Tarlac Provincial Hospital, Tarlac City, A	Tarlac	Treating its own infectious waste	
9. Metro Clark Waste Management Corporation	Clark Special Economic Zone, Sub-zone D, Sitio Kalangitan, Cutcut II, Capas, Tarlac	Sanitary Landfill	
10. Cleanway Environmental Management Solutions, Inc.	Meridian Industrial Complex II, Brgy. Maguyam, Silang, Cavite	Hydroclave (steam at 121 degrees Celsius) 15 tons	4500
11. Green Echo Techwin Inc.	Block 2 Lot 8, Phase 2, Golden fate Business Park, Brgy. Buenavista II, Gen. Trias, Cavite	Thermal Processor (G-50 Model)	
12. Integrated Waste Management Inc.	Brgy. Arguado, Trese Maritez City, Cavite	Autoclave (steam at 121 degrees Celsius) – 20 tons per day	6000
		Pyrolysis – 10 tons per day	3000

15. The current regulation requires that healthcare waste are classified as hazardous even after disinfection treatment. The situation has significantly worsened with the additional load of HCW generated due to the COVID-19 epidemic. Recent estimates carried out by DOH experts reveals that the amount of

medical waste generated both from household and hospital facilities during the epidemic has already resulted in a significant increase of the medical waste generated compared to the normal condition, from the current amount of around 150t/day up to 200t/day.

Impact of the current pandemic on healthcare wastes generation

16. As of 2 June 2020, there are 13699 positive COVID-19 patients in the Philippines. Out of these cases, 469 are hospitalized in intensive care units, 3025 are in isolation beds, 968 in ward beds and 369 under mechanical ventilation, for an overall number of 4462 hospitalized patients. As of 2 June 2020, in the Philippine there are 13012 beds entirely dedicated to COVID-19 in hospitals. The patients which are either quarantined at home or “pending admission” are therefore 9237. In June 27, the number of hospitalized patients increased up to 13493, out of which 1300 in ICU beds, 8982 in isolation beds and 3211 in ward beds. One month later, the number of positive cases the daily rate of new positive cases, and the percentage of positive cases over the number of individual cases were increasing, showing that the epidemic in the Philippine was still in the exponential stage.

As of 12 March, 2021, there are 611,618 total number of COVID-19 cases in the country, 52,012 of which remain active. This shows the massive progression of COVID-19 infection in the country.

17. It is very difficult to estimate how many patients will need to be treated in the hospitals, until the end of the current pandemic. Based on the March 2021 WHO COVID-19 situation report in the Philippines, at national level, the bed occupancy rate for allocated beds is currently at 30.3% for COVID cases, with variation between regions. As allocated beds in the Philippine is estimated as 149,159 beds, this corresponds to around 45,200 beds occupied by COVID 19 patients. Table 4 shows the preliminary estimation of the consumption of PPEs, subsequently wastes generated, based on COVID-related bed occupancy

Table 4: Preliminary estimation of the consumption and generation of PPE wastes

Staff per patient per day	Administration	Medical					
	1	2					
Number of COVID-19 patients	45200						
	Items per administrative staff per day	Items per medical staff per day	Items Per Covid-19 patient per day	Weight (g)	Weight per day (g)	Total Items per day	weight per day (t)
Surgical Masks	2	3	8	6	48	361600	2.1696
N95 mask		1	2	30	60	90400	2.712
shoe covers	2	2	6	6	36	271200	1.6272
Gowns		1	2	300	600	90400	27.12
coverals		1	2	200	400	90400	18.08
Goggles		1	2	50	100	90400	4.52
Gloves	2	2	6	15	90	271200	4.068
Total					1334		60.2968

On this basis, around 60 tons of wasted PPEs are currently generated daily from hospital facilities during the COVID-19 emergency, which should be considered mostly additional to the estimated 63 tons generated by the same number of patients in normal situations (45,200 patients by 1.39 kg/day), thus the amount of waste generated by the 45,200 patients leads to 123 tons per day, i.e., 2.7 kg per day for each patient. This estimation is pretty much in line with the estimation of 3.4 kg/day provided by the ADB based on a report drafted by Shi and Zheng (2020).

COVID-related household healthcare waste (C-HHW)

18. One other issue that represents an even greater challenge is the generation and management of COVID- household healthcare waste (C-HHW) that is even not fully understood. An ADB study estimates that, limited to the population of the Manila area of 14 million people, the additional generation of medical wastes from household alone can be estimated up to 280 tons per day. This seems to be based on the assumption that each individual generates around 20g of medical waste per day (the weight of 2 face masks), and that all these wastes have to be considered as hazardous wastes.

19. This is probably a gross overestimation of the use of face masks in the country. During the early community quarantine (mid-March to April 2020), everybody is encouraged to stay at home except for the front liners (e.g. health and essential workers, military and police personnel). During this period, a national policy was issued for mandatory wearing of facemasks, especially to those who are going outside or leaving their houses/residences. At present,

there are 22 million families in the country and during the enhanced community quarantine, only one from the family members is allowed to leave their house/residence to buy food, medicine and other basic necessity. Based on this, it is assumed that 22M face masks (e.g. disposal surgical masks, reusable or washable masks) are used per day. However, during the early period of the lockdown, the country is experiencing the short supply of facemasks, thus locally made washable face masks augmented the requirement. So it was assumed that 5-10% of the used facemasks are disposable which is equivalent to 1.1 - 2.2M face masks per day. Thus, it is estimated that around 2.2 tons of additional wastes is generated by households per day.

20. Considering the amount of wastes generated by households during this pandemic period, several challenges on the generation and management of C-HHW remain:

- The quantity and composition of C-HHW is unclear. No specific recommendation on which PPE to be used by the general public, was issued by the government or by international agencies, therefore people are using a number of different options, some of them are re-usable whilst others should be used for no more than few hours. Materials range from polymeric fibers (N95 and surgical masks) to fabric of home-made masks. How this is impacting the waste management system of household waste is unknown. In a way, this is also dictated by the limited availability of face masks and the cost associated to them.
- As of March 2020, the recommendation issued by DOH was that people should use face mask only if they have symptoms (<https://www.doh.gov.ph/node/19947>) or if taking care of affected persons in line with the WHO recommendations. The WHO recommendation seems still based on the approach that non-symptomatic persons are not infectious, which was subsequently denied by the facts, therefore most government worldwide, including Philippine (IATF) issued rules obliging to wear a face mask when in public places, including outdoor. More specifically, the IATF rules says that “for areas placed under Extended Community Quarantine, the IATF hereby adopts the policy of mandatory wearing by all residents of face masks, ear loop masks, indigenous, reusable or do-it yourself masks, face shields, handkerchiefs, or such other protective equipment that can effectively lessen the transmission of COVID-19”. This appears quite a logic recommendation considering the cost of some of the certified mask, and the level of poverty of some population groups.
- Apparently, there is no system in place for the management of the C-HHW generated by quarantined people or by COVID-affected people at home.
- One of the indications provided by the government or international agencies is to “pre-treat” household generated waste with 0.5% chlorine disinfectant solution . This recommendation, although good from the safety viewpoint, could have as a consequence a significant release of chlorinated waste in the waste management stream, where the risk of open burning of waste (with a significant generation of PCDD/F) may exist.
- At the same time, there is a large consensus that PPEs policies are useful only if integrated with washing hands and keeping surfaces clean. That entail the use of a significant amount of chemicals (from alcoholic detergents to bleach) which in turn may impact the waste management system and the environment.

Associated baseline projects

Component 1. Unintentionally-produced POPs release reduction in the healthcare waste sector

21. As a Party to the SC on POPs, the Philippines is obliged to comply with the targets designed to reduce or eliminate releases from intentional and unintentional production of POPs. The Government of the Philippines, through the Department of Environment and Natural Resources (DENR), developed a National Implementation Plan (NIP) in 2006, which outlined programs and actions to achieve its obligations. The NIP has recently been updated (2014) to address the changes in the obligations to the SC, review the action plans previously developed and the achievements so far, and formulate new action plans

that would address the additional obligations. One of the priorities stipulated in the action plans is the management of unintentionally-produced POPs (dioxins and furans) from uncontrolled burning of wastes (part of which is healthcare wastes) which contributes 35% of the total dioxin inventory.

22. In the Philippines, there are three major Philippine laws that relate to the management of dioxins and furans, namely, Republic Act 8749 otherwise known as the Philippine Clean Air Act of 1999; Republic Act 6969 or the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990; and Republic Act 9003 known as the Ecological Solid Wastes Management Act of 2000. On the management of hazardous and infectious wastes, the regulating agencies are the DENR-EMB and the DOH. The Joint Circular (2005) of the DENR and DOH states that medical wastes which include infectious waste within the hospital/health care wastes premises are the within the mandate of the DOH, while outside the premises, it becomes the mandate of the DENR. The DOH is in-charge in the issuance and renewal of licenses of hospitals and other health care facilities and has the responsibility to guide HCFs in proper handling and management of health care wastes.

23. DENR Administrative Order, DAO 2013-22, provides the “Procedural Manual on Hazardous Wastes Management” and for healthcare wastes in particular, regulation is done through the Joint DENR – DOH Administrative Order No. 02 Series of 2005: “Policies and Guidelines on effective and proper handling, collection, transport, treatment, storage, and disposal of health care wastes”.

24. The DOH also issued a national policy on the strict implementation of waste segregation at the source (within the hospital) through waste classification and color coding, proper in-house collection and storage, treatment of infectious and hazardous wastes prior to disposal. Hospitals are required to create HCWM Committee that will oversee the implementation of HCWM plans and programs. In the application or renewal of hospitals’ license, the facility is required to submit an approved work plan and financial plan to ensure that proper HWM program is being implemented. Prior to issuance of the hospitals’ license, such plan is being validated by the DOH licensing bureau. The HCWM plan components are: procurement of supplies on color coded plastic bags, container/waste bins, waste trolleys/carts, chemical disinfectants, PPEs for health care waste management personnel, HCW training, IEC development and dissemination, and budget for treatment of infectious wastes through outsourcing (hazardous waste service providers). In early 2019, the WHO granted assistance to DOH for the updating of HCWM manual which was approved and signed last April 2020. With the onset of the pandemic, the DOH issued interim guidelines on the proper management of Covid-19 related wastes to guide waste generators and service providers in the implementation of HCWM.

25. The national government is also encouraging big hospitals to establish their own waste treatment facility, but the common issues/problems is the unavailability of funds and high cost of investments. Lack of support facilities (e.g. waste treatment, disposal) is one of the issues/reasons of failed implementation of HCWM programs. Thus, in 2015 the DOH requested funds through general appropriations act, for the establishment of treatment facilities (sterilization machine) to be distributed to all DOH retained hospitals. However, it didn’t push through due to too much bureaucracy in the government systems.

26. In the late 90’s, there are 25 DOH Regional Hospitals that were recipients of the Philippines and Austrian Incineration Projects including microwaves facility. However, the operation of incinerators in these health facilities was halted in compliance of the DOH to the Clean Air Act of 2000 (RA 8749) prohibiting the use of incinerators in treating health care wastes. Since then, government and private health care facilities specifically in Metro Manila are being catered by private waste service providers through application of waste sterilization. However, there are certain areas in the country unserved by health care waste service providers.

27. In terms of COVID-19 response, the country's Inter-agency Task Force for the Management of Emerging Infectious Disease (IATF) developed an immediate COVID-19 national recovery plan for 2020 – 2021. The "We Recover as One" plan anticipates a new normal where managing pollution and the sustainable use of natural resources vis-a-vis addressing the threat of future pandemics under a changing climate will become even more challenging. Existing waste management facilities are also expected to be overwhelmed by huge volume of wastes from healthcare facilities and households. The new normal will require a combination of strengthened, scaled up, and innovative actions and solutions to curb the elevated environmental, climate, and health risks posed by COVID-19. As such the plan prioritizes streamlining the management of healthcare and infectious wastes, especially at the community and household levels. Actions include: (1) Ensuring compliance of healthcare facilities and treatment technologies with the standards for hazardous waste management; (2) Modernizing and increasing the number of TSD facilities for hazardous healthcare wastes; (3) Improving disposal of healthcare wastes at the household or barangay level; and (4) Supporting ancillary remedial actions to improve environmental health and mitigate climate change. In the new normal, the plan also puts a premium on actions geared toward supporting MSMEs, being among the most affected by the COVID-19 crisis, in capacity and resilience – building.

28. The UNIDO COVID-19 Response in the Philippines is aligned with the government's plans and programs in the "We Recover as One" document, and covers the following areas:

- Strengthening healthcare, safety systems and capacities to respond to COVID 19 through productive activities
- Support to recovery of the economy through micro-, small, and m-sized enterprises (MSME) growth and resilience
- Socio-economic impact assessment and industrial policy advice

29. In order to facilitate these efforts in the Philippines, UNIDO, with support from the Department of Trade and Industry, has convened a multi-stakeholder working group composed of representatives from various government agencies, private sector industry players, and other development partners. UNIDO is also leading the Small and Medium Enterprises (SME) Subgroup of the United Nations COVID-19 Working Group on Socio-Economic Response guided by the UN Country Team in the Philippines.

30. There is only one company in the Philippines that manufacture face masks with a capacity of 1.6 M masks per month (increased to 4 million per month during the pandemic). The current supply of face masks is, obviously, not sufficient to cater to the needs of both hospitals and households. Many households resort to the use of reusable or washable masks which may not be sufficient to prevent spread of infection or as protection from infection. There are several small manufacturers in the country (even households) that produce these reusable/washable masks. While the use of these reusable/washable masks minimizes the generation of wastes from single-use PPEs, it is important that proper materials are used to ensure protection.

31. The pandemic has brought the management of healthcare wastes to the forefront of government priorities. To address the needs of local government units (LGUs) and small hospitals, the Development Bank of the Philippines is laying out a USD25M Loan package that could be access under their Green Financing program. The loan is envisaged to be accessed by local government units which are mandated to manage public hospitals in their areas of responsibilities and by private hospitals requiring proper HCW treatment facility. This is a good baseline project with the current proposal contributing to the sound assessment of the needs of the country and how the financing program can be structured to benefit the stakeholders.

Component 2: Management of mercury, mercury-added products (MAPs), and mercury wastes in the healthcare sector according to the Minamata Convention on Mercury and the Philippine National Action Plan for MAPs phase-out

32. The management of mercury, mercury-added products (MAPs), and the associated mercury wastes in the country is regulated by different agencies. Each agency has their own mandate and specific implementation procedures. The Department of Environment and Natural Resources (DENR) is regulating Mercury through a Chemical Control Order (DAO 1997-38). There are also existing policies and ordinances issued by different government agencies with regards to management of mercury.

