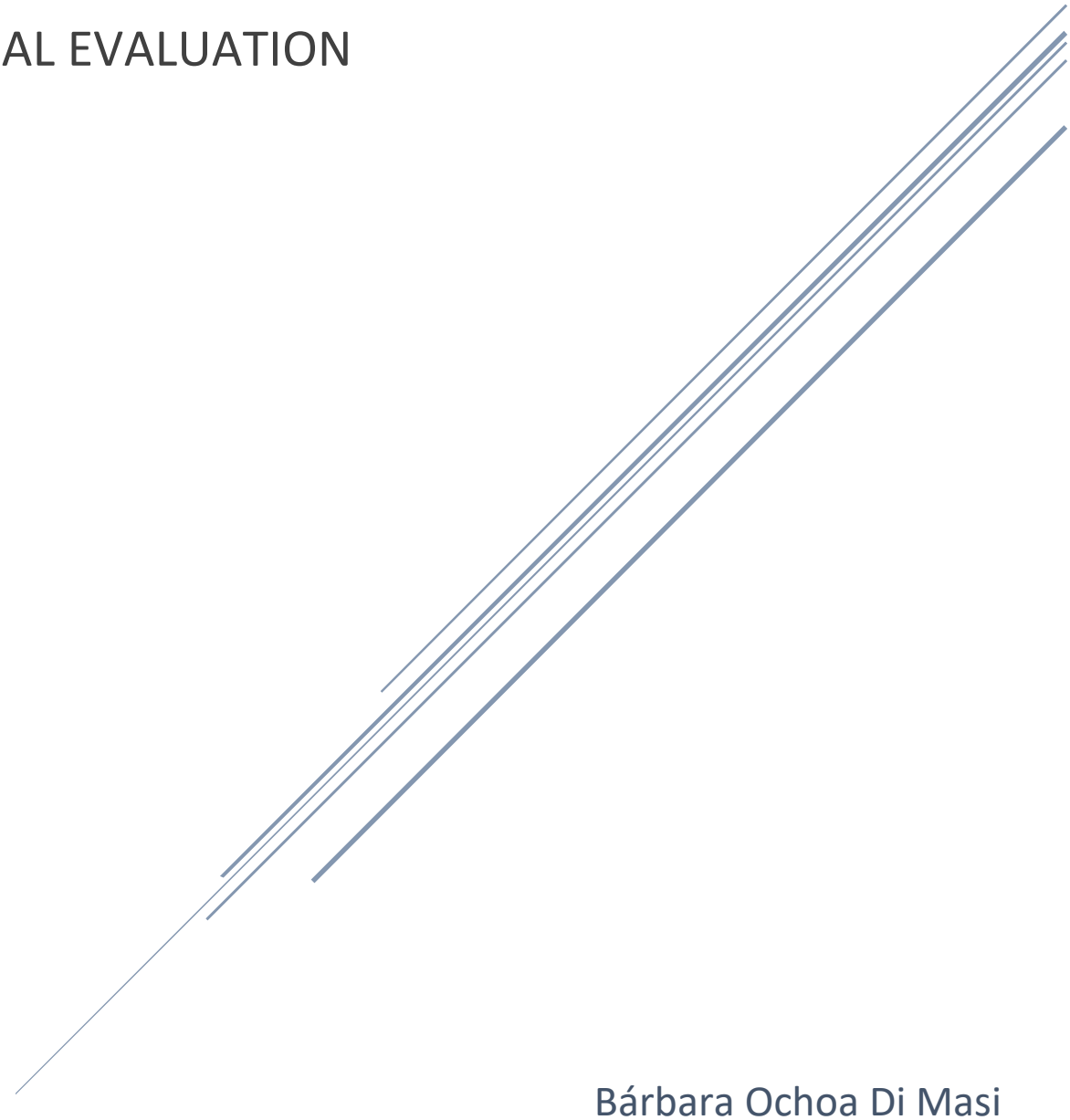
Reducing UPOPs and Mercury releases from healthcare waste management, e-waste treatment, scrap processing and biomass burning.

TERMINAL EVALUATION



Bárbara Ochoa Di Masi

March 2023

Table de contenido

1. Executive Summary

1.1 Project Information

Table 1. Project Information

Project Detail		Project Milestones	
Project Title	Reducing UPOPs and Mercury releases from healthcare waste management, e-waste treatment, scrap processing and biomass burning.	PIF Approval Date	08/07/2014
UNDP Project ID (PIMS)	5481	CEO Endorsement Date	03/03/2016
GEF Project ID	6928	PRODOC Signature Date	12/01/2017
UNDP Atlas Business Unit, Award ID, Project ID	00098842/00094749	Date Project Manager hired	May 2017
Country	Colombia	Inception Workshop Date	15-16 June, 2017
Region	Latinamerica	Mid-Term Review Completion Date:	September 2020
Focal Area	Chemicals and Waste	Terminal Evaluation Completion date:	March 2023
GEF Operational Programme or Strategic Priorities/Objectives	Output 1.3	Planned Operational Closure date:	31/12/2022
Trust Fund	Global Environmental Facility (GEF)		
Implementing Partner (GEF Executing Entity)	Ministry of Environment and Sustainable Development of Colombia (MADS)		
NGO Involvement	16 waste pickers' associations (9 led by women) in Cundinamarca and Antioquia		
Private sector involvement	Healthcare waste: PRESERVEC, FUTURASEO. Mercury: NEW STETIC, INNOVA. WAEE: LITO SAS, RED VERDE, ECOCOMPUTO, ICIP, ECOINDUSTRIA, GAIA VITARE, LUMINA. Metallurgy: SIDOC SA, GERDAU DIACO, ALUMINA, COBRES DE COLOMBIA, ATECO. Biomass in agriculture: CENICAÑA, ASOCAÑA, FEDEARROZ.		
Geospatial coordinates of Project sites	National		

Table 2. Financial information

Financial Information		
PDF/PPG	At approval (USD)	at PDF/PPG completion (USD)
GEF PDF/PPG grants fro project preparation	150,000	150,000
Co-financing for Project preparation	0	0

Project	At CEO Endorsement (USD)	At TE (USD)
[1] UNDP contribution	0	0
[2] Government	5,034,194	5,083,283.67
[3] Other milti./bi-laterals	0	0
[4] Private sector	27,880,824	50,050,475.93
[5] NGO	0	0
[6] Total Co-financing [1+2+3+4+5]	32,915,018	55,133,759.60
[7] Total GEF funding	5,800,000	5,676,487.83
[8] Total Project Funding [6 + 7]	38,715,018	60,810,247.43

1.2 Brief description of the project

The project "Reduction of releases of unintentional Persistent Organic Pollutants (POPs) and mercury from the management of hospital waste, WEEE, scrap metal processing and biomass burning", implemented by the Ministry of Environment and Sustainable Development (Minambiente), in partnership with the United Nations Development Program (UNDP), and financed with resources from the Global Environment Facility (GEF), aims to introduce Best Available Techniques (BAT) and Best Available Techniques (BAT) and Best Available Techniques (BAT) to reduce the release of mercury from the management of hospital waste, in partnership with the United Nations Development Program (UNDP), and financed with resources from the Global Environment Facility (GEF), aims to introduce Best Available Techniques (BAT) and Best Environmental Practices (BEP) to reduce releases of unintentional POPs (UNPOPs) and mercury (Hg) from prioritized activities and sectors.

The project was structured and developed within the framework of four objectives:

- Prevent and minimize the generation of unintentional POPs and the updating of its inventory.

- Prevent and reduce mercury releases.

- Strengthen the institutional, administrative, legal, technical and regulatory framework to reduce unintentional POPs and mercury.

- Disseminate lessons learned, conduct monitoring and evaluation of the project.

Through the activities developed, the project avoids 124.43 g-EQT of POPs releases (accrued value of all the years of execution) in the health sector due to the management of hospital waste, in the agricultural sector due to the burning of biomass in sugar cane and rice crops, management of WEEE, and in the metallurgical and iron and steel sectors. The project also promotes the environmentally sound management of 1,331.9 kg of mercury-containing waste (accrued value of all the years of execution). The implementation of this project makes it possible to reduce the environmental and human health impact, as well as to support the country in complying with its obligations under the Stockholm and Minamata Conventions.

The project, based on its objective and activities, is framed within the following indicators of UNDP strategic instruments. In the case of the UNDAF/Country Programme the project contributes to the Outcome: Strengthening national and local policies and strategies to achieve integrated environmental management, advance in disaster risk management and increase the resilience of the territories. In the case of the UNDP Strategic Plan/Output 1.3: Compensation and mitigation strategies to achieve the transition to a "green" economy implemented by the productive sectors with the greatest environmental impact and by subnational institutions.

The project incorporated gender considerations from its design and implemented activities where the involvement and development of women in the sectors reached by the project was evidenced.

It is important to note that the project had two relevant modifications in relation to the original design:

- Originally, the project proposed to work on the sugar cane crop for the reduction of UPOPs, but at the time of implementation and evidenced by measurements, it was found that the dioxins and furans available in this crop were not relevant, so the commitment to reduce releases was difficult to achieve. Based on this, it was decided to identify other crops that were relevant in their contribution of dioxins and furans, where the rice crop was found to be a relevant sector and was included.

- Originally, the project proposed to work with 4 companies in the steel industry that had expressed interest in participating in the project, but at the time of implementation they withdrew for different reasons. Based on this, it was decided to identify industries that contribute to UPOPsemissions and that would allow the project to achieve its objectives. As a result of this analysis, the metallurgical industry was identified and involved, particularly the aluminum and copper industry.

At the same time, due to the limitations caused by the COVID-19 pandemic, the project requested a one-year extension of the execution period.

1.3 Evaluation Rating Table

Table 3. Evaluation Rating Table

1. Monitoring & Evaluation (M&E)	Rating
M&E design at entry	S
M&E Plan Implementation	HS
Overall Quality of M&E	HS
2. Implementing Agency (IA) Implementation & Execution Agency (EA) Execution	Rating
Quality of UNDP Implementation/Oversight	HS
Quality of Implementing Partner Execution	HS
Overall quality of Implementation/Execution	HS
3. Assessment of Outcomes	Rating
Relevance	S
Effectiveness	HS
Efficiency	HS
Overall Project Outcome Rating	HS
4. Sustainability	Rating
Financial sustainability	L
Socio-political sustainability	L
Institutional framework and governance sustainability	ML
Environmental sustainability	L
Overall Likelihood of Sustainability	L

See Annex 6.6. “Summary of rating scales”

1.4 Summary of findings and conclusions

The findings of the Terminal Evaluation are listed below:

- The project proceeded with the request and approval of extension of the execution period for 12 months due to the COVID-19 pandemic which made it possible to advance in the execution of the activities so as to achieve the expected results.

