



Environmentally sound destruction of PCBs in Brazil

Part I: Project Information

GEF ID

10368

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Environmentally sound destruction of PCBs in Brazil

Countries

Brazil

Agency(ies)

UNDP

Other Executing Partner(s)

Ministry of the Environment (MMA)

Executing Partner Type

Government

GEF Focal Area

Chemicals and Waste

Taxonomy

Focal Areas, Persistent Organic Pollutants, Chemicals and Waste, Influencing models, Stakeholders, Gender Equality, Learning, Capacity, Knowledge and Research, Waste Management, Industrial Waste, Polychlorinated Biphenyls, Transform policy and regulatory environments, Convene multi-stakeholder alliances, Demonstrate innovative approach, Private Sector, Large corporations, SMEs, Civil Society, Trade Unions and Workers Unions, Type of Engagement, Partnership, Participation, Communications, Awareness Raising, Gender Mainstreaming, Adaptive management, Capacity Development, Innovation, Knowledge Generation

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 0

Climate Change Adaptation

Climate Change Adaptation 0

Duration

60 In Months

Agency Fee(\$)

917,700

Submission Date

10/10/2019

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
CW-1-1	GET	9,660,000	58,800,000
Total Project Cost (\$)		9,660,000	58,800,000

B. Indicative Project description summary**Project Objective**

To minimize risk to Persistent Organic Pollutants (PCBs) exposure of human beings and environment in compliance of Stockholm Convention, in an environmentally sustainable market approach, in Brazil

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
1. Institutional strengthening of government and other stakeholders, relative to POPs emissions reduction and management and elimination	Technical Assistance	A) Technical, Financial and Operational outputs, aiming to strengthen the government institutions and project stakeholders developed.	A1) National Management and Disposal Scheme established. A2) Financial scheme for the elimination of total national PCBs inventory developed. A3) Support to enforcement of the law for PCBs elimination from sensitive sites.	GET	1,000,000	6,000,000
2. Environmentally sound management and disposal of PCBs	Technical Assistance	B) Environmentally sound management of PCBs improved. C) Environmentally sound disposal of substantive stock of PCBs achieved	B1) Pilot Projects (3) for decontamination (retrofilling) facilities of PCBs contaminated transformers in sensitive sites;	GET	7,900,000	50,800,000

B2) Decontamination/
Recycling Pilot Projects
(2) of associations
between elimination
facilities and scrap
recyclers for metals
recovery

B3) Improvement of 100
transformer's
maintenance facilities in
Best Practices and
Standards developed

C1) Pilot project (1) of
new processes for PCB
destruction with
assessment

C2) Fifteen thousand
(15,000) Ton of PCB
containing materials
coming from sensitive
sites and industry
eliminated.

3. Lessons learned identified, monitored and assessed	Technical Assistance	D) Lessons learned and knowledge management	D1) Knowledge management system for best practices and communication platform at national level established. D2) M&E and adaptive management in response to needs and results from the Mid-Term Review and final findings with lessons learned applied	GET	300,000	1,800,000
Sub Total (\$)					9,200,000	58,600,000
Project Management Cost (PMC)						
GET					460,000	200,000
Sub Total(\$)					460,000	200,000
Total Project Cost(\$)					9,660,000	58,800,000

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(\$)
Government	Government of Brazil	In-kind	Recurrent expenditures	4,000,000
Government	Electricity enterprises, to eliminate 10,000 t PCBs	Grant	Investment mobilized	35,600,000
Private Sector	PCB possessors to eliminate 5,000 t PCBs	Grant	Investment mobilized	15,000,000
Private Sector	PCBs elimination and management services enterprises	Grant	Investment mobilized	4,000,000
GEF Agency	UNDP	Grant	Investment mobilized	100,000
GEF Agency	UNDP	In-kind	Recurrent expenditures	100,000
Total Project Cost(\$)				58,800,000

Describe how any "Investment Mobilized" was identified

The co-financed is new funding that will be used for the management and disposal of the 15,000 MT of PCB contaminated material that will be destroyed during the project lifetime. It does not include funding to replace existing transformers and is only linked with the Management / decontamination / disposal, etc. of PCB contaminated materiel. The investment mobilized makes reference to investments that will be done in the future and does not include any past investments. During the PPG phase the specific amounts of funding and associated quantities of PCB contaminated material will be confirmed via signed co-finance letters.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Brazil	Chemicals and Waste	POPs	9,660,000	917,700	10,577,700
Total GEF Resources(\$)					9,660,000	917,700	10,577,700

