POPs and mercury-free solutions for environmentally sound waste management in Paraguay

Part I: Project Information

GEF ID
10682

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI

- [ ] CBIT
- [ ] NGI

Project Title
POPs and mercury-free solutions for environmentally sound waste management in Paraguay

Countries
Paraguay

Agency(ies)
UNIDO

Other Executing Partner(s)
Ministry of Environment and Sustainable Development

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Taxonomy
Focal Areas, Waste Management, Chemicals and Waste, Mercury, Emissions, Best Available Technology / Best Environmental Practices, Disposal, Sound Management of chemicals and waste, Hazardous Waste Management, Persistent Organic Pollutants, Uninentional Persistent Organic Pollutants, New Persistent Organic Pollutants, Open Burning, Influencing models, Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Stakeholders, Beneficiaries, Local Communities, Communications, Awareness Raising, Strategic Communications, Public Campaigns, Private Sector, SMEs, Individuals/Entrepreneurs, Type of Engagement, Information Dissemination, Consultation, Participation, Partnership, Civil Society, Non-Governmental Organization, Community Based Organization, Gender Equality, Gender results areas, Knowledge Generation and Exchange, Gender Mainstreaming, Sex-disaggregated indicators, Women groups, Gender-sensitive indicators, Capacity, Knowledge and Research, Knowledge Generation, Training, Workshop, Knowledge Exchange, Field Visit, Learning, Theory of change, Indicators to measure change, Capacity Development

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 0

Duration
60 In Months

Agency Fee($)
380,000.00

Submission Date
9/21/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-1-1	GET	4,000,000.00	27,830,000.00
	Total Project Cost ($)	**4,000,000.00**	**27,830,000.00**

B. Indicative Project description summary

Project Objective

To transform the linear, wasteful solid waste management sector in Paraguay into an environmentally sound and sustainable model by segregating and managing hazardous POPs and mercury-containing fractions in an environmentally sound way.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 1: Policy strengthening by integrating industrial waste management principles into the legislative framework targeting municipalities	Technical Assistance	Outcome 1.1. Enhanced policy and regulatory framework to include environmentally sound management (ESM) for waste for municipalities	Output 1.1.1. Policy recommendations on ESM principles for industrial waste management, including import ban on POP-containing and mercury-added products, **policy tools for upstream minimization of hazardous waste generation**, alternative product promotion and recyclability of valuable parts drafted Output 1.1.2. Guidelines for ESM and sustainable waste management targeting policy and decision-makers drafted	GET	500,000.00	2,100,000.00
Component 2: National capacity building, knowledge management and awareness-raising on industrial waste solutions aligning urban with peri-urban and rural cities	Technical Assistance	Outcome 2.1. Strengthened capacity and awareness to accelerate the adoption of ESM principles, BAT/BEP and financing options resulting in	Output 2.1.1. Updated inventory of POPs, materials and waste-streams to identify opportunities for ESM and further Global Environ-mental Benefits Output 2.1.2.	GET	750,000.00	10,000,000.00

sustainable and POPs and Hg-free operations	Technical manuals drafted for the ESM of waste in selected sectors, including **policy tools for upstream minimization of hazardous waste generation,** BAT/BEP for sustainable and POPs and Hg-free waste management targeting practitio-ners and operators
	Output 2.1.3. Improved knowl-edge management on POPs and Hg in waste streams, BAT/BEP and upstream ESM options feeding and strengthening the national System of Envi-ronmental Infor-mation (SIAM) as a tool for assisting decision-making and knowledge management.
	Output 2.1.4. Trainings for government officials at national and local levels, as well as private sector (especially waste collectors and recyclers), and media professsionals on poten-tial ESM solutions for selected sectors to understand and tackle POPs and Hg issues
	Output 2.1.5. Awareness-raising programs and customized events, especially for media, general public and specific target groups (i.e.

			children and women), on ESM and sustainability approaches for waste management			
Component 3: Pilot projects, including public-private partnerships, BAT/BEP and final disposal of POPs and Hg-containing materials, for sustainable waste management	Technical Assistance	Outcome 3.1. Reduction of POPs and Hg through BAT/BEP and ESM applications, including upgrading and/or upscaling of recycling infrastructures	Output 3.1.1. Specific ESM plans for the pilot projects on POPs-reduction, recovery of valuable / recyclable materi-als and final disposal of POPs and Hg-containing materials and wastes Output 3.1.2. Establishment of a business incubator to provide tools for promotion of business and financing options for ESM activities, to help relevant startups identify potential Public-Private Partnerships and ways to succeed	GET	361,000.00	2,400,000.00
Component 3: Pilot projects, including public-private partnerships, BAT/BEP and final disposal of POPs and Hg-containing materials, for sustainable waste management	Investment	Outcome 3.1. Reduction of POPs and Hg through BAT/BEP and ESM applications, including upgrading and/or upscaling of recycling infrastructures	Output 3.1.3. Pilot projects implemented for ESM of valuable/recyclable fractions (e.g, source separation, collection and transport, pre-processing, recycling or re-use) of selected fractions Output 3.1.4. Final BAT/BEP disposal of POPs and mercury-containing fractions	GET	2,000,000.00	10,000,000.00

Component 4: Project Monitoring and Evaluation	Technical Assistance	4.1. Monitoring 4.2. Evaluation	4.1.1.Monitoring system set and operational 4.2.1. Mid-term review and terminal independent evaluation conducted 4.2.2. Lessons learned shared with all relevant stakeholders for future application, development and improvement	GET	200,000.00	2,100,000.00
				Sub Total ($)	**3,811,000.00**	**26,600,000.00**
Project Management Cost (PMC)						
				GET	189,000.00	1,230,000.00
				Sub Total($)	**189,000.00**	**1,230,000.00**
				Total Project Cost($)	**4,000,000.00**	**27,830,000.00**

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	Ministry of Industry and Commerce	In-kind	Recurrent expenditures	50,000.00
Recipient Country Government	Ministry of Health	In-kind	Recurrent expenditures	50,000.00
Recipient Country Government	Ministry of Environment and Sustainable Development	In-kind	Recurrent expenditures	140,000.00
Recipient Country Government	Ministry of Environment and Sustainable Development	Grant	Investment mobilized	560,000.00
Recipient Country Government	Customs	In-kind	Recurrent expenditures	40,000.00
Recipient Country Government	Customs	Grant	Investment mobilized	160,000.00
GEF Agency	UNIDO	Grant	Recurrent expenditures	80,000.00
Beneficiaries	Selected municipalities	In-kind	Recurrent expenditures	3,750,000.00
Beneficiaries	Selected municipalities	Public Investment	Investment mobilized	15,000,000.00
Beneficiaries	Selected hospitals	In-kind	Recurrent expenditures	800,000.00
Beneficiaries	Selected hospitals	Public Investment	Investment mobilized	3,200,000.00

Private Sector	Tayi Ambiental S.A.	Equity	Investment mobilized	600,000.00
Private Sector	Laboratorios Diaz-Gill	Equity	Investment mobilized	800,000.00
Private Sector	Laboratorios Analitica S. A.	Equity	Investment mobilized	800,000.00
Recipient Country Government	Centro Multidisciplinario de Investigaciones Tecnológicas, CEMIT/UNA	In-kind	Recurrent expenditures	300,000.00
Private Sector	Several Small and medium-size industries	Equity	Investment mobilized	500,000.00
Private Sector	Yguazu Cementos	Equity	Investment mobilized	900,000.00
Private Sector	Centro de Importadores del Paraguay	In-kind	Recurrent expenditures	35,000.00
Private Sector	Union Industrial del Paraguay	In-kind	Recurrent expenditures	35,000.00
Civil Society Organization	Altervida	In-kind	Recurrent expenditures	30,000.00
			Total Project Cost($)	**27,830,000.00**

Describe how any "Investment Mobilized" was identified

USD 22,520,000: USD 18,920,000 are expected to come as grants (USD 720,000) and public investment (USD 18,200,000) ; the remaining USD 3,600,000 are expected to come as equity investment from private organizations. Following GEF Co-financing Policy, at the time of CEO endorsement, UNIDO will provide confirmed information regarding the expected amounts, sources and types of Co-Financing and Investment Mobilized, with appropriate supporting evidence.

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($)
UNIDO	GET	Paraguay	Chemicals and Waste	POPs	3,000,000	285,000	3,285,000.00
UNIDO	GET	Paraguay	Chemicals and Waste	Mercury	1,000,000	95,000	1,095,000.00
				Total GEF Resources($)	**4,000,000.00**	**380,000.00**	**4,380,000.00**

E. Project Preparation Grant (PPG)

PPG Required ☑

PPG Amount ($)

120,000

PPG Agency Fee ($)

11,400

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Paraguay	Chemicals and Waste	POPs	90,000	8,550	**98,550.00**
UNIDO	GET	Paraguay	Chemicals and Waste	Mercury	30,000	2,850	**32,850.00**
				Total Project Costs($)	**120,000.00**	**11,400.00**	**131,400.00**

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)
7.20	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)
Perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride	1.60			

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)
5.60			

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

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

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

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

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)

453.00

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)
34.00			

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

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

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	2,500			
Male	2,500			
Total	5000	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

Note 1: PFOS: BAT/BEP applications to at least 400 tons from different consumer and industrial items (e.g. textiles and upholstery). Initially, we used NIP update inventory data, but the numbers seemed to be too high considering Paraguay's population. We then compared these results with regional information, e.g. from NIP updates in Mexico, Guatemala and Honduras, to obtain better estimates about the existence of consumer items, aviation fluids and firefighting foams, and their potential PFOS content. These estimates need to be verified during PPG. Note 2: Mercury: reduction and elimination of 5.6 tons of mercury from mercury-added products and the management of their waste. Note 3: Direct reduction of at least 34 gTEQ u-POPs per year through pilot projects based on ESM of waste which, in addition, will create value through increased recyclability (which represents 50% u-POPs emissions coming from the open burning processes), as stated in the NIP. Note 4: Minimum of directly involved people working within the solid waste management of targeted municipalities: handlers, transporters, recyclers, etc. Based on estimations after dialogues with local counterparts, we have assumed 40 municipalities (out of 256) are selected. On average, 110 handlers, 5 transporters, and 10 recyclers per municipality will be directly benefited by the project. So: 40*125=5000. It is expected that an equal number of men and women are benefited from these activities.

Part II. Project Justification

1a. Project Description

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

1. Paraguay is a landlocked country with a rural population of about 40% who largely depend on agricultural, livestock and incipient industrial activities. The country also has 256 municipalities mainly located in periurban or rural areas, except for six main conglomerates: Asunción and its surrounding Departamento Central, Ciudad del Este, Encarnación, Caaguazú, Coronel Oviedo, and Pedro Juan Caballero.

2. People living in the surrounding departments require everyday consumer products and services from Asunción, including food, clothing, cars, and medical services, all of which have a limited life span and in the end become waste. Unfortunately, waste management practices are poor and the related infrastructure is either very limited or entirely absent in peri-urban areas. Generally, all waste streams are still being openly dumped and burned, and not being transported to more semi-regulated waste management facilities located in Asunción. Thus, the missing urban-rural links between Asunción and the smaller cities create tremendous environmental challenges and missed economic opportunities, not only for the remote local areas and small municipalities but also for all at the national and even regional scales. Therefore, sectoral and thematic integration to tackle persistent organic pollutants (POPs) and mercury (Hg) issues are distinctly lacking in Paraguay.