33. The DENR has developed a National Action Plan on Mercury and Mercury-containing Wastes Management in 2010. It is also regulating mercury and mercury compounds through Chemical Control Order, DAO 2019 – 20, while DOH implements Department Order No. 2017-0302 for the “Final Disposal of Temporarily Stored On-Site Mercury Wastes and Mercury Containing Devices”; and DOH AO 2008 – 0021 for the “Gradual Phase-out of Mercury in All Philippine Healthcare Facilities and Institutions”. In conjunction, the Department of Education (DepEd) issued Memorandum Order No. 2017, s. 2017 for the Final Disposal of Temporary Stored On-site Mercury Wastes and Mercury-containing Devices from school clinics and laboratories. In 2020, DOH Administrative Order 2020 – 0020 provided the phaseout plan for mercury use in dental restorative procedures.

34. Through the Swiss-funded UNIDO project “Promoting Ratification and Early Implementation of the Minamata Convention on Mercury”, a National Action Plan for the Phaseout of Mercury-added Products (MAPs) and the Management of the Associated Mercury-containing Wastes was developed. This work also facilitated the establishment of the Inter-agency Technical Working Group on Mercury (Kg-IATWG) under the Inter-agency Committee on Environmental Health (IACEH) led by the Department of Health and the Department of Environment and Natural Resources.

35. As of August 2020, the country is waiting to start implementation of a project under the ASEAN-Japan Integration Funding that will look at capacity development for the substitution and ESM of mercury-containing medical devices. The project will focus on gap analyses and drafting of country situation report.

36. Currently (as of 15 April 2021), the country has 46 TSD facilities accredited and qualified to handle mercury and mercury wastes. A great majority (88%) is located in the island of Luzon. Six (6) facilities are in the Visayas and only 1 is in Mindanao. There is currently very little available information as to the type of technology these facilities are employing in relation to mercury and mercury wastes. The available infrastructures could be assessed and upgraded to ensure that environmentally-sound approach on the handling of mercury wastes is observed.

37. The increase usage of mercury-containing devices both in hospitals and in households because of the pandemic adds to the current burden of ensuring proper management of HCW. Thus, the project aims to directly address the mercury issue in this sector facilitating also the introduction of Hg-free medical devices.

Component 3. Capacity building and awareness raising

38. There are programs and projects in the Philippines that address the need for capacity building on the issue of POPs and Hg. The DENR, particularly, sets aside part of its national budget to ensure continuing education for both its staff and the general public on the issue of chemicals management. Since 2017, the Department of Health has been implementing a chemical safety program for heavy metals including mercury. A Chemical Risk Assessment Training Program is currently being organized. However, relating emission of uPOPs to healthcare wastes management still seem to be challenging topic due mainly to

several stakeholders involved. At the same time, the serious health and environmental concerns around mercury and mercury wastes also seem to be challenged in gaining traction owing to the chronic and sometimes non-specific nature of mercury poisoning.

39. As mentioned above, one of the procedures in place to ensure continuing education in the healthcare waste sector with regard waste management is the need to program funds for HCW training, IEC development and dissemination when hospitals apply for license renewal. The DOH regional offices likewise have their own annual budget for the capacity development of LGUs sanitation personnel and hospitals' Pollution Control Officers, Chief of Hospital, Engineering Department, Infectious Control Officer on health care waste management, within their respective regional area.

40. The GEF projects, GEF 10349 "Demonstration of production phase-out of mercury-containing medical thermometers and sphygmomanometers and promoting the application of mercury-free alternatives in medical facilities in China" and the global project GEF 10716 "Phasing out mercury measuring devices in healthcare" also provides the baseline, particularly on mercury management, for the current project. It is envisaged that coordination with the agencies and entities involved on these projects will be undertaken, especially on the capacity building and knowledge management efforts of the current project.

41. The global project GEF 1802 "Demonstrating and Promoting Best Techniques and Practices for Reducing Healthcare Waste to Avoid Environmental Releases of Dioxins and Mercury" with Philippines as one participating country, contributed to the training on mercury devices and the installation of two non combustion technologies for the pre-treatment of HCW, which, however, were procured only after project closure. The design of the current proposal benefitted from the lessons learned from this project.

42. The current project aims to coordinate with ongoing global and national efforts and further strengthen the delivery of capacity building and awareness raising activities relative to the management of healthcare wastes

C) The proposed alternative scenario with a description of outcomes and components of the project;

The strategy and Theory of Change of the project.

43. The strategy to address, in a sustainable way, the issue of the healthcare waste prevention and management, as well as the associated generation of U-POPs, chlorinated pollutants and Hg generated during the improper management of such waste, is summarized in the Theory of Change provided in Figure 1.

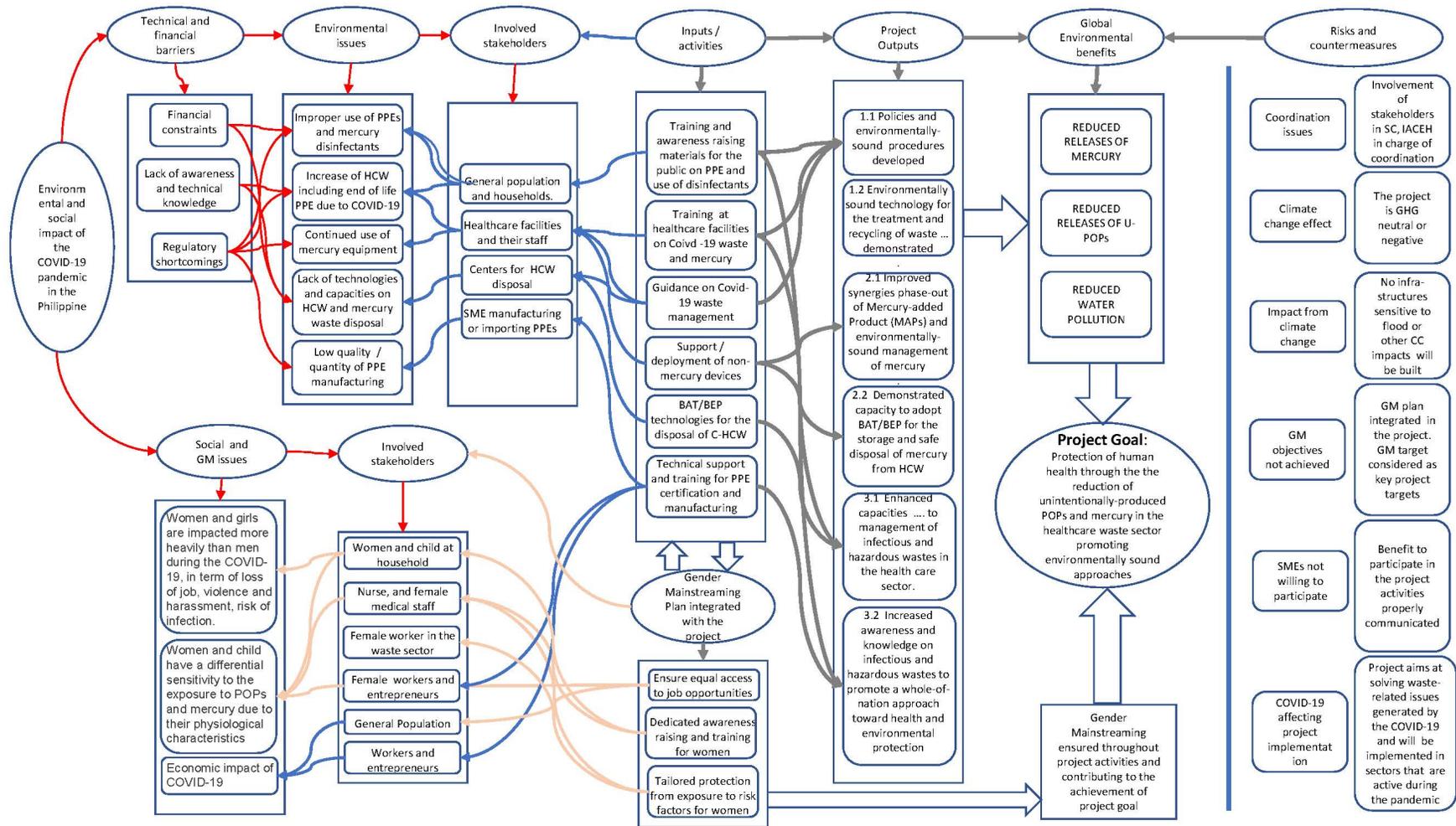


Figure 1 Theory of Change Diagram of the Project

44. The projects has a three-pronged strategy: (i) introduce an environmentally-sound management of healthcare wastes with special focus on uPOPs and Hg management associated with pandemic events; (ii) establish systems which can be replicated and scaled up to help ensure sustainability and promotion of a sustainable approach (e.g, lifecycle of PPEs used during epidemic outbreaks) and; (iii) highlight the pivotal role of women in this strategy, both in their role in civil society and as medical staff and nurses in healthcare facilities , being at the same time the population group most exposed to the risk and the ones which are in the frontlines of fighting the virus at home and while in duty.

From issues to solutions

45. While there are certain programs in the country that relates to the management of healthcare wastes, the current management of such wastes is still fraught with many challenges which was further exacerbated by the current pandemic. The issue of uPOPs generation is far from being understood by potential generators, especially the medical and waste management sector. Most wastes, including hospital wastes, is dumped together with municipal wastes especially in areas with no access to service providers. The current practice of chemical disinfection is also foreseen as contributory to releases of toxic dioxins when burned. The project aims to address these gaps and provide necessary solutions.

46. Although the pandemic is affecting the whole society, is demonstrated that women, due to their role in the society in the Philippine, are more exposed to the social impact of the pandemic: they are more at risk of losing their jobs as in most cases they have to take care of child and elderly in the family; they are exposed to an increase risk of domestic violence due to the lockdown requirements; they take care of house cleaning, including management of waste; they represent the majority of the non-medical staff in the hospitals. For the above reason, a specific approach to ensure gender mainstreaming will be integrated in the project, and GM objectives will be considered at the same level of the main project objectives. This is also depicted in the TOC diagram in Figure 1.

47. Whilst the COVID-19 pandemic is exacerbating (red arrows in the TOC) some of the pre-existing issues which are eventually leading to the increased release of U-POPs, mercury and water pollution (through the improper use, management and disposal of PPE, mercury devices, and the lack of technologies for the pre-treatment of medical waste), the project, through its technical components, intends to counteracts the negative impact of COVID-19 by assisting stakeholders through a range of initiatives like awareness raising on the management of end of life PPEs, training on the disposal of PPEs and the use of non-chlorinated disinfectants, implementation of BAT and BEP for the treatment of C-HCW, assistance to SMEs on the use and certification of PPE against COVID-19, training and support for the replacement of mercury devices. In the TOC diagram, this is represented as blue arrows going from right to left.

48. The project intends to remove some of the pre-existing difficulties to collect and dispose in a proper way the waste generated by healthcare facilities as reported by several LGUs and address the challenges of reducing uPOPs emissions and mercury-added health care products through a number of actions like:

- Strengthening of regulations (aimed for instance at de-classifying some healthcare waste after specific type of pre-treatment) enabling the country to address the challenges of the healthcare sector during pandemic;
- Harmonizing policies and updated action plans on mercury, MAPs, and mercury wastes particularly in the healthcare sector;
- Fill in the information gaps in relation to mercury inventory particularly in the healthcare sector;
- Integrate mercury, mercury wastes, and MAPs inventory into a central database, coordinated with the other existing databases in other government agencies also responsible for the management of MAPs. This will facilitate efficient monitoring and regulation;
- Development and demonstration of a system, including software tools for the management and optimization of waste collection from multi-point itineraries, integrated with hazard waste manifest system, to be developed in an area of metro Manila;
- Development of guidance and awareness raising for healthcare facilities on the classification and segregation of waste with special reference to the classification and segregation of PPEs and mercury-added healthcare products, based on specific considerations related to the planned treatment and disposal technologies (autoclaving, chemical disinfection, landfilling);
- Assess existing TSD facilities in terms of procedures and technologies being adopted and the potential need for upgrading in order to become BAT/BEP compliant;
- Demonstration of safe technologies for the sterilization of healthcare wastes after use, so that these can be stored for longer time pending their disposal. This could potentially avoid a significant release of U-POPs (PCDD/F). Potential technologies to be adopted with this regards may be small scale, low cost

steam or microwave autoclaving, to be deployed in a cluster of health care facilities with an overall demonstrated capacity of at least 5 tons/day;

- Introduce best available technologies and best environmental practices for the environmentally-sound management of mercury and mercury wastes through partnerships with the private sector. The phase out of mercury-added health care products will be facilitated through the promotion of BAT/BEP in the entire life cycle of these products. This promotion in the health care sector will assist in scaling up the transition to cleaner technologies and practices in other sectors using mercury-added products;
- Facilitate access to green financing for MSMEs in the healthcare sector for increased investments to support adoption of BAT/BEP.

Furthermore, the project will establish knowledge and practice aimed at reducing the amount and the intrinsic hazard of the waste generated from household, through:

- Development of guidance and awareness raising, for the general population, with dedicated training for women, on aspects like proper selection, use and maintenance of PPEs during pandemic events (taking in due considerations, for instance, the new guidance issued by the WHO); chemicals and non-chemicals approaches for disinfection of surface and waste, including non-chlorinated chemicals; methodologies for the proper disposal of used PPEs;
- Assistance to small manufacturers of the reusable “non-medical fabric masks”, which are now recognized by the new WHO guidelines as an essential tool in the fight against the virus, to ensure that they are manufactured following environmental and safety standard, and facilitating their production as to reduce the demand, from the general public, of the medical single use PPEs (like surgery or N95) which should be left for professional use in place where a better management of waste may be also more easily ensured.

49. From the social standpoint, the project will integrate activity and criteria that will ensure that gender mainstreaming aspects are properly addressed. More specifically, all the project activities will be designed and implemented in such a way that the equal access to job opportunity will be ensured; that awareness raising initiatives and materials specifically dedicated to women will be carried out; that the specific health risk for women resulting from the exposure to chemicals and pathogens will be properly assessed and managed. Gender related activities, their targets and indicators will be part of a budgeted GM plan which will be integrated in the project result framework. The gender mainstreaming approach of the project is summarized in the bottom-left region of the diagram.

50. If properly implemented and monitored, and supported by an effective implementation of the gender mainstreaming plan, the project activities will ensure that the project outputs will be achieved, and that ultimately the Global Environmental Benefits will be achieved. As reported in the GEB section of this PIF, the project will allow for a reduction of the release of U-POPs (PCDD/F) and mercury, as well as a significant reduction of the pollution of water bodies through the reduced release of chlorinated detergents and mercury waste.