- The project achieved all the expected results, most of which were surpassed. In particular, the Global Environmental Benefits were exceeded, achieving a reduction of 124.43 g TEQ of unintentional POPs releases and an environmentally sound management of 1,331.9 kg of mercury during the project development period.

- The project has had a satisfactory budgetary execution reaching 97.87% of the donation received by the GEF and has additionally exceeded the co-financing committed by the interested parties reaching a value of USD 55,133,487.83, highlighting that 92% corresponds to the private sector.

- With respect to the recommendations of the EMT, the project has followed up and taken the pertinent actions. Specifically: i) The project has followed up on the process of approval and promulgation of the regulations, which were under review and negotiation with different stakeholders at the EMT level, and at the time of the EF these regulations were published and in force; ii) Although the project provided support in the process of updating the regulations on UPOPS emissions, in particular Resolution 909 of 2008, at the time of the EF it had not been approved and published.

- The updating of the inventory of UPOPS releases has been a document of great importance for both the authorities of the Ministry of the Environment and the industrial sector for the adequate design of action plans in line with the obligations of the Stockholm Convention.

- In order to strengthen the sustainability of some of the project's results, greater involvement and capacity building of the regional environmental authorities is needed.

- The involvement and commitment of the stakeholders in the different project activities is noteworthy, as they have expressed their agreement throughout the execution process, highlighting the quality of the technical support received to achieve the objectives, as well as their interest in continuing to work on new initiatives of this nature.

- There are some points for improvement in terms of internal and external communication of the project, in order to further promote the dissemination of the project's activities and achievements beyond those directly involved in the project.

- The Project Coordination and Project Team constituted a strength throughout the execution of the project.

The main conclusions of the Terminal Evaluation are listed below:

- The project from its inception had a clear and structured design, including a comprehensive Theory of Change. The project design was aligned with Colombia's obligations under the Stockholm and Minamata Conventions, as well as with other national priorities and with UNDP and GEF strategic priorities.

- The Project faced adaptive management in the following dimensions: i) Incorporation of rice cultivation as a UPOPS contributing sector to achieve the objectives established in the project; ii) Identification of new actors in the steel sector in view of the refusal of some steel companies to participate; iii) Risk management resulting from the COVID19 global pandemic, establishing different measures for its mitigation. All of them have been successfully managed, making it possible to achieve the expected results.

- The financial and administrative management of the project has been transparent and efficient. This adequate management has been documented in all the external audits to which the project has been subjected.

- The effectiveness of the project's execution is considered highly satisfactory, as all the planned objectives were achieved and most of them surpassed. It should also be noted that the project incorporated initiatives with a high social impact in order to achieve the expected environmental benefits.

- The sustainability of the results obtained is generally considered probable, with a potential risk assessed in the institutional and governance dimension.

- The project incorporated gender considerations in both design and implementation, and although there was no gender action plan, the project implemented activities that promoted gender equity and women's empowerment.

- The project documented all project results and lessons learned during implementation, facilitating their dissemination.

1.5 Lessons learned

There are numerous lessons learned from the implementation of the project, of which the following stand out:

The mechanism for developing collaboration agreements with the different stakeholders for carrying out activities within the framework of the project has proven to be an effective tool for the involvement and commitment of the actors, while minimizing the risks of non-compliance that impact the project.

Collaborative and integration processes between actors in the same production chain (even among competitors) facilitate collective strengthening processes to improve productivity and competitiveness, as long as they take place in scenarios of mutual trust and respect.

The consolidation of work teams that include different areas of knowledge and experience makes it possible to advance adequately in the execution of the project, which, together with adequate and permanent follow-up, makes it possible to prevent possible deviations from the proposed objective.

Collective contributions in science, technology and innovation for the development of new products that are useful and attractive to society, which allow greater added value to be given to waste, are essential contributions to progress in the circular economy model.

Public-private partnerships are an appropriate mechanism to facilitate the technological reconversion processes of organizations that use chemicals that are regulated or in the process of being banned.

Technologies that use steam as a treatment agent (e.g. wet heat autoclaves) can generate offensive odors for nearby communities, especially in regions with high temperatures and humidity, it is recommended to prioritize technologies with steam condensation systems to reduce offensive odor emissions, as well as those with segregation and shredding of waste to facilitate and improve operation.

Obtaining better quality scrap, especially free of chlorine-containing components such as plastics, paints and other elements, helps to avoid the formation of unintentional POPs. Although emission control systems consisting of bag filters and/or rapid gas cooling are effective in controlling dioxin and furan emissions in secondary metal smelting, it is concluded that they should be accompanied by periodic maintenance (preventive or corrective), control of variables (e.g. temperature, pressure, etc.) and periodic training of process personnel, highlighting the benefits of having better quality scrap for smelting.

1.6 Recommendations Summary Table

#	Recommendation
1	Agree with the Directorate of Sectorial and Urban Environmental Affairs on an action plan to: - Promote the review and approval process of the Manual for the Integrated Management of Waste Generated in Health Care and the draft Resolution that adopts it. - Promote the review and update process of the regulatory framework corresponding to UPOPS releases, specifically Resolution 909/2008. - Promote the strengthening of environmental authorities for the appropriation of BAT/BEP of the different actors in each of the jurisdictions of the different regional environmental authorities.
2	It is important to continue exploring new forms of communication with stakeholders as well as for the socialization of results and benefits of the project, in order to promote the sustainability of the measures implemented and likewise generate the scaling up of results.
3	With respect to the existing platform (https://quimicos.minambiente.gov.co), its maintenance and the incorporation of access and consultation statistics are recommended.
4	Review and agree on internal reporting mechanisms (MADS, UNDP, GEF Operational Focal Point, Project Coordination) to ensure effective communication.
5	Maintain the staff trained within the project, so that their knowledge and experience continue to ensure successful project execution and enable further strengthening of the MADS's capacity for chemicals and waste management.

6	Within the framework of the activities developed with FEDEARROZ, it is suggested to follow up on the results of the measurements (which were in the process of being evaluated) on the levels of agrochemicals in soil reached with the introduction by biodigging of the chaff.
7	Continue strengthening mechanisms such as the provision of additional information by the trade associations to learn about the characteristics of the specific technologies and processes used in the country, as well as the gathering of information with the environmental authorities through inspection visits, which allow for the proper classification of economic activities that can potentially release unintentional POPs, within the categories established in the Stockholm Convention Toolkit.
8	In relation to the initiatives developed with the women of Corinto and with the Recyclers' Associations, it is recommended that mechanisms be defined to maintain a permanent dynamic of mutual support, in alliance with different local and institutional actors, to overcome technical and commercial difficulties or different contingencies.
9	With respect to the pedagogical strategies with 3D printing, it is recommended that the results of the project be disseminated to a greater number of teachers at the national level, with the accompaniment and support of the Ministry of Education, the National School for Environmental Training (SAVIA), the Computers to Educate program, the private sector and other local and national entities.

Abbreviations and acronyms

ANDI	National Association of Industrialists
CAR	Autonomous Corporation of Cundinamarca
POPs	Persistent Organic Pollutants
UPOPS	UPOPS Unintentional Persistent Organic Pollutants
DAASU	Directorate of Sectorial and Urban Environmental Affairs
TE	Terminal Evaluation
MTR	Mid-Term Review
GEF	Global Environment Facility
Hg	Mercury
ICIP	Institute for Plastics and Rubber Training and Research
IDEAM	Institute of Hydrology, Meteorology and Environmental Studies
M&E	Monitoring and Evaluation
BEP	Best Environmental Practices
BAT	Best Available Techniques
SDGs	Sustainable Development Goals
PBDEs	Polybrominated diphenyl ethers
PIF	Project Identification Form
PIR	Project Implementation Report
UNDP	United Nations Development Programme
AOP	Annual Operational Plan
PRODOC	Project Document
WEEE	Electrical and Electronic Equipment Waste
RTA	Regional Technical Advisors
TOC	Theory of Change
UNEG	United Nations Evaluation Group
UTO	Ozone Technical Unit

2. Introduction

2.1 Evaluation Purpose

The overall objective of the terminal evaluation (TE) is to assess the final results achieved by the project "Reduction of releases of unintentional POPs and mercury from hospital waste management, WEEE, scrap metal processing and biomass burning" (COL 98842/94749) funded by the GEF with USD 5,800,000. Final evaluations of GEF-funded projects have the following complementary purposes:

- Promote accountability and transparency;

- Synthesize lessons that can help improve the selection, design and implementation of future GEF-funded and UNDP-supported initiatives.

- Improve sustainability of benefits and contribute to the overall improvement of UNDP programming.

- Evaluate and document project results and their contribution to the achievement of GEF's strategic objectives in the global environment.

- Assess the degree of convergence of projects with other UNDP country program priorities, including poverty alleviation, strengthening resilience to the effects of climate change, disaster risk reduction and vulnerability, as well as cross-cutting issues such as gender equality, women's empowerment, and support for human rights.

2.2 Scope

This evaluation will focus on determining the relevance, effectiveness, efficiency, sustainability and impact of the results achieved by the project. For this purpose, the different components and the results expected during the design stage as well as the results achieved after the years of implementation will be taken into account and analyzed. The total period to be evaluated is from July 2014 to December 2022, focusing mainly on the project implementation years (January 2017 - December 2022) and taking as relevant input the Mid-Term Evaluation carried out in September 2020. The evaluation will also take into account cross-cutting issues related to project activities: gender considerations, human rights, vulnerable groups, social and environmental risks, mitigation and adaptation to climate change.

The scope of the project is national and has specific interventions through pilot projects in different cities of the country. These sites will be evaluated with greater attention without losing focus on their potential national impact through replication and scaling up of results.

2.3 Methodology

The methodological approach used in the final evaluation is aligned with the guidelines, standards and procedures defined in the following documents:

- Guide for Conducting Final Evaluations of GEF-funded and UNDP-supported Projects .

- Guide for GEF Agencies for the Conduct of Final Project Evaluations .

The proposed methodology involves the review of documentary evidence in conjunction with a collaborative and participatory consultative approach that ensures close liaison especially with the Project Team, the Government of Colombia, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisors (RTAs), among other key stakeholders.