3. In fact, POPs are being used for the production of products such as PFOS for consumer items and industrial applications. Although the use of PFOS has stopped for several items, for which POPs-free alternatives are available, PFOS is still being used for other items related to specific exemptions included in the Stockholm Convention. To tackle the environmentally sound management (ESM) of POPs-containing items and to increase the recyclability of valuable fractions, Paraguay is missing relevant important bans on POPs-added products, policy tools for upstream minimization of hazardous waste generation to avoid waste at end-of-life cycle, and alternative product promotion to avoid the use of PFOS-containing items and industrial applications. At the end-of-life cycle these products are not being separated into valuable/recyclable and non-valuable (POPs-containing) fractions to ensure environmentally sound management (ESM) approaches. In reality, POPs and mercury in waste and its unsound management creates vast and complex environmental and public health problems in Paraguay, such as the release of unintentionally-produced POPs (u-POPs) and mercury, the mixture of solid waste with POPs and Hg-containing articles, and the recycling and use of POPs-containing items across the country.

4. In terms of mercury sources at country level, mercury-added products and waste incineration represent the largest sources of emissions and releases. There is relatively large consumption of mercury-added products such as thermometers, light sources, and dental amalgams among others, all of which are imported as there is no local manufacturing of such products. As a consequence of the lack of adequate management and treatment, there is widespread incineration of mercury-added product waste in ovens which do not comply with Stockholm Convention and Minamata Convention guidelines, especially regarding the management of released gases, which are directly emitted to the atmosphere without any treatment. This is particularly problematic given the ability of mercury emissions to travel over long distances.

5. Missing links from urban to peri-urban and rural areas bring additional economic constraints to the national economy in terms of the absence of ESM approaches and solutions to close the loop where a linear model still prevails in the fields of industrial and solid waste management.

6. This proposed project will reach its objective through tackling POPs and Hg problems associated with unsound waste management and its related global environmental problems through life-cycle approaches, including the recycling of non-hazardous valuable waste and reduction and/or final disposal of POPs or mercury-containing waste.

7. There are several root causes and barriers towards the fulfillment of ESM for the identified sectors including commitments set by the Stockholm and Minamata Conventions, which have been identified during the PIF preparation stage. The main barriers include the following:

• Political:

- Insufficient regulatory framework related to the promotion of ESM, especially related to BAT/BEP;
- No tax incentives for recycled goods and recycling services;
- Lack of incentives to adopt ESM, BAT/BEP, and RECP principles.

• Financial:

- No funding and investments into sustainable business models and promotion of ESM structures

• Technical:

- Lack of national capacity for implementing, enforcing, and monitoring ESM approaches, including lack of human and technical resources;
- Lack of technical knowledge about POPs use, products containing POPs or Hg, and their potential

alternative or BAT/BEP (including segregation at source);

- Lack of awareness and knowledge among relevant stakeholders about ESM.

The baseline scenario and any associated baseline projects

Baseline scenario

8. In the absence of the proposed GEF project, POPs and Hg exposure through unsound management and open burning of consumer and industrial items will continue resulting in human and environmental risks. Traditional solid waste will result in valuable/recyclable fractions being mixed with hazardous wastes, which in turn will result in missed economic, environmental and social opportunities that can be obtained through the adoption of ESM principles. The

likely scenario is the absence of further incentives to adapt the linear, unsustainable operations into a virtuous, sustainable management framework to encourage BAT/BEP and RECP applications to close the loop in the product life-cycle. Therefore, the existing system will continue to harm the environment and human health as well as causing the loss of valuable resources, which could be re-used or recycled within the production process.

Baseline projects

Baseline projects for policy, legislation and ESM

9. In Paraguay, municipal waste services cover the capital Ascuncion but are lacking in peri-urban areas. The country has 254 municipalities, which should have landfills or sanitary landfills. Of this total, some 65 municipalities, that is, 25%, have facilities for the treatment and final disposal of urban waste authorized by the Ministry of the Environment and Sustainable Development (MADES). According to the Report on National Coverage of the Sanitary Sewerage Service with sewage networks corresponding to the year 2016, issued by the Sanitary Services Regulatory Entity (ERSSAN), the Sewer Service Coverage is 11% throughout the country, serving only 723,510 persons. Low coverage means that liquid waste containing remains of PFOS, from the washing of garments and textiles or domestic use of cleaning products in washing processes, is retained in the soil, given the proliferated use of absorbent wells, both in urban as well as rural areas, constituting a potential risk of groundwater contamination, especially in the area affected by the Patiño Aquifer (Asunción and a large part of the Central Department).

10. The national and municipal legislation on the integrated management of solid waste has yet to be put into practice. The government enacted a national law on integrated waste management a few years ago but has not issued the regulations necessary to implement it. To date, the Government has taken some action on the management of solid and hospital waste, including the application of clean technologies and the application of practices that reduce the amount of waste, as well as pollution associated with waste mishandling. In addition, the Ministry of Environment and the Ministry of Public Health and Social Welfare (MSPyBS) have made some progress with the promulgation of the normative and regulatory framework in Comprehensive Solid Waste Management, holding local governments accountable for presenting a waste management plan and, on the other hand, the treatment of waste generated in health and related establishments, taking into account that open burning is one of the main sources of dioxins and furans in the country. However, a holistic approach is lacking for targeting hazardous waste management and incentivizing ESM at the same time.

11. Also, the management of Solid Urban Waste by law is strictly a municipal responsibility and competence, municipalities have a duty and commitment to collect and transport all waste produced by the community, provide proper treatment and the final destination of waste, thus ensuring the welfare of the community population, as well as the protection of the environment. The management of municipal authorities is essential for the comprehensive management of municipal solid waste. They have the responsibility of executing, raising awareness and uniting actions between the different sectors involved: citizens, technicians, private companies, NGOs and the departmental government.

12. Paraguay has a National Development Plan Paraguay 2030, adopted in 2014, which provides the country with a long-term strategic development vision and clear policy objectives for reducing poverty, achieving inclusive economic growth and strategically integrating Paraguay into the international community. As such this project especially promotes the objective to "Adopt a coherent, strategic approach to regional development through more effective decentralisation and better multi-level governance. Such an approach will help ensure that policies are tailored to the circumstances and conditions in different regions of Paraguay and meet citizens' needs across territories characterized by acute regional disparities".

13. The following are laws related to POPs management in Paraguay, which are relevant for this project:

- Law N°3361/07 on Waste Generated in Health and Related Establishments
- Law N°3959/09 Integral Management of Solid Waste in the Republic of Paraguay.
- Law N° 5211/14 on Air Quality (Art.12 establishes that persistent organic pollutants (POPs) are controlled by this Law)
- Resolution SEAM N° 627/16 that prohibits the import of used tires for direct reuse, without prior remanufacturing, and regulates the comprehensive management of used tires generated in the country.
- Decree N° 7391/17, to Regulate Law N° 3956/09, Integral Management of Solid Waste in the Republic of Paraguay.
- Law N ° 5883/17 on integral management of cells and batteries of use domestic.

14. Specific laws related to hazardous waste and requirements under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal include the following:

- Law 42/90 – "That prohibits the importation and use of hazardous residue or toxic garbage" in which any natural person or legal entity is prohibited to import products qualified as residue, hazardous industrial waste or toxic garbage, and assist, by any means, in its entrance, reception, storage, use, or distribution anywhere inside the country
- Law 567/95 "That approves of the Basel Convention on border control of hazardous waste and its elimination"
- Law 1262/98 "That approves of the amendment to the Basel Convention" to reduce the volume of residue exchange in order to protect human health and the environment establishing a control system on the export and import of hazardous residue as well as its elimination

15. In spite of this body of laws, none of the stages of chemical life-cycle management are adequately covered. The industrial chemicals sector has the fewest legal instruments compared to agricultural and public consumption chemicals. Currently, city by-laws have to deal with the challenge of dozens of illegal landfill sites. The generation of solid wastes in the country is of 1,120 kg/inhab./day for domestic solid wastes meanwhile urban solid wastes are of 1,314 kg/inhab./day. Only 53% of urban wastes is collected. Regarding its composition, 61% of this waste is organic and 38.9% is inorganic. In its different phases of treatment (generation and inadequate storage, inadequate disposal on the public highway, collection, and transportation, segregation, treatment and final disposal) there are several environmental risks; among the most important ones are air and water contamination, and morbid processes from infectious contagious and parasitical diseases, allergic diseases (respiratory, skin and mucosa), occupational diseases and accidents, intoxications to chronic degenerative diseases. The disposal of industrial solid wastes as part of solid waste is also very dangerous due to leakages and unsound disposal methods. It is assumed that in particular waste from households, not serviced by waste collection vehicles (~30–40%), ends up on illegal dumpsites, next to roadsides, in backyards and in local water bodies.

16. The low coverage of collection services contributes to aggravate runoffs and flooding during intense rains since garbage obstructs the storm drains. This situation is particularly concerning due to the lack of separation of solid waste from hazardous waste, including products containing-POPs or Hg. In addition, there are municipal dumping grounds, e.g. Cateura landfill, for which open burning of waste has been documented in order to extract valuable metals or to reduce the waste volume.

Baseline projects for capacity-building and ESM management of waste

17. To date, there have been a few capacity-building activities related to chemicals and waste. For example, the Secretaría del Ambiente de la República del Paraguay SEAM (now the Ministry of Environment and Sustainable Development, MADES) has conducted informative workshops on POPs for different stakeholders, such as the Government of the Department of Caaguazú, the Faculty of Sciences and Technologies of the Catholic University of Asunción, the San Carlos University; in addition, conferences aimed at members of the Military Council for the Environment, officials of the Ministry of National Defense and the Armed Forces, among others.

18. To strengthen the environmentally sound management of solid waste and limit hazardous waste the “Manual of Integral Management of Municipal Solid Wastes” was elaborated as a tool to facilitate the management and sustainability of plans on the management of solid wastes of the community. This manual provides the municipalities, who are legally responsible for the management of municipal solid wastes, with guidelines to be able to fulfill certain components of integral management and to ensure continuity.

19. With this manual, it is expected that the municipalities will start to gradually implement the different points of the waste management pyramid (Reduction- Reutilization- Recycling- Final Appropriate Disposal) to reduce the activities of open-air burning or reduce the volume of burning in dumps. However, in reality, only some industries and hospitals have started internal recycling programs for the re-use of materials, or sell industrial waste for co-processing or incineration (e.g. as fuel), there are no regulated standards or separate environmentally sound waste stream of hazardous materials. Thus, hazardous wastes materials and products containing POPs or Hg will end up in landfills or dumpsites, where they will be burnt resulting in the release of u-POPs and Hg emissions.

20. Adoption of ESM principles is also very important for Paraguay due to the recent economic growth of 4.9%. The sectors with the greatest contribution to Gross Domestic Product (GDP) is agriculture, industry, and livestock and GDP has been steadily increasing from 2009 to 2016 (with a slight decrease in 2012). According to official data, the primary sector (agriculture and livestock) has had an important impact on economic growth in Paraguay since 2004. Between 2004 and 2014 the agricultural sector contributed, on average, 19% to the growth of the economy (industry and construction accounted for 12% and the service sector for 69%). While this figure of 19% overall may not appear significant, it is important to note that in 2007, 2010, and 2013 the contribution of the agriculture sector to GDP exceeded 50%.