E. Project Preparation Grant (PPG)**PPG Amount (\$)**

200,000

PPG Agency Fee (\$)

19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Brazil	Chemicals and Waste	POPs	200,000	19,000	219,000
Total Project Costs(\$)					200,000	19,000	219,000

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)
100.00	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)
Polychlorinated biphenyls (PCB)	100.00			

Indicator 9.2 Quantity of mercury reduced (metric tons)

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

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

Metric Tons (Expected at PIF)

Metric Tons (Expected at CEO Endorsement)

Metric Tons (Achieved at MTR)

Metric Tons (Achieved at TE)

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

Number (Expected at PIF)

Number (Expected at CEO Endorsement)

Number (Achieved at MTR)

Number (Achieved at TE)

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)

15,000.00

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	9,440,000			
Male	9,440,000			
Total	18880000	0	0	0

Part II. Project Justification

1a. Project Description

1) Global Environmental Problems and/or adaptation, Root Causes and Barriers that need to be addressed.

-

1. Brazil signed Stockholm Convention on Persistent Organic Pollutants in 2001 and the Congress ratified it in 2004, through the Legislative Decree No. 204 and, on June 20, 2005, it was enacted through the Executive Decree No. 5,472. The National Implementation Plan (NIP) was developed and published in Brazil in 2015. The improved management of disposal of PCBs was among the priorities established in the action plan for PCBs.

2. It can conservatively be stated that, at least, 50,000 ton of equipment contaminated with PCBs still require elimination before 2028. This is consistent with the estimated number of electrical transformers in the country, of about 8 million, 70% of which belong to the electric sector and the rest to private and other owners. Considering that other countries in the region presents 6% of electrical transformers contaminated with PCBs, it can be expected that there are around 480,000 transformers contaminated in Brazil.

3. The complete and economically viable elimination of the remaining PCB stocks and contaminated equipment is a challenge for a country the size and geographic extension of Brazil. It is estimated that 80% of the contaminated equipment is in the south-eastern states of São Paulo, Minas Gerais and Espírito Santo, where two of the three licensed facilities for PCBs incineration operate. These three incineration facilities report a combined capacity of over 60,000 Ton/year for different kind of hazardous waste, including PCBs, operating below their full authorized capacity. Additionally, there are three other PCB decontamination facilities available in the country. Therefore, an economically viable option for full elimination of all PCB stocks and contaminated equipment needs to be assessed and provided.

4. It is stated in the NIP that the environmentally sound management of PCBs can be further improved, as concluded by the UNDP-GEF project *Establishment of PCB Waste Management and Disposal System in Brazil*. The mentioned enhancements comprises: 1) mandatory registration of equipment, material and fluids contaminated with PCBs and PCBs residues to obtain a complete inventory; 2) to establish the limit of concentration of PCBs in equipment, waste and stock at 50 ppm as a maximum; 3) include technical recommendations for treatment and reuse of contaminated insulating oil; 4) labelling of products and equipment; and 5) technical criteria for storage, transport, treatment, disposal and labelling of equipment and waste that are contaminated with PCBs with a view to prevent reuse of contaminated equipment and eliminate cross contamination during the treatment/maintenance.

5. Moreover, for PCB management improvement, the adoption of a single method for the determination of PCBs in insulating can be further improved as per BAT/BEP. Such guidelines include ABNT NBR 8371:2005 (for management, storage, labelling and other specific rules for PCBs) and ABNT NBR 10004:2004 (on classification of solid wastes).