Description of outcomes and components of the project

Component 1. Unintentionally-produced POPs release reduction in the healthcare waste sector

51. This component has the main objective of reducing the waste and U-POPs generation, through a better understanding of the impact generated by epidemic events on the generation of waste and on the additional generation of U-POPs associated with the disposal of these waste, either in case of improper disposal or in case of adoption of BEP and BAT. Although a first estimation has been attempted during the project drafting to assess the overall amount of waste and U-POPs generated, through this component a more detailed and sound approach will be adopted for the evaluation. Based on this sound scientific assessment, the project will identify how safe procedures and safe chemicals at any stage can be adopted to reduce the amount of waste generated

and the associated release of U-POPs. The impact in terms of waste and U-POPs minimization is achieved in this component mainly through the development and communication of guidance related to the manufacturing, use and disposal of waste, therefore inducing a widespread behavioral change with the twofold objective to increase the protection against infectious agents and minimizing the environmental impact. Considering the pivotal role of women in both the civil society and the healthcare facilities during the COVID-19 outbreak, women will be considered at the same time the key beneficiaries and main actors in this component and they will be the main audience of training and communication, and will have to play the main role in the project implementation (development of guidance documents, training, technical assistance on PPE manufacturing).

52. The project envisages the adoption of three different approaches to reduce uPOPs emissions: i) a substantial reduction of unnecessary disinfection with chlorine-based disinfectant, either by replacing them with non-chlorine disinfectant, by providing clear guideline on the amount of chemicals to be used, or even by avoiding unnecessary disinfection. Guidelines on the use of chlorinated disinfectant will have an impact going beyond the pandemic emergency. The abuse of chlorinated disinfectant results in a significant release of chlorine in healthcare wastes generated and when burned, increases the generation of U-POPs in the atmosphere and residues. It also contributes to the presence of toxic chlorinated organics (AOX) in wastewater streams. However the evaluation of the amount of U-POPs that can be reduced through this way will be undertaken at PPG stage; ii) A similar approach will be adopted on the use of face mask. The use of face mask will go beyond the evolution of the current COVID-19 pandemic, and suitable guideline as well as an LCA analysis will be prepared to understand the safe reusability (how many times) of reusable face masks, and how safe "reusable community face masks" are in comparison with the single-use masks (N95 or medical); and iii) Improved collection and disposal of medical waste will prevent the improper disposal of PPE, out of which a significant percentage may be burnt accidentally or deliberately in dumpsites.

This component has the following outcomes and outputs:

Outcome 1.1 Policies and environmentally-sound procedures developed for the minimization of health care wastes, focusing on the wastes generated during pandemic

53. As it may be understood from its short description, under this outcome the activities will concern two aspects: from one side, the strengthening of policies and guidelines to ensure a harmonized approach to issues and challenges brought about by pandemic events and on another, it would involve identification of environmentally-sound approaches disposal, disinfection and sanitation of healthcare wastes, with the purpose to prioritize whenever possible options capable to ensure the required level of waste management and disinfection with a lower environmental impacts and lower health risk. It will also involve support to the manufacture of reusable face masks in the community so that the use of disposable professional face masks are reserved to the healthcare facilities and professional users. The project also aims to provide guidance on the selection and procurement of PPEs and medical equipment by providing standard specifications for PPEs and medical equipment and devices.

Output 1.1.1 Strengthening of relevant national policies on healthcare wastes management with special focus on responses during pandemics

54. This output will assess the existing policies and regulations on management of healthcare wastes and will propose provisions addressing gaps and barriers. It envisages the strengthening of regulations enabling the country to address the challenges of the healthcare sector during pandemic. Under this output, a set of guidance documents for the general public and the health and environmental authorities on the, use and disposal of COVID-19 related PPEs will be developed. This will contain not only the intent to ensure that PPEs are properly used so that their protective effect is maximized, but will also have the purpose to provide clear indications on the procedures for disposal of PPEs after their use. More specifically, for the use of PPEs at households, the guidance

will also include the correct procedures for disinfection of end of use PPEs (prioritizing non chemicals or non-chlorinated disinfectants) to ensure that these do not represent a risk for waste collectors. Precise indications will be given in the guidance for waste management operators to collect and manage the end of use PPEs generated at households. This output also envisages the formulation of standard specifications for the procurement of suitable PPEs and medical equipment and devices.

Output 1.1.2 Inventory procedures and guidelines for the calculation of additional waste generated during pandemic, with special reference to the current COVID-19 pandemic established

55. This output will be achieved through the development of procedures for the reliable calculation of additional healthcare waste generated during pandemic and the disposal of the same. This output will concern the following: (i) Assessment of the additional generation of waste associated to the pandemic in healthcare facilities, through the development and piloting of a specific guideline document and; (ii) A guideline for the assessment and management (disposal) of the COVID-19 associated waste at households will be developed and piloted for the assessment of use of disinfectant and the generation of household waste related to the pandemic – which are mostly limited to PPE, like single use or reusable face masks, gloves, face shield.

Output 1.1.3 Assessment of the lifecycle impact of PPEs and protective measures with reference to the consumption of material and generation of potentially contaminated wastes and POPs completed.

56. This output envisages assessments of PPEs used in the community and in healthcare facilities. A number of PPEs equipment – with special reference to face masks but also including gowns, gloves and protective suit – will be identified and subjected to a LCA to evaluate the overall impact in term of natural resource, GHG released, waste generation, and release of U-POPs and other chemicals during all the lifecycle stages.

Output 1.1.4 Analysis of the impacts of different chemical disinfection procedures for wastes and surfaces with specific consideration on the differential risk for men and women and to the associated generation of uPOPs in air and water completed.

57. The COVID-19 pandemic has caused an excessive use of chemicals disinfectants to the point that in the initial phase of pandemic it has been observed a shortage in the availability of specific disinfectant products. An increase of intoxication cases associated with the overuse of disinfectant has been observed in anti-poison centers worldwide. The massive release of specific disinfectant in the environment may harm directly or indirectly the quality of water, cause the formation of toxic chlorinated chemicals, and increase the generation of PCDD/F if waste disinfected using chlorine bleach are burnt in the open or in substandard incinerators. The main purpose of this output is to assess on the basis of the available scientific literature, the efficiency of different disinfection chemicals in term of percentage of virus destruction. The aim is to identify chemicals characterized by a good disinfection efficiency but are less hazardous and which do not indirectly cause the generation of POPs when released in the environment compared with chlorine-based disinfectants. This output also intends to prepare a set of specific guidance documents for the Philippines for the safe and effective disinfection of surfaces and objects to ensure at the same time a better disinfection effect and a reduced impact for the environment.

A set of specific guidance documents for the Philippines for the safe and effective disinfection of surfaces and objects to ensure at the same time a better disinfection effect and a reduced impact for the environment will be produced as part of this output.

Output 1.1.5 Support to small manufacturers and women enterprises to increase the production of fabric reusable PPEs based on WHO guidelines

58. The World Health Organization, had recently released a updated number of guidance documents and videos on the use and characteristics of the so-called non-medical fabric face masks. Non medical face masks have become a daily life object in most countries for use in non-professional settings. This activity aims at providing support to small manufacturers on the production of non-medical face masks which may be effective, suitable, made of material which are durable and can stay in contact with the skin, effectively reusable for a number of times. Procedures for washing face mask during their use and before their disposal will also be developed. This will result in products which are: (i) Effective to ensure the required protection; (ii) Durable; (iii) Reusable; (iv) Suitable for the prolonged direct contact with the skin; (v) Characterized by a low environmental impact; (vi) Accompanied by easily understandable documentation for their use, washing, storage and disposal.

Outcome 1.2 Environmentally-sound technology for the collection, treatment and recycling of wastes generated during pandemic implemented.

59. The main objective of this outcome is to establish a flexible and effective system for the management of healthcare waste which can be easily activated or expanded during any type of epidemic. It aims to deploy and implement the knowledge, procedures and technologies that will ensure that healthcare wastes esp. the additional waste generated during epidemic events are properly classified, segregated, collected, transported and disposed of. Although is not expected that through implementation of this project all the issues associated at such large scale event will be addressed, still the strategy of the project, its integration with activities already ongoing, and -last but not least – the installation of innovative technologies for both the transportation and disposal of waste will ensure that a systemic change can be achieved.

Output 1.2.1 Capacity of waste service providers upgraded in terms of availability of technologies and BAT/BEP compliance

60. As explained in the baseline, there are currently 28 TSD (Treatment, Storage and Disposal) facilities handling healthcare wastes in the country. A survey of the status of these facilities in term of their capacity to treat and dispose healthcare waste, the additional capacity which can be conducted to ensure a proper response to pandemic events, their transportation capacity, and the status of their technologies will be carried out. The survey will be based on both questionnaires, telephone or internet calls, and site visits. Based on the results of the assessment and available funding, upgrade of the facilities to ensure BAT/BEP compliance will be recommended.

Output 1.2.2 Technologies for the low-cost, small scale non-combustion pre-treatment of wastes generated during pandemic, suitable for small scale and remote hospitals, implemented in a cluster of health care facilities demonstrated

61. The sustainable and environmentally sound management of healthcare wastes is not only a technological matter, but indeed requires that the healthcare waste management is reshaped in term of generation, segregation, collection, treatment and final recycling or disposal, from both the financial and environmental perspective. Through this component the project will implement BAT/BEP for the management of healthcare wastes generated especially during epidemic/pandemic events in a cluster of hospitals partially or fully dedicated for the treatment of COVID-19 patients and especially, those unserved by TSD facilities. Pre-treatment technologies of medical wastes through steam or dry autoclave or microwave disinfection will be deployed.

62. The proposed project sites are in Metro Manila, particularly Quezon City, and in Tacloban City based on the number of COVID-19 cases and the availability of effective waste management systems. Quezon City will be the main target site for the project. The city hosts the most number of hospitals (61 public and

private hospitals, 61 health centers) with the largest bed capacity, complemented by health clinics, spas, physical fitness centers, child care and development companies, care giving schools, laboratories, medical transcription firms, and other wellness facilities. It has the most number of registered TSD facilities, as well, that would benefit on the interventions to be provided by the project. The project aims to partner with government hospitals in the city to ensure that BAT/BEPs on healthcare wastes management are in place in the facilities.

Tacloban City is the regional healthcare hub – with its six major hospitals (four privately run and two government-run) - and is the busiest and most progressive city in Region 8 (Eastern Visayas). During business hours, the City's population of about 240,000 triples due to the influx of residents from nearby Leyte and Samar municipalities who avail of utilities and services in the city. There is currently no registered TSD facility for medical wastes in Tacloban and the project aims to support the identification of private sector service provider interested to invest on the establishment of a TSD facility capable of handling healthcare wastes, including mercury. Healthcare facilities, including small clusters of clinics, will benefit from relevant trainings and institutionalization of BAT and BEP in health care wastes management.

Component 2: Management of mercury, mercury-added products (MAPs) and mercury wastes in the healthcare sector according to the Minamata Convention on Mercury and the Philippine National Action Plan for MAPs phase-out

63. This component proposes an alternative scenario where the effective management of mercury, MAPs, and the associated mercury wastes in the healthcare sector is ensured, conducted in line with the strategies and activities identified in the Philippine National Action Plan for the Phaseout of Mercury-added Products (MAPs) and the Management of the Associated Mercury-containing Wastes, and consistent with the provisions of the Minamata Convention on Mercury. The Philippine ratification of the Minamata Convention on Mercury in 2020 puts into focus national priorities to implement intensified interventions with regard to mercury, the phase-out of products containing mercury such as thermometers, sphygmomanometers, among others, and the environmentally-sound management of mercury wastes. In the Philippines, apart from the the ASGM and energy sectors, the healthcare sector is one of the bigger users of mercury, often found in medical devices, lighting products, and used in various procedures.

64. Policies in relation to the importation, manufacture, processing, sale, handling, storage, distribution, use, and disposal of mercury, mercury compounds, and mercury-added products (MAP) are included in the Philippines' Revised Chemical Control Order (CCO) for Mercury and Mercury Compounds (DAO 2019-20). MAPs phase out, according to this DENR Department Order is scheduled in 2022. For the importation of mercury, mercury compounds, and MAPs allowed by the Philippines, guided by the provisions of the Minamata Convention on Mercury, appropriate requirements and procedures for handling, labeling, storage, treatment, disposal, data recording, and reporting, are provided, including the necessary permits that need to be secured. Gaps will mostly be on the harmonization of policies across government offices, and also on implementation which will involve other partner government agencies such as the Department of Trade, the Food and Drugs Administration, the Fertilizer and Pesticide Authority, and other members of the Inter-agency Technical Working Group on Mercury (Hg-IATWG) under the the Inter-Agency Committee on Environmental Health (IACEH), that also provide standards, licenses and certification for products under their jurisdiction; but most especially the Bureau of Customs responsible to guard the country's borders from transboundary movement of mercury. Additional knowledge, training, and planning will be needed to address fragmentation, miscoordination, and lack of technical knowhow and awareness. For DENR, in particular, additional support will be needed to update the country's Online Permitting and Monitoring System, incorporating mercury into the system and devising new innovative approaches to aid in better and more efficient data collection, monitoring, tracking, and reporting that will also benefit other chemicals of concern. All these and more are well-placed in the country's National Action Plan for the Phase-out of MAPs, prepared with support from UNIDO and the Government of Switzerland. In project areas where TSD facilities do not exist, the project will support the identification of private sector service providers or local government units interested to invest on the establishment of a TSD facility capable of handling mercury waste .

The outputs under this component intend to strengthen policy coherence, data management, technical capacities, access to BAT/BEP methodologies and overall awareness and knowledge in relation to mercury and mercury wastes.

Outcome 2.1 Improved synergies to support the phase-out of Mercury-added Product (MAPs) and environmentally-sound management of mercury and mercury wastes, especially in the healthcare sector

65. While there are existing regulatory and legal instruments that constitute the framework for managing mercury, mercury compounds, and their associated wastes, these will require further consolidation and updating in order to adhere to the provisions and guidelines presented in the Minamata Convention on Mercury, taking into consideration a life-cycle approach. Equally important is the overall strengthening of various national and local institutions to implement mercury management strategies and action plans that are mutually-reinforcing. This component would include efforts to review, assess and identify gaps and potential overlaps in existing policies and workplans of concerned government agencies. With these, synergies at the policy level to support the phase-out of MAPS and the environmentally-sound management of mercury and mercury wastes, in accordance with the Minamata Convention on Mercury and NAP for MAPs will be ensured. This outcome will also include activities designed to improve the capacity of the Philippine government in gathering inventory, information and other data for tracking, monitoring, and reporting purposes. This inventory system can further be informed by the development of a mercury material flow based on comprehensive information on the flow of mercury in the Philippines within its life cycle.

Output 2.1.1 Harmonized policies and updated action plans on mercury, MAPs, and mercury wastes across responsible agencies developed

66. Assessments to validate the findings of the Philippine Minamata Initial Assessment and to review the implementation of the 2010 National Action Plan on Mercury and Mercury-containing Wastes Management will be conducted. Based on these assessments, policies and action plans that need to be revised and new regulations to support the phase-out of MAPs and the environmentally-sound management of mercury and mercury wastes will be formulated. This work can be informed by the recently-updated chemical control order for mercury and mercury compounds as well as other relevant policy instruments. Accordingly, these will lead to an updated and more-responsive legal and regulatory framework with product-specific policies. In addition, government agencies that are members of the Hg-IATWG under the IACEH will be supported in their preparation of updated work and financial plans taking off from the National Action Plan for MAPs Phase-out, taking into due consideration the mercury wastes expected to be generated. These plans will facilitate budgeting and scheduling of activities in support of the implementation of the National Action Plan for MAPs Phase-out.