21. The industrial sector is still a developing sector in Paraguay. The sector estimated an annual closure with increased production of around 4.6%. This result was strongly influenced by the increase in the production of beef, dairy, sugar, beverages and tobacco, textiles, and chemical products. However, as mentioned above, with increasing industrial activities there is a need for environmentally sound waste management including a sustainable approach to recover and reuse/recycle valuable materials, to reduce the use of hazardous materials and to dispose of hazardous materials to avoid environmental pollution.

Baseline projects for POPs and Hg management

22. Based on the NIP update (2018) the lifecycle of PFOS-containing items in Paraguay includes imports, different uses, some recycling (but no separation of hazardous parts) and final disposal in landfills. The NIP update provides detailed information; however, it seems that the given estimates are too high compared to other countries, e.g China, which still produces PFOS and uses it for items. Thus, it is necessary that the project will carefully assess the inventory data to be able to provide sound and sustainable environmental solutions.

23. Analysis of the results leads to the conclusion that in Group 1. Different consumer goods, the largest contributor is paper and cardboard (86% of the total for the group), while for Group 2. Fire fighting foams, aviation oils, and pesticides, the largest contributor is Aviation Oils (99.2% of the total for the group) and given that Group 2 represents 70% of the overall total, it appears that the the greatest contribution of PFOS is related to Aviation Oil. This trend remains the same for both 2015 and Inventories (2007-2014).

24. U-POPs (dioxins and furans) emissions in the country are mainly caused by the uncontrolled burning of waste in the open air and incineration using inadequate or obsolete hospital waste management equipment. According to the NIP update (2015), uncontrolled burning of waste in the open air, as well as incineration of hospital waste equipment represent sources of high emissions of u-POPs in the environment, and are also a human health concern, especially for residents living close to dumping areas. The NIP indicates around 68.18 gTEQ from open burning activities, which is a major threat to human and environmental health.

25. Regarding the u-POPs baseline, currently the guidelines of the National Solid Waste Management Policy are being drawn up but this document still must be approved by the Consejo Nacional del Ambiente (CONAM) for its subsequent dissemination and implementation. The policy for the Integral Management of Solid Waste of the Ministry of Public Health and Social Welfare (MSPyBS) identifies the need to design and implement strategies for their integral management, in order to reduce environmental and social conflicts and to prevent health risks for communities. There is also a “Manual of Procedures for the Comprehensive Management of Waste” generated in health and related establishments prepared by MSPyBS.

26. This project will also tackle mercury emissions from waste incinerators and mercury-added products. As this relates to the environmentally unsound management of hospital waste it is important to mention that in Paraguay waste generators (e.g. human and animal health care, research and the production of biological pharmaceutical and chemical elements and medicines) are solely responsible for the comprehensive management of waste from its generation to its final disposal. The Authority for the Enforcement of Law 3361 on waste generated in the establishments of health and related establishments is the Ministry of Public Health and Social Welfare.

27. The Minamata initial assessment (MIA) carried out in Paraguay showed that the total mercury emissions and releases in the country are approximately 13.4 tons of mercury per year. The two main sources of mercury emissions and releases are waste incineration (6.1 tons of mercury per year) and mercury-added products (4.9 tons of mercury per year). These two categories constitute 82% of the total emissions and releases of mercury and will be targeted and reduced throughout the project.

28. According to the MIA, a total of 7,963.8 kg of mercury were released into the air, this matrix was the most affected by the releases, the second route with the highest emissions was general waste with 2,643.3 kg Hg / y. This corresponds to the waste generated in the country whose main sources are the products of consumption with mercury content (batteries, thermometers, fluorescent tubes, among others). Emissions to water and land were lower compared to the previous routes, with 1,553.3 kg Hg / y and 916.1 kg Hg / y, respectively.

29. One relevant national regulation is Law 5211/14 "On Air Quality", which will allow the setting of emission limit values for air pollutants (including heavy metals, such as mercury) that can be emitted by stationary or mobile sources. Through this law, the application of measures identified in article 8 may be required to control/reduce emissions of mercury from stationary sources. Law 3966/10 is also in force, which is the “Municipal Organic Law” which establishes that it is the function of the municipalities “to regulate and provide cleaning services and especially waste collection and disposal ”. As waste incineration is a form of waste disposal and is listed as an identified source, municipalities have the power to establish measures to reduce mercury emissions in this source. However, the main lack is the environmentally sound management and disposal of mercury-containing items.

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

30. In line with the national development priorities identified in the NIP and MIA documents, this proposed GEF-7 project aims to transform the linear, wasteful solid waste management sector in Paraguay into an environmentally sound and sustainable model by segregating and managing hazardous POPs and mercury-containing fractions in an environmentally sound way. The project will also contribute to safeguarding the global environment by supporting Paraguay in meeting its commitments to the related chemicals and waste multilateral environmental agreements (MEAs). Furthermore, the project will contribute to the GEF 2020 vision of "greater impact per unit of investment" through:

- Tackling unsound waste management and its related global environmental problems through ESM and life-cycle approaches, including recycling of non-hazardous waste and final disposal of POPs or mercury-containing waste;

- Promoting sectoral and thematic integration of POPs and mercury in waste management, including public-private partnerships, to help tackle POPs and mercury issues in a holistic way. It also promotes geographic, economic, and social integration among the local, national, and regional dimensions;

- Contributing to an innovative and transformational systems change within the GEF Chemicals and Waste Focal Area through supporting multi-stakeholder alliances such as sustainable city intervention (Green Asunción) and regional POPs management. As such, this project will provide synergies with the existing Global Platform for Sustainable Cities (GPSC) created under the GEF-6 Impact Program "Asuncion Green City of the Americas – Pathways to Sustainability" (GEF Project 9127) on management of municipal solid waste, and utilization of green space and infrastructure; and,

31. The project will also facilitate the creation of enabling environments for the participation of the private sector, NGOs and CSOs and will help strengthen national legislation and regulatory capacity in Paraguay for meeting its obligations regarding POPs, mercury and other chemicals listed in the chemicals and waste conventions. The project will follow the strategy as outlined in the Theory of Change, life-cycle interventions for POPs and Hg-containing products (Figure 1) and a detailed summary of interventions for POPs and Hg-containing products (Table a and b), which are interlinked for most activities:

Theory of Change

The ultimate impact of this project is to transform the linear, wasteful solid waste management sector in Paraguay into an environmentally sound and sustainable model by implementing life-cycle approaches, promoting sectoral and thematic and POPs integration and contributing to an innovative and transformational system change. The immediate impact are enhanced policy and regulatory frameworks related to POPs and Hg-containing products strengthened capacities and awareness to accelerate the adoption of environmentally sound management of POPs and mercury-containing products along their life-cycle in Paraguay, and reduction of POPs and Hg in Paraguay through the creation of an enabling framework.

To ensure the long-term impact, there are three main preconditions and driving factors, which needs to be fulfilled:

1. Operationalization and enforcement of policies;
2. Application of built capacity and raised awareness as well as cooperation among stakeholders;
3. Scalability and replication of BAT/ BEP.

Private support, public pressure, and involvement of key stakeholders are the key driving factors for ensuring that the project outcomes and the pre-conditions are met to achieve the impact and ultimately the outlined Global Environmental Benefits.