6. Therefore, the main development challenge is to phase-out by 2025 all PCB-contained equipment and dispose of all PCBs in an environmentally sound manner by 2028, as per the Stockholm Convention. The estimated amount is of over 50,000 ton of PCBs containing equipment in an area of 8.5 million square kilometres. The conclusions and recommendations from the Terminal Evaluation of the UNDP-GEF project *Establishment of PCB Waste Management and Disposal System in Brazil* that was concluded in June 2019 were to implement the plan to eliminate PCBs nationwide. The main barriers identified in the Terminal Evaluation are:

- Regulation gaps; The high relative cost of logistics and transportation of PCBs - from the origin to the destruction facilities;
- The lack of new, more feasibly available elimination facilities to reduce costs;
- The lack of awareness/knowledge on the requirement of elimination by 2028 of some PCBs contaminated equipment owners.

7. Moreover, the recommendations of the Terminal Evaluation Report of the first Brazilian PCB project, for PCB Management were:

- Develop collaboration between authorities, private PCBs owners and PCBs destruction enterprises. This may be achieved by development of a business model, decreasing costs by logistics improvement and by economies of scale for the total elimination by 2028.
- Application for additional international financial resources to strengthen the integrated system for regulatory enforcement and awareness raising.
- Extension the knowledge and experiences acquired through this Project to other Persistent Organic Pollutants, so that the impact is replicated in other toxic substances.

The first phase of the PCB project did not have any specific phase-out target for PCBs and only a limited quantity was destroyed by Private and Public Sector. Therefore, it is conservatively estimated that Brazil still has approximately 40-50,000 MT of PCB containing equipment in the country. This project will aim at addressing all existing PCBs left in the country, but only a part the existing inventory can be eliminated during the lifetime of the project (target 15,000 MT PCB contaminated material). The remaining part will be destroyed after the project has been completed in line with the Stockholm Convention obligations on PCBs.

The Terminal Evaluation provided 5 recommendations, where #4 and #5 are directly related to a follow up project for PCBs.

- 1) #4) it would be very beneficial to prepare a second Stage for this project as there are still many opportunities to improve the management and disposal of PCBs in Brazil. The first PCB project has prepared the groundwork for the PCB elimination in the coming years in order to put the country well on track with its obligations under the Stockholm Convention on PCBs. In second phase of the PCB project, it would be very important to involve ABRADE and ANEL in the preparation and implementation.
- 2) #5) Intervention would need to be also focused on Private owners of PCB's transformers.

The Terminal Evaluation noted that "...attention will be required to solve the elimination of PCBs of private holders, in particular public organizations, such as municipalities, public water supply organizations, public hospitals, schools, mainly, some of them classified as sensitive sites..."

Therefore, this project will primarily have a focus on activities related to the management and environmentally sound disposal of PCBs in Brazil and there will be a special focus on sensitive sites (schools, hospitals, small PCB possessors) that will have difficulties in assuring an environmentally sound management and disposal of their PCBs unless they receive some external assistance. Other PCB possessors will fully co-finance their management and disposal activities.

This project will be implemented over a 5-year period and is expected to be concluded in 2025. This is 3 years ahead of the 2028 deadline for the destruction of all PCBs in Brazil. The stage I proposal created the national platform / institutional framework for the sound management of PCBs at the national level in Brazil. This proposal will follow up with specific on the ground activities at the state level and will focus on creating a business model for the elimination of PCBs in close combination with a focus on enforcement at the state level. The project will create the enabling environment that will put Brazil on track to comply with both the 2025 and 2028 targets on PCBs under the Stockholm Convention. The specific project target of disposing of 15,000 MT of contaminated equipment to prove by example that PCBs can be destroyed more cheaply if there is a close coordination among the PCB possessors combined with strict enforcement. The Business Model with an integrated Management System is key for the success. The sustainability strategy included in the proposal will assure that activities will continue once the project has completed, and thereby lead to the expected outcome.

2) The baseline scenario and any associated baseline projects.

-

-Institutional and legal framework-

8. The National Environmental Policy (PNMA) was issued in 1981 and has established the National Environmental System (SISNAMA). The SISNAMA is the Brazilian environmental management framework, composed of the environmental bodies and agencies of federal, state, Federal District and municipalities levels, responsible for the environmental quality protection, recovery and enhancement. The National Environment Council (CONAMA) is the advisory and deliberative board, coordinated by the Ministry of the Environment (MMA). CONAMA's resolutions provide a legal framework for the control and monitoring of environmental quality standards for air, water, soil and biodiversity, among others. The SISNAMA is composed of the Brazilian Institute for the Environment and Renewable Natural Resources – IBAMA (responsible body of the implementation of the environmental policy in the framework established by legislation), State Environmental Agencies and Municipal Environmental Agencies within their scopes and jurisdiction MMA is the technical focal point of international conventions related to chemicals (Stockholm, Rotterdam, Basel and Minamata) and is coordinating the implementation of their activities.