The tools used to collect the information are:

- Documentary review: includes all documents listed in the Terms of Reference and those additional project documents requested to supplement the information. The complete list of documents reviewed is provided in Annex 6.2.

- Stakeholder interviews: Semi-structured interviews were conducted with different stakeholders. The interviews were conducted virtually and in person due to the availability and accessibility of stakeholders during the period established for the mission. The interviews conducted were determined in order to ensure

communication with the largest number of relevant stakeholders. Details of the interviews conducted are available in Annex 6.3.

- Field visits: an evaluation mission was coordinated from January 10 to 19, 2023. The main objective was to visit project implementation sites as well as to conduct face-to-face interviews with the relevant parties that were available. The itinerary of the mission is detailed in Annex 6.4.

The different tools used provided relevant, evidence-based information, which through their analysis allowed conclusions, lessons learned, findings and recommendations on project implementation to be drawn.

2.4 Data Collection and Analysis

The evaluation criteria matrix, provided in Annex 6.5, identifies how data collection is planned. The matrix details the evaluation questions that need to be answered to determine project outcomes and identifies where the information is expected to come from. As identified in the previous section the data sources for this evaluation have been: documents, interviews and field visits. Data collection and analysis was conducted according to the following activities:

a. Documentary review: this activity consisted of desk work for the review and reading of:

- Relevant project documentation: Project Identification Form (PIF), Project Document (Prodoc), Initiation Plan and report, Steering Committee Minutes, Project Implementation Review (PIR), Substantive Reviews, Annual Operating Plan (AOP), Mid-Term Evaluation, Audit Reports, among other Monitoring and Evaluation (M&E) system documents.

- Review of national contextual documents such as: Government policies and plans, national sector evaluations (technical and economic evaluations).

- Integration with other activities and policies developed in the framework of the Stockholm Convention and chemicals and waste management such as: similar complementary projects under implementation, UNDP and government policies.

- Baseline information and project results (quarterly, annual monitoring reports, reports to the Project Steering Committee, interviews with public and private sector stakeholders, monitoring and evaluation tools.

- Contextual documents of the implementing agency such as: UNDP Financial and Administrative Guidelines, UNDP Colombia Country Programme, Development Plans, Government Programs and Policies.

b. Interviews with stakeholders, which may include:

- Project team, including: National Coordinator and national experts hired by the project.

- Implementing agency, including: UNDP-Colombia Country Office, GEF Focal Point, GEF/UNDP Regional Technical Advisor (RTA).

- National and local government authorities.

- Private Sector of each of the sectors reached by the project.

- Non-governmental organizations.

- Project beneficiaries.

- Others identified during the document review.

c. Field visits to implementation sites.

2.5 Ethics

This evaluation was conducted in accordance with the principles set out in the United Nations Evaluation Group (UNEG) "Ethical Guidelines for Evaluations".

2.6 Limitations

The limitations encountered during the evaluation mission and the measures adopted are detailed below:

- It was not possible to visit the health institutions where the hospital waste treatment equipment was installed due to the difficulty of access in January. A virtual interview was arranged with the Manuel Elkin

Patarroyo Hospital (Inírida) and the San Juan de Dios Hospital (Puerto Carreño), but the latter could not attend due to connection problems.

- The planned visit to the Gerdau plant in Tuta could not take place due to the coordination of an internal company activity that coincided with the planned date of the visit. In its place, a face-to-face interview was arranged with the personnel involved in the project at another of Gerdau's (non-operational) plants.

- A visit to the Municipality of Corinto could not be coordinated due to security issues. The high social and gender impact activities implemented in this municipality were evaluated by means of a face-to-face interview in the municipality of Cali of 3 women beneficiaries of the project.

- Due to scheduling constraints of the Director of Sectoral and Urban Environmental Affairs (DAASU) of the Ministry of Environment and Sustainable Development, the interview was conducted extensively with the Coordinator of the Chemical Substances, Hazardous Waste and Ozone Technical Unit (UTO).

3. Project Description

3.1 Project start and duration

On December 29, 2016 the project receives final approval by the GEF with donor funds 5,800,000 USD, counterpart 32,915,018 USD and a total budget of 38,715,018 USD.

The project document is signed on January 12, 2017 for a period of 60 months (5 years). Subsequent to the Mid-Term Evaluation (September 2020) and as a recommendation resulting from it, the Steering Committee at its meeting on January 22, 2021 approves the extension request for a period of 12 months. This extension is requested in order to overcome some difficulties that have affected the development of the project such as firstly, the suspension of activities in some agreements signed due to the health measures that governments have had to take worldwide due to the COVID 19 pandemic. Secondly, due to the adaptive actions that the project faced at the beginning to meet the established goals and finally, to enable the project to exceed the goals set with the resources granted by the GEF.

The initial completion date was January 2022 and was extended to December 2022.

3.2 Development Context

Colombia ratified the Stockholm Convention in 2008 and signed the Minamata Convention in 2013. Despite this, Colombia continues to face several challenges related to the management and control of hazardous substances, including the release of UPOPS and mercury. Colombia conducted its National Implementation Plan in 2010 with the support of the World Bank and UNDP. The University of Antioquia conducted a national inventory on mercury with the support of the Ministry of Environment and Sustainable Development (MADS).

As part of the preparation of the National Implementation Plan, in 2010 Colombia developed its first inventory of dioxins and furans (called as unintentional POPs - UPOPS) which evidenced a release of UPOPS of 790.17 TEQ/a (base year 2002). Of these releases, 22% (177.44 TEQ/a) were emitted by three sectors: health care waste treatment, steel industry and the sugar sector. The NIP did not take into consideration releases from the processing of Waste Electrical and Electronic Equipment (WEEE), as it was not a major waste stream at the time.

As part of the preparation of the NIP (2010), the country agreed on eight national priority actions to meet its obligation under the Stockholm Convention on Persistent Organic Pollutants. The project defined to support three of these priority actions: i) Develop an action plan for the reduction of dioxin and furan releases; ii) Update the dioxin and furan inventory; and, iii) Issue the necessary dioxin and furan regulations.

Also, in the 2017 update of the NIP, the country defined a specific action plan for UPOPS, which includes the following relevant actions on which the project contributed:

1.1. Promote education, training and sensitization of all stakeholders in different regions of the country on the risks of unintentional POPs and the measures to be taken to prevent, reduce and control releases of unintentional POPs.

1.2. Design and disseminate guidance material on Best Available Techniques (BAT) and Best Environmental Practices (BEP) promoted in the country for integrated pollution prevention and control.

1.3. Implement best available techniques (BAT) and best environmental practices (BEP) in the prioritized sectors with the highest releases of unintentional POPs, which together will make it possible to achieve the proposed reduction goal for these emissions.

2.1. Periodically update the inventory of sources and releases of unintentional POPs, as well as identify other cross-cutting information systems that will make it possible to feed this inventory with the desired frequency".

Initially, the project focused on (4) priority sectors: hospital waste management; WEEE management; steel industry; and sugar cane production. In this way, the proposed project was fully aligned with the country's NIP and supported the Colombian government in meeting its obligation under the Stockholm Convention.

Regarding mercury releases, the 2009 Mercury Inventory report indicated that mercury releases were 345,570 kg Hg/year (base year 2009), of which the artisanal gold mining sector (56%) and chemical production (28%) were the main contributors. Although the health sector and WEEE were not part of the main sources, it was considered that the elimination of mercury-added products for these sectors as well as the improvement in the management of some product families in their post-consumer stage, were complementary activities and very close to the project objective of supporting the four priority sectors with releases of UPOPS that were mentioned above. In this way, the project provided support to the country to comply with the commitments assumed in the Minamata Convention.

Similarly, the project as detailed in the Project Document is aligned with and supports the following objectives:

a) The long-term goal of the GEF in the Chemicals and Waste focal area related to the prevention of human and environmental exposure to hazardous chemicals and wastes of global concern, which include POPs, mercury and ozone depleting substances, through a reduction in the production, use, consumption and releases of those chemicals and wastes.

b) The overall objective of the Strategic Approach to International Chemicals Management (SAICM), which supports the target agreed at the Johannesburg World Summit on Sustainable Development that ensures that, by 2020, chemicals are produced and used with a focus on significantly minimizing adverse impacts on the environment and human health.

c) The Sustainable Development Goals (SDGs). In particular SDG 3 "Ensure healthy lives and promote well-being for all at all ages" and its target 3.9: "By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution"; SDG 12 "Ensure sustainable consumption and production patterns" and its target 12. 4: "By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and land in order to minimize their adverse effects on human health and the environment".

d) "United Nations Development Assistance Framework for Colombia 2015-2019" (UNDAF). Environmental Sustainability, with emphasis on institutional strengthening, strategies related to the management of natural resources and biodiversity, support for national climate change adaptation and mitigation strategies, and institutional capacity building for disaster risk management. Although the issues related to chemicals, POPs and mercury are not detailed as specific priorities, they are certainly included within the general concept of prioritized environmental sustainability.

3.3 Problems that the Project sought to address

The project was formulated to support the country in the challenges related to UPOPS and mercury emissions in line with the commitments assumed in the Stockholm and Minamata Conventions, reducing impacts on human health and the environment.

For the achievement of the reduction of UPOPS and mercury emissions, mainly two barriers were identified to be addressed:

- Lack of required knowledge, sufficient awareness and technical expertise needed to improve the management of unintentional POPs and mercury. As well as, the BEP and BAT that could be applied in the priority sectors to reduce releases of unintentional POPs and mercury. Without addressing this barrier, uncontrolled incineration and open burning of waste from the health sector and biomass in crops; the use of contaminated (dirty) scrap metal as raw material in the steel industry and inappropriate recycling and processing of WEEE would lead to the generation of unintentional POPs and other pollutants of global concern (e.g. PBDEs). Similarly, without overcoming these barriers, mercury releases would continue in the health sector and in the handling of luminaires and primary batteries.

- The absence of a clear policy and institutional framework for the management of unintentional POPs and mercury. This second barrier is apparently due to the following immediate causes: (i) Lack of institutional capacity (environmental, health and trade authorities) to conduct inspections, ensure continuous monitoring and training, and thus, control releases of unintentional POPs and mercury; (ii) Lack of knowledge about laboratory techniques to analyze and monitor unintentional POPs and mercury; (iii) Lack of awareness about the impact of unintentional POPs and mercury among priority sectors and communities; (iv) Lack of updated information on the generation of unintentional POPs, mercury and PBDEs.