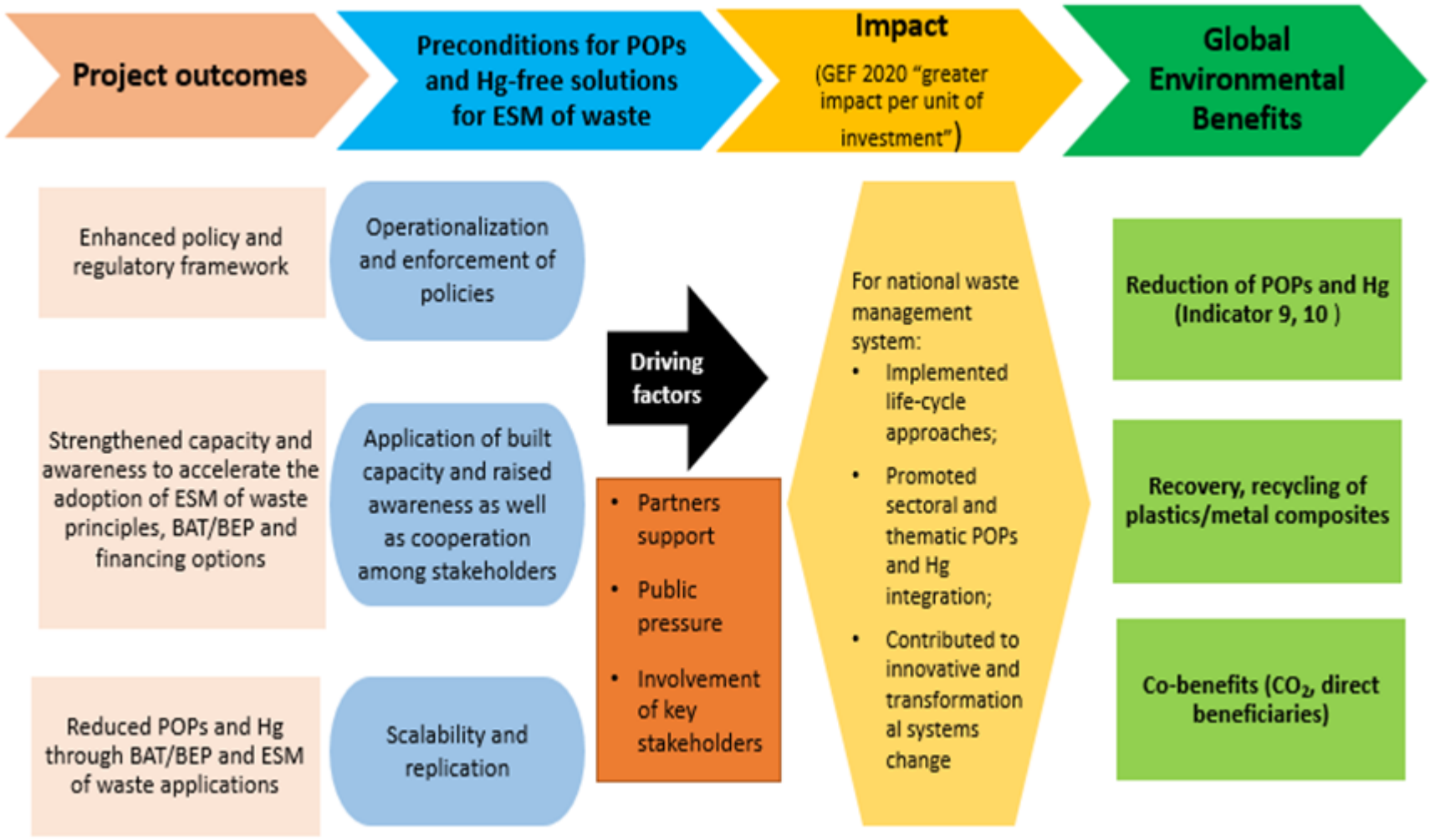

Figure 1: Life-cycle interventions for POPs and Hg-containing products

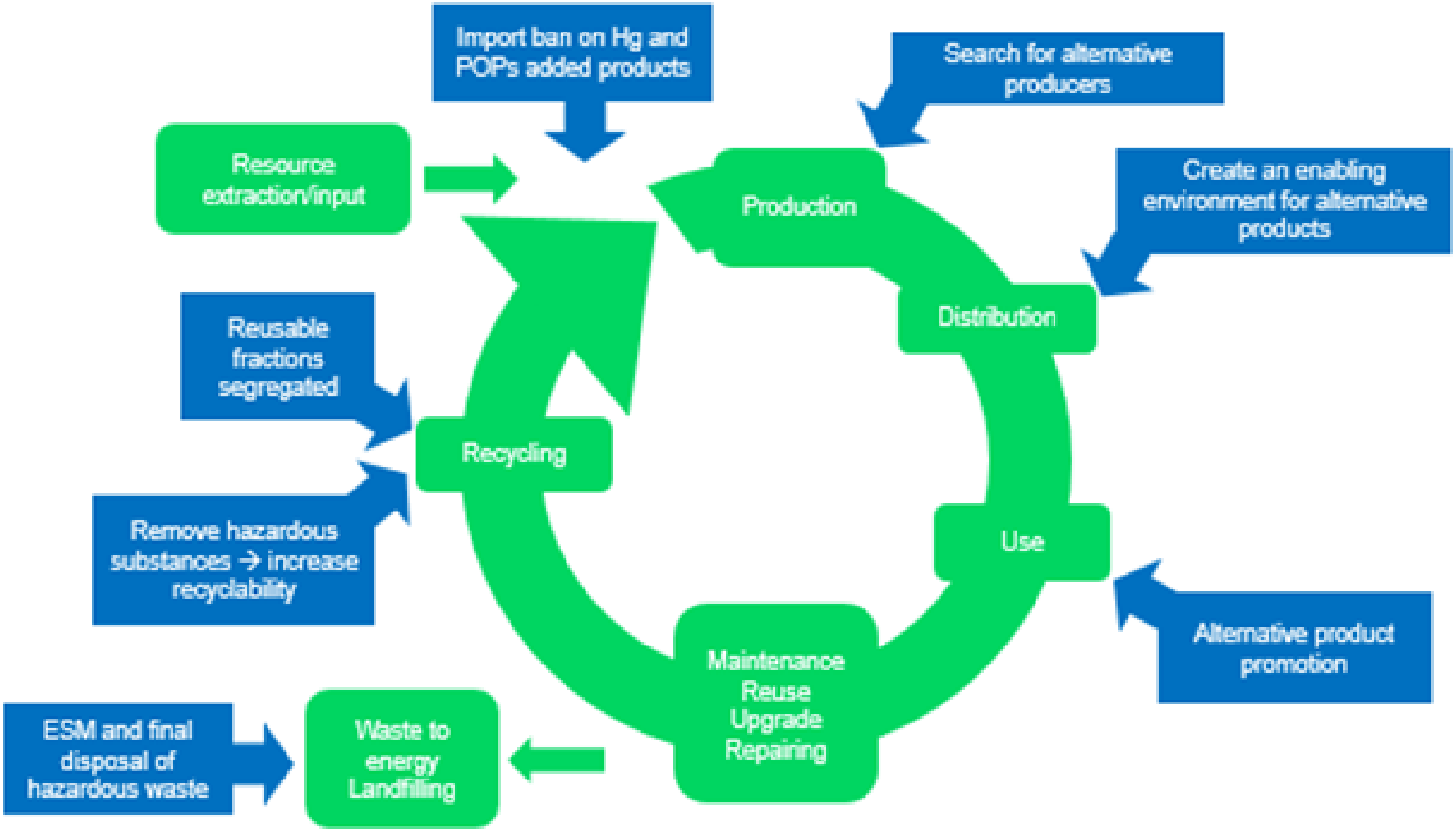

Table a) Interventions for POPs-containing products, including upstream. Please note that POPs and Hg work will be complementary for many aspects.

Baseline	Alternative scenario
No PFOS or Hg production in Paraguay	/
No import of pure PFOS or Hg into Paraguay	/
Import of PFOS-containing products	**Component 1** Policy gaps towards ESM of POPs containi

	- Policy gaps towards ESM of POPs-containing products addressed; - Import of PFOS-containing products is banned in compliance with the recommendations of the Stockholm Convention; - Customs procedures and corresponding capacities (HS codes, import screening, analytical capacities, risk evaluation, reporting scheme on potentially POPs-containing substances/products, customs trainings) strengthened; - Incentives for the use product alternatives in place (e.g. taxes on the use of PFOS-containing products). - ESM guidelines for the management of POPs- and Hg-containing items along the life-cycle for policy and decision makers to showcase economic, environmental and social benefits of proper and sustainable waste management. PPG phase, it will explore using environmental tools such us rights, credits (including tax credits and other tax benefits), rebates, financial or non-financial incentives, benefits, reductions, offsets, and allowances and entitlements of any kind.
PFOS-containing products are being mixed with solid waste stream leading to a huge amount of hazardous waste generation	Component 2 - Industrial incentives for the environmentally sound management of PFOS-containing products and minimization of hazardous waste generation in place and applied (e.g. through Corporate Social Responsibility, promotion of alternative non-POPs and non-HG-containing products) - Reduce the unsound distribution of POPs-containing products within the waste system (e.g. through screening, separation of valuable against

	POPs-containing fractions, promotion of recyclability of selected valuable parts or by-products) - Capacity-building activities as outlined in outputs 2.1.1 to 2.1.4
PFOS-containing products are being disposed of in an environmentally unsound manner	**Component 3** - Pilot projects, including public-private partnerships, BAT/BEPs and final disposal of POPs-containing parts as well as mercury-added products, for sustainable waste management

Table b) Interventions for Hg-containing products, including upstream. Please note that POPs and Hg work will be complementary for many aspects.

Baseline	Alternative scenario
No Hg production in Paraguay	/
No import of pure Hg into Paraguay	/
Import of Hg-containing products (according to the Minamata Convention Hg-containing products to be banned by 2020, expect for some exemption	**Component 1** - Policy gaps towards ESM of Hg-containing products addressed; - Import of Hg containing products is banned in compliance with the recommendations of the Minamata Convention; - Customs procedures and corresponding capacities (HS codes, import screening, analytical capacities, risk evaluation, reporting scheme on potentially Hg-containing substances/products, customs trainings) strengthened; - Incentives for the use product alternatives in place; - ESM guidelines for the management of POPs- and Hg-containing items along the life-cycle for policy and decision makers to showcase economic, environmental and social benefits of proper

	and sustainable waste management. - To implement an import ban for custom codes to distinguish mercury will be developed. The guide of the Minamata Secretariat (to be submitted at COP 4 in November 2021) will be followed. This includes the i) development of international harmonized 6 digit HS codes pursuant to the World Customes Organization process; ii) development os statistical codes of more than six digits; iii) delivery of some combination of the two above mentioned approach; and iv) avoidance of the exploration of new custom codes. Paraguay uses the Nomenclatura Común del Mercosur (NCM), which needs to be assessed for harmonization among countries within the region. Component 2, Output 2.1.1. - Assessment of exempted Hg-containing waste streams (special switches, specific instruments for R+D/calibration, vaccines, dental amalgam), which do not have a phase-out date yet to assess the suitability of EPR or other measures to minimize the use of Hg-containing products in Paraguay.
Hg-containing products are being mixed with solid waste stream leading to a huge amount of hazardous waste generation	Component 2 - Industrial incentives for the environmentally sound management of Hg-containing products and minimization of hazardous waste generation in place and applied (e.g. through Corporate Social Responsibility, promotion of alternative non-Hg-containing products); - Reduce the unsound distribution of POPs-containing products within the waste system;

	ning products within the waste system); - Capacity-building activities as outlined in outputs 2.1.1 to 2.1.4.
Hg-containing products are being disposed of in an environmentally unsound manner	Component 3 Pilot projects, including public-private partnerships, BAT/BEPs and final disposal of POPs-containing parts as well as mercury-added products, for sustainable waste management

32. **Component 1: Policy strengthening by integrating industrial waste management principles into the legislative framework targeting municipalities**. The main goal of Component 1 is the creation of the necessary legislative framework targeting municipalities to advance in the ESM agenda in the listed sectors by promoting POPs alternatives, BAT/BEP and RECP for separate valuable/recyclable resources and final disposal of non-recycable POPs and Hg-containing fractions. This component will have the following outcome and outputs:

Outcome 1.1.: Enhanced policy and regulatory framework to include environmentally sound management (ESM) for waste for municipalities

• Output 1.1.1. Policy recommendations drafted on ESM principles for industrial waste management, including import ban of POP-containing and mercury-added products, policy tools for upstream minimization of hazardous waste generation, alternative product promotion and recyclability of valuable parts

This output will assess the existing policies and regulations on solid and hazardous waste management and will propose policy recommendations on ESM principles addressing the life-cyle of POPs and Hg-containing items in Paraguay. These policy recommendations focusing on ESM of potentially POPs or Hg-containing items are needed to reduce the import, use and environmentally unsound disposal of hazardous fractions, but also to reduce of hazardous waste generation and to increase the recyclability of valuable fractions.

Thus, the project will create an enabling environment towards the phase-out of POPs and Hg-containing products in Paraguay through addressing policy gaps towards ESM management of POPs and Hg-containing products, including import bans of POP-containing and mercury-added products to comply with the requirements of both the Stockholm Convention and the Minamata Convention. Towards this goal, during its PPG phase, it will explore using environmental tools such us rights, credits (including tax credits and other tax benefits), rebates, financial or non-financial incentives, benefits, reductions, offsets, and allowances and entitlements of any kind. Crucial project activities will entail strengthening custom procedures and building the corresponding capacities (HS codes, import screening, analytical capacities, risk evaluation, reporting of potentially-containing POPs substances/products and Hg-containing products, customs trainings). Minimization of hazardous waste generation can be achieved through private sector participation and by providing industrial incentives (e.g. Corporate Social Responsibility, promotion of alternative non-POPs and non-Hg products, and promoting the recyclability of valuable parts or by-

products). Although Paraguay is not a country producing POPs or Hg, the previously described efforts will tackle upstream issues, starting with the import of products/substances potentially containing POPs or Hg, going through their distribution and use, and addressing the final disposal of POPs and Hg-containing parts, by-products and residuals.

Currently, the Government of Paraguay is not in compliance with the Stockholm and Minamata Conventions, which hampers meeting Convention requirements such as the Minamata Convention deadline on mercury-added products Paraguay needs to ban the Hg-added products import (with some exemption by 2020. The project will support the country related to regulatory measures related import bans, tariff codes, taxes, phase-out, management, disposal and/or treatment of POPs and Hg-containing products to ensure an enabling environment that would support the introduction of safer alternatives, reduction of hazardous waste generation and recyclability of valuable fractions.

For Hg, besides import bans, the national situation regarding Hg- exemption (e.g. research, switches, relays, some fluorescent lamps, vaccines, and dental amalgams) will be assessed and addition to the ban, customs codes to distinguish mercury added products using the guide of the Minamata Secretariat (to be submitted at COP 4 in November 2021) will be introduced to avoid the import of Hg-containing products to Paraguay. This includes the i) development of international harmonized 6 digit HS codes pursuant to the World Customs Organization process; ii) development of statistical codes of more than six digits; iii) delivery of some combination of the two above mentioned approach; and iv) avoidance of the exploration of new custom codes. Paraguay uses the Nomenclatura Común del Mercosur (NCM), which needs to be assessed for harmonization among countries within the region.

The project will also introduce industry incentives to promote safer alternatives to Hg and POPs-containing products and to reduce the generation of hazardous waste, e.g. through the introduction of Corporate Social Responsibility principles to integrate environmental and social concerns into business operations and interactions with their stakeholders while achieving economic, environmental and social benefits.