Output 2.1.2 Inventory and monitoring systems for MAPs and mercury wastes, emissions, and releases institutionalized

67. Government will be supported in its efforts to gather accurate and timely information regarding mercury and mercury wastes for more efficient monitoring, tracking, and reporting. The DENR has an existing online system called "Online Permitting and Monitoring System" (OPMS) where this mercury database can eventually be lodged. This online system will act as the central database for mercury, mercury wastes, and MAPs inventory, coordinated with the other existing databases in other government agencies also responsible for the management of MAPs. The Self-Monitoring Reports (SMR) for industries and other reporting mechanisms will also be revisited for updating. While the Philippine Clean Air Act and Clean Water Act have identified both air and water quality standards that include mercury as a critical parameter, monitoring of mercury levels in emissions, releases, air, and water bodies is not conducted regularly. Additional capacity will be provided to better institutionalize mercury monitoring including technical capacities to develop knowledge and database for substance flow and conduct substance analyses.

Outcome 2.2 Demonstrated capacity to adopt best available technologies and best environmental practices for the environmentally sound management of mercury wastes from the healthcare sector

68. This outcome provides the opportunity to introduce best available technologies and best environmental practices for the environmentally-sound management of mercury and mercury wastes through partnerships with the private sector. The project will introduce and demonstrate global-best approaches to mercury and mercury wastes management and will also facilitate access to financing for MSMEs in the health care sector for increased investments to support adoption of these approaches, with due consideration given to vulnerable and marginalized groups including women and youth. These will be done through collaboration with the private sector, collation and harmonization of relevant financing systems in the country, coordination with development banks and financing institutions, and promotion of sustainability reporting through green finance mechanisms. The project will also look into the possibility of promoting public investments through the local government units to support government-managed hospitals by facilitating access to the People's Survival Fund, prioritizing non-burn approaches to healthcare waste management producing climate-related benefits.

Output 2.2.1 Capacity of mercury waste service providers upgraded in terms of availability and BAT/BEP compliance

69. The country has a limited number of TSD facilities that are accredited and qualified to handle mercury wastes. As of 2020, there are 34 accredited TSD facilities qualified to handle mercury wastes, mostly in the island of Luzon (NCR, Region III, and Region IVA). The project will assess these existing facilities in terms of procedures and technologies being adopted and the potential need for upgrading in order to become BAT/BEP compliant, and comply as well to the guidelines provided by the Minamata Convention on Mercury. Recommendations will also be provided with the aim to expand national capacities to properly handle mercury wastes, taking into account regional and spatial concerns and challenges.

Output 2.2.2 Environmentally sound management of MAPs and mercury stockpiles in the healthcare sector demonstrated

70. An estimated 10.4 tons of mercury from MAPs and various procedures conducted in laboratories, clinics, hospitals, and other healthcare facilities has been generated based on a 2018 mercury inventory stocktaking exercise. More is expected to be generated as the country continues to intensify efforts in limiting the use of mercury to activities that are allowed by the Minamata Convention on Mercury. Through this project, global-best methodologies, practices, approaches, and technologies will be introduced and demonstrated to promote the environmentally-sound management of mercury and mercury wastes in accordance with national policies and the provisions in the Convention. The project also intends to increase capacity of TSD facilities and other establishments to safely collect, temporarily store, treat, and dispose mercury wastes. Assistance will be provided to collect, transport, and safely dispose mercury stockpiles and MAPS for phase-out from hospitals, clinics, laboratories, and households.

Component 3: Capacity building and awareness raising

71. This component will look into enhancing capacities to promote and comply with the provisions in the Stockholm Convention on Persistent Organic Pollutants and Minamata Convention on Mercury and the implementation of the Philippine National Implementation Plan relevant to uPOPs emission reduction and the National Action Plan for the Phase-out of MAPs. These will not only focus on capacity building for the regulatory bodies but also for other stakeholders as well. The project will provide support for the activities to be undertaken during the project duration including but not limited to meetings,

trainings, workshops, forums, and technical discussions. This outcome is also designed for information dissemination and education targeting ordinary citizens, vulnerable sectors such as women and youth, private sectors and other stakeholders to increase awareness on the risks due to exposure to hazardous and infectious substances.

Outcome 3.1 Enhanced capacities to implement policies and workplans for the environmentally-sound management of infectious and hazardous wastes in the healthcare sector

72. This outcome will involve training on wastes management in the healthcare sector and support for improving coordination among member agencies of the Inter-Agency Committee on Environmental Health (IACEH), serving as the primary platform to discuss issues concerning the implementation of both the Stockholm and Minamata Conventions in relation to chemicals and wastes management, including those in the healthcare sector.

Output 3.1.1 Capacity building activities related to the environmentally-sound management of infectious and hazardous wastes in the healthcare sector for government authorities, staff of healthcare facilities and TSDs, and civil society organizations undertaken

73. Efforts toward capacity building activities related to the environmentally-sound management of infectious and hazardous wastes in the healthcare sector will be directed at government authorities, staff of healthcare facilities and TSDs, and civil society organizations. Priority will be given to healthcare and waste management frontliners, both formal and informal, especially those from hospitals and health facilities with lower capacities and access to knowledge. This output will include training on best practices for the environmentally-sound management of wastes in the healthcare sector; the use of non-mercury equipment for households, educators, and healthcare staff; the identification and handling of MAPs and mercury wastes for Customs Police; mercury-related emergency response; and support for committee meetings, workshops, and technical discussions arranged to facilitate decisions, resolutions, and action steps especially by the IACEH.

Output 3.1.2 Technical assistance to help MSMEs in the healthcare sector, including waste Treatment, Storage and Disposal (TSD) facilities and manufacturers of PPEs and other non-mercury-containing medical devices, to access green financing schemes to facilitate the transition to mercury free-products in the healthcare sector.

74. A number of financing opportunities to support "environmental jobs" and to improve the compliance with environmental regulations are available in the Philippines. These are, for instance, the "Tax incentives for green jobs", established in 2019 and based on the certification issued by the Climate Change Commission, or the "PEPP - Philippine Environmental Partnership Programme. (Track1 and Track 2) (<http://pepp.emb.gov.ph/philippine-environment-partnership-program/>). The suitability of these tools to support in the medium-long term project activities will be further explored at PPG, with the perspective to reform the underpinning eligibility criteria, if needed, to include the healthcare sector and the manufacturing of PPEs.

75. For the short term perspective of co-financing project activities, loans based on privileged interest rate to support self-sustainable initiatives fulfilling the specific eligibility criteria will be one of the tool which is planned to implement. This will require cooperation with financial institutions. Other tools are the use of GEF grant to partially support the startup of initiatives which are at the same time promising from the point of view of market perspectives and environmentally sustainable. Some of these initiatives require initial investments which are out of reach of small investors which could therefore benefit from project support.

76. Technical assistance to help MSMEs in the healthcare sector, including TSDs and manufacturers of PPEs and other non-mercury-containing medical devices, access green financing schemes will be provided. The project will collaborate with partners in scaling-up public and private investments in the healthcare sector promoting circularity and environmentally-sound waste management. The often underserved micro, small, and medium-sized enterprises (MSME) will be assisted in the preparation of feasibility studies or project proposals in order to better access support from financing institutions for technology adoption. When possible, public investments through the People's Survival Fund will also be promoted to support government-managed hospitals. Manuals and guidance documents will be prepared to facilitate accessing these mechanism. Financing institutions, on the other hand, will be guided in the preparation of green finance packages that are responsive to MSME needs particularly those of the most vulnerable groups.

Outcome 3.2 Increased awareness and knowledge on infectious and hazardous wastes to promote a whole-of-nation approach toward health and environmental protection

77. The outcome is to be divided into two major areas, focusing on awareness-raising activities and advocacy campaign; and the development of IEC materials.

Output 3.2.1 Awareness raising and advocacy programs targeting the general public, community leaders, schools, enterprises, private sector players, and other stakeholders conducted

78. The project will assist the government in initiatives intended to establish an incentive mechanism for the promotion of Hg-free Setting and compliance to regulatory policies. With these incentives, a greater portion of the population will be better engaged and made more aware of the impact of mercury to health and the environment. Compliance to regulatory policies is also expected to increase. The project will also assist in the preparation of training modules on mercury to be incorporated in the K to 12 education system. Currently, learning topics on the negative impact of chemicals and wastes, such as those from mercury, to health and the environment as well as the importance of personal protective equipment and other preventive approaches to health and safety are hardly found in the national curriculum. Ensuring that these modules are institutionalized in the education system will greatly contribute in shaping the new generation of leaders who will inherit the challenges of sustainable development.

Output 3.2.2 Information, Education and Communication materials and relevant reports created, published and disseminated

79. Technical information, success stories, reports, manuals, flyers, standard presentations will be made available through a knowledge hub to be housed by a selected government agency.

Component 4: Monitoring, Evaluation, and Lesson Learnt

80. Component 4 would generate and ensure systematic support for managing all activities related to monitoring, evaluation and reporting on progresses and results of the project. This would guarantee the achievement of project objectives, as well as promote the internal circulation of knowledge and the external dissemination of the results of the project. This will include the creation of a project management structure to allow coordination between project partners and the establishment of a system for monitoring & evaluation of the impact and the sustainability of the project activities. It is also expected that under this

component, project monitoring and evaluation will be conducted in accordance with UNIDO and GEF requirements and procedures. The component will have 3 Outputs:

Output 4.1.1 Project monitoring implemented

Output 4.1.2 Independent midterm review and final evaluation undertaken

Output 4.1.3 Knowledge management system established

D) Alignment with GEF focal area and/or impact program strategies;

81. The project is aligned with the GEF-7 programming direction, Chemical and Waste focal area, as it seeks to “Eliminate/restrict/control emissions of the chemicals listed in Annex A, B and C of the Stockholm Convention”. The project is also aligned with the GEF-7 strategy aimed at maximizing private sector engagement and public-private sector investments in the CW cluster as well as gender mainstreaming in the CW cluster. In line with the GEF-7 requirements, the projects will seek to create or improve the enabling environments in which the private sector can engage to reduce the use of harmful chemicals and to prevent the emission of harmful waste. The project will also assist the national healthcare system to complete the phase out of mercury-containing devices and will implement capacities and technologies for the environmentally sound management of mercury waste. In this respect, the project is compliant with the GEF objective to achieve “Environmentally sound waste management/disposal of mercury/mercury containing waste” under the Industrial Chemical program. It is consistent with the Chemicals and Wastes focal area specifically on Program 1 which seeks to eliminate or significantly reduce chemicals through the Minamata Convention. It is also aligned with the CW 1-1 objective to strengthen the sound management of industrial chemicals and their wastes through better control reduction and/or elimination. The project also intends to strengthen the national legislation related to the management of healthcare waste, with the goal to provide more options for the recycling or disposal of waste after their safe disinfection, so that the release of U-POPs for improper disposal would be further reduced.

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

82. The following table shows the incremental cost reasoning of the project components versus the baseline.

Baseline	Incremental Reasoning
<i>Component 1: Unintentionally-produced POPs release reduction in the healthcare waste sector</i>	
The current pandemic has brought about additional strain to the already burdened healthcare wastes management in the Philippines as evident from the information reported in the baseline related to the pandemic. It has brought about: (i) overconsumption of chlorine based disinfectants, causing equivalent release of these chemicals in the environment; (ii) over consumption of single-use professional face mask (surgical, N95) even in family or household setting, with both the consequence of their improper use (masks being used beyond their recom	The project intends to support ongoing baseline activities and efforts related to the management of waste generation and use of hazardous chemicals. Through Outcome 1. the project will therefore support GoP in the strengthening of relevant national policies in healthcare waste sector, provide guidelines on the inventory of waste generated esp. during pandemic, establish safe procedures and identify safe chemicals for the minimization of waste and the reduction of U-POPs potentially generated by household healthcare waste and healthcare facility waste during pandemic.

mended usage time or even re-used) and improper disposal (disposable masks just abandoned in the environment or mixed with the common waste).

It has to be mentioned that the GoP already undertaken a number of action to counter balance the effects described above, through the issuance of guidance documents on the management of generated waste in Health Care facilities and community quarantine units. However, information is limited for healthcare facilities and not effectively communicated to the general public.

In the Philippines there are 433 hospitals run by the national and local governments, 48 of which are located in Metro Manila. Although the 32 TSD facilities using non-burn disposal technologies registered in the country, together with other TSD facilities reportedly have enough capacity to dispose healthcare waste generate in normal conditions, their overall capacity is not enough to face the additional load generated during pandemic events.

In areas unserved by TSD, health care facilities are employing chemical disinfection, and the treated health care wastes are stored in the designated storage facility or disposed of in a concrete vault located within the health care facility compound or premises. The transportation of these infectious wastes from the provinces to Luzon areas where majority of waste treatment facilities are located, may pose risks to the health of waste transporters and the community..

There is no system in place to collect COVID-19 related waste generated at household although these waste, by law, has to be classified as healthcare waste. It is also reported that in many cases, open burning of waste is still a procedure adopted by some operators to achieve volume reduction of landfilled waste.

The situation of the healthcare waste management in the Philippines therefore need investment to improve the technologies for the disposal of hazardous and infectious waste (the M501 category) and to secure that the s

The project also envisages the support to small manufacturers and women enterprises of community facemask to increase the production of fabric non-medical PPEs based on WHO guidelines, so that the consumption of medical PPEs would be reduced.

Under Outcome 2, the project will deploy and implement the knowledge, procedures and technologies that will ensure that the additional waste generated during epidemic events are safely classified, segregated, collected, transported and disposed, avoiding therefore the generation of U-POPs associated to the burning of waste in substandard facilities or in landfill. The project intends to provide support to ongoing activities undertaken by the government in the field of classification, collection, transportation and disposal of healthcare waste, with the specific purpose to increase the capacity of the healthcare facilities and TSD to manage the additional load of waste which may be generated during pandemic events.

The assessment of existing and additional deployment of technologies for the pre-treatment of waste in hospital facilities will be undertaken in a way which will be both environmentally sound and financially sustainable

GEF Grant sought: USD 2,300,000

ystem will work also during the overload associated to emergency conditions.

Budget allocation of the COVID-19 response are directed mainly to economic assistance, testing of the general populace and provision of PPEs to healthcare facilities. There is currently no budget allocated by the GoP to the emergency management of COVID-19 waste, therefore the activity undertaken by the project will be purely incremental.