9. The Environmental Quality Program is the main public policy instrument and strategic guideline that manages the complexity of pollution prevention, control, mitigation and recovery of environmental quality. Environmentally sound management of hazardous chemicals and pollutants requires coordination between the Government, the private sector, NGO's, academia and stakeholders.

10. The Ministry of Mines and Energy (MME) along with the Brazilian Electricity Regulatory Agency (ANEEL) are responsible for the mining and metallurgy, oil, fuels and electrical power sectors, and play an important role in electrical equipment management (e.g. Transformers, capacitors and system breakers) that potentially contain PCBs.

11. Brazil implemented an international project funded by GEF and implemented by UNDP to comply with the provisions of the Stockholm Convention regarding PCBs management. Now it's necessary to assure environmentally sound disposal of PCBs, in partnership with the private sector in order to minimize human and environmental exposure.

3) Proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project.

Components, Outcomes and Outputs:

The project consists of 3 components, 4 Outcomes and 10 outputs, described as follows

-

Component 1. *Institutional strengthening of government and other stakeholders, relative to POPs emissions reduction and management and elimination.*

Outcome A) Technical, Financial and Operational outputs, aiming to strengthen the government institutions and project stakeholders developed.

The activities for this Outcome will be:

- National Management and Disposal Scheme developed;
- Operational Guidance of maintenance practices;
- Financial scheme for elimination of total existing PCBs at national level developed;
- Registry for inventory fulfillment available and updated;
- Enhancement of PCBs inspection activities in the country;
- Best-practice sharing.

-

Output A1) National Management and Disposal Scheme established.

12. This output aims to establish a National Management and Disposal Scheme for the elimination of PCBs in Brazil by 2028.

13. An Operational Guidance of maintenance practices will be developed to set the operating practices. This Guidance will incorporate the existing Manual for PCB Management and elimination, that will be updated and expanded into a strategy to incorporate the rest of PCBs equipment owners and service suppliers such as: elimination facilities, retrofilling enterprises, maintenance workshops, transport companies and others.

14. Initially, coordination arrangements will have to be undertaken between MMA and the enforcement authorities nationally and at state level. The Project will support relevant enforcement entities in an intensive inspection campaign at the beginning of the Project's implementation.

15. The implementation of the updated/improved strategy will be performed with a common vision and will seek to offer the services to users nationally in a coordinated manner. It is important to note that there are specific challenges because of the distances within the country.

Output A2) Financial scheme for the elimination of national PCBs inventory developed.

16. Since the project aims at setting the path for the full compliance with the 2025 and 2028 targets on PCBs under the Stockholm Convention, one important aspect is to extend the effects of the project beyond its lifetime and the financing of PCB management and destruction services is key to this. The project will therefore develop a financing scheme that will set the conditions for the destruction of PCBs in Brazil.

17. Through the financial scheme, the private companies will foster and increase the investment in the hazardous waste management sector by fostering their business activities for the private companies and by enhancing the collaboration between owners of PCBs and contaminated waste treatment sector. The ultimate objective of this output will be to balance benefits for each of the stakeholders to ensure its sustainability.

18. A major goal, is to provide a cost-effective environmental sound management of PCBs for the different stakeholders. The Scheme is expected to bring economies of scale of about 25% lower for PCBs disposal costs nationwide when compared with individual PCB disposal initiatives taken by those PCB holders.

Output A3) Support to enforcement of the law for PCBs elimination from sensitive sites.

19. An agreement will be signed with enforcement authorities to enhance the promotion of PCB management related obligations. This will be achieved by presentations in all possible public environment and industry events about the National Law for PCBs and its implications.

20. For the Inspection activities, the Project will finance the training of a group of about 20 young professionals that can support inspection procedures under the enforcement agency's supervision and authority. This will be a task force group that will enhance PCBs inspection activities in the whole country.