This project will also train relevant stakeholders to promote the use of safer alternatives, minimization of hazardous waste generation, including customs control (how to implement the ban in terms of identification, screening of products, interim storage of suspected products, risk and and compliance management; product importers (to provide information on Hg-free products/ alternatives), industry (to provide incentives to reduce the generation of hazardous waste; recyclability of valuable fractions), the health sector (to provide alternatives to Hg-containing products and strengthen the ESM of waste) and the general public (to inform about Hg or POPs-containing products and to promote ESM mechanism for environmentally sound final disposal).

- Output 1.1.2. Guidelines for ESM and sustainable waste management targeting policy and decision makers drafted.

This output aims to draft ESM guidelines for the management of POPs- and Hg-containing items along the life-cycle for policy and decision makers to showcase economic, environmental and social benefits of proper and sustainable waste management.

33. **Component 2: National capacity building, knowledge management and awareness-raising on industrial waste solutions aligning urban with peri-urban and rural cities;** Component 2 aims to enhance the national capacity related to ESM to better understand, encourage, promote and implement sustainable approaches with focus on aligning urban with peri-urban and rural cities. This component will have the following outcome and outputs:

Outcome 2.1. Strengthened capacity and awareness to accelerate the adoption of ESM principles, BAT/BEP and financing options resulting in sustainable and POPs and mercury (Hg)-free operations

- Output 2.1.1. Updated inventory of POPs, materials and waste-streams to identify opportunities for ESM and further Global Environmental Benefits

During PPG, an updated POPs inventory focusing on PFOS-containing items and industrial application will be prepared to revise the existing NIP update inventory. Due to the complexity of POPs-and Hg- containing and the widespread use of items across Paraguay, it might be that during project initiation additional detailed mapping of waste streams is necessary.

- Output 2.1.2. Technical manuals drafted for the ESM of waste in selected sectors, including policy tools for upstream minimization of hazardous waste generation, BAT/BEP for sustainable and POPs and Hg-free waste management targeting practitioners and operators

Technical manuals will be drafted to support practitioners and operators dealing with POPs and Hg-containing items or industrial application along the life-cycle to understand and then strengthen their capacity of environmentally sound management of both the hazardous and valuable waste fractions.

- Output 2.1.3. Improved knowledge management on POPs and Hg in waste streams, BAT/BEP and ESM options feeding and strengthening the national System of Environmental Information (SIAM) as a tool for assisting decision-making and knowledge management.

The existing national SIAM tool will be strengthened with POPs and Hg data in waste streams, BAT/BEP and ESM options to ensure that data are shared among all relevant stakeholders.

- Output 2.1.4. Trainings for government officials at national and local levels, as well as private sector (especially waste collectors and recyclers), and media professionals on potential sustainable solutions for selected sectors to understand and tackle POPs and Hg issues

Trainings for relevant stakeholder groups will be organized to share information on ESM of POPs and Hg-containing items along with practical and sustainable solutions for dealing with hazardous and valuable waste fractions. Trainings will also focus on upstream activities to ensure that items will not enter the country, to promote product alternatives and policy tools for upstream minimization of hazardous waste generation.

- Output 2.1.5. Awareness-raising programs and customized events, especially for media, general public and specific target groups (i.e. children and women), on ESM and sustainability approaches for waste management

In order to share relevant data among a wide range of stakeholders information and communication technologies will be used to facilitate and expand ways of reaching and informing larger numbers of people in society. This should be considered when designing outreach materials, including online courses and e-learning tools supported by chats, computers, videoconference, webinars, a digital portfolio, and more.

Special attention will be given to disseminating sex-disaggregated data and qualitative information on women and children dealing with WEEE and EEE, especially during the end of the life cycle. Disseminating these materials will require gender-specific publications or gender-specific trainings.

34. **Component 3: Pilot projects, including public-private partnerships, BAT/BEPs and final disposal of POPs-containing parts as well as mercury-added products, for sustainable waste management;** Component 3 will pilot BAT/BEP for the environmentally sound management of PFOS and Hg-containing items, including separation of valuable/recyclable fractions and introduction of ESM principles to show re-use and recyclability. This component also includes the

final disposal of POPs and Hg-containing items. The pilot projects will for example follow available BAT and BEP recommendations, as outlined in Annex. D. This component will have the following outcome and outputs:

Outcome 3.1. Reduction of POPs and Hg through BAT/BEP and ESM applications, including upgrading and/or upscaling of recycling infrastructures;

- Output 3.1.1. Specific ESM plans for the pilot projects on POPs-reduction, recovery of valuable/recyclable materials and final disposal of POPs and Hg-containing materials and wastes

During PPG pilot projects on POPs-reduction, recovery of valuable/ recyclable materials and final disposal of POPs and Hg-containing materials and wastes will be selected. During project implementation detailed ESM plans and disposal strategies for each pilot will be finalized to plan, select and execute national management plans for POPs and Hg-containing items, including the identification of technically and economically feasible disposal alternatives. Once the BAT/BEP technoclogies are defined, a national elimination plan for each pilot will be developed to align potential synergies and ensure cost-effectiveness in line with Paraguay's commitment to fulfil the Stockholm Convention and Minamata Convention.

- Output 3.1.2. Tools for promotion of business and financing options for ESM activities, including a support to the establishment of a business incubator to help relevant startups succeed, and identifying potential Public-Private Partnerships

To ensure sustainability of the project, tools for the promotion of business and financing options for ESM activities will be developed to support an entrepreneurial landscape, especially targeting a business incubator for SMEs, will be developed

- Output 3.1.3. Pilot projects implemented for ESM of valuable/recyclable fractions (e.g, source separation, collection and transport, pre-processing, recycling or re-use) of selected fractions

During PPG pilot projects will be selected and pilot project concepts will be drafted to address ESM along the value-chain of POPs and Hg-containing items. Selected pilots will be implemented during the project with support of the policy recommendations, capacity building and ESM plans developed during component 1 and 2.

- Output 3.1.4. Final BAT/BEP disposal of POPs and mercury containing fractions. The project will ensure the environmentally sound disposal of a minimum of POPs and Hg containing fractions, as outlined in the GEB sections. The project will also ensure that a maximum of indirect GEB will be achieved simultanesouly.

35. Component 4: Project Monitoring and Evaluation.

Component 4 is the monitoring and evalution component of the project to ensure progress monitoring and results-based management of all outputs, and to carry out the Mid-term review and Terminal Evaluation of the project

The monitoring and evaluation component has the following outputs:

4.1.1.Monitoring system set and operational; 4.2.1. Mid-term review and terminal independent evaluation conducted and 4.2.2. Lessons learned shared with all relevant stakeholders for future application, development and improvement.

Alignment with GEF focal area and/or Impact Program strategies

36. This project is aligned with the GEF-7 Chemicals and Waste Focal area, Programmes 1-1 on Industrial Chemicals. In particular, it promotes the elimination, restriction and control of POPs chemicals listed in Annexes B (PFOS) and C (u-POPs) of the Stockholm Convention and emissions and releases of mercury in the products listed in Annex A, of the Minamata Convention on mercury. The project promotes a sectoral approach covering the sound management of solid, POPs and Hg-containing articles in urban, peri-urban and rural areas.

37. It is also aligned with the CW 1-1 objective to strengthen the sound management of industrial chemicals and their wastes through environmentally sound management approaches. The project also intends to strengthen the national legislation related to the environmentally sound management of POPs and Hg-containing items aiming at more options for the recycling of valuable fractions or disposal of hazardous fractions while reducing the release of emissions.

38. Following GEF-7 guidance on a country-driven approach through catalyzing innovative solutions based on local knowledge and locally developed technologies and practices. In particular, the project will achieve financial sustainability through the support to set up a business incubator, as well as integration of the private sector and other non-governmental stakeholders to the project´s planned transformational changes, while simultaneously enhancing synergies and integration with other GEF-supported interventions.

39. During PPG, a detailed assessment of selected sectors related to POPs and mercury products will be carried out to validate the targeted sectors and optimize GEF funding in terms of environmental benefits while achieving economic and social benefits through integration of circular solutions into industrial activities. This validation assessment will also be used to refine the main Global Environmental Benefits of this project, which will be measurable environmental reductions of POPs and mercury (see section 9) through the environmentally sound and integrated management and disposal of selected waste streams.

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

40. Current consumption and waste management practices in Paraguay are based on a linear model resulting in open burning or incineration of all types of wastes, which leads to unsustainable use of valuable resources. Environmental degradation and human health exposure from emissions and releases of u-POPs and Hg a serious negative impact on the country, neighboring countries and at the global level due to the nature of these toxic substances.

41. The proposed project will be integrated across sectors to help pursue holistic approaches and achieve transformational change in the realm of waste management in Paraguay. Furthermore, the project will at least contribute to achieving GEF core indicators 9, 10 and 11, and also the SDGs 3, 5, 8, 9, 10, 11, 12, 16 and 17.

42. In particular, regarding SDG 12 the project will help promote the adoption of improved consumption and environmentally sound disposal patterns of products-potentially containing POPs or mercury. The project will promote sustainable material management initiatives, some of them related to the circular economy approach promoted by government, and it will help with dealing adequately with products and wastes that contain POPs and mercury. The implementation of such an approach will require the wide participation of key stakeholders and the development of private-public partnerships. This will be facilitated by strengthened policies and regulations, technical assistance and capacity building, knowledge management, awareness raising, introduction of best available technologies (BAT) and best environmental practices (BEP) and the promotion of management tools to support private sector entities active in waste management.

Baseline	Incremental Reasoning
Component 1: Policy strengthening by integrating industrial waste management principles into the legislative framework targeting municipalities	
In Paraguay, municipal waste services cover the capital Asuncion but are lacking in peri-urban areas. The country has 254 municipalities, but only 65 municipalities of them (25%), have facilities for the treatment and final disposal of urban waste authorized by the Ministry of the Environment and Sustainable Development (MADES). According to the Report on National Coverage of the Sanitary Sewerage Service with sewage networks corresponding to the year 2016, issued by the Sanitary Services Regulatory Entity (ERSSAN), the Sewer Service Coverage is 11% throughout the country, serving only 723,510 persons. Low coverage means that liquid waste containi	The project will strengthen the baseline activities and efforts related to environmentally sound management of hazardous fraction and recycling of valuable fractions through policy recommendations specifically targeting POPs and Hg-containing products along their life cycle. The project will have a holistic approach aiming at the banning on importing POPs-containing and Hg-containing products, developing policy tools for upstream minimization of hazardous waste generation and promoting alternative products and the recyclability of valuable fractions. Through these activities, the project will pave the way to final disposal of POPs and Hg-containing fractions, which should be only a solution for the already existing items in Paraguay and not a long-term solution.

ng PFOS, from the washing of PFOS-impregnated garm ents and textiles or domestic use of cleaning products i n washing processes, is retained in the soil, given the e xtended use of absorbent wells, both in urban and rural areas, constituting a potential risk of groundwater cont amination, especially in the area affected by the Patiño Aquifer (Asunción and a large part of the Central Depart ment).

The national and municipal legislation on the integrated management of solid waste has yet to be put into practi ce.