Component 2: Management of mercury, mercury-added products (MAPs) and mercury wastes in the healthcare sector according to the Minamata Convention on Mercury and the Philippine National Action Plan for MAPs phase-out

The COVID-19 pandemic has also exacerbated the challenges faced by the country in relation to mercury waste management particularly in the healthcare sector. Mercury wastes in the healthcare brought about by policies to phase-out mercury-added products (MAPs), such as thermometers, sphygmomanometers, etc., and to regulate the use of mercury in laboratories and healthcare facilities such as dental clinics, remain undisposed and mostly kept in temporary storage. The COVID-19 situation has highlighted struggles associated with fragmented policies, weak capacities, and poor access to viable investments to support adoption of global-best technologies and environmentally-sound practices.

While mercury wastes generators from major industries seem to have more success in complying with regulatory requirements imposed by the DENR according to the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990 (RA 6969), those from the healthcare sector are more challenged brought about by policies not responsive to their specific circumstances, inadequate capacity for data collection and monitoring, and inability to access investments to adopt best available technologies and best environmental practices (BAT/BEP). Accredited treatment, storage, and disposal (TSD) facilities qualified to handle mercury wastes are also limited.

The Philippines has recently deposited its instrument of

In support of ongoing country initiatives in relation to mercury wastes, especially from the healthcare sector, the project aims to assist government in updating the management plans in accordance with the Minamata Convention on Mercury, harmonizing policies and workplans across agencies; demonstrating BAT/BEP on mercury wastes management brought about by the phase-out of MAPs and the regulated use of mercury in laboratories and clinics;; and facilitating access to private sector investments.

The first outcome under this component will focus on improving synergies by harmonizing policies and developing mutually-reinforcing workplans on MAPs and mercury wastes across responsible agencies; and institutionalizing a monitoring system for MAPs and mercury emissions and releases. Learnings from the previous implementation of the country's National Action Plan on Mercury Wastes Management developed in 2010 and the recommendations from the Philippine Minamata Initial Assessment will be taken into account.

The second outcome intends to look into demonstrating the successful adoption of best available technologies and best environmental practices for the safe disposal and treatment of mercury wastes. Through UNIDO's global experience and networks, methodologies, practices, approaches, and technologies will be introduced and demonstrated for adoption by healthcare facilities and treatment, storage, and disposal (TSD) facilities.

The Philippines has recently deposited its instrument of ratification for the Minamata Convention on Mercury, signifying the country's strong commitment to institute measures that will support its successful compliance to the agreements stipulated in the Convention, including provisions for the timely phase-out of MAPs and the sound management of mercury wastes, among others. A National Action Plan on Mercury Waste Management was developed in 2010 and a Minamata Initial Assessment was conducted in 2018.

In 2019, DENR updated the Chemical Control Order on Mercury and Mercury Compounds, DAO 2019 – 20, to align with provisions from the Minamata Convention on Mercury particularly on MAPs and mercury wastes. At present, the IACEH is implementing the National Action Plan for the Phase-out of MAPs. The DOH has also recently issued Administrative Order 2020 – 0020 to phase out mercury use in dental restorative procedures. These are expected to further increase the generation of mercury wastes particularly from the healthcare sector.

Other ongoing programs of the DOH include Chemical Safety Training Programs for Heavy Metals and a Chemical Risk Assessment Program. Efforts from the Department of Trade and Industry to update the Philippine National Standards for lighting products and switches and relays to reflect parameters related to mercury are also underway.

Assistance will also be provided to MSMEs in the healthcare sector, facilitating their access to investment support from financing institutions to adopt BAT/BEP. In turn, these institutions will be assisted in the preparation of green finance packages that are responsive to MSME needs particularly those of the most vulnerable groups. These will be linked to the sustainability requirements for industry players instituted by the Securities and Exchange Commission (SEC).

GEF Grant sought: 1,800,000

Component 3 Capacity building and awareness raising

There is very limited actions on information dissemination and capacity building on the issue of HCW management (esp. on uPOPs emission and mercury management) and in the country

Limited technical knowledge environmentally-sound management and related BAT/BEP in the health care sector

The project will undertake capacity building activities related to the environmentally-sound management of infectious and hazardous wastes in the healthcare sector for government authorities, staff of healthcare facilities and TSDs, and civil society organizations.

Awareness raising and advocacy programs targeting the general public, community leaders, schools, enterprises, private sector players, and other stakeholders will be conducted. IEC materials and relevant reports will be created, published and disseminated

Awareness on the environmental issues of generated wastes (esp. of households) is very limited.	<p>Estimated:</p> <p>GEF grant sought: USD 300,000</p>
---	--

F) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF);

The above coordinated actions is expected to have the following global environmental benefits:

83. Based on the 2018 report generated by the EMB regional offices, the average waste generation per bed is 1.39 kg/day. As of March 2021 WHO COVID-19 situation report in the Philippines, at national level, on the average, 30% out of 149,159 available hospital beds is occupied by COVID patients and, therefore, 70% occupancy for non-COVID cases. With these values, it is estimated that non-COVID cases will generate about 144.5 tons/day of hospital wastes while COVID cases will generate around 123 tons/day as per previous calculations (please see para 17). Additionally, COVID-19 related wastes generated by households is estimated to be 22 tons per day (see para 19). Thus, a total of around 105.67 tons/year waste is generated.

84. For a conservative estimate of around 10% of the total amount of HC wastes generated ends up burned in the open, this would result in an emission of around 422.6 gTeq/year PCDD/F (adopting the UNEP 2013 toolkit emission factor for incineration without APCS). The amount of PCDD/F could be, however, much larger considering that a recent estimate from ADB envisages an additional amount of around 280 tons of medical waste generated daily only in the area of Metro Manila. Also, the use of chlorine for disinfection of healthcare wastes would contribute to a higher PCDD/F emission and may also contribute to pollution of water bodies. Thus, reduction on the use of chlorinated disinfectants to be pursued by the project is envisaged to lead to a significant reduction on uPOPs emissions and minimize its impact on water bodies.

85. The projects intends to avoid, through direct and indirect measures, (including training and awareness raising, better collection and environmentally safe disposal) that the additional HCW wastes generated due to the pandemic are improperly disposed of or burnt in landfills. At this stage, it may be estimated that around 18t/day of HCW (4320 t/yr assuming 48wks x 5 days operation / year) will be processed through non-combustion pre-treatment technology, followed by proper final disposal; while an additional 42 t/day (10080 t/yr) will be avoided or properly disposed of through waste prevention, and improved collection / management of wastes. This has been preliminarily reflected in indicator 9.6. This assumption will be reassessed during the PPG stage.

86. Healthcare wastes, by definition, includes mercury-containing medical devices. The health care sector also generates mercury waste from lighting products and from procedures conducted in laboratories, clinics, hospitals, dental clinics and other healthcare facilities. The lack of facilities providing for ESM of these mercury containing waste led to a stockpile of mercury amounting to an estimated 10.43 tons Hg (or 434 tons/year of mercury-containing devices). Detailed calculation are provide in Table 5 below:

Table 5: Details on the estimated mercury stockpile generate by the health care sector in the Philippines

	Activity Rate (items/yr)	Input factor (g Hg/item)	Hg Input (kg)	Activity Rate	Input factor
--	-----------------------------	-----------------------------	---------------	---------------	--------------

	e (items/yr)	(g ng/item)	ng input, kg	Activity Rate	input factor
Thermometers			1,793.86		
Medical Thermometer in Healthcare	238,133	1	238.13	20232 Barangay Health workers, 2015 (1:1 ratio), 1,195 health care facilities, 203561 medical field courses enrollees (Philippine Statistics Authority, 2018)	UNEP Toolkit 2.0 Reference 2017
Medical Thermometer in Household	468,981	1	468.98	Higher income families (>250,000/month) is 7,888,000 (assumed 1:1); 50,0483 Elem schools, 14, 217 HS and 2388 Tertiary(assumed 1:1) (PSA, 2018)	UNEP Toolkit 2.0 Reference 2017
Ambient Air Thermometer	310,500	3.5	1,086.75	The Bureau of Customs Data (2014-2017) reported a total of 35,000 kg/yr of ambient thermometer with average per item weight of 112.6 g.	UNEP Toolkit 2.0 Reference 2017
Sphygmomanometer	34,572	75	2,592.90	Activity rate is based on the 2015 PSA census of the number of health care facilities (1,195) and 20232 barangay health services. It is assumed that it is 1:1 ratio on the use of the gauges for BHS and 1:12 for the health care facilities	UNEP Toolkit 2.0 Reference 2017
					Based on the impo

Mercury from laboratory			3,635.00	rtation data of Bureau of Customs(2014-2017) average yearly import
Estimated mercury from dental amalgam	100,981,437	0.02384211	2,407.61	Based on the 2011 National Monitoring and evaluation Dental Survey by DOH, 87.4% of the Filipinos have dental caries and with an average of 2.0 DMFT (Decayed Missing Filled Teeth). Furthermore, it is assumed that 50% of the filling will be with mercury amalgam. The content of mercury amalgam capsule is 450 mg.
TOTAL			10,429.37	2014 Population of the Philippines from PSA.

87. The project will assist in introducing BAT/BEP in the existing waste facilities and therefore facilitate the ESM of these existing stockpile. Moreover, it will establish the basis that after the closure of the project, mercury wastes will be managed in an environmentally sound manner. It is expected that the project will facilitate the ESM of 4 tons of Hg waste during the 4th year and 6.43 tons during last year of the project. This will sum up to 10.43 tons of Hg reduction and avoidance. Again, this is a conservative estimate considering the frequency of usage and replacement of mercury-containing medical devices.

88. In addition, the introduction of BAT/BEP for the environmentally sound management of healthcare wastes and assistance to access the required financing will facilitate the application of such techniques and practices for additional mercury added products in the country. It is expected that this will reduce up to 20 tons of mercury emission and releases constituting the remaining MAPS that have not been accounted for in the healthcare waste sector including lighting products, cosmetics, batteries, switches and relays, manometers and other lab equipment. It is expected that the project will facilitate up to 10 tons of this reduction during the last year of the project and facilitate another 10 tons after its closure.

89. This project uses the opportunity to improve the management of health care waste with a coherent approach reducing the emission and releases of several substances of global concern. With this, the project is also expected to result to the following global environmental benefits:

- Reduced amount of the generation of healthcare wastes in general achieved through a country-wide effective communication concerning the better use of community face masks and reduced use of disposable PPEs;
- A significant reduction of the use of chlorinated disinfectants in households in favor of other less hazardous chemical;
- A better use of non-medical fabric face mask with a better protection against the virus and reduced consumption of single use PPE from household, so that medical shortage of face mask in the hospital would be prevented;
- The adoption of a circular approach in the manufacturing, use and disposal of the fabric, “non-medical “ face masks;
- Minimize or even eliminate exposure to mercury of stakeholders directly involved in the manufacturing of MAPs and in disposal and /or treatment of its associated wastes containing mercury, as well as those who may be exposed due to their lack of awareness on risks and those who use products with intentionally-added mercury.

G) Innovativeness, sustainability and potential for scaling up.

Innovativeness

90. The innovativeness of this project lies in the following aspects:

- The assessment of the impact of various disinfection procedures and guidance on the health- and environmentally-friendly solutions alternatives will benefit the general public as a whole. To date, literatures have not provided clear guidance on this issue.
- The deployment of small scale pre-treatment technologies (like micro-wave sterilisation) in the hospitals (specially small and medium sized hospitals unserved by service providers) will ensure that the waste which is generated will be promptly disinfected reducing at the same time the risk of infection for the operators in charge of medical care and transportation of waste within the healthcare facility.
- The project will promote inter-agency collaboration and consistency among policy frameworks across sectors. It will promote a paradigm shift in the usual thinking that the management of chemicals and their associated wastes are solely the concern of a select few.
- Another innovative approach is the facilitation of access to “green financing” to support MSMEs in their obligation to promote sustainability in their operations as required by the Securities and Exchange Commission (SEC). This will assist eligible stakeholders in gaining access to financing programs for projects on improved compliance to waste management specifically on management of healthcare wastes which was previously not clearly incorporated in the existing loan structure of the Development Bank of the Philippines.

Sustainability

91. The strengthened policies and institutional capacities developed by the project will ensure the sustainability of the project outcomes. The involvement of multi-dimensional stakeholders also ensures that a harmonized approach to healthcare waste management (especially during epidemic or pandemic) is implemented.

92. The project intends to facilitate the establishment of a more sustainable management of a specific category of healthcare waste, by pursuing a circular approach which would involve manufacturing, use and disposal of PPEs. It is envisaged that, due to the recent pandemic, the use of PPEs will remain high or even increase as they will be more and more considered as a necessary mean to protect against pathogens. Therefore, the project intends to promote circularity by assisting manufacturers on the sustainability of their process, users in the understanding of the best modality of use and re-use, and waste

management operators in increasing their technical and quantitative capacity to collect and process these waste. This will go well beyond the boundary of project implementation.

93. The sustainability of healthcare waste management, at both sides of healthcare facilities and communities, will be ensured through a targeted communication which will be based on modalities which are suitable for each audience: newspaper and tv to promote the better use and disposal of PPE for the public, technical guidance, training and workshop for the healthcare facilities. The communication will also cover the effectiveness of non-mercury equipment for the measurement of body temperature, given also the fact that this kind of equipment experienced a boom due to the current pandemic, although their technical features as well as their modality of use remain often not properly communicated. In terms of social sustainability, the project intends to protect the sector of the population which is considered at higher risk including women at home and in healthcare facilities, through dedicated awareness raising and training programs

94. The institutionalization of healthcare wastes management in the loan structure of the DBP ensures access to financing opportunity for LGUs and public and private hospitals beyond the project. Development of manual to access financing from financial institution that will mobilize stakeholders to become self-sustaining will facilitate loan access. Loans maybe accessed for the deployment of small non-combustion pre-treatment facility at hospitals or treatment centers that will allow for an easier handling of waste after disinfection, lowering at the same time the waste management cost and the environmental impact. This will also open the door to the discussion concerning additional options for the disposal of healthcare waste after disinfection, not limited only to landfilling, with a further assurance of environmental and financial sustainability.

95. The technical assistance provided to help MSMEs in the healthcare sector, including TSDs and manufacturers of PPEs and other non-mercury-containing medical devices, access green financing schemes will help support the sustainability of project outputs. The knowledge products, manuals and guidance documents, prepared will help facilitate access to financing mechanism while green finance packages developed will be responsive to the needs of the MSME. The establishment of systems and mechanisms that will support long-term healthcare wastes management and facilitation of knowledge management, especially on POPs and mercury issues, will also help guarantee sustainability of project outcomes.

Potential for scaling up.

96. With more than 1000 hospitals all over the country, the project outputs maybe easily scalable. The projects intends, indeed, to establish the basis for the piloting of a fully scalable system to be replicated and quickly activated in case of epidemic emergency. The full set of products which will be delivered by the project (communication packages, technical assistance for the manufacturing of PPE for the community, treatment of additional healthcare waste load, specific regulation, technologies for the identification and transportation of waste from scattered generators) will represent solutions that could be implemented quickly in cases of emergencies and further waves of the current pandemic.