3.4 Immediate and development objectives

The objective of the project is to reduce and potentially minimize the release of UPOPS and mercury through the implementation of BEP and BAT in the four priority sectors (health sector, WEEE, steel and sugar cane) through a number of demonstration projects (12 in total), improving the management and control of these substances by strengthening policies and the regulatory framework as well as building analytical capacity in national laboratories.

To achieve the proposed objective, the project was structured into the following 4 components:

COMPONENT 1: Prevent and minimize the generation of UPOPS and update its inventory;

COMPONENT 2: Prevent and reduce the release of mercury;

COMPONENT 3: Strengthening the institutional, administrative, legal, technical and regulatory framework to reduce UPOPS and mercury; and

COMPONENT 4: Disseminating lessons learned, monitoring and evaluation.

3.5 Description of the project´s Theory of Change

The project document has a Theory of Change that identifies the development challenge of protecting human health and the environment at the global, regional and local levels by improving the management of chemicals of concern (UPOPS and mercury) in four (4) priority sectors (steel industry, health sector, sugar industry and WEEE sector).

This challenge identifies the barriers to be addressed as previously described in section 3.3 and proposes 4 lines of action to achieve the project's objective.

The first component proposes updating the existing UPOPS inventory and preventing and minimizing the generation of UPOPS in the four priority sectors. Updating the UPOPS inventory is considered an important tool for the success of the project because it provides a more accurate picture of the situation in Colombia in terms of UPOPS generation and the contributing sectors, considering that the last inventory was carried out using data from 2002. It also includes the development of four (4) evaluations at the national level on waste management in the health sector, WEEE management, as well as the practices implemented by the steel and sugar cane industries. The inventory and assessments of the sectors make it possible to overcome the lack of knowledge about unintentional POPs.

The second component is linked to the prevention and reduction of mercury releases. In the first instance it proposes an assessment of mercury-containing medical equipment used in the health sector (quantities and types of mercury-containing medical equipment) and the development of a guide on the substitution of mercury-containing medical equipment and replacement with mercury-free alternatives.

In turn, components 1 and 2 of the project will support twelve (12) demonstration projects to contribute to the adoption of BAT and BEP for the management of UPOPS and mercury in the four prioritized sectors. The demonstration projects will support the proper management of waste generated in health care and the reduction of open burning of pre-harvest waste in sugar cane production, as well as the procurement of clean scrap used as raw material in the steel industry, implementation of appropriate technologies and practices for the treatment and disposal of plastics containing PBDEs in the WEEE sector. In addition, the project will assist in the replacement of mercury-containing equipment and products and improve the capacity to treat mercury-containing waste in the health and WEEE sectors.

The third component of the project aims to strengthen the institutional, administrative, legal, technical and regulatory framework to reduce releases of UPOPS and mercury. The results of the inventories, evaluations and demonstration projects undertaken as part of components 1 and 2 will support the development of BAT/BEP guidelines for the four sectors and will also provide information for the elaboration and development of technical regulations for i) hospital waste management; ii) requirements for waste treatment systems; iii) regulations for the management and treatment of WEEE; and, iv) guidelines for mercury management and substitution.

In addition, the project will improve the capacity of regional authorities in institutional, administrative and monitoring aspects related to mercury and UPOPS through training programs. In addition, training programs are defined for laboratories to increase analytical capacity for UPOPS and mercury analysis.

Finally, Component 4 is intended to provide the necessary information for monitoring and evaluation of project results in order to inform adaptive program management and improve project implementation. In turn, the consolidation and publication of lessons learned on the activities developed.

The strategy foresees the active participation of the public and private sector and civil society organizations (CSOs) and is expected to result in improved management and control of hazardous chemicals in Colombia, together with a reduction in the release of UPOPS by 100 g-TEQ and the release of mercury by 300 kg, reducing the risk to human health and the environment. It will also support the country's compliance with its obligations under the Stockholm and Minamata Conventions.

3.6 Expected results

The expected results of the project and the main outputs that support the achievement of the results are detailed below:

Outcome 1. Prevent and minimize the generation of unintentional POPs and conduct their inventory.

Output 1.1. One (1) inventory of unintentional POPs developed.

Output 1.2. Four nationwide assessments in the sectors and assessment reports completed.

Output 1.3. Ten (10) demonstration projects implemented leading to the reduction of release of 100 g-TEQ of unintentional POPs.

Outcome 2. Prevention and reduction of mercury releases.

Output 2.1. One (1) comprehensive assessment on the use of mercury-containing equipment in the health sector and one (1) guide on the replacement of mercury-containing equipment in the health sector formulated and developed.

Output 2.2. Two (2) demonstration projects implemented in the health and WEEE sector as a result of improved management and the substitution of 300 kg of mercury through the introduction of BAT and BEP.

Strengthened institutional, administrative, legal, technical and regulatory framework for the reduction of unintentional POPs and mercury.

Output 3.1. Four (4) national guidelines and two (2) technical regulations based on BAT/BEP published.

Output 3.2. One (1) registration system for the generation and management of WEEE established.

Output 3.3: Four (4) training programs for authorities, and two (2) training programs for laboratories.

Outcome 4. Dissemination of lessons learned, Monitoring and Evaluation.

Output 4.1. Two (2) publications with lessons learned from demonstration projects published.

Output 4.2. One (1) Project Inception Workshop and five (5) workshops during project development.

Output 4.3. One (1) mid-term evaluation report and one (1) final evaluation report prepared.

3.7 Total resources

The Project Document presents a total financing of USD 38,715,018 (thirty-eight million, seven hundred and fifteen thousand and eighteen U.S. dollars). The contribution provided by the GEF is USD 5,800,000 (five million eight hundred thousand US dollars), while the contribution committed by the main stakeholders as project cofinancing amounts to USD 32,915,018 (thirty-two million nine hundred and fifteen thousand eighteen hundred and eighteen US dollars). Table 5 shows the breakdown of the counterpart committed by each of the sources.

Table 4. Expected Co-financing

Co-financing sources	Type of Co-financing	Amount (USD)
Ministry of Environment and Sustainable Development	In kind	800,000
Hospital waste management facilities	Grant	5,057,354
Steel Industries	Grant	6,266,169
ASOCAÑA	Grant	4,500,000
WEEE Collection and Management Facilities	Grant	8,499,968
Health Institutes	Grant	100,000
Mercury waste treatment facility	Grant	968,387
Collection programs for energy-saving lamps and mercury containing batteries	Grant	5,318,451
Facilities for treatment of energy-saving lamps and mercury-containing batteries	Grant	1,404,689
TOTAL		**32,915,018**

3.8 Stakeholders involved in the project

Project implementation has been supported by the Colombian Ministry of Environment and Sustainable Development, the GEF operational focal point, the country office and the UNDP regional office. Additionally, the following stakeholders have been involved in the implementation of the Project:

Public Sector:

- Ministry of Health and Social Protection.
- Autonomous Corporation of Cundinamarca (CAR).
- Ministry of Commerce, Industry and Tourism.
- Ministry of Information, Technology and Communications (Computers to Educate Program).
- Regional Environmental Authorities.
- Institute of Hydrology, Meteorology and Environmental Studies (IDEAM).
- Public health institutions: San Rafael de Leticia Hospital, Manuel Elkin Patarroyo Hospital, San Juan de Dios Hospital, Clarencia Lynd Newball Memorial Hospital, Club Noel Children's Clinic Foundation.
- Departmental/Municipal Health Secretariats: Amazonas, Boyacá, Cesar, Cundinamarca, Cali and Envigado.

Private Sector:

Health Sector:

- FUTURASEO
- PRESERVEC

Metallurgy Industry:

- GERDAU DIACO
- SIDOC
- ALUMINA
- ATECO
- Cobres de Colombia

Biomass in Agriculture

- CENICAÑA
- ASOCAÑA
- FEDEARROZ

WAEE

- ECOCOMPUTO
- Instituto de Capacitación e Investigación del Plástico y del Caucho (ICIPC).
- LITO SAS
- GAIA VITARE SAS
- Innovación Ambiental – INNOVA SAS
- NEW STETIC
- ECOINDUSTRIA SAS
- Corporación LUMINA
- Corporación RED VERDE

NGO

- Association of recyclers and solid waste collectors.
- National Association of Industrialists (ANDI)

3.9 Context of other ongoing and previous evaluations

This Terminal Evaluation considers the results of the Mid-Term Evaluation (MTE) conducted in September 2020 as a relevant input. The findings and recommendations of the MTE are taken and analyzed and the actions taken by the Project Coordination Unit for each of them are assessed, in order to determine the progress and application of adaptive management in the overall implementation of the project during the second half of the execution period.

4. Findings

4.1 Project Design/Formulation

This section evaluates the project design as set out in the Project Document.

The project design is considered to be in line with national priorities as it was structured on the basis of the National Implementation Plan (NIP) developed to support compliance with the Stockholm Convention and on the basis of the national mercury inventory developed to support compliance with the Minamata Convention.

The 2010 NIP documents the first inventory of UPOPS emissions, which identifies the relevance of emissions from the health waste treatment sector, the steel industry and the sugar sector. Although not considered in

the 2010 PNI, the project includes the WEEE sector as a priority sector because it is one of the fastest growing waste streams in recent years and the country did not have adequate capacity for its treatment and disposal. In relation to compliance with the obligations under the Stockholm Convention, the project was designed to support 3 of the 8 priority activities agreed at the national level.

The mercury inventory shows that the health sector and WEEE only contribute 3%, not being the main contributors, even so the project design involves these sectors as it identifies the potential synergy and effectiveness of results by incorporating improvements in mercury management in conjunction with the reduction of UPOPS.

Although the project has undergone modifications during implementation (as a result of adaptive management), it is considered that the project design has been effective in enabling the project to achieve its objectives and expected results.

4.1.1 Analysis of Results Framework: Project logic and strategy, indicators

The Project Document establishes a clear and robust Theory of Change (ToC) where there is a clear definition of the national problem in each of the sectors as well as a clear strategy to address each of the identified barriers in order to achieve the established objectives. Likewise, there is a clear relationship between the activities proposed in each of the components and the achievement of the results.

The results framework defined for the project has indicators that meet the SMART criteria (specific, measurable, achievable, relevant and time-bound). Regarding the definition of sex-disaggregated and gender-sensitive indicators, they are not evident in the results framework.