To date, the Government has taken some action on the management of solid and hospital waste, including the application of clean technologies and the application of practices that reduce the amount of waste, as well as p ollution associated with waste mishandling. In addition, the Ministry of Environment and the Ministry of Public Health and Social Welfare (MSPyBS) have made some progress with the promulgation of the normative and re gulatory framework in Comprehensive Solid Waste Man agement, holding local governments accountable for pr esenting a waste management plan and, on the other h and, the treatment of waste generated in health and rel ated establishments, taking into account that open bur ning is one of the main sources of dioxins and furans in the country. However, a holistic approach is lacking for targeting hazardous waste management and incentivizi ng ESM at the same time.

As mentioned in the baseline section, there are laws rel ated to POPs management in Paraguay, however, none of the cover environmentally sound management of PO Ps or Hg-containing items are adequately covered. For example, there is a *"Manual of Integral Management of Municipal Solid Wastes"* but, there are only a few numb ers of industries or hospitals that implement ESM of wa ste or have started internal recycling programs

The project will also support the establishment of incentives f or the ESM of hazardous waste fractions containing POPs or mercury. Such incentives could be for example specific taxati on and/or subsidies for recovering the hazardous chemicals o r trade promotion for secondary raw materials. This will directl y increase the profitability of entities working on the non-hazar dous waste fraction which is aimed at strengthening and deve loping the sector in Paraguay.

GEF budget allocation will be managed to enhance the existin g policy and regulatory framework to include ESM for waste f or municipalities, which is a pre-requisite for practical pilot int erventions.

GEF Grant sought: USD 500,000

etc or have started internal recycling programs. Co-financing: USD 2,100,000	
Component 2: National capacity building, knowledge management and awareness-raising on industrial waste solutions aligning urban with peri-urban and rural areas	
Despite the environmental and human health risks associated with unsound management of POPs and Hg-containing wastes, there have been a few capacity-building activities related to chemicals and waste. For example, the Secretaría del Ambiente de la República del Paraguay SEAM (now the Ministry of Environment and Sustainable Development, MADES) has conducted informative workshops on POPs for different stakeholders, such as the Government of the Department of Caaguazú, the Faculty of Sciences and Technologies of the Catholic University of Asunción, the San Carlos University; in addition, conferences aimed at members of the Military Council for the Environment, officials of the Ministry of National Defense and the Armed Forces, among others. The *"Manual of Integral Management of Municipal Solid Wastes"* is a tool to facilitate the implementation and ensure the sustainability of the management plans on solid wastes for the communities. This manual provides the municipalities, who are legally responsible for the management of municipal solid wastes, with guidelines to be able to fulfill certain components of integral management and to ensure continuity. With this manual, it is expected that the municipalities will start to gradually implement the different aspects of the waste management pyramid (Reduction- Reutilization- Recycling- Final Appropriate Disposal) to reduce the activities of open-air burning or reduce the volume of burning in dumps. However, in reality, only some industries and hospitals have started internal recycling programs for the re-use of materials, or to prepare industrial waste for co-processing or incineration (e.g. as fuel); there are no regulated stan	The project will strengthen the national capacity, including technical guidelines, training and awareness-raising activities, which are necessary to inform all relevant stakeholders along the products life-cycle about opportunities of ESM but also the environmental and human risks associated with unsound environmental management. As indicated in 2.1.3, there will be an improved knowledge management on POPs and Hg in waste streams, BAT/BEP and upstream ESM options feeding and strengthening the national System of Environmental Information (SIAM). GEF Grant sought: 750,000

dards for the environmentally sound separation of waste streams of hazardous materials. Thus, capacity-building is needed to enhance the sustainability of ESM of waste. There have been no awareness-raising programs on POPs or HG-containing products targeting relevant stakeholders nor the general public. Co-financing: USD 10,000,000	
Component 3: Pilot projects, including public-private partnerships, BAT/BEP, and final disposal of POPs and Hg-containing materials, for sustainable waste management	
Based on the NIP update (2018) the lifecycle of PFOS-containing items in Paraguay includes imports, different uses, some recycling (but no separation of hazardous parts) and final disposal in landfills. U-POPs (dioxins and furans) emissions in the country are mainly caused by the uncontrolled burning of waste in the open air and incineration using inadequate or obsolete hospital waste management equipment. According to the NIP update (2015), uncontrolled burning of waste in the open air, as well as incineration of hospital waste equipment represent sources of high emissions of u-POPs in the environment, and are also a human health concern, especially for residents living close to dumping areas. The NIP indicates around 68.18 gTEQ of dioxins and furans per year come from open burning activities, which is a major threat to human and environmental health. The Minamata initial assessment (MIA) carried out in Paraguay showed that the total mercury emissions and releases in the country are approximately 13.4 tons of mercury per year. The two main sources of mercury emissions and releases are waste incineration (6.1 tons of mercury per year) and mercury-added products (4.9 tons of mercury per year). These two categories constitute 82% of the total emissions and releases of mercury and will be targeted and reduced throughout the project	Component 3 of this project aims at the BAT/BEP demonstration for the environmentally sound treatment and disposal of POPs and Hg-containing fractions but also to improve the recyclability of valuable fractions. This project not only aims to achieve GEBs but also to path a way towards sustainable ESM of valuable fractions of related items through up-scaling activities. GEF grant sought: TA: USD 361,000 INV: USD 2,000,000

will be targeted and reduced throughout the project. There have been no activities to either reduce POPs or Hg from relevant products nor the recovery and recycla bility of valuable fractions. Co-financing: USD 12,400,000	

43. This project is cost-effective because it achieves Global Environmental Benefits (GEBs) through the simultaneous reduction of PFOS or Hg-containing items and reduction of u-POPs and Hg emissions. A detailed cost-effectiveness breakdown will be prepared during PPG because of the unreliable PFOS inventory data, as outlined in the GEB section.

44. The approach proposed for this GEF-7 project would increase the sustainability of the GEF investments and related co-financing, as outlined in Table C, for project support (e.g. office space, meeting coordination and participation, non-incremental support for the pilots) In addition, to achieve the objectives of the SC, BC, and other multilateral environmental agreements on C&W, the GEF grant will support country priorities as stated by the Government of Paraguay through its Ministry of Environment and Sustainable Development.

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

45. The project will tackle multiple GEF core indicators, as outlined below: Numbers are to be verified during PPG.

• 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):

- PFOS: BAT/BEP applications to at least 400 tons from different consumer and industrial items (e.g. textiles and upholstery). Initially, we used NIP update inventory data, however, this number seems high in relation to other countries, such as China. We then compared regional information, e.g. from NIP updates in Mexico, Guatemala, and Honduras to obtain an estimate on the existence of consumer items and aviation foams, and the potential PFOs content. These numbers need to be verified during PPG.

- Mercury: reduction and elimination of 5.6 tons of mercury from mercury-added products and the management of their waste. This is based on Minamata initial assessment (2014) = 3.4 tons (elimination of mercury-containing thermometers, both medical and non-medical) + 0.9 tons (25% recovery and safe disposal of non-medical thermometers containing 20 g Hg per article and safe disposal of medical thermometers) + 1.3 tons (22% aimed reduction of open air burning) = 5.6 tons of mercury.

- Indicator 10: Reduction, avoidance of emissions of POPs to air from point and non-point sources (grams of toxic equivalent gTEQ): direct reduction of at least 15 gTEQ u-POPs through pilot projects based on ESM which, in addition, will create value through increased recyclability (which represents 22% of u-POPs emissions coming from the open burning processes), as stated in the NIP.

- Indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment: 5,000 people (Female 2500/ Male 2500) benefit through direct training and awareness-raising activities. Minimum of directly involved people working within the solid waste management of targeted municipalities: handlers, transporters, recyclers, etc. Based on estimations after dialogues with local counterparts, we have assumed 40 municipalities (out of 256) are selected. On average, 110 handlers, 5 transporters and 10 recyclers per municipality will be directly benefited by the project. So: 40*125=5000. It is expected that equal number of men and women are benefited from these activities.

Innovation, sustainability, and potential for scaling up.

Innovation

46. As stated in the 2017 NIP, the 254 municipalities of Paraguay should have sanitary landfills or like facilities, but only 65 municipalities had facilities approved by the Ministry of the Environment and Sustainable Development (MADES). There is no segregation to reuse and recycle waste to promote efficiency in the use of resources and support a circular economy. Therefore, the inadequate waste management increases loss of economic efficiency and the risk of contamination since common waste mixes with hazardous waste and organic waste mixes with inorganic waste. Activities like recycling and composting are absent. In addition, discarded consumer products, which could contain PFOS, such as remains of carpets, textiles, or hiking shoes, among others can also be found in waste dumps. Fires are frequent in uncontrolled landfills and dumps, which exacerbates the production of dioxins and furans. Combustion processes also release mercury emissions to the environment (air, soil and water). With this background, the proposed project will be the first one in Paraguay that will look at transforming the waste sector from a linear to a sustainable model. All reusable fractions from waste will be segregated and problematic POPs and mercury fractions will be handled properly while valuable fractions will be recycled, which is not done yet in Paraguay but utmost important.

Sustainability

47. To ensure sustainability, the project will follow good governance principles (participation, consensus, accountability, transparency, responsiveness, effectiveness, efficiency, equitability, inclusiveness, and strict legality) and the GEF-7 Programming Directions for strengthening private-public partnerships. In addition, the project will contribute to an ESM and sustainable life-cycle management of POPs chemicals and products potentially containing POPs chemicals and mercury and their wastes through sustainable solutions and business models including the private sector and other non-governmental organizations.

48. The strong commitment and ownership shown by the government in the early discussion on this proposed project are additional elements that will contribute to an impactful and sustainable project. At the policy level, the legislation will be strengthened to prevent the import of mercury-containing products in line with the phase-out dates of the Minamata Convention Annex A. This will further contribute to the sustainability of the project impact as incoming mercury sources will be eliminated in Paraguay.

49. While deploying best available techniques (BAT) and best environmental practices (BEP), optimal and local appropriate technologies will be considered and imported technologies will be adapted to local conditions to ensure proper operation and maintenance. In parallel, adequate and fair financing options will be explored. Developing sustainable and financially sound entities managing waste in Paraguay is imperative for this project that will help develop a national and local system.

50. To ensure sustainability beyond project completion, the capacity of these entities' accounting and financial services will be strengthened to facilitate access to financing. An active waste management system is essential and will have national and regional links to sustainably meet Paraguayan commitments to the Stockholm, Minamata, and Basel Conventions while facilitating the environmentally sound management of hazardous chemicals, mercury, and POPs contained in wastes.

Up-Scalability

51. The missing urban-rural links between big cities and surrounding smaller cities not only common in the whole territory of Paraguay but also throughout the Latin American and the Caribbean area. This has enormous repercussions as environmental challenges and missed economic opportunities are also widespread across the continent due to these inefficiencies. The intervention, particularly the environmentally sound management model involving the private sector, has potential for replicability at the national scale and at the regional scale.

52. Furthermore, the activities proposed at the policy level (i.e. prevention on mercury added products) will generate benefits for the country beyond the lifetime of the project.

53. Especially output 3.1.2. will look at the up-scaling aspect of the project through the promotion of business and financing options for ESM activities to ensure that successful project activities are replicated and up-scaled at the national level.