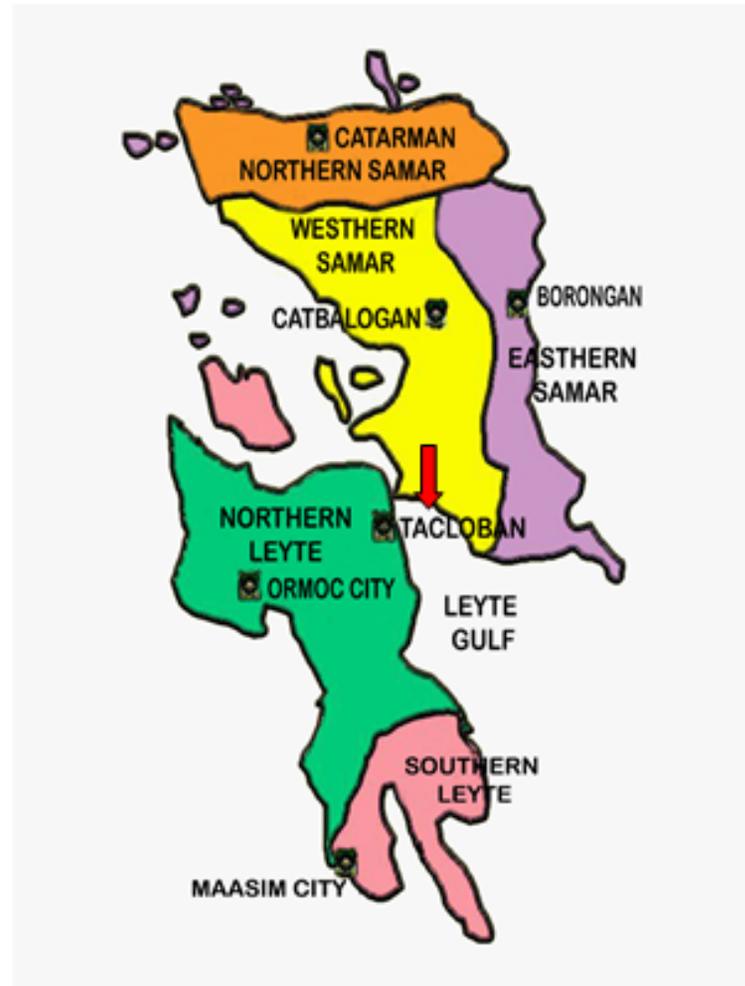
97. The introduction of BAT/BEP for the environmentally sound management of health care waste and assistance to access the required financing will facilitate the application of such techniques and practices for additional mercury added products in the country. It is expected that this will reduce or avoid up to 20 tons of mercury emission and releases. It is expected that the project will facilitate up to 10 tons of this reduction during the last year of the project and facilitate another 10 tons after its closure.

1b. Project Map and Coordinates

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

98. The proposed project sites are in Metro Manila, particularly Quezon City, and in Tacloban City based on the number of COVID-19 cases and the availability of effective waste management systems. Quezon City will be the main target site for the project. The city hosts the most number of hospitals (61 public and private hospitals, 61 health centers) with the largest bed capacity, complemented by health clinics, spas, physical fitness centers, child care and development companies, care giving schools, laboratories, medical transcription firms, and other wellness facilities. It has the most number of registered TSD facilities, as well, that would benefit on the interventions to be provided by the project. The project aims to partner with government hospitals in the city to ensure that BAT/BEPs on healthcare wastes management are in place in the facilities.

Tacloban City is the regional healthcare hub – with its six major hospitals (four privately run and two government-run) - and is the busiest and most progressive city in Region 8 (Eastern Visayas). During business hours, the City's population of about 240,000 triples due to the influx of residents from nearby Leyte and Samar municipalities who avail of utilities and services in the city. There is currently no registered TSD facility for medical wastes in Tacloban and the project aims to support the identification of private sector service provider interested to invest on the establishment of a TSD facility capable of handling healthcare wastes, including mercury. Healthcare facilities, including small clusters of clinics, will benefit from relevant trainings and institutionalization of BAT and BEP in health care wastes management.



2. Stakeholders

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

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above, please explain why:

While the project envisages working with local communities, it does not foresee activities relevant to indigenous people.

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

99. Key project stakeholders have been engaged and consulted during the project development mainly on data validation, research activities and future engagement in the project. In the table below, an initial list of stakeholders is proposed. The table also brings the description of their roles/mandates and responsibilities relative to its connection to the project. The Project Executing Entity (PEE) maybe selected from amongst the identified stakeholders below:

Stakeholder	Mandate	Role in the project
<i>Government Sector</i>		
Department of Environment and Natural Resources (DENR)	<p>The Department collects and evaluate data on the state of the environment in the country. Based on these data, the Department develop/formulate policies, develop goals, strategies and plans for the sustainable use and protection of the environment. Depending on the area of responsibility, the state office act as expert consultants, issue statements, are a supervisory authority or a licensing authority.</p> <p>The diverse range of tasks includes waste management, plant safety, soil protection, geology, water and groundwater protection, flood protection, climate change, noise and vibration protection, air pollution control, nature conservation and landscape management, substance and chemical evaluation, environmental management, hydraulic engineering, water supply, interdisciplinary and cross-media issues.</p>	<p>The DENR is in-charge of permit/ clearance processing and will issue the following:</p> <ul style="list-style-type: none"> - Registration ID of all hazardous waste generators and accreditation of TSD facilities through RA 6969. - Permit to Transport of Hazardous Wastes to the waste transporter to be commissioned by the project. - Environmental Compliance Certificate (ECC) to the project under PD 1586. - Permit to Operate RA 8749 (CAA). - Update regulatory instruments and workplans in relation to mercury <p>The DENR is the overall focal point for both the Stockholm and Minamata Conventions.</p>

<p>Department of Health (DOH)</p>	<p>The Department of Health is the executive department of the Government of the Philippines responsible for ensuring access to basic public health services by all Filipinos through the provision of quality health care and the regulation of all health services and products. It is the government's over-all technical authority on health.[2] It has its headquarters at the San Lazaro Compound, a long Rizal Avenue in Manila.</p>	<p>The DOH will issue the following:</p> <ul style="list-style-type: none"> - Guidelines on effective handling and management i.e. treatment and disposal of HCW - Certificate of Product Registration for Equipment or Devices used for treating infectious wastes - Update regulatory instruments and workplans in relation to mercury <p>The Department will review/evaluate the health impact assessment (HIA) prepared for the project and issue HIA Clearance. DOH also co-chairs the IACEH with DENR.</p>
<p>Department of Trade and Industry (DTI)</p>	<p>DTI's mandate is to foster a competitive and innovative industry and services sector that contributes to job generation and inclusive growth; and to advance the rights and responsibilities of consumers.</p>	<p>DTI can provide linkages to manufacturers interested in the production of PPEs. The Department can also provide support in terms of industry policies, incentives, and market promotion.</p>
<p>Members of the Hg-IATWG under the IACEH</p>	<p>The Inter-agency Committee on Environmental Health (IACEH) was established by virtue of E.O. 489 and is chaired by the Department of Health with the Department of Environment and Natural Resources acting as vice-chair.</p> <p>The Inter-agency Technical Working Group on Mercury (Hg-IATWG) under the IACEH was established to specifically look at mercury-related health and environment concerns. This was made possible through the support of the project on "Promoting Ratification and Early Implementation of the Minamata Convention on Mercury"</p>	<p>Update regulatory instruments and workplans in relation to mercury</p> <p>Awareness-raising, advocacy, and education</p>
<p>East Avenue Medical Center- Toxicology Referral And Training Center</p>	<p>The EAMC Toxicology Referral and Training Center functions as a diagnostic, management and referral center for Poisoning and different Toxicological Incidents. The Northern NCR Poison Control Center at the East Avenue Medical Center was established in 1995 under the Department</p>	<p>The center can provide awareness training through sharing of cases and scenarios related to healthcare waste management in the country.</p>

	was established in 1993 under the Department of Health.	
Philippine Textile Research Institute of the Department of Science and Technology (DOST – PTRI)	<p>PTRI is the textile research and development arm of the Department of Science and Technology acting as catalyst to spur growth in the industry through the planned development of growth centers and state-of-the-art service facilities for the textile and garments industries, with the aim producing competitive products and linking world-class Filipino products to the world economies. The institute performs the following functions:</p> <ul style="list-style-type: none"> · Conduct applied research and development for the textile industry sector; · Undertake the transfer of completed researches to end-users or via linkage units of other government agencies; and · Undertake technical services and provide training programs 	The institute can assist in local raw material development for the manufacture of PPEs.
<i>Industrial Sector</i>		
PPE Manufacturer/Supplier	As per issued permit or certificate from the BOI and LGU	The industry will supply the PPE requirement of Health Care Facility
TSD Facility Operators/ Waste Service Providers	As per issued accreditation and permit to operate by the DENR-EMB and service contract with the client	The facility will accept all infectious wastes generated from health care facility for treatment and disposal. The level of microbial treatment of infectious waste shall be conforming to DOH Manual or standard.
Philippine Hospital Association (PHA)	The Philippine Hospital Association (PHA) is an organization that provides support to its more than 1,900 hospital-member in pursuit of the nation's health agenda. Being national in scope, it is the voice of the public and private sector in matters affecting hospital management and delivery of health services to people.	Coordination with PHA will be undertaken for the capacity building needs and awareness raising activities of the project.
<i>Civil Society, Academe and Public Organizations</i>		
Non-Government Organizations (NGOs)	These are organizations, often not-for-profit, that facilitate community development, local capacity building, advocacy, and environmental protection.	Provide assistance in promoting the use of safe technology, conduct of risk assessment and communication plan to the public.

	NGOs works to transform health care to reduce its environmental footprint, becomes a community anchor for sustainability, and a leader in the global movement for environmental health and justice. The NGOs are working to implement ecologically sound and healthy alternatives to health care practices that pollute the environment and contribute to disease.	
UN Global Compact Network Philippines (GCNP)	GCNP is a voluntary initiative based on CEO commitments to implement universal sustainability principles	Strengthen the capacity of the United Nations to partner strategically with the private sector
Academe		The Academe provides technical assistance to policy makers especially on the appropriateness of the technologies to be used in treating infectious and hazardous wastes.
Hospital/Medical Associations		Promotion and implementation of the national guidelines on proper handling and management of HCW
Local communities/groups of people living in close proximity to a project that could potentially be impacted by a project.	Responsible in monitoring the performance of the facility if it is in compliance with environmental laws of the country	Risk communications shall be done to the residents living near the project site. As the project (treatment plant) will cater in-situ generation of the infectious waste, there in medium of exposure that might happen to the community. In addition, the technology is non-burn thus no emission of harmful substances will occur.
Institute for Global Environmental Strategies (IGES)	Achieve a new paradigm for civilization and conduct innovative policy development and strategic research for environmental measures, reflecting the results of research into political decisions for realising sustainable development both in the Asia-Pacific region and globally	The organization can provide policy support and relevant trainings in relation to mercury and mercury management
<i>Development Financing Institution</i>		
Development Bank of the Philippines (DBP)	As the country's pre-eminent development financial institution, DBP influences and accelerates sustainable economic growth through the provision of resources and banking services, principally catering to the medium and long-term needs of	Provision of development finance services

	f agricultural and industrial enterprises with emphasis on small and medium-scale industries	
<i>International Organizations</i>		
World Health Organization	WHO is a specialized agency of the United Nations responsible for international public health	To support and complement the project activities as necessary, particularly in the use of WHO guidelines, addressing health risks, and knowledge/ information sharing and dissemination.

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).

100. Gender and Development (GAD) considerations will be made an integral part of the project strategy in consideration of the Gender policies of the GEF, UNIDO and the DENR-EMB. It has been noted that one of the key actions undertaken by the GEF relative to gender mainstreaming was to incorporate gender responsive approaches and indicators in project development. UNIDO, for its part, recognizes the significant positive impact on sustained economic growth and sustainable industrial development generated by gender equality and the empowerment of women. UNIDO adopted a policy on Gender Equality and the Empowerment of Women in 2009. As a consequence, the organization commits to engage all men and women equally in all of its organizational practices, policies, programmes and projects. Gender dimensions are thus a prerequisite in the design, implementation, monitoring and evaluation of programs, projects and activities with tools and guidelines on mainstreaming gender in the whole gamut of project management.

101. Based on the World Gender Gap Report (2020), the Philippines ranks 16th worldwide in term of the degree of closure of its overall gender gap (78%). Once a member of the top 10 on the Global Gender Gap Index, the country now ranks 16th as a result of a small decline in its score (78.1, down 1.8 percentage points). The country was 10th in the previous assessment but still has smallest gender gap of the Asian continent by far. The Philippines has closed 80% of the Economic Participation and Opportunity gender gap; it ranks 5th on the indicator assessing gender wage equality, with a score of 81.2; and has closed both its Educational Attainment and Health and Survival gender gaps. A significantly larger share of women is enrolled in secondary education (71% compared with 60% of men) and tertiary education (57% versus 43%). However, the Political Empowerment gap has widened considerably over the past two years, causing the country to decline from 13th to 29th position.

102. Based on a report from UN Women (April 2020), however, it appears that women and girls are impacted more heavily than men during the COVID-19, in term of greater exposure to violence and harassment, reduced access to healthcare services, human right violations and economic insecurity. The report states that "Recognizing how health crises affect women and men differently is a fundamental step to understanding the primary and secondary effects of health emergencies on individuals and communities, and for creating effective and equitable policies and interventions. It is therefore essential to address and integrate women and girl's immediate and long-term needs into COVID-19 response and recovery efforts in the Philippines." It has also to be noted that:

- The traditional structure of the family in the Philippine in most cases still assigns almost exclusively to women the tasks of caregivers to the elders, managing and cleaning the houses, preparing meals. In this sense, whilst their role is unbalanced, they play a key role in preventing the spread of infection, and in the decisions concerning materials (PPEs, detergents) to be used. This confirmed by the UN women report in the section of "unpaid care work": prevailing socio-cultural norms in the Philippines mean that women undertake the majority of unpaid care work. In the context of COVID-19, the burden of unpaid care work on women is evident as they increasingly provide even greater support to family members, including maintaining sanitary conditions in the home, and caring for family members that are ill, putting themselves at increased risk of becoming infected. Women in the formal and informal sectors are additionally balancing work with house work, childcare, and/or elder care.