21. Moreover, a permanent and well-designed communication strategy will allow an adequate follow-up of enterprises that found out that they have PCBs contaminated equipment.

22. The indicator to measure the output will be by the number of destruction services requests (or reports) after the inspection visits. Moreover, a permanent and well-designed communication strategy will allow an adequate follow-up of enterprises that discovered they had PCBs contaminated equipment. It will also publish success and/or failure stories and will provide recommendations for other potential PCB possessors. A Quality Management System will be developed and established within the enforcement unit, to minimize the impact of staff turnover

Component 2. Environmentally sound management and disposal of PCBs.

*Outcome B) Environmentally sound management of PCBs improved*Output B1) Pilot Projects (3) for decontamination (retrofilling) facilities of PCBs contaminated transformers in sensitive sites;

23. Activities under this output will boost decontamination (retrofilling) practices not only with the existing suppliers of these services but also with potential new ones. This may likely appeal large electrical maintenance workshops, which already have knowledge about transformers manipulation. Training and materials will be developed for them, as well as technical assistance for the capacities development.

24. A specific business model will be developed based on the following: 1) the retrofilling services enterprises will provide decontamination to transformers, allowing the equipment (when possible and according to the useful life still remaining) to be kept in operation; 2) consolidated amounts of contaminated oil will be then shipped to the incinerators or other PCBs elimination processing facilities. The enterprises will also require a hazardous waste transport permit. The model will economically favor small enterprises for the development of new business and at the same time, lower the overall cost of PCBs elimination. These activities will be coordinated by the Operational Unit, described in Output A1).

Output B2) Decontamination/ Recycling Pilot Projects (2) of associations between elimination facilities and scrap recyclers for metals recovery.

25. The objective of this output is to decontaminate consolidated stocks of transformers already disincorporated and then to recycle the resulting scrap in an economically manner by large scrap metal companies. Scrap management companies will benefit of access to copper and steel in the upcoming years through the collaboration in decontamination activities in an environmentally regulated process.

26. Through this business model, scrap companies will bid for transformers stocks from electrical companies in particular, or large steelmaking and mining companies. Synergies and alliances will be established with decontamination facilities to participate in joint bidding processes. The oil and contaminated remaining materials will be shipped to the incineration/chemical elimination facilities and the PCB free clean scrap will be recycled.

Output B3) Improvement of 100 transformer's maintenance facilities in Best Practices and Standards developed

27. A list of electrical maintenance service enterprises will be developed. Promotion activities will be carried out in order to attract electrical maintenance companies. The larger in size and better organized the company is, it will be prioritized for the training and certification.

-

Outcome C) Environmentally sound disposal of large stock of PCBs achieved

Output C1) Pilot project (1) of new processes for PCB destruction with assessment

28. The business model will consist of an association between the chemical elimination enterprise and the retrofilling enterprises, the last ones include the transportation logistics.

29. Semi-mobile operated new PCBs destruction through chemical processes will be tested in a pilot. Through the installation of Service Sites at geographically strategic areas will allow to cover a specific region. This will consist of an “easy access point” for chemical treatment of the transformers. The semi-portable equipment will provide services as a follow-up to a previously implemented promotion campaign in the selected area. Alternatively, in coordination with Output A1, the decontamination (retrofilling) enterprises can take consolidated amounts of liquid oil to the location.

Output C2) Fifteen thousand (15,000) Ton of PCB containing materials coming from sensitive sites and industry eliminated.

30. The elimination of PCB materials is to be achieved in the most cost effective possible manner. Two groups will be target: First, those to which larger part of GEF contribution will be directed: sensitive sites including public hospitals. For these sensitive sites, the Project will carry out an inventory (PCBs free Hospitals campaign) and PCB elimination will be facilitated and covered by the Project, according to the available budget. Secondly, private PCBs equipment holders will be identified. A proposal will then be developed and presented. Through logistics coordinated by the Operational Unit and after possessors' agreement, PCBs will be eliminated, according to the available budget. Elimination will not exclude the option of exporting oils and materials.

-

*Component 3. Lessons learned identified, monitored and assessed**Outcome D) Lessons learned and knowledge managed*Output D1) Knowledge management system for best practices and communication platform at national level established.