1b. Project Map and Coordinates

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


del Estero
Catamarca
La Rioja
Parque
Nacional Iberá
STATE OF
RIO GRANDE
DO SUL
Caxias do Sul
Gramado
Santa Maria
Porto Alegre
Córdoba
Google
Concordia

2. Stakeholders

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

Indigenous Peoples and Local Communities

Civil Society Organizations No

Private Sector Entities Yes

If none of the above,please explain why:

53a) The first concept of this project was drafted in October 2019, and then shared with the GEF Operational Focal Point of Paraguay for consideration and review. During a field mission in November 2019, the project concept was discussed and agreed upon with the Director of Strategic Planning and GEF-OFP, the Director-General of Environmental Management, the Director of Chemicals and Wastes, the Chief of the POPs management unit, and two GEF project coordinators (PCBs and Mercury) of the Ministry of Environment and Sustainable Development (MADES). The meeting resulted in a follow-up meeting with the former Minamata Focal Point and current Director of Climate Change at MADES and two climate change experts to elaborate on potential CO_2 data related to unsound waste management. This aspect will be further elaborated during PPG. Technical aspects of the project was discussed with the POPs focal point, the national coordinator of the GEF-PCB project and the national coordinator for the Mercury MIA assessment, especially on baseline data, inventory data, gaps, and private sector involvement. Additionally, the technical expert team of the on-going UNDP-GEF Project "Cities-IAP: Asuncion Green City of the Americas – Pathways to Sustainability" (GEF ID 9127) provided an update about their project and potential synergies. The project concept was also presented as part of the Project Steering Committee Meeting of the on-going GEF-UNIDO PCB project, which was attended by selected private sector representatives (e.g. ANDE, or laboratories). It was agreed to arrange an additional national stakeholder workshop with the private sector during June or July 2020, however, this did not happen due to COVID-19 (same with civil society organizations). Specifically related to mercury, consultation with the Paraguayan counterparts happened during the Minamata COP3 in November 2019 with the former Minamata Focal Point. Based on this discussion, it was agreed to involve the Ministry of Health (MoH) on the health care side. The above-mentioned consultations resulted in a wide range of stakeholder list (paragraph 58), which will be further consulted during the PPG phase.

54. The project will be developed in close consultation with relevant national stakeholders, including the following: Ministry of Environment and Sustainable Development, Ministry of Industry and Commerce, Customs, Ministry of Health (for hospitals), Tayi Ambiental, CIP (Centro de Importadores del Paraguay), UIP (Union Industrial del Paraguay), UNA (Universidad Nacional de Asuncion), Laboratorios Diaz Gill, Analitica S.A., CEMIT (Centro Multidisciplinario de Investigaciones Tecnologicas), Altervida (NGO), Yguazu Cementos and as other, as outlined in the table below.

55. Since the project aims at municipalities, it will request the guidance of the Paraguayan Inter-municipal Cooperation Organization (OPACI) and the Association of Municipalities of the Metropolitan Area (AMUAM) to identify potential municipalities that could participate in the project, as well as potential mechanisms for linking waste management activities among small and large municipalities. It will also explore the potential engagement, for certain operations, of other stakeholders such as NGOs, CSOs, and public-private partnerships.

56a) The main upstream activities to phase-out POPs and Hg-containing products, involve a variety of stakeholders like customs (that will be critically involved in implementing import bans), product importers (who can provide information on Hg-free or POP-free products or alternatives), the health care sector (that will be involved in implementing source separation and providing alternatives to strengthen the ESM of medical waste), merchants of PFOS impregnated

products, firefighters and the aeronautic sector (all of them are crucial in identifying and managing PFOS in carpeting, clothing and firefighting foams) and the general public (that has mercury-added products (MAP) in their households and will need mechanisms to ensure their proper end-of-life management).

56. During the PPG phase, UNIDO and the Ministry of Environment and Sustainable Development will consult a wide range of stakeholder groups for collaboration, strategy, and partnership to verify baseline information, to gather additional data and to consult for project execution arrangements, including potential roles and responsibilities during project implementation. Private sector collaboration and partnership is key to attaining success on BAT/ BEP implementation of the pilot projects.

57. A stakeholder mapping and engagement plan will identify all national stakeholders and discuss their needs including their expected roles in the project. Stakeholders will include broadly defined major stakeholder groups such as governmental institutions (especially cross-cutting ministries, industrial associations, health, and environment-related companies), among others.

58. The next table provides a preliminary stakeholder list, which will be completed during PPG. Bilateral meetings will be held with all key stakeholders, and national stakeholder consultation and validation meetings will also be organized. The consultations will include soliciting stakeholders' views on the appropriateness of the project, how it affects them, and how they can contribute to project execution by defining specific roles that they can play. Final selection of participating companies, BAT/BEP pilots, sustainable ESM investment and co-financing contributions will also be part of the stakeholder engagement plan.

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.

NAME	TYPE	SPECIALIZATION	ROLE IN THE PROJECT
UNIDO	International organization	Inclusive and sustainable industrial development (ISID)	· GEF Implementing Agency
EXECUTING PARTNER			
Project Execution Entity PEE	To be decided during PPG	A government-endorsed Project Execution Entity (PEE) will be selected during the PPG phase.	· Execute project activities per Terms of Reference (to be drafted during PPG)
Other stakeholders			
The Ministry of Environment and Sustainable Development	Government	Responsible for policy formulation and economic, scientific and technological interventions; Setting standards and regulations; coordinates all matters related to environmental management	· Chairs the PSC · Supports national training and capacity conducted under the project · Facilitates the identification an

			d implementation of appropriate inc entives for improved solid waste ma nagement · Supports and establishes a fra mework for BAT/BEP transfer.
Ministry of Industry and Commerce, Customs	Government	The Ministry of Industry and Commerce has the objective of promoting industrial produ ction by installing new establi shments and improving existi ng ones; regulating, facilitatin g and promoting the distributi on, circulation and consumpti on of goods and services of n ational and foreign origin that are not regulated by special la ws and promoting the increas e of internal and international trade. Its efforts are divided i nto Industry, Commerce and Micro, Small and Medium Ent erprises, are established in Ar t. 1 of Law No. 904/93.	· Participate at the PSC and Proj ect Technical Committee
Ministry of Health (for h ospitals)	Government	The Ministry of Public Health and So cial Welfare's main function is to defi ne and direct the health policy of the central government, through the deve lopment of health programs, as well as public services, environmental sa nitation, disease eradication, science and technology. Also, as a result of t he operation of its health care units, i t is a generator of hospital and relate d waste.	· Participate at the PSC and the project technical committee
Selected municipalities	Government	In accordance with the Municipal Org anic Law No. 1294/87, the country's	· Participate in capacity-buildin g, training and awareness-raising ac

		Municipalities have powers to regula te, apply and control compliance with ordinances related to the manageme nt of waste, atmospheric emissions and liquid effluents. The participation of the Municipalities is very relevant, in terms of providing public informati on such as data on recycling compan ies, scrapping of vehicles and electri cal appliances, urban waste generati on rate, among others, which could b e contained in annual Statistical Rep orts.	tivities.
National Customs Direc torate (NCD)	Government	The National Customs Directorate is the Institution in charge of applying c ustoms legislation, collecting import and export taxes, supervising the tra ffic of merchandise through the coun try's borders and airports, exercising its powers in the primary zone and c arrying out the tasks of repression of smuggling in secondary area. The le gal entry and exit of products is mad e in accordance with the Mercosur C ommon Nomenclature (NMC) and C ommon External Tariff (AE) 2012, ba sed on the Harmonized System of De signation and Codification of Goods, updated with its V Amendment, with entry effective January 1, 2012.	· Participate in capacity-buildin g, training and awareness-raising ac tivities
National Directorate of Civil Aeronautics (DINA C)	Government	The function of the National Director ate of Civil Aeronautics is to transpor t air cargo, which may include danger ous goods, therefore, it requires the a pplication of special protocols that g uarantee correct operation and handl ing, according to their nature, among those that can be found substances	· Participate in capacity-buildin g, training and awareness-raising ac tivities

		or products that contain POPs. On thi s point, the DINAC has an Operations Regulation R 175 Transport without ri sk of dangerous goods by air. Also, t his state entity enables the operation of air navigation and related services companies.	
National Directorate of Transportation (DINATR AN)	Government	DINATRAN: The National Directorate of Transportation According to the lis t of attributions, DINATRAN has parti cipation in the regulation and control of the transport of cargo by roads (s olid and liquid), among which are dan gerous goods. The institution issues a qualification valid for 1 year to dan gerous cargo transport vehicles, and to drivers and companions, another a uthorization valid for 5 years, prior to the development of a training course on Dangerous Goods Transportation.	· Participate in capacity-buildin g, training and awareness-raising ac tivities
Multidisciplinary Center for Technological Resea rch (CEMIT)	Private sect or	The Multidisciplinary Center for Tech nological Research (CEMIT) is depen dent on the General Directorate for S cientific and Technological Research (DGICT) of the National University of Asunción (UNA). Its activities are bas ed on laboratory services and consul tancies to public and private entities related to the areas: Pharmacy, Che mistry, Veterinary Medicine, Biotechn ology, Agro-livestock, Food, Water, Hy drobiology, Environmental Sciences, among others.	· Participate in capacity-buildin g, training and awareness-raising ac tivities
Fire fighters	Private sect or	In principle, firefighters provide supp ort to people who are affected by fire s, but over time, they have found the need to assist in other types of incid	· Participate in capacity-buildin g, training and awareness-raising ac tivities, and pilot projects

		ents, whether in vehicle accidents or rescues, forest fires, etc.	
Tayi Ambiental, CIP (Centro de Importadores del Paraguay), UIP (Union Industrial del Paraguay), UNA (Universidad Nacional de Asuncion), Laboratorios Diaz Gill, Analitica S.A., Altervida (NGO), Yguazu Cementos.	Private sector	Private sector directly or indirectly (e.g. University) dealing with POPs or Hg-containing ítems	· Implement BAT/ BEP pilots · Introduction of ESM concepts, BAT and BEP in existing facilities · Invest (in-kind or cash) in improving their processes

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).

59. Gender mainstreaming will be prioritized throughout the project through the various industrial activities during the product lifecycles, especially in terms of extraction of valuable/recoverable materials from waste items. However, often industrial working conditions are unsanitary and unhealthy and need special attention as women, especially pregnant women, might be exposed to toxic emissions and a dirty working environment. It is expected that during the project health and operational safety standards will be improved, including working conditions for women. Details are to be assessed during the PPG phase, including detailed gender analysis and gender action plans.

60. Based on the PPGs outcome of the gender action and priority plan, for example, equal opportunity to participate in project activities (including as members of the PMU) and decision-making at all levels will be ensured. In the course of the recruitment processes, the project will encourage women applicants.

61. Equal access to information (e.g. BAT, BEP, and project activities) related to ESM will be ensured. Awareness-raising materials specifically designed for facilitating women's involvement will be prepared, which will introduce the gender-differentiated impacts of hazardous chemicals exposure to human health, particularly reproductive health. This will also be taken into consideration when implementing specific project activities related, for example, to the use of personal protective equipment (PPE) or adoption of risk-reduction counter-measures.

62. Component 3 will cover gender aspects, and the PPG gender assessment will help assess various gender dimensions of the project and its interventions. Efforts will be made to collect data disaggregated by sex in each and all project areas. The gender assessment will be used to help adjust the design and interventions of the proposed project in such a way that gender equality and women empowerment can be better achieved throughout the project implementation. The assessment report will also be published and disseminated at the global level to help inform other similar projects.

63. Towards the end of the project (around the time of the TE), the gender assessment will be updated in order to reflect contributions from the project towards the achievement of SDG 5: Achieve Gender Equality and Empower all Women and Girls, and in particular Target 5.5 "Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic, and public life".