4.1.2 Assumptions and Risks

Risks and assumptions were adequately identified during the project design stage. The project design defined assumptions for each of the indicators in the results framework. On the other hand, social and environmental, operational, organizational, strategic and political risks were identified. For each of the risks, their importance was categorized (by means of their probability and impact) and the corresponding mitigation measures were established. Adequate monitoring of these risks has been evidenced throughout the execution of the project.

One of the risks that could not have been foreseen from the design stage for logical reasons was the risk resulting from the COVID 19 pandemic. These included (in addition to the request for a one-year extension of the execution period) the review of each of the agreements with the interested parties, identifying the risks and establishing the necessary adjustments and modifications to guarantee the achievement of the proposed objectives.

4.1.3 Lessons from other relevant projects (e.g. same focal area) incorporated into project design

The project design does not report references to other similar projects in the region. Similarly, throughout its implementation, the project has participated in all the regional meetings of the UNDP/GEF chemicals and waste portfolio, which allowed for the exchange of experiences and lessons learned.

4.1.4 Planned stakeholders participation

The project document does not have a Stakeholder Involvement Plan. Stakeholders were consulted during the project preparation phase and their opinions and suggestions were considered in the preparation of the document. During the consultations, the stakeholders identified, both from the public and private sectors, expressed interest and willingness to participate during the project execution years.

Stakeholder involvement and commitment is also evidenced by the cofinancing document, which details the planned activities and analyzes the risks involved in each one of them.

It is important to note that at the beginning of project implementation the identified steel sector stakeholders, for different reasons, decided not to take part in the project activities. Similarly, the stakeholders in the

sugarcane sector were not sufficient to achieve the objectives set. This forced the project to involve a new group of stakeholders from both the metallurgical and rice sectors in the first years of implementation.

4.1.5 Linkages between Project and other interventions within the sector

There is no evidence in the project design of linkages with other complementary interventions or specific coordination with other relevant GEF-funded projects and/or other initiatives.

The only general mention is that the project will closely observe the activities to be implemented in other countries of the region through the promotion of South-South and Triangular Cooperation.

4.1.6 Gender responsiveness of Project design

The project design has taken gender considerations into account, as evidenced in the "Gender Mainstreaming" section. There the project analyzes in a preliminary manner the gender aspects related to the project activities addressing each of the sectors: health sector, WEEEs, steel industry and sugar cane industry, and defines general guidelines for the gender approach in each sector.

It also indicates that all project activities will be implemented with a gender perspective in a way that prevents, mitigates and corrects conditions where women and men (and sometimes children) are exposed to unintentional POPs, brominated flame retardants and mercury.

While the design considers gender mainstreaming, it is not translated into a concrete Gender Action Plan.

The project design has considered a Gender Marker 1 "Projects that will contribute in some way to gender equality, but not significantly", which is considered adequate and realistic. which is considered adequate and realistic within the framework of the project design.

4.1.7 Social and Environmental Safeguards

The project design identified social and environmental risks in line with UNDP standards. A total of 7 risks were identified, of which 6 were assessed as Low and 1 as Moderate. The overall project design was categorized as low risk. Within the context in which the project was designed, these risks are considered adequate and the mitigation measures correctly established.

4.2 Project Implementation

4.2.1 Adaptive Management

During its implementation, the project has faced the following modifications with respect to its original design:

1. Biomass in the sugar cane sector: originally the project proposed to work on the sugar cane crop for the reduction of UPOPS but at the time of implementation and evidenced with measurements it was proven that the dioxins and furans available in said crop were not relevant so the commitment to reduce releases was complex to achieve. Based on this, it was decided to identify other crops that were relevant in terms of dioxins and furans. Based on a study conducted by the company CAIA ingeniería, in which field visits identified that the rice sector was burning biomass, confirming the generation of dioxins and furans through measurements and ashes, it was included in the scope of the project.

2. Steel industry: Originally the project proposed to work with four companies in the steel industry that had expressed interest in participating in the project, but at the time of implementation they withdrew for various reasons. Based on this, it was decided to identify industries that contribute UPOPS emissions and that would allow the project to achieve its objectives. As a result of this analysis, the metallurgical industry was identified and involved, particularly the aluminum and copper industry.

At the same time, due to the limitations caused by the COVID-19 pandemic, the project requested a one-year extension of the execution period.Todas estas modificaciones fueron presentadas y aprobadas en las reuniones del Comité directivo (referencias Actas Comité Directivo Nº4 y Nº5).

The following are the recommendations resulting from the Mid-Term Evaluation, for which there were no documented management responses. During the Terminal Evaluation, each of the recommendations was evaluated.

Table 5. Evaluation of MTR recommendations

#	Recommendation	Responsible	Management Response	TE Comments
A	Component 1			
A.1	Implement expert review and advice for the design of UPOPS emissions testing and measurement campaigns at industrial sources.	Project Team	Hire an expert	The project adopted this recommendation and CAIA engineering was contracted. Evaluations of the production processes of the following companies were carried out: Alumina Cobres de Colombia Ateco Alumetales SIDOC DIACO As a result, four documents with recommendations were obtained.
A.2	Conduct an objective analysis on the real feasibility of successful agreements with partners Futuraseo and Alumina, and make the pertinent decisions.	Steering Committee	Report to the Steering Committee	In relation to Futuraseo, the project had established a Collaboration Agreement 003 of 2018. In follow-up to the execution of the agreement, the project based on what was documented and reported by FUTURASEO evaluated that the F&Q 100 machine was not operationally suitable to continue the management of the quantities of hospital waste agreed upon. Accordingly, a decision was made with FUTURASEO to terminate the Collaboration Agreement early and by mutual agreement because the F&Q 100 machine does not operationally meet the expected performance. With respect to Alumina, during the Mid-Term Evaluation, the company, due to the context of the pandemic, agreed to a debt restructuring plan that made it impossible to make investments. Based on this, the project analyzed the terms of the agreement and assessed its risks, generating the appropriate modifications and adoption of additional clauses. Finally, Alumina did not present any problems in meeting the commitments assumed under the project.
A.3	Follow up on demonstration projects that present risks in terms of potential additional POPs emissions (Ecologística).	Project Team	Direct action to the Project Manager	Finally, the project decided not to move forward with the demonstration projects in Chocó because the proposed financial conditions did not meet the project's financing requirements.
A.4	Manage demonstration project for the co-processing in cement	Project Team	Direct action to the Project Manager	The project requested technical and economic proposals from Holcim, Argos and Cemex; however, Holcim was selected to develop the activity. The contract included monitoring of

	kilns of non-recyclable plastics from WEEE.			atmospheric emissions of dioxins and furans, and 92 tons of plastics were co-processed.
B	Component 3			
B.1	Promote mechanisms and provide tools to strengthen POPs analytical capacity at the national level.	Project Team	Direct action to the Project Manager	The project mainly worked with the Institute for Training and Research on Plastics and Rubber (ICIPC), verifying the laboratory test (under IEC 62321) to determine brominated POPs in plastics. This generated installed capacity. A workshop on "Validation and accreditation of laboratory tests for POP and Hg analysis" was held with the participation of 6 laboratories in the country.
B.2	Ensure the availability of consolidated reports resulting from the expert consultancies developed in the context of the project.	Project Team	Direct action to the Project Manager	The project publications with ISBN registration are available on the platform https://quimicos.minambiente.gov.co On the other hand, the consolidated reports resulting from expert consultancies are available for consultation upon request, but cannot be published.
C	Componente 4			
C.1	Implement a robust and permanent platform from which the large amount of products, experiences and knowledge accumulated within the framework of the project can be disseminated (Project web page).	MADS - DAASU	Direct action to the Project Manager	The platform is available and can be accessed through the following link: https://quimicos.minambiente.gov.co It communicates not only project information but also information from the Chemical Substances and Hazardous Waste Group and the Ozone Technical Unit. At present, the platform does not have a statistics tool for consultation. The maintenance of the platform is already independent of the project resources.
D	Sustainability			
D.1	Promote a process to update the regulations on POPs emissions, particularly Resolution 909 of 2008.	MADS - DAASU	Direct action to the Project Manager	The project prepared a document "Regulatory analysis of dioxin and furan emissions" in order to establish the pertinent modifications to the air quality standard for stationary sources in the country. The project prepared a document "Regulatory analysis of dioxin and furan emissions" in order to establish the relevant modifications to the air quality standard for stationary sources related to dioxins and furans (Resolution 909/2008 and Resolution 760/2010) based on the lessons learned from the project. This document was submitted as technical input to the air quality unit for consideration.
D.2	Prioritize and closely follow up the process of approval and	MADS - DAASU	Direct action to the	The August 2022 WEEE regulation has been approved and promulgated. It is available at the following platform link:

	promulgation of WEEE regulations, currently under review.		Project Manager	https://www.minambiente.gov.co/wp-content/uploads/2022/08/Resolucion-0851-de-2022.pdf
E	Extensión del Proyecto			
E.1	Consider extending the project implementation period by 12 months (6 months for implementation and 6 months for closure activities). This extension will allow prioritizing a successful closure of the different demonstration projects, and recovering the time available for project activities that have been affected by the Covid 19 crisis.	UNDP-GEF	Report to the Steering Committee	The Steering Committee at its January 22, 2021 meeting approves the extension request for a 12-month period, extending the project completion to December 2022. For each of the Agreements established for the execution of the project, the risks and execution deadlines were evaluated and appropriate measures were adopted, as reflected in the modifications to the Agreements.

4.2.2 Actual stakeholder participation and partnership arrangements

The project is evaluated as having successfully achieved the participation and involvement of different relevant stakeholders in the different sectors addressed by the project. The main mechanism through which the project has achieved this involvement and the attainment of the project's objectives was the establishment of the Stakeholder Collaboration Mechanisms. The project established a total of twenty-five (25) Collaboration Mechanisms with actors from different sectors: 8 mechanisms in the WEEE sector, 6 mechanisms in the hospital waste sector, 5 mechanisms in the metallurgical industry sector, 3 mechanisms in the agricultural biomass sector and 3 mechanisms for mercury management.

It is worth noting the degree of involvement achieved mainly by the private sector in the demonstration projects, as well as the incorporation of a representative of the Environmental Vice-Presidency of the National Association of Colombian Businessmen (ANDI) in the Project Steering Committee.