31. A permanent dissemination and knowledge and information exchange (KIE) platform for project and pilot knowledge products will be established. It will make use of social media to disseminate materials and presentation among selected audiences including decision makers.

32. The Ministry of the Environment has developed a Registry Form to elaborate the national inventory on PCB. The operational unit will perform the maintenance, consolidation and updating of the inventory data to access the PCB elimination progress in Brazil.

Output D2) M&E and adaptive management in response to necessities and results from the Mid-Term Review and final findings with lessons learned applied

33. Best practices, project experiences and lessons learned obtained through adaptive management processes and evaluations will be incorporated in knowledge management tools for its easy dissemination at national, regional and global level. Activities, results and lessons-learned will also be published in individual case study reports, which will help ensure access to this information by the wider stakeholder community to the experiences, failures and successes of the activities undertaken by the project.

34. The project results as outlined in the project results framework will be monitored and evaluated periodically during project implementation to ensure the project effectively achieves these results. The results of the evaluations will be reported in a public intermediate and final evaluation report. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the http://www.undp.org/content/undp/en/home/operations/accountability/programme_and_operationspoliciesandprocedures.html and [UNDP's Evaluation Policy](#).

4) Alignment with GEF Focal area and/or Impact program strategies

35. The proposed Project is aligned with the Following Focal Area objective:

- CW-1-1 Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination.

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

36. In order to achieve its targets, the project's approach will require attention and collaboration (technically and financially) from the private sector, in particular, from the holders of PCB contaminated equipment and materials. The project will provide Technical Assistance to the sectors mentioned in the proposal. The project will also partly subsidize the pilot projects identified in the proposal. It is important to note that the main share of the cost will be borne by the private sector. Contribution from the GEF will add value in many ways, yet two elements are highlighted: 1) the project will help to assure that disposal activities are done in accordance with international standards; 2) the project will play a coordination role among possessors of PCBs, which will lead to lower disposal costs for the country through an improved coordination among all the stakeholders.

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

37. Global Environmental Benefits of the proposed project can be estimated at this stage and will be further defined during the PPG phase. The positive impacts of the project will include the following reductions:

- PCBs: Elimination of 15,000 t of PCB-contaminated materials (indicator 9.6); This translates into 100 MT of Pure PCB (indicator 9.1).

38. Other economic and social benefits of the project:

- Improved economics in the country, through job creation in the waste treatment industry;
- A general increase in awareness about the environmental impacts of POPs.

7) Innovation, sustainability and potential for scaling up.

39. The innovation of this project is based on a market driven approach for elimination of such a difficult waste as PCBs as well as on some of the alliances and synergies of private business operations. The Project is expected to generate increased awareness among stakeholders about their obligations on PCBs management under cost effective options for them.

40. Sustainability of project results will be ensured by supporting key elements such as improved enforcement capacity and the establishment of a monitoring mechanism that will facilitate the information gathering on management and disposal activities in the country.

41. Scaling-up potential is essential for this project, as results obtained in the pilots and business models implemented, must be replicated throughout the country in the relatively short period of time remaining before 2028 in such a large country.

1b. Project Map and Coordinates

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

41. Brazil: 14.2350° S, 51.9253° W

2. Stakeholders

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

Indigenous Peoples and Local Communities

Civil Society Organizations

Private Sector Entities Yes

If none of the above, please explain why:

Country and domain	Stakeholder	Engagement
Brazil		
Public sector	Ministry of the Environment (<i>Ministério do Meio Ambiente - MMA</i>)	The Ministry of the Environment is responsible for the coordination and implementation of the environmental national policy for POPs and PCBs in Brazil.
	Ministry of Mines and Energy (<i>Ministério de Minas e Energia - MME</i>)	The Ministry of Mines and Energy is responsible for the coordination and implementation of the public policies related to geology, mineral and energy sectors.
	Enforcement Authorities at State Level (OEMAs – Órgãos Estaduais de Meio Ambiente)	Enforcement entities
	Brazilian Association of Hospital Services, (EBSERH - <i>Empresa Brasileira de Serviços Hospitalares</i>)	Information supply about sector situation
	ABRAHUE - Brazilian Association of University and Teaching Hospitals (Associação Brasileira de Hospitais Universitários e de Ensino)	Information supply about sector situation