64. UNIDO guidance on gender mainstreaming as well as the GEF policy on gender mainstreaming will guide the process. Specific objectively verifiable indicators relevant to gender mainstreaming will be included in the results-based framework of the Project Document. During PPG a Gender Analysis, Prioritization, and Gender Action Plan will be developed.

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.

65. The project will rely heavily on private sector engagement, particularly of small and medium-sized enterprises (SMEs). For this purpose, and based on the ongoing Convenio de fortalecimiento con el Sector Industrial en la Identificación, Gestión, Manejo de Residuos que contienen PCBs (Strengthening Agreement with the Industrial Sector in Identification and Management of Waste containing PCBs), the Unión Industrial Paraguaya (UIP) will be engaged again to serve as a facilitator for attracting SMEs to the project. Private sector involved mainly through the Union Industrial del Paraguay (UIP) will aim at the identification, assessment and lobbying of industry incentives to promote the use of safer POPs-containing and Hg-containing products, which will also strengthen their Corporate Social Responsibility and will pave the way to develop meaningful pilot projects.

66. So, the Ministry of Environment and Sustainable Development (MADES), together with the Ministry of Industry and Commerce (MIC), and the Paraguayan Industrial Union (UIP)[1] will enable the project to identify ways to strengthen the main incentives for private sector involvement in Paraguay. Considering this scenario, throughout proposal preparation, the project will build on the strategy paper "Development of recycling industries within the UNIDO circular economy approach"[2] to identify and overcome the main existing barriers for the development of national recycling industries. However, during project preparation and in consultation with the government, it was decided that further consultation with the private sector will be done during PPG. For example, once the municipalities for project participation will be selected relevant beneficiaries will be contacted and consulted.

[1] With over 1250 members, UIP is a key stakeholder in identifying private-sector entities that may be interested in engaging in the project. It has already worked with the MADES and UNIDO in GEF project 9357 "Strengthening the Environmentally-sound Management and Final Disposal of PCBs"

[2] https://www.unido.org/our-focus-cross-cutting-services-circular-economy/circular-economy-development-recycling-industries

5. Risks to Achieving Project Objectives

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

Risk	Risk level	Risk reduction measure
Government change and the new government has less interest in ESM issues	M	The project intends to address this risk by establishing a strong supervisory mechanism, e.g. the project technical committee will be drawn from a wide variety of national stakeholders.
Difficulties in enhancing the regulatory system within the project timeframe	L	The Government of Paraguay has ratified several MEAs including the BRS and Minamata Convention, by developing its NIP and by formally applying for this project has already established strong pillars towards the sound management of chemicals and waste. In this project, relevant contact persons at the Ministry will be engaged as early as possible. Specific awareness-raising events will be organized and targeted at them. The project will include a review of the legal framework to enable the inclusion of ESM aspects into existing legislation, regulations, etc. This is usually more efficient and results in a faster endorsement process compared to the drafting and adoption of new regulations.
Project resources are not sufficient to ensure the necessary interventions to achieve sustainability of ESM activities.	L	The project will allocate enough grants to implement sustainable BAT/BEP pilots, however, most important is to secure private sector cooperation and co-financing for ownership and commitment.
ESMP risks	L	During PPG, an Environmental and Social Management plan (ESMP), including risks potential and mitigation measures will be developed to address possible climate change risks, e.g. fire due to hot weather conditions.
Climate Change may increase the risks of unexpected weather extremes due to rising temperatures (heat and/or heavy rainfall) in Paraguay.	L	The climate of Paraguay is subtropical and tropical, with continuously high temperatures that may cause or facilitate fires and/ or heavy rainfall. To mitigate any potential climate change risks to the pilot sites, a detailed climate risk screening will be undertaken during the PPG phase. The climate change r

This may cause unexpected fires at dumpsites and/or ru n-off of waste (including haz ardous fractions) into the su rrounding environment.		isks screening will include criteria related to the selection of pilot sites, and if climate change risks are identified, a mitiga tion strategy will be developed during the PPG phase.

COVID-19 Related Risks and Potential Opportunities

A. COVID-19 Risk Analysis:

Risk	Risk level	Risk reduction measure
Technical expertise is not readily availa ble due to the pandemic	M	The project should identify alternate technical expertise in case it is required. Planning s hould be flexible enough to reschedule activities onsite that require specific expertise. T his is particularly important if government experts are not available due to emergencies.
Possible re-instatement of COVID-19 co ntainment measures limits available ca pacity or effectiveness of project execu tion/implementation	M	The Government of Paraguay dictates/updates COVID-19 containment measures. The p roject must be ready to strengthen the capacity of the stakeholders for remote work and online interactions by securing access to commercially available conferencing systems.
Some project supporters, co-financiers or beneficiaries may not be able to cont inue with project execution/implementa tion.	L	The project will have to monitor closely the situation of these counterparts in order to fin d alternate supporters or co-financiers, or to readjust the list of beneficiaries.
Project staff and stakeholders are not a ble to engage and interact effectively d uring project preparation due to the pan demic	L	The project will have to monitor closely the situation of its staff and stakeholders to stre ngthen their capacity for remote work and online interactions by securing access to com mercially available conferencing systems and alternate interaction arrangements; e.g. re duced-size meetings in open spaces .
Price increases for procurement of goo ds/services	M	The project team will have to work harder in finding alternate providers and making sure that competitive pricing is obtained

B. COVID-19 Opportunity Analysis:

Opportunity	Opportunity level	Opportunity optimization measure
Mitigate potential impacts on medical waste management during future pandemics and epidemics due to vector-borne diseases.	M	The subcomponent of the project dedicated to medical waste management must apply the best available techniques and best environmental practices, in addition to the lessons learned and the recent recommendations brought by the WHO and reputed national and international organizations.

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.

67. The GEF Implementing Agency for the Project will be UNIDO, with headquarters in Vienna and a regional office in Montevideo, Uruguay. As the GEF Implementing Agency, UNIDO will cooperate with the Ministry of Environment and Sustainable Development during the process of project preparation and development, with the participation of key stakeholders from the Government and the Private Sector. The project execution will be undertaken through a government-endorsed project execution entity (PEE) and other executing partners to be defined during PPG, as applicable.

68. The selected PEE will execute activities related to the policy and institutional framework; capacity building, provide procurement services; organize awareness-raising and public education; national workshops and training. The core of the work will rely on the execution of pilot projects, including national stakeholder engagement, BAT/BEP operations, and monitoring. The PEE will establish the National Project Management Unit (PMU); provide necessary

administrative and secretarial support to the Project Steering Committee (PSC) and host its meetings. The PEE will identify competent national experts, agencies, institutions, business associations, and NGOs/CSOs that will execute country-specific activities and monitor the progress of execution, if applicable.

69. A Project Steering Committee (PSC) will be established as an oversight and advisory mechanism. The PSC will meet regularly to review reports on the progress of the project and other issues that could potentially impact the implementation of the project. The Committee will be chaired by the Ministry of Environment and Sustainable Development and membership will be extended to the Ministry of Commerce, Customs, the Ministry of Health, UNIDO, and other relevant stakeholders. Additionally, the GEF Operational Focal Point will be invited to participate in the PSC.

70. This proposed project will align with the existing Global Platform for Sustainable Cities (GPSC) created under the GEF-6 Impact Program “Asuncion Green City of the Americas – Pathways to Sustainability” (GEF Project 9127) on management of municipal solid waste, and utilization of green space and infrastructure; and, the GEF 9357 project, entitled “Strengthening the Environmentally-sound Management and Final Disposal of PCBs”. As UNIDO is part of the Health Care Waste Management (HCWM) - Stocktaking exercise coordinated between the GEF Secretariat and its implementing agencies, this project will also be coordinated with from other EGEF-funded projects that are dealing with health care waste during the COVID-19 crises.

71. Legal Context

"The Government of the Republic of Paraguay agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 7 October 1977 and entered into force on 29 June 1978."

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 assesments under relevant conventions

Yes

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

72. This project is fully consistent with Paraguay's Stockholm Convention NIP, including action plans to address institutional and regulatory strengthening measures, and measures to reduce releases from PFOs and uPOPs, and national priority areas such as environmentally sound management of waste, improvement in the policy and legal frameworks; institutional strengthening and capacity building; and development of appropriate and environmentally sound technologies, cleaner production, and promotion of BAT and BEP.

73. This project is also aligned with the Minamata Convention on Mercury to phase out mercury-added products. The government of Paraguay promotes economic growth and welfare for its population through sound management of the national resources and improvement of access to electricity services in the country. This project is consistent with the priorities in the national agenda and related actions.

74. The project is also in line with the National Development Plan Paraguay 2030, adopted in 2014, which provides the country with a long-term strategic development vision and clear policy objectives for reducing poverty, achieving inclusive economic growth and strategically integrating Paraguay into the international community. As such this project especially promotes the objective to "Adopt a coherent, strategic approach to regional development through more effective decentralization and better multi-level governance. Such an approach will help ensure that policies are tailored to the circumstances and conditions indifferent regions of Paraguay and meet citizens' needs across territories characterized by acute regional disparities".

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.

75. There are ongoing efforts to set a portal in the website of MADES, e.g. for the GEF " Cities-IAP: Asuncion Green City of the Americas – Pathways to Sustainability"(GEF IF 9127) or the GEF 9357 project, entitled “Strengthening the Environmentally-sound Management and Final Disposal of PCBs” (GEF ID 9357). For this project, a similar approach will be put in place since the information and KM system will be handled by MADES.

76. The information management mechanism will cover: (a) generation of information such as compilation of regulatory and BAT/BEP pilot information governing the execution of project activities, including the regulatory framework, trainings, BAT/BEP pilots, ESM approach, capacity management and outreach. Archiving and sharing of general information, which mainly describes mechanisms and tools that will be used in the dissemination of information to all stakeholders and project implementers in order to assess the project performance and progress; and (c) appropriate institutions involvement and feedback mechanism for free flow and exchange of information between the project management, all stakeholders, and the general public

77. The established national information management mechanism could be supported by a web-based portal for knowledge management on sustainability, BAT/BEP for ESM of POPs and Hg and their final disposal. It is planned to promote existing national and regional platforms and networks for information and knowledge exchange and experience-sharing.

78. Lessons learned from on-going GEF projects, e.g. the Asuncion project (GEF IF 9127), the PCB-project (GEF ID 9357), and Circular Economy Approaches for the Electronics Sector in Nigeria (GEF ID 9236), only as deemed applicable, will be compiled and used for effective knowledge management. During PPG, potential synergies with other on-going non-GEF-funded projects such as the EU-funded program on MSME competitiveness or a CTCN initiative will be explored. KM with other waste projects, especially those dealing with COVID-19 waste will also be considered, once they might be approved.

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
Low			

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.

A preliminary environmental and social risk screening was conducted according to the UNIDO Environmental and Social Safeguards Policies and Procedures (AI/2017/04). The screening categorized the project as “B”. Category B projects are likely to have less adverse impacts on human populations or environmentally important areas than those of Category A projects. An Environmental and Social Management Plan (ESMP) will be developed during the PPG phase.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
Paraguay_Hg_and_POPs_ESS screening_signed	

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
Ms. Graciela Soledad Miret Martinez	Director of Strategic Planning	Ministry of Environment and Sustainable Development	8/26/2020

ANNEX A: Project Map and Geographic Coordinates

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


Catamarca
La Rioja
Córdoba
Parque
Nacional Iberá
STATE OF
RIO GRANDE
DO SUL
Caxias do Sul
Gramado
Santa Maria
Porto Alegre
Google
Concordia