As for the government sector, at the national level the project was led by the Ministry of the Environment and Sustainable Development through the Directorate of Environmental, Sectoral and Urban Affairs (DAASU). Relevant government authorities have also been involved, such as the Ministry of Health for hospital waste, as well as the Ministry of Commerce, Industry and Tourism and the Ministry of Information, Technology and Communications for the management of waste electrical and electronic equipment. On the other hand, the involvement of the Ministry of Agriculture and Rural Development in relation to activities in the agricultural sector has not been achieved.

At the regional/local level, the regional environmental authorities have been involved as well as the following local health secretariats: Amazonas, Boyacá, Cesar, Cundinamarca, Cali and Envigado.

The project involved:

- 16 associations of recyclers, 9 of them led by women, in Cundinamarca and Antioquia and 7 scrap metal warehouses strengthening the capacity of recyclers.

- 60 families led by women in Corinto (Cauca) for productive initiatives as an alternative to burning biomass.

- 50 teachers for strengthening pedagogical strategies with 3D printing.

- 22,000 people in 6 areas of the country sensitized on the management of mercury in homes.

Throughout the different interviews conducted with the stakeholders and beneficiaries of the project, the degree of conformity with the process of involvement that they have had from the design of the interventions to the execution and achievement of results was evident. In general, the quality of the technical support and rigorous follow-up provided by the project team was highlighted, as well as the positive assessment of the results obtained and the benefits derived from them.

As a strategy for disseminating results, the parties involved in the project highlighted the workshops held where each stakeholder presented in person the work carried out within the framework of the project, the benefits obtained and the lessons learned. It should be noted that all the stakeholders interviewed expressed interest in continuing to work on projects of this nature because of the good experience they have had.

4.2.3 Project Finance and Co-Finance

The budget execution review of the previous year and the reasons for any deviation, as well as the estimated budget for the current year based on the business plan, are evidenced. This information is validated and approved annually by the Steering Committee.

The project has also received external audits on an annual basis. The reports available for the years 2017,2018,2019, 2020 and 2021 assess that the Combined Expenditure Reports- CDR "present fairly and in all material respects the expenditures incurred in the project". The report for the year 2022 has not been officially issued. A preliminary report is available, which would present a similar evaluation.

The level of budget execution evidenced by the project is detailed below:

Table 6. Budget Execution

	PRODOC	Execution USD						
	Budget	2017	2018	2019	2020	2021	2022	TOTAL
COMP 1	3,861,000	153,039.49	319,909.67	63,7768.75	746,196.83	1,298,438.49	628,762.04	**3,784,115.27**
COMP 2	686,000	49,518.92	204,605.14	171,490.11	103,855.56	72,869.03	70,695.07	**673,033.83**
COMP 3	770,000	50,966.59	64,724.98	14,0931.65	87,013.97	136,326.84	269,525.79	**749,489.82**
COMP 4	203,000	10,289.89	23,460.59	12,880.6	84,154.05	14,501.48	50,378.44	**195,665.05**
Project Mgmt	280,000	9,794.58	60,025.65	52,629.05	24,745.33	42,618.27	84,370.98	**274,183.86**
TOTAL	**5,800,000**	**273,609.47**	**672,726.03**	**1,015,700.16**	**1,045,965.74**	**1,564,754.11**	**1,013,732.32**	**5,676,487.83**

The project has shown a very good budget execution, with 97.87% of the total GEF grant being executed, due to adequate follow-up and availability of information that has allowed effective and informed decision making for planning and resource allocation in the execution of activities.

In terms of cofinancing, the project has been successful. In the first place, it has been able to demonstrate a higher co-financing (approximately 67% higher) than that established in the Project Document, and secondly, 91% corresponds to co-financing granted by the private sector. This again shows the degree of involvement

and commitment of the project's stakeholders. The following is a detail of the co-financing foreseen in the project document together with the detail of the co-financing obtained at closing.

Table 7. Co-financing Table

Cofinancing (tipo/fuente)	UNDP Financing (USD)		Government (USD)		Partner Agency (USD)		Total (USD)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grant	-	-	4,340,323	4,260,337.03	27,774,695	50,050,475.93	32,115,018	54,310,812.96
Loans/Concessions	-	-	-	-	-	-	-	-
In kind	-	-	800,000	822,946.64	-	-	800,000	822,946.64
Other	-	-	-	-	-	-	-	-
Total	-	-	5,140,323	5.083.283.67	27,774,695	50,050,475.93	32,915,018	55,133,759.6

Table 8. Confirmed Sources of Co-financing at TE Stage

Sources of Co-financing	Name of Co-financer	Type of Co-financing	Investment Mobilized	Amount (USD)
Private Sector	Corporación Ecocomupto	Grant	Investment Mobilized	1,889,689.2
	Futuraseo RPHS S.A.S. E.S.P.	Grant	Investment Mobilized	185,317.1
	Diaco S.A.	Grant	Investment Mobilized	3,099,312.5
	Alumina – Aluminio Nacional S.A.	Grant	Investment Mobilized	534,708.9
	Lito S.A.S	Grant	Investment Mobilized	420,460.5
	New Stetic S.A. Productora y Comercializadora Odontológica	Grant	Investment Mobilized	150,270.3
	Lúmina – Corporación Posconsumo de Iluminación	Grant	Investment Mobilized	2,943,823.6
	Innovación Ambiental Innova S.A.S. E.S.P.	Grant	Investment Mobilized	819,532.9
	Ecoindustria S.A.S. E.S.P.	Grant	Investment Mobilized	33,280.5
	Fundación Clínica Infantil Club Noel	Grant	Investment Mobilized	14,742.3
	Red Verde – Corporación para el Manejo Posconsumo de Electrodomésticos	Grant	Investment Mobilized	549,111.4
	Asocaña	Grant	Investment Mobilized	2,724,4324.3
	FEDEARROZ	Grant	Investment Mobilized	8,924,141.1
	ATECO	Grant	Investment Mobilized	199,383.7
	Cobres de Colombia	Grant	Investment Mobilized	680,370.4
	SIDOC	Grant	Investment Mobilized	2,362,007.3
Public Sector	Computadores para Educar CPE	Grant	Investment Mobilized	3,974,864.9

	Hospital Puerto Inírida	Grant	Investment Mobilized	266,213.5
	Hospital Leticia	Grant	Investment Mobilized	7,959.2
	Hospital Puerto Carreño	Grant	Investment Mobilized	11,308.4
	Minambiente	In kind	Recurrent Expenditures	822,946.6
TOTAL COFINANCING				**55,133,759.6**

4.2.4 Monitoring & Evaluation: design at entry, implementation, overall assessment of M&E.

The monitoring and evaluation tools are defined in the project design (Table 6). The following are evidenced there: Inception and Reporting Workshop; UNDP Standard M&E Requirements, Results Framework Indicator Monitoring, GEF Project Implementation Report (PIR), NEX Audit as per UNDP audit policies, Supervision and Audit Missions, Knowledge Management, Field visits and learning missions by the GEF Secretariat, GEF Mid-Term Monitoring Tool Update, Mid-Term Evaluation and Terminal Evaluation (and their corresponding translations). These monitoring and evaluation activities have assigned budgets and implementation timeframes/frequencies that are assessed as adequate for project follow-up.

A detailed monitoring plan on the project results framework, including overall environmental benefits, is also included (Annex 2).

The monitoring and evaluation activities were duly implemented. Among other activities, the following are highlighted: the Inception Workshop, quarterly Progress Reports, GEF Project Implementation Reports (PIR), Mission Reports/Ampo Visits, annual monitoring of indicators and the GEF Tracking Tool. The recommendations made by the Mid-Term Evaluation were duly considered by the Project Coordination and the necessary actions were taken. Likewise, annual Steering Committee Meetings were held, where information sharing made it possible to adequately monitor the project and make the appropriate modifications (adaptive management) to improve implementation and achieve the objectives.

It is considered that the project risks were duly monitored, highlighting mainly the work done on the collaboration agreements established within the framework of the limitations due to the pandemic, which were reviewed identifying the potential risks for the achievement of the objectives in order to proceed with their adequate modification and/or mitigation.

The following Table presents the evaluation of the design, implementation and overall quality of the M&E.

Table 9. Monitoring and Evaluation (M&E) Results

1. Monitoring & Evaluation (M&E)	Rating
M&E design at entry	S
M&E Plan Implementation	HS
Overall Quality of M&E	HS

See Annex 6.6. “Summary of rating scales”

4.2.5 UNDP implementation/oversight, Implementing Partner execution and overall assessment of implementation/oversight and execution.

The Project Executing Agency was the United Nations Development Programme (UNDP) and the project was executed under the National Implementation modality with support from the UNDP country office, following the organization's standard rules and procedures within the framework of the GEF for project execution. The project was executed and managed by the Ministry of Environment and Sustainable Development, with UNDP support.

Interviews with different stakeholders revealed that UNDP support and follow-up has been very close and rigorous in order to achieve the expected results and ensure that the project remains aligned with national policies, providing feedback and support whenever necessary. At the same time, the reports have been assessed as sufficiently realistic.

Regarding the Ministry of Environment and Sustainable Development (MADS) as implementing partner, it is noted that there have been 2 changes in the Directorate of Environmental Affairs and Urbanization (DAASU) throughout the implementation of the project. This situation has not hindered the progress of the project.

It is assessed that the Directorate has given due support through its participation and involvement in the annual meetings of the Steering Committee (6 meetings in total).

Table 10. Implementing Agency (IA) Implementation & Execution Agency (EA) Execution Evaluation.

2. Implementing Agency (IA) Implementation & Execution Agency (EA) Execution	Rating
Quality of UNDP Implementation/Oversight	HS
Quality of Implementing Partner Execution	HS
Overall quality of Implementation/Execution	HS

Seer Annex 6.6. “Summary of rating scales”

4.2.6 Risk Management

During the project design phase, 14 risks were identified, of which 7 corresponded to the "social and environmental" category, 2 to "operational" risks, 3 to "strategic" risks, 1 to "political" and 1 to "organizational". For each of them, the probability of occurrence and impact were analyzed, determining their importance and establishing the corresponding mitigation strategies.