	Private Enterprises and Energy (o)	
Private Sector	Brazilian Association of Electrical Energy Distributors, (ABRA DEE – Associação Brasileira de Distribuidores de Energia Elétrica)	Information supply about sector situation
	Brazilian Association of Portland Cement, (ABCP – Associação Brasileira de Cimento Portland)	Information supply about sector situation
	Steel Institute of Brazil, (IABr - Instituto Aço Brasil)	Information supply about sector situation
	Mining and Minerals Institute, (IBRAM – Instituto Mineiro de Mineração)	Information supply about sector situation
	Haztec Tecnologia AS	Information supply about sector situation

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.

42. A Stakeholder Analysis and Engagement plan will be developed during the PPG phase.

43. The Stakeholder Analysis will describe the various stakeholders that can be identified as having a potential interest in the Project. It will include the Stakeholders' concerns and expectations, recommendations for the project to address concerns and meet and/or manage stakeholder expectations and proposed means of communication.

44. The Stakeholder Engagement plan will describe the various activities and engagement strategies through which the project aims to engage the project's stakeholders

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).

45. Adequate Hazardous Waste Management in Brazil is a necessary condition for the wellbeing of its people in general, but especially for those whose daily activities require being exposed to these substances. This includes technicians and workers at maintenance workshops and electricians.

46. Decreased exposure will result in economic benefits for public health systems, it will reduce health care costs, workdays lost, and human suffering. Furthermore, the lack of adequate management presents an enormous biological risk from water or soil pollution that can damage biodiversity resources and ecosystems of global importance.

47. Efforts to ensure the Sound Management Persistent Organic Pollutants (POPs), particularly PCBs have important gender dimensions. In daily life, men, women, and children are exposed to different kinds of chemicals in varying concentrations. Biological factors – notably size and physiological differences between women and men and between adults and children – influence susceptibility to health damage from exposure to toxic chemicals. Social factors, primarily gender-determined occupational roles, also have an impact on the level and frequency of exposure to toxic chemicals, the kinds of chemicals encountered, and the resulting impacts on human health.

48. The project will be aligned with the GEF Gender Policy and will be designed based on the premise of gender equality. It will seek to emphasize that sustainable production is enhanced if both women and men are equally enabled to participate as economic actors, with the policy support, knowhow and technology to engage in sustainable production practices.

49. Mainstreaming gender into the various project interventions will tackle the main problems regarding gender which includes the lack of data and the different types of occupational exposures and will ultimate lead to improved conditions for women and men and empower them to play an active role in the management of chemicals and wastes and of PCBs in particular.

50. The PPG phase of the project anticipates assessing gender aspects of the management of PCB contaminated equipment and its disposal. The participation, representation and buy-in of vulnerable worker populations and local communities in the project's formulation and the incorporation of gender dimensions into project activities will be explored.

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; Yes

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

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.

51. Involvement of the Private sector in the project will be two-fold. Firstly, regulatory, enforcement and awareness raising activities supported by the project will have as target the private sector in various economic sectors, mainly energy generation and distribution, but also mining, manufacturing, steelmaking and construction, among others.

52. Secondly, private sector service suppliers for the management, elimination and treatment of PCBs, including export entities, will be much interested in the collaboration in the project.

53. Finally, UNDP and its Brazil Country office have extensive experience working with the Private Sector. The previous PCB project yielded many benefits through these partnerships. Moreover, ongoing experiences with the implementation of the Montreal Protocol in the country have provided best practices for an efficient technological transfer.

5. Risks

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

This project will aim at assisting Brazil in achieving its 2025 and 2028 targets on PCB management and Destruction under the Stockholm Convention. The timeframe is therefore 9 years for the interventions in the country in order to comply with the Stockholm Convention obligation.

The initial analysis of Climate Risks from increased temperatures and/or increased climate variability (increased risk of rainfall or drought, etc.) have indicated that given the relatively short time frame (9 years) of the total intervention (compliance with 2028 Stockholm Convention end date for PCBs), it has been concluded that the potential impacts are low (within this period) and the probability of it to happen is also considered low. Climate stressors are not expected to have a significant effect on the overall system within the timeframe of this intervention. The potential Climate Risks will be further analyzed during the PPG phase and updated, if needed.