- Women play also a key role in the management of healthcare facilities. Although many well trained Filipino nurses work all corners of the world, now the nation finds itself shorthanded. There is an estimated shortage of 23,000 nurses nationwide, according to the Private Hospitals Association of the Philippines Inc. Meanwhile, about 150,000 Filipino nurses currently work in the U.S. alone. The Philippines produced an annual average of about 26,000 licensed nurses from 2012 to 2016, while about 18,500 moved abroad each year during the same period, according to government data. (<https://www.bloomberg.com/news/articles/2020-04-23/philippines-sends-nurses-around-the-world-but-lacks-them-at-home>). According to the World Health

Organization, the world has six million fewer nurses than it needs. One result is that nurses in places like the Philippines have long gravitated toward wealthier countries for higher-paying opportunities. In April, the Philippines, which says it needs about 300,000 more health care workers than it has, barred nurses from leaving the country, citing the need to protect them from infection and to ensure they were available to fight the virus at home. (<https://www.nytimes.com/2020/04/20/world/asia/coronavirus-philippines-nurses.html?auth=login-email&login=email>)

103. Like in many other countries in the world, the COVID-19 pandemic revealed the importance of the healthcare system for the safety and security of the country, and at the same time make us understanding how essential is the work of women – very often underpaid – in emergency situation. A revised policy related to the wage and status acknowledgement of the nurse in the country is necessary.

104. Due to the importance of women in the sectors of household and hospitals, the project activities have been designed to ensure the key involvement of women as project leaders and as beneficiaries. In the course of the project design, a detailed gender analysis and a specific gender mainstreaming work plan, with gender-sensitive targets and indicators, will be developed and integrated in the project results framework. This will include as a minimum the following: (i) Availability of gender specific training and awareness raising initiatives; (ii) Initiatives and rules to ensure equal access to the job opportunities generated by the project; (iii) Equal access to the information generated by the project; (iv) Assessment of gender-specific health risk associated with chlorinated disinfectants, healthcare waste and mercury waste ; (v) Specific health and safety rules for female employees in the waste collection and recycling industries; (vi) Specific health and safety rules for nurses and medical staff.

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

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

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

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

105. The project envisage the engagement of the following private stakeholders:

Small entrepreneurs on PPE manufacturing: Small manufacturers of non-medical face mask for the community, with priority ensured to women entrepreneurs, will be engaged through training and technical assistance related to the technical standards of these products, consistent with WHO guidelines, selection of proper materials for the products and their packaging, aspects related to circular economy and cost effectivity in the manufacturing of such products, business planning (see output 1.1.4). This work can be done in collaboration with the Philippine Textile Research Institute of the Department of Science and Technology (DOST – PTRI) and the Department of Trade and Industry (DTI) to leverage public resources in mobilizing private sector investments.

Treatment, Storage and Disposal Facilities: support will be given to TSD which will be the beneficiaries of the software developed for the identification and collection of healthcare waste generated and assessment of their current technology to deal with the increased load. An assessment of their existing methods and technologies in handling healthcare wastes including those containing mercury can reveal areas of opportunity for process updating in compliance with the Stockholm Convention on POPs and the Minamata Convention on Mercury. This can also encourage more private sector investments not only to support the technology upgrade but also to establishing TSD facilities capable of handing these wastes in the underserved regions of the country.

Entrepreneurs on healthcare waste management: Micro, small, and medium-sized enterprises (MSME) comprise more than 99% of Philippine enterprises. They often do not have the capacity nor a proper access to both technical and financial support to invest on sustainable approaches in their operations. In the Philippine healthcare sector, concerns around circularity, chemicals and wastes management, climate change mitigation, among others, are paramount. MSMEs are often left out with the bigger players having more access and capacity to take advantage of innovative approaches and technological advancements. The project will work closely with enterprises in the healthcare sector to promote private sector investments. MSMEs will be provided with technical assistance to prepare project proposals promoting circularity and environmentally-sound waste management, accessing financial support from various financing institutions, particularly those with an envelope for green investments. At the same time, the project will harmonize relevant financing systems in the country, coordinate efforts with development banks and financing institutions, and promote sustainability reporting through green finance mechanisms. This work can be done in collaboration with the Development Bank of the Philippines and the Association of Development Financing Institutions in Asia and the Pacific (ADFIAP), with goals to engage other development financing institutions during the duration of the project. Other private-sector groups and networks that can be engaged include the Philippine Chamber of Commerce and Industry (PCCI), the Philippine Hospitals Association (PHA), and the Global Compact Network Philippines (GCNP).

Mercury waste management facilities: Collaboration with mercury waste treatment facility from Asia and Europe will be facilitated to ensure that the latest BAT/BEP will be introduced in the Philippines. Transfer of technologies and expertise from these facilities will be explored.

Hospitals, health facilities, and hospital associations

Hospitals and health facilities will be capacitated to implement the national guidelines on proper handling and management of HCW. Technologies will be demonstrated for the low-cost, small scale non-combustion pre-treatment of wastes generated during the pandemic. Synergies between public and private facilities may be maximized through local government units, hospital associations, and the Department of Health.

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)

106. The following table illustrates the risk matrix for the project:

Outcomes	Unfavorable event	Category	Risk before mitigation			Proposed Mitigation	Risk after mitigation		
			Probability	Impact	Risk		Probability	Impact	Risk
ALL	Difficulties arising from the coordination among administrations of different levels (DENR, MOH)	Management	L	L	L	Representatives of different levels will be involved in the steering committee; the tasks of the PMU will include to ensure communication with all the project partners; roles and composition of each project institution will be clarified and agreed since the inception of the project. The Republic of Philippines has established an Interagency Committee on Environmental Health (IACEH), implemented through the E.O 489. This will allow for a very good coordination among MOH and EMB as well as other 10. The IACEH will act as a coordinating/advisory body for the proposed GEF project.	L	L	L
ALL	Risk that lockdown and relevant COVID-19 restrictions will hinder the planned activities	Management	H	M	H	UNIDO is already implementing projects in the Philippines in the current situation, and DENR and MOH have already established proper measures to sustain activities in a safe way during the pandemic. Although some impact has been observed during the first stage of the pandemic, the UNIDO project management has currently adapted to the situation and the new modality of arrangements. Noticeably, the current situations allow for workers to reach workplaces. Proper measures will however undertaken to ensure that the infection risk for all the project participant will be reduced at the minimum possible level by adopting all the mandatory risk management measures	M	M	L
ALL	Risk that changes in orders/regulations relating	Regulatory / technical	H	M	M	Indeed is envisaged that the current situation will alter the views and strategy of th	H	L	L

	ris/regulations relating to Covid-19 may alter how to treat medical wastes, and that increased patients may change the priority of healthcare wastes of the government or the healthcare sector	Technical				tion will alter the views and strategy of the government on the management of healthcare waste generate in public and private healthcare facilities and at households. The projects intend to take the opportunity to work side by side with the government to ensure that the change will be strategic and not only guided by the emergency, but properly planned with a circular and long-term perspective.			
ALL	Political will and government's priorities may change overtime and the project may not be able to mobilize necessary resources and commitments including co-financing	Financial	M	L	L	Following the rules of good financial management, the project will rely on a diversified source of co-financing to minimize the risk of withdrawal or lack of commitments. Co-financing commitments will be secured during the PPG, and reconfirmed at relevant project stages to ensure that in case of the (rather unlikely) withdrawal of a co-financing partner, an alternative can be timely found. Withdrawal of co-financing has been rarely experienced by UNIDO, so this risk is considered low	L	L	L
	Risk that the project activities will alter the treatment of healthcare wastes, which may change the risks of getting infected and mercury-related exposure.	Health	L	L	L	The project intends to increase the safety of healthcare management compared to the baseline, therefore an increase of getting infected or getting in contact with mercury contaminated waste will decrease compared to the baseline thanks to project intervention.	L	L	L
	Risk that leakage or similar accidents may occur when managing mercury and mercury containing products including transportation and disposal.	Health/Gender	H	H	H	The baseline risk is very high. Daily, a relevant number of mercury thermometers get broken in hospitals and households and most of the time these leakages are not addressed properly, with a significant exposure of people to mercury vapors. Likewise, as the healthcare waste sector is mostly populated by women, this risk is compounded by gender issues esp. for women of child-bearing age. The project will significantly reduce this risk through proper management of mercury-containing devices and educating relevant actors, esp. women, how to minimize this risk.	L	M	L
ALL	Increased GHG emissions	Climate	L	M	L/M	The project will further reduce the generation of GHG as it will promote the use of non-combustion technologies for the ma	L	L	L

						agement of healthcare waste, and further reduce illegal dumping of waste. There will be no increase of the GHG emission downstream to project intervention.			
All	Project activity impacted by climate change	Climate	L	L/M	L/M	As no large infrastructure is envisaged by the project, but only rearrangement of products, materials or industrial processes, no additional risk compared to the baseline is associated with climate change. Still, it is considered that bringing initiatives in areas prone to climate change effect could prevent the spreading of mercury and healthcare waste in case of extreme meteorological events associated to climate change.	L	L/M	L/M
ALL	Gender Mainstreaming activities / goal not conducted or achieved	Social	M	M	M	Philippines is a favorable country in terms of GM policies, therefore no structural or cultural obstacle are expected to hinder the GM related project policies and activities. In any case, a detailed GM logical framework, with budget and indicators, has been integrated in the project. GM targets will be considered as core project targets	L	L/M	L/M
1.1.1	Difficulties in evaluating GEB baseline and achievement	Technical	M	M	M	The main difficulties in assessing the GEB baseline will be addressed at the very initial stages of the project, where surveys on the generation of waste and use of chlorinated disinfectant will be carried out. Criteria for the calculation of the reduced GEB achievable from the reduced consumption and release will be established in detail in these stages. The POP TT and associated attachments already document the criteria adopted. A residual risk on the estimation of POPs cannot be completely eliminated, but adoption of conservative criteria for the estimation will ensure that the GEB at project design are more likely underestimated than overestimated	L	L/M	L/M
ALL	There can be slow delivery by government, and the CO as well as coordination issues which may cause project cancellations if there are time overruns at certain critical milestones.	Management	M	H	H	Government and UNIDO CO are already coordinating efforts for project development and implementation and already have established a project unit on other GEF-related projects. The focal point of SC has experience in the implementation of GEF-funded POPs project. The project steering committee has been already established to ensure that all the operation modalities relevant to project implementation and	L	M	L

						execution are well understood by all the parties and fully in place			
1.1.4	Small manufacturers not willing to participate, or not interested in improving their qualitative or quantitative capacity	Social	M	M	M	The risk that small manufacturers may not be very interested in participating in project activities will be addressed by properly communicating the economical benefit to take part in project training activities, and the risk to be not prepared to the fulfillment of standards that may be endorsed by the government on the matter.	L	M	M
2	Low participation risks: In terms of promotion of reusable face masks and mercury-free devices, there are risks that these will not be used as expected due to lower participation. Also, there are risks that the healthcare sector stakeholders and MSMEs will not participate as expected.	Social	M	M	M	Any project has to face the risk of low participation. In this case, as project, deliverables would impact the habit of people and healthcare operators, particular care will be dedicated to the awareness raising and training. Recommendations from the most recent WHO guidelines on the use of personal protective equipment and mercury free devices will be taken as the technical basis for the development of practical and well-designed communication campaigns. The project will also build from the lesson learnt from previous healthcare waste management projects carried out by UNIDO and UNDP to ensure participation of stakeholders from the healthcare sectors	L	M	L

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.

Institutional Arrangement

The proposed institutional arrangement for the project is given in Figure 2 below:

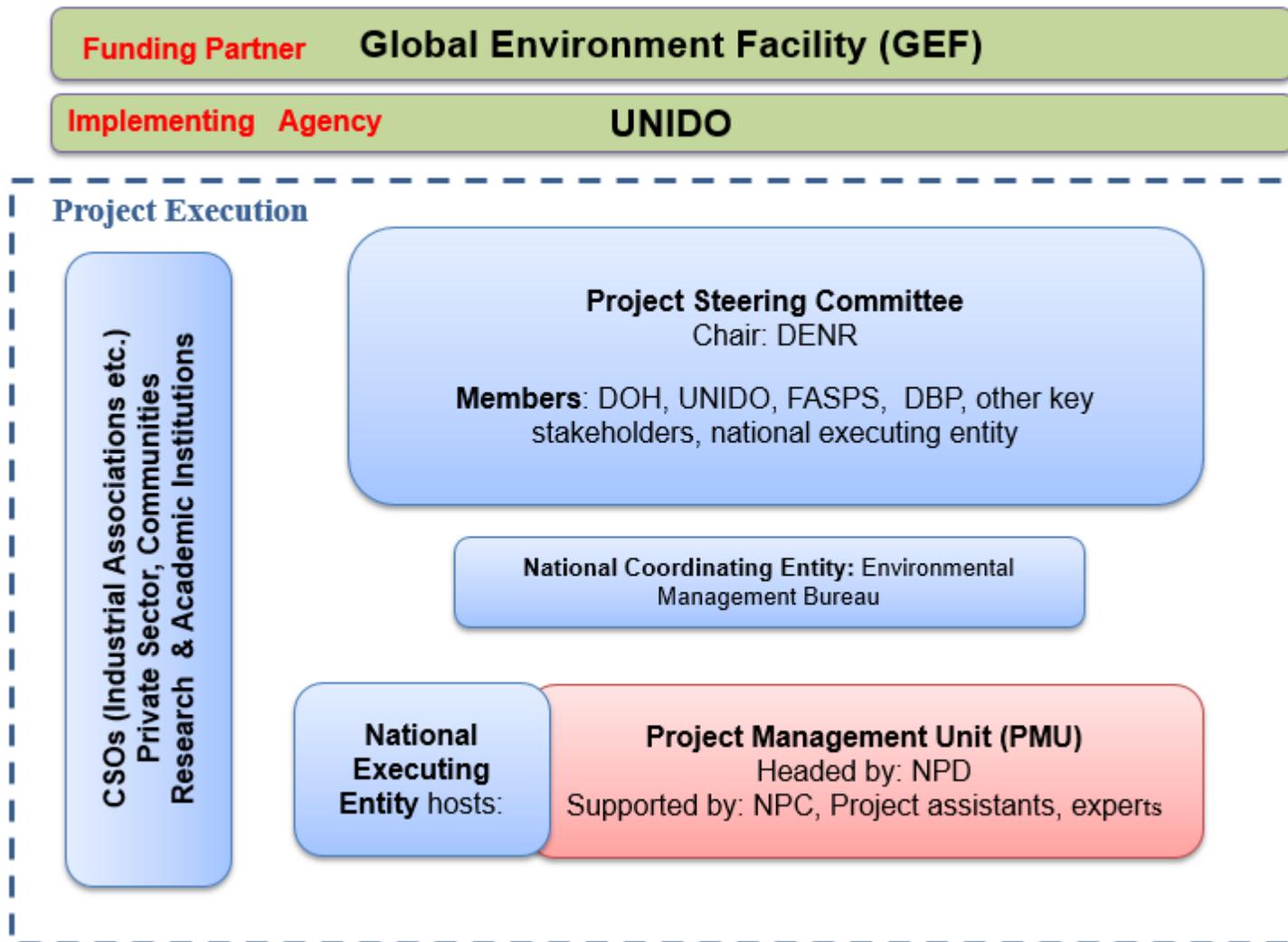


Figure 2: Proposed institutional arrangement

107. UNIDO is the GEF Implementing Agency (IA) for the project. A project officer will be appointed in UNIDO HQ to oversee the implementation of the project. The UNIDO Country Office in the Philippines will also play a significant role in the supervision of the project, including the provision of additional coordination and technical support as necessary. The Department of Environment and Natural Resources (DENR) will be the lead partner for the project and envisages the Department of Health (DOH) as a co-executing partner. The Environmental Management Bureau under the DENR will be the main government focal point and national coordinating entity of the project. Coordinating agencies include the member agencies of the IACEH, and Local Government Units of selected beneficiary hospitals.