The following table details the risks identified in PRODOC:

Table 11. Project Risks

		Category	Significance	Management Measures
1	The project may possess potential community health and safety risks due to the transportation, storage, use, and/or disposal of hazardous materials (e.g., explosives, fuels, and other chemicals during construction and operation)	Social and Environmental	Low	No specific management measures are required, considering that the main objectives include i) reducing the generation of POPs/Hg-containing products and improving the management of POPs/Hg-containing wastes; and ii) improving the management of agricultural, hospital, scrap and WEEE wastes whose open burning and incineration result in the release of unintentional POPs and other toxic substances. The project will include measures, guidelines and standards to improve the management of various types of hazardous and non-hazardous wastes (in line with the guidelines provided by the Basel Convention) to minimize potential risks to community health and safety due to the transport, storage, use and/or disposal of hazardous or noxious materials.
2	The project may possess potential occupational safety and	Social and Environmental	Low	Following the baseline and assessed needs, demonstration projects will include measures,

	health related risks and vulnerabilities due to physical, chemical, biological and radiological hazards during construction, operation and decommissioning phases.			guidelines, standards and technologies for better management of various types of hazardous and non-hazardous waste (in line with the guidelines provided by the Basel Convention) to minimize potential health and environmental risks. The occupational health of workers is ensured through training provided to workers and company owners. A strategy will also be established for risk and labor insurers; these entities ensure compliance with Colombia's occupational health regulations and also carry out control and monitoring according to established standards.
3	The project supports jobs or livelihoods that may contravene national and international labor standards (such as principles and standards of ILO core conventions)	Social and Environmental	Low	The project helps involve waste collectors and recyclers' associations in the cities of Medellín and Cali, who recover scrap metal from municipal solid waste streams, and helps improve the working conditions and incomes of street collectors participating in these demonstration projects. Second, the project helps to identify and create livelihood alternatives for women heads of household, who are currently the main burners of biomass from sugarcane. In both cases, the project anticipates improved working conditions and increased income, ILO standards will be reviewed during the development of the MPA/MTA guidelines. Regarding the 10 demonstration projects, following the baseline and needs assessment, the demonstration projects involve measures, guidelines, standards and technologies for the improvement of the management of various types of hazardous and non-hazardous wastes (in line with Basel Convention guidelines) to reduce/minimize the release of mercury pollutants, POPs and other chemicals of concern. At the same time, the project will strengthen the institutional, administrative, legal, technical and regulatory framework at the national level to reduce the release of unintentional POPs and mercury in line with international Conventions related to these chemicals. All demonstration projects - which are being implemented by legal entities - are expected by law to adhere to the new regulatory measures developed and adopted. Monitoring of the operation and performance of these entities is the responsibility of the national compliance agency, but also supported by the project.
4	Indigenous peoples may potentially be located in the project area (including the area of influence of the project).	Social and Environmental	Low	The communities located in the Amazon region are expected to benefit from the hospital waste demonstration project as they make use of the health facilities that are participating in the project and live in the vicinity of them; therefore, they are currently exposed to any negative impacts of hospital waste and associated contamination. The project will organize workshops and invite representatives from the communities, consequently improving hospital waste management, generating a reduction in

				environmental contamination and health impacts due to the chemicals released, and improving infection control within the hospitals participating in the demonstration project.
5	The project could potentially result in the release of contaminants into the environment due to routine and non-routine circumstances, with the potential to cause adverse local, regional and/or transboundary impacts.	Social and Environmental	Low	With respect to the 10 demonstration projects, following the baseline and assessed needs, the demonstration projects will include measures, guidelines, standards and technologies for the improvement of the management of various types of hazardous and non-hazardous wastes (in line with Basel Convention guidelines) to reduce/minimize the release of mercury pollutants, POPs and other chemicals of concern. At the same time, the project will strengthen the institutional, administrative, legal, technical and regulatory framework at the national level to reduce unintentional POPs and mercury in line with international Conventions related to these chemicals. All demonstration projects - which are being implemented by legal entities - are expected by law to adhere to the new regulatory measures developed and adopted. Monitoring of the operation and performance of these entities is the responsibility of the national compliance agency, but also supported by the project.
6	The proposed project could potentially result in the generation of wastes (both hazardous and non-hazardous).	Social and Environmental	Moderate	No management measures are required, considering that one of the objectives is to reduce the generation of POPs/Hg-containing (hazardous) wastes by introducing alternatives to POPs/Hg-containing products and improving the management of POPs/Hg-containing wastes or wastes that potentially lead to the generation of POPs and mercury. In addition, the project helps to improve the management of other types of waste (agricultural, hospital, scrap metal and WEEE) that currently lead to the release of unintentional POPs. Overall, the project will result in a reduction in hazardous waste generation and improve the management of hazardous and non-hazardous waste.
7	The proposed project will potentially involve the release of hazardous chemicals and/or materials.	Social and Environmental	Low	With respect to the 10 demonstration projects, following the baseline and assessed needs, the demonstration projects will include measures, guidelines, standards and technologies for the improvement of the management of various types of hazardous and non-hazardous wastes (in line with Basel Convention guidelines) to reduce/minimize the release of mercury pollutants, POPs and other chemicals of concern. At the same time, the project will strengthen the institutional, administrative, legal, technical and regulatory framework at the national level to reduce unintentional POPs and mercury in line with international Conventions related to these chemicals. All demonstration projects - which are being implemented by legal entities - are expected by law

				to adhere to the new regulatory measures developed and adopted. Monitoring of the operation and performance of these entities is the responsibility of the national compliance agency, but also supported by the project.
8	There are no adequate BAT and BEP alternatives available locally.	Organizational	Moderate	Develop and establish economic incentives that support the substitution and upgrading process in waste management. Demonstration projects, benefiting from the advice of experts and consultants, will expose alternatives for the substitution, material recovery, and waste management processes.
9	BAT and BEP are not well implemented in the sectors involved in the project as they have encountered challenges.	Strategic	Moderate	Social aspects are integrated into the development of the pilot projects, such as the creation of alternative livelihoods for families currently involved in biomass burning. Gather and present financial incentives to make the necessary investments in the implementation of BAT and BEP found by the project. Provide technical support and build capacity among the authorities responsible for regulatory processes related to the management of mercury-containing waste and control of its releases.
10	Dificultades en obtener y adquirir Difficulties in obtaining and acquiring access to the information and data required to conduct inventories and baseline assessments.	Strategic	Low	Engage companies early in project implementation and encourage them to participate in capacity building and awareness raising activities. At the same time, encourage registration of waste generators and waste treatment facilities. Make use of national waste generation registries to obtain official information.
11	Trade, customs, and health authorities are not actively participating in the project or in the training components.	Politica	Moderate	Organize meetings and workshops with the Coordinators and technical officers of the relevant authorities to ensure their willingness to participate in the development of the regulatory measures developed by the project and advance their approval.
12	Laboratories are not making the necessary investments to strengthen their installed capacity to offer identification and analysis services for unintentional POPs or brominated flame retardants.	Strategic	Low	Promote economic instruments to support the replacement and updating of equipment for the analysis of unintentional POPs and brominated flame retardants. The project will implement two (2) training programs for laboratories focused on the validation of protocols for the measurement of unintentional POPs, brominated flame retardants, and mercury. This training component will also assist in the training of laboratories in the accreditation processes for these protocols.
13	The project experiences high staff turnover (both project and government entities) and is unable to engage high-level international experts.	Operational	Low	The project assists in the development of four (4) training programs oriented towards relevant authorities. These training programs will focus on the incorporation of measures, practices and technologies (BEP and BAT) that could prevent and reduce releases of unintentional POPs and mercury.

				The project will advertise positions for international experts through the UNDP job vacancies website, network of experts and other UN agencies.
14	There is no wide dissemination (national, regional, global) of lessons learned and project results.	Operational	Low	Create opportunities for information exchange, sharing lessons learned and project results by organizing workshops, trainings and making use of media networks to disseminate project-related information.

From the analysis of the documents provided by the Project Team (Quarterly Reports, Annual Reports, PIR) it is concluded that systematic monitoring of the risks identified throughout the implementation of the project has been carried out.

Throughout project implementation, an emerging environmental and health risk associated with the COVID-19 outbreak was identified. To address this, the Colombian National Government established quarantines that forced the activities of several of the implementing partners to be halted, with a consequent impact on the schedule of activities. Since many of these activities will now require more time than initially established, going beyond the Project's term, it was established as a mitigation measure to extend the Project, as well as to make the corresponding adjustments to the budgets, work plans and collaboration agreements defined.

Specifically on Social and Environmental Risks, as documented in the PIR 2021, the SESP was reviewed. Once updated, the SESP resulted in the re-categorization of the project to "moderate" (initially classified as low), with the identification of the following 4 risks and their mitigation measures:

Table 12. Risks revision

Original Risk (in Prodoc)	Revised Risk	Original Rating	Revised Rating	TE Findings on the revision
Risk 3.2 The project may possess potential health and safety risks to the community due to the transportation, storage, use and/or disposal of hazardous materials (e.g., explosives, fuels and other chemicals during construction and operation)	Risk 1: During the implementation of the demonstration projects, accidental exposure to hazardous waste could occur during transportation, storage and treatment due to possible human error or non-compliance with established management standards.	I = 2; L = 2 Low	I=3; L=2 Moderate	It is assessed that this risk was correctly identified and the pilot projects have adopted adequate mitigation measures..
Risk 3.7 The project may possess potential occupational safety and health related risks and vulnerabilities due to physical, chemical, biological and radiological hazards during construction, operation and decommissioning phases	Risk 2: During the implementation of the mercury recovery and stabilization processes related to Component 2 of the Project, the personnel involved could be exposed if they do not follow the established occupational health and safety measures.	I = 4; L = 2 Low	I=3 L=3 Moderate	It is assessed that this risk was correctly identified and the pilot projects have adopted adequate mitigation measures.
Risk 3.8 The project supports jobs or livelihoods that may contravene national and international labor standards (such as principles and standards of ILO core conventions).	-	I = 2; L = 2 Low		
Risk 6.1 Indigenous peoples may potentially be located in the project area (including the project's area of influence).	-	I = 4; L = 1 Low		

Risk 7.1 The project could potentially result in the release of contaminants into the environment due to routine and non-routine circumstances, with the potential to cause adverse local, regional and/or transboundary impacts.	Risk 3: Although one of the pillars of the project is the application of Best Available Techniques and Best Environmental Practices (BAT/BEP), unintentional releases of pollutants to the environment in excess of established standards could occur during project implementation. Possible deviations from normal operating conditions at the implementing partners' facilities could affect local air, water and soil.	I = 2; L = 2 Low	I=3; L=3 Moderate	It is assessed that this risk was correctly identified and the pilot projects have adopted adequate mitigation measures.
Risk 7.2 The proposed project could potentially result in the generation of waste (both hazardous and non-hazardous).	Risk 4: Hazardous and non-hazardous waste may be generated during the execution of project activities, which, if not properly disposed of, could potentially impact the implementing partners' facilities or the area where the waste generator is located.	I = 2; L = 5 Moderate	I=3 L=3 Moderate	It is assessed that this risk was correctly identified and the pilot projects have adopted adequate mitigation measures.
Risk 7.3 The proposed project will potentially involve the release of hazardous chemicals and/or materials.	-	I = 2; L = 2 Low		

4.3 Project Results and Impacts

4.3.1 Progress Towards Objective and Expected Outcomes

In general terms, the results achieved by the project are evaluated as Highly Satisfactory.