Project risks are listed below:

Risk	Management of risk
1. Authorities of different levels may not agree on the way forward.	If agreement cannot be reached on state level, decisions will be made at the federal level to define a feasible Action Plan for the entire country.
2. PCB owners may not have the economic resources to pay for their elimination/disposal.	PCB owners will be made aware about their management disposal obligations according to Stockholm Convention and respective national law. The project will coordinate among the owner to obtain the lowest possible disposal cost through economies of scale. The project will co-finance disposal activities at sensible sites.
3. The private sector may not be interested in investing in new processes for PCBs elimination.	The project will estimate POPs inventories to determine future market for disposal activities in Brazil, and the improved enforcement should lead to more demand for disposal capacity. This should encourage potential private sector to invest in upgrade of existing or installation of new disposal capacity.

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.

54. This Project will be implemented in accordance with UNDPs rules and regulations. UNDP will provide clear implementation support to the Government of Brazil. The Monitoring and Evaluation Coordination will follow standard UNDP-GEF policies as standard practice in all UNDP projects that are being financed by the GEF. The National Project Board (MMA & UNDP) will have overall responsibility of the project implementation. The Project Coordinator will be hired with Project Funds and will oversee the day to day management of the project.

55. The proposed project will establish inter sectorial mechanisms (Technical Advisory Committee) to promote cooperation and coordination between the main project stakeholders including the private sector, NGOs and regulatory authorities.

56. An operational unit, supported by the project, will be established in order to coordinate the project implementation, under the supervision of the Ministry of the Environment. The unit's duties includes: identification, logistics, monitoring and registry of PCB containing material elimination. The unit will also be responsible for the physical and financial project execution and the project results report and will carry out intensive inspection campaigns. The Operational Unit will also be responsible for the best-practice sharing and for the communication process among the project stakeholders in order to share knowledge and to keep them updated with the main outcomes of the project.

7. Consistency with National Priorities

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

Yes

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

57. This project has been developed based on the baseline information taken up in the submitted (2015) Stockholm National Implementation Plan as aims to address priorities listed in the NIP. SAICM priorities have also been considered, as well as the ongoing process of revising SAICM objectives after 2020.

58. Other national, regional and global strategies such as the recently developed Agreement of the Principle 10 of the Rio declaration, the SDGs national implementation strategy and the OECD recommendations on chemicals and waste management, have also been considered.

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.

59. Through South-South Cooperation, this project will benefit from experiences of ongoing initiatives that although they are from other countries and other waste types, they can provide valuable insight for the promotion of best practices. Firstly, the recent UNDP Mexico project of PCB Management, Stage 2 (GEFID 9214) that will test some of the Outputs' activities here proposed, one year in advance for the benefit of Outputs A1, A2 and B1 and also from the Integrated Services Management System already successfully implemented in the first UNDP with savings in elimination overall costs of about 25%. It will also adopt learning's from the UNDP experience in helping to solve the emergency of Paraguay's fire of about 9,000 transformers, in particular for output B2. Regarding the establishment and negotiations in the Business Models of Outputs B1, B2 and C1, they will nurture from other UNDPs Projects in Plastics in India (Private sector funded project) and UNDP Argentina POPs and Hg Management (GEFID 10094) as well as E-waste and other POPs management in Mexico. Which although none of them already finished, they are all from 1 through 4 years in advance of this proposal. As part of this Project, a close and real south-south collaboration will be performed, and which is already an ongoing initiative started by the UNDP Regional Office for LAC. The specific Knowledge Management Strategy will be developed during the PPG phase.

60. In contrast, this project will provide new developments for other Countries in the region and abroad. The project's findings will be of large benefit for the rest of the countries still in the process of PCBs elimination. In this case, the amount of PCBs materials and their distribution and size of the country will provide learning's on how to proceed in other countries and regions. The development of this Project will also set a basis for other POPs management in Brazil.

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
Marcus Cesar Ribeiro Barretto	General Coordination for External Financing	Ministry of Economics	9/20/2019

ANNEX A: Project Map and Geographic Coordinates

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

Brazil: 14.2350° S, 51.9253° W