108. DENR and DOH will be supported by technical entities which will be determined during the PPG. DENR and UNIDO will screen possible technical national project executing entities (PEEs) from a set of criteria to be agreed and identify the selected PEEs during the PPG phase. The project implementation/execution framework will be fully detailed in the PPG.

109. A Project Steering Committee (PSC) will be established, chaired by the National Project Director from DENR-EMB and will comprise of representatives from relevant ministries, UNIDO and other relevant stakeholders. The members of the PSC will be finalized during the project inception phase. The PSC will hold its regular sessions at least once a year throughout the project implementation, but additional meetings can be held if necessary. The PMU and the DENR-EMB will form the Secretariat for the PSC. Technical Working Groups (TWGs) will be established depending on the requirements of the project.

Coordination with other GEF initiatives and other similar initiatives

110. UNIDO is currently implementing several projects with similar objectives as the current proposal. Coordination with these project will be undertaken:

- The GEF-funded project titled “Environmentally Sound Management of Medical Wastes in India” (GEF 3803) is a collaboration between UNIDO and the Ministry of Environment, Forests and Climate Change (MoEFCC) and focuses on MW management in five (5) States namely Gujarat, Karnataka, Maharashtra, Odisha and Punjab. The project aims to reduce and ultimately eliminate releases of unintentionally produced persistent organic pollutants (U-POPs) and other global harmful pollutants into the environment through the incineration of Bio Medical Waste and protect the environment and human health through the environmentally sound management of MW by promoting countrywide adoption of best available techniques and best environmental practices (BAT/BEP) in the healthcare sector.
- In Senegal, the on-going GEF-funded project, “Environmentally sound management of municipal and hazardous solid waste to reduce emission of unintentional POPs - Implementation Phase” (GEF 4888) started in 2014 in collaboration with the Ministry of Environment and Sustainable Development (MEDD), the Directorate of Environment and Hazardous Facilities (DEEC), and the Ministry of Planning and Local Governments, Senegal. With four components (one is the M&E component), this project covers (1) strengthening and sustaining the legal framework and institutional capacities for sound management of hazardous and other wastes; (2) engaging stakeholders in properly disposing, sorting and recycling hazardous and other wastes; and (3) improving the sound management operations of hazardous and other wastes. The project already supported the purchase of bins and microwave system for infectious hazardous waste disposal.
- A project in the Philippines under the UNIDO – Government of Switzerland Global Quality Standards Programme on “Standards and Conformity Assessment for PPE and Medical Devices” is expected to start implementation in 2021 with the Department of Trade and Industry as the national coordinating agency. This project is expected help address the urgent need to provide adequate supplies of personal protective equipment (PPEs) in support of the country’s COVID-19 response, meeting the required global quality and safety product and manufacturing standards. This will be done through strengthening capacity of the national quality infrastructure to promote and verify compliance of PPE and medical devices with relevant quality and safety standards. The project will also develop forecast of demands for the different PPEs, medical devices, and sanitation products that can inform waste management strategies and identify the needed regulatory updates.

111. The proposed project will also seek synergy and coordination with the the agencies and entities involved on the following projects , especially on the capacity building and knowledge management efforts of the current project:

- GEF 10349 “Demonstration of production phase-out of mercury-containing medical thermometers and sphygmomanometers and promoting the application of mercury-free alternatives in medical facilities in China” which aims to establishing the enabling environment to accelerate the transfer to the production of mercury-free medical devices, and to lay the foundation for market acceptance and growth for mercury-free devices in medical facilities, in order to meet associated phase-out deadlines under the Minamata Convention on Mercury
- GEF 10716 “Phasing out mercury measuring devices in healthcare” , a global project with the objective of eliminating uncontrolled releases of mercury from healthcare settings

112. The proposed project will build on previous and ongoing GEF projects in the Philippines, most relevant of which are:

- Global project (GEF 1802) on “Demonstrating and Promoting Best Techniques and Practices for Reducing Healthcare Waste to Avoid Environmental Releases of Dioxins and Mercury” with Philippines as one participating country which contributed to the training on mercury devices and the installation of two non combustion technologies for the pre-treatment of HCW.
- Regional project on the “Demonstration of BAT and BEP in Open Burning Activities in Response to the Stockholm Convention on POPs” (GEF 5082) which aims to assist in the rehabilitation of dumpsites and develop the municipal recycling facilities in target areas in the Philippines which would support the initiatives of the current project.

113. Also currently being implemented in the Philippines is the regional project on “Contribution Toward the Elimination of Mercury in the Artisanal and Small Scale Gold Mining (ASGM) Sector: From Miners To Refiners” (GEF 9718). The project intends to contribute to the elimination of mercury in ASGM by applying a value chain approach and addressing root causes of high mercury usage and emissions in the ASGM sector which are largely related to poverty or a lack of economic opportunities; lack of awareness of the environmental and health dangers of mercury; and lack of knowledge of mercury-free alternative gold recovery methods in the informal mining sector.

Full coordination will be undertaken with the project team to develop complementary activities as best possible.

114. Lessons learnt and outputs from previous projects would also be utilized as reference for the current project. Previous mercury-related initiatives in the Philippines funded by GEF include:

- UNIDO Project entitled “Improve the Health and Environment of Artisanal and Gold Mining Communities in the Philippines by Reducing Mercury Emissions” (GEF 5216 - March 2013 to June 2016)
 - The project aimed to improve the health and environment of artisanal gold mining communities in the Philippines by reducing mercury emissions. In particular, the project introduced a mercury-free technology in 2 small-scale mining areas and provided health training to rural health care workers in the proper diagnosis of mercury poisoning. A significant number of miners, including both males and females, have been trained to use mercury-free method to extract gold, and a number of them have already shifted to this mercury-free technique. As a result, the use of mercury for gold mining has been considerably reduced in the project areas, and the communities are fully aware of the dangers of mercury on human health and environment.
- Minamata Initial Assessment (MIA) (GEF 5863)

MIA is an enabling activity financially – supported by the Global Environment Facility (GEF) that assisted countries in: (1) strengthening national decision-making toward ratification of the Minamata Convention on Mercury; and (2) building national capacities toward implementation of future obligations. Through this activity, the Philippines was assisted to assess its readiness for being a party to the Minamata Convention as indicated in Article 20 of the Convention text. The Policy, Regulatory, and Institutional Framework of the country was also evaluated. Further, it provided recommendation on policy and strategic decisions and identified priority activities within the country. Mercury inventory was also undertaken in this activity. The MIA was launched on 20 March 2019 and is currently being finalized.

115. Legal Clause

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

116. Transfer of Assets

Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart in consultation with the UNIDO Project Manager.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments 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

117. The project is relevant to the action plans stipulated in the 2014 updated National Implementation Plans of the Philippines with regard the minimization of unintentionally-produced POPs in the uncontrolled burning of wastes, of which the health care waste sector is a contributor. It NIP stipulates the following priorities: adoption of BAT technologies, adoption of BEPs in relevant sectors, strengthening of national technical capability to manage uPOPs issues and strengthening of regulatory and analytical capacities.

118. The project will take off from the information provided in the Philippine Minamata Initial Assessment (MIA) and complement and support the activities identified in the NAP for MAPs. The MIA contains information regarding the estimated inventory of MAPs in the country which can further be verified and strengthened during the project preparation stage. It contains country baseline information and also also identifies priority areas, gaps in regulatory frameworks, and stakeholders relevant to mercury management. The NAP for MAPs, on the other hand, focuses on the country obligation to phase-out mercury-added products. Importantly, the NAP for MAPs bridges across various government offices responsible for mercury management especially for mercury-added products and provides a programmatic approach to the phase-out, taking into account the life-cycles of the MAPs from importation to disposal. Priorities under the NAP include efforts toward policy harmonization, strengthening of capacities, ensuring quality data and science-based evidences, and partnership advocacy.

119. The Philippine Development Plan, 2017 – 2022, recognizes the critical role the environment and natural resources (ENR) sector plays in the country's development. According to the national plan, it is crucial that environmental health is improved to support the accelerated economic growth, strengthen resilience against the impact of climate change and disasters (natural and human induced), and improve the welfare of the poor and marginalized members of society. Further, strategic efforts toward protecting both human health and the environment are prioritized, recognizing that these are areas of concern that are not necessarily mutually exclusive.

120. The 2020 midterm update of the PDP re-emphasizes the need to improve environmental quality through the (1) strengthening of the enforcement, regulation, and monitoring of environmental compliance and management interventions; and (2) adoption and implementation of innovative pollution abatement solutions. In fast-tracking the implementation of waste management measures for solid, toxic, and hazardous wastes, including electronic waste, especially at the local level, the country prioritizes the streamlining of the management of health care and infectious wastes.

121 The project also supports the provisions of "We Recover as One" which is a planning document formulated by the Philippine Government through the the Inter-agency Task Force Technical Working Group for Anticipatory and Forward Planning formulated. The document serves as a guide for country initiatives in line with efforts to address the impacts brought about by the COVID-19 pandemic, sending a clear message that only initiatives aligned with the guidance document will receive priority government support. In the context of the environment and health nexus, government recognizes that the new normal state will require a combination of strengthened, scaled up, and innovative actions and solutions to curb the elevated environmental, climate, and health risks posed by

COVID-19. As such, one priority strategy in the “We Recover as One” document is the streamlining of the management of health care and infectious wastes, especially at the community and household levels. Priority actions to be taken include:

- Ensuring compliance of health care facilities and treatment technologies with the standards for hazardous waste management
- Modernizing and increasing the number of TSD facilities for hazardous healthcare wastes
- Improving disposal of healthcare wastes at the household or barangay level
- Supporting ancillary remedial actions to improve environmental health and mitigate climate change

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.

122. A Knowledge Management infrastructure will be an important output of the project. The outputs and results of the project will be of importance to several stakeholders and will definitely provide addition to the global body of knowledge on the HCW sector. For this purpose, a project website will be built and linked to government dashboards directly informing the government's Inter-agency Task Force on Emerging Infectious Diseases (IATF) that governs and directs the government's COVID-19 efforts. It will also be linked to the Inclusive and Sustainable Industrial development (ISID) web platform being hosted by the UNIDO Philippine Country Office, in collaboration with the National Economic and Development Authority (NEDA) and other public and private member agencies of the Steering Committee of the UNIDO Philippine Country Programming Framework, 2018 – 2023, which includes the Philippine Chamber of Commerce and Industry (PCCI) and the Department of Environment and Natural Resources (DENR). The website will be established using a blog-type platform, allowing PMU and other project operators to update the website content in real-time. The website will be initially built with the support of a professional web-site builder. Subsequently, the website will be updated regularly by the PMU – by assigning a person with the specific task of result dissemination. Even for the website, different level of access will be granted depending on the targeted stakeholders.

At end-of-project, management of the website may be handed over to an identified member agency of the Inter-agency Committee on Environmental Health (IACEH), a participating local government unit. Another option is to migrate the contents to existing government platforms.

123. The knowledge generated in the course of project implementation will be shared globally through participation in regional coordination meetings related to healthcare waste management and COVID-19 and international conferences. The project also aims to use available global and regional knowledge channels including the BRS Secretariat, BRS regional centers, the GEF and UNIDO websites, to disseminate project outputs. With the prominence of virtual platforms for information sharing, this would also facilitate reaching out to a wider global audience.

124. The contribution of the project to knowledge generation on healthcare waste management will be highly significant, especially with the impact of the current global pandemic. It will generate knowledge products which maybe adopted to address similar situations in other countries. The KM infrastructure will be utilized to share the outputs and lessons learned on healthcare waste management especially during this pandemic. The technical documents and reports generated will be made available in the project website and disseminated to the proper channels. The partners and other relevant stakeholders will also be encouraged to participate in relevant webinars, trainings, etc. that will be provided by other entities. The project will also endeavor to utilize available social media platforms like Facebook and Twitter to further disseminate relevant information on the project activities. At national level, with specific reference to the awareness raising initiatives, communication will be ensured through the establishing of a proper Training of Trainers initiative, and through communications ensured through mobile apps (social), newspaper and TV broadcasting

125. Furthermore, the relevant documents will be published on the UNIDO open data platform but also through the Global Network for Resource Efficient and Cleaner Production (RECP net) of UNIDO and the Green Growth Knowledge Platform (GGKP) to further facilitate inter-regional and South-South cooperation. The results, lessons learnt will as well be presented and shared at relevant regional and international meetings and conferences among others to contribute to the revision of relevant guidelines under Minamata and Basel Convention. This will also ensure that there will be proper depository of project outputs which could be easily accessible to interested stakeholders.

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.

An initial assessment of the environmental and social risks was undertaken using the UNIDO ESS matrix. The project is categorized as a "Category B" project, i.e. the proposed project is likely to have less adverse impacts on human populations or environmentally important areas. Likely impacts will be few in number, site-specific, and few if any will be irreversible. The completed Environmental and Social Screening Matrix is attached.

An detailed ESMP will be completed during the PPG phase.

Supporting Documents

Upload available ESS supporting documents.

Title

Submitted

UNIDO_E+S_Screening_PHIL_HCW

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
Analiza Rebuelta-Teh	Undersecretary and GEF OFF	Department of Environment and Natural Resources	9/4/2020

ANNEX A: Project Map and Geographic Coordinates

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

The proposed project sites are in Metro Manila, particularly Quezon City, and in Tacloban City based on the number of COVID-19 cases and the availability of effective waste management systems.

Quezon City will be the main target site for the project. The city hosts the most number of hospitals (61 public and private hospitals, 61 health centers) with the largest bed capacity, complemented by health clinics, spas, physical fitness centers, child care and development companies, care giving schools, laboratories, medical transcription firms, and other wellness facilities. It has the most number of registered TSD facilities, as well, that would benefit on the interventions to be provided by the project. The project aims to partner with government hospitals in the city to ensure that BAT/BEPs on healthcare wastes management are in place in the facilities.

Tacloban City is the regional healthcare hub – with its six major hospitals (four privately run and two government-run) - and is the busiest and most progressive city in Region 8 (Eastern Visayas). During business hours, the City's population of about 240,000 triples due to the influx of residents from nearby Leyte and Samar municipalities who avail of utilities and services in the city. There is currently no registered TSD facility for medical wastes in Tacloban and the project aims to support the identification of private sector service provider interested to invest on the establishment of a TSD facility capable of handling healthcare wastes, including mercury. Healthcare facilities, including small clusters of clinics, will benefit from relevant trainings and institutionalization of BAT and BEP in health care wastes management.