Upon analyzing each of the indicators of the Results Framework, it has been evidenced by documentary means as well as by interviews and field visits that the results foreseen by the project have not only been achieved but also exceeded in their great majority.

At the time of this evaluation, all project activities have been 100% completed with their corresponding reports. Below is the Results Framework with the results obtained at the time of this evaluation:

Project Indicator	Target at the end of the project	Result achieved	Evaluación
A number of new collaborative mechanisms with funding for sustainable natural resource, ecosystem services, chemicals and waste management solutions at the national and/or subnational level, broken down by type of partnership.	Number of collaborative mechanisms for the sustainable management of WEEE (2), hospital waste management (4), metallurgy (4) and Biomass 1.	25 collaboration mechanisms with project stakeholders for the development of planned actions, all of them successfully completed. WEEE: 8 mechanisms Hospital waste: 6 mechanisms Metallurgy: 5 mechanisms Biomass: 3 mechanisms Other mercury management: 3 mechanisms	HS
100 g-TEQ of unintentional POPs releases avoided.	100 g-EQT of unintentional POPs releases avoided in the three sectors. During the years of project development.	124.43 g-EQT of unintentional POPs releases avoided in the sectors during the years of project development.	HS
300 kg of mercury treated and properly stored in the health and WEEE sectors.	300 kg of mercury-containing waste properly treated and stored.	1331.9 kg of mercury during the project development period were avoided or managed in an environmentally sound manner.	HS
COMPONENT 1: Prevent and minimize the generation of unintentional POPs and carry out their inventory.			
1.1 One (1) inventory of unintentional POPs developed.	One (1) completed inventory of unintentional POPs.	One (1) inventory of unintentional POPs developed and published.	S
1.2 Four (4) national level assessments in the sectors and assessment reports completed.	Four (4) completed national assessments. One (1) for health care waste, one (1) for WEEEs, one (1) for scrap metal and one (1) for biomass burning.	Four (4) national assessments completed and published.	S
1.3 Ten (10) demonstration projects implemented leading to the reduction of 100 g-TEQ unintentional POPs released.	1.3.1. Health: Four (4) demonstration projects fully implemented and result in 70 g-EQT reduction in unintentional POPs releases.	A total reduction of 124.43 g-EQT of unintentional POPs releases avoided in the different sectors was achieved as follows: Four (4) demonstration projects implemented in public hospitals in: Leticia (Amazonas); Puerto Inírida (Guainía); Puerto Carreño (Vichada); San Andrés (Archipiélago de San Andrés) and two (2) supports for hospital waste management in Chocó and Urabá. Reduction of 1.49 g TEQ of dioxins and furans in emissions associated with hospital waste management during the period 2018-2021.	HS
	1.3.2. Steel Industry: Four (4) demonstration projects completed and have resulted in the reduction of 10 g-EQT release of unintentional POPs.	Five (5) demonstration projects implemented in the steel (2), aluminum (2) and copper (1) sectors. Reduction of 66.3 g TEQ of dioxins and furans in the secondary metals sector during the period 2018-2021. (43.2 g TEQ from the steel industry, 19.4 g TEQ to the aluminum industry and 3.7 g TEQ to the copper industry).	HS

	1.3.3. Agricultural: One (1) demonstration project implemented, resulting in the reduction of 20 g-EQT of unintentional POPs releases.	Three (3) demonstration projects implemented in the sugar cane (2) and rice (1) sectors. Reduction of 56.6 g TEQ of dioxins and furans in the sugar cane and rice sectors.	HS
	1.3.4. WEEE: One (1) demonstration project completed in the WEEE sector, and 1,500 tons of plastics are properly managed/treated according to BAT and BEP, avoiding the release of 225 kg of PBDEs.	Five (5) demonstration projects implemented in the WEEE and WEEE plastics sector. 2,200 tons of WEEE plastics managed, enabling the use of 94% of this plastic, not contaminated with POPs. Of these, only 92 tons of plastic (4%) were identified as contaminated with POPs, which were disposed of in an environmentally sound manner, avoiding the release of approximately 330 kg of polybrominated biphenyl ethers (PBDE).	HS
COMPONENT 2 Prevention and reduction of mercury releases.			
2.1 One (1) comprehensive assessment on the use of mercury-containing equipment in the health sector and one (1) guide on the substitution of mercury-containing equipment in the health sector formulated and developed.	One (1) completed assessment on the use of mercury-containing equipment in the health sector, including type, quantities, and disposal methods.	One (1) national assessment of mercury-added products developed.	S
	One (1) mercury-containing equipment replacement guide formulated.	Two (2) guidelines for the substitution of mercury-added products in health care activities and guidelines for the proper use and handling of amalgams.	S
2.2. Two (2) demonstration projects implemented in the health and WEEE sector as a result of improved management and the substitution of 300 kg of mercury through the introduction of BAT and BEP.	Health: One (1) demonstration project completed on the substitution of mercury-containing medical equipment, and proper treatment and disposal of mercury waste in the health sector, resulting in the substitution of 14 kg-Hg from the four hospitals participating in the substitution demonstration projects, and the collection, management, and treatment of 87 kg-Hg originating from the demonstration projects on unintentional POPs in hospitals located in four districts.	Two (2) demonstration projects were implemented: A project for the substitution of mercury-containing thermometers in a health care institution, as well as six (6) campaigns for the substitution of mercury-containing thermometers in the home environment, with the support of six Health Secretariats. In addition, a demonstration project was carried out for the technological reconversion of the national manufacturer of dental amalgams. As a result, 698.48 kg of mercury have been managed in an environmentally appropriate manner.	HS
	WEEE: One (1) demonstration project completed on the proper management and disposal of used lamps and batteries in the WEEE sector, resulting in the treatment and proper storage of 199 kg of mercury, 194 kg-Hg of used lamps, and 5 kg-Hg of used batteries.	Three (3) demonstration projects were implemented for the proper management of fluorescent light bulb and button cell waste. In addition, we supported a recyclers' association in its environmental licensing process for the management of WEEE. More than 8 tons of mercury-containing waste, estimated to contain 198.17 kg of mercury, were recovered and treated,	S

		mainly from waste button batteries and compact fluorescent light bulbs.	
COMPONENT 3 Strengthening the institutional, administrative, legal, technical and regulatory framework for the reduction of unintentional POPs and mercury.			
3.1 Four (4) national guidelines based on BAT/BEP, and two (2) technical regulations, one on WEEE and the other on hospital waste management published.	Four (4) national guidelines based on BAT and BEP finalized.	Six (6) national guides based on BAT and BEP developed.	HS
	One (1) technical regulation on hospital waste management finalized.	One (1) draft technical regulation that includes the Manual for the Integrated Management of Waste Generated in Health Care.	S
	One (1) technical regulation on WEEE management finalized.	Four (4) technical regulations issued related to WEEE management. In addition, support was provided for the publication of the National Policy for the Integrated Management of WEEE.	HS
3.2 One (1) registration system for the generation and management of WEEE in Colombia has been established.	One (1) Registration System tested and operational.	Five (5) information management tools on the generation and management of WEEE developed, tested and in operation as a system for recording information on WEEE.	HS
	Two (2) training programs on measurements, methods, and technologies to reduce releases of unintentional POPs/Hg in the health and WEEE sectors used to train 32 national authorities. Materials published on Minambiente's website	Ten (10) training programs were developed during the implementation of the Project, reaching 3,779 people (1,278 women and 2,501 men) who have been trained. The people trained represent 40 national authorities and 21 laboratories that have attended different programs and events.	HS
	Two (2) training programs on measurements, methods, and technologies to reduce releases of unintentional POPs/Hg in the metallurgical and sugar production sectors used in the training of 32 authorities. Materials published on Minambiente's website		
	One (1) training program for the validation of protocols for the measurement of unintentional POPs, brominated flame retardants and mercury used to train the personnel of 20 laboratories.		
	One (1) training program on accreditation processes for the validation of protocols for the measurement of unintentional POPs, brominated flame retardants and mercury used to train the personnel of 20 laboratories.		
COMPONENT 4. Dissemination of lessons learned, Monitoring and Evaluation			

4.1 Two (2) publications with lessons learned about the demonstration projects published.	Two (2) publications on lessons learned from the demonstration projects developed, published and disseminated (one on unintentional POPs and one on mercury).	Publication of lessons learned with two (2) chapters specific to unintentional POPs and mercury.	S
4.2 One (1) Project Initiation Workshop and five (5) annual workshops organized.	Five (5) workshops conducted to communicate project progress and results to project participants.	One (1) start-up workshop and six (6) annual workshops conducted. In addition, four (4) regional workshops were held in 2022 to socialize the final results of the project.	S
4.3 One (1) mid-term report and one (1) terminal evaluation report prepared.	Final evaluation prepared and lessons learned obtained.	In progress	In progress

4.3.2 Relevance (*)

The relevance of the project is considered satisfactory for the following reasons:

a) It is aligned with national priorities:

It is highlighted that its design and implementation was mainly aligned with: i) the commitments assumed by the country under the Stockholm and Minamata Conventions; ii) National Development Plan (2013-2018/2019-2024); iii) National Hazardous Waste Policy (2005-2018/2022-2030); iv) National WEEE Policy (2017-2032); v) Strategic Approach to International Chemicals Management (SAICM).

b) It is aligned with UNDP and GEF strategic priorities:

It is highlighted that its design and implementation was mainly aligned to: i) United Nations Development Assistance Framework for Colombia and the Country Program Document (2015-2019/2021-2024); ii) Sustainable Development Goals (SDGs 3 and 12); iii) the GEF long-term goal in the focal area of Chemicals and Waste.

c) It has evidenced a strong involvement of stakeholders relevant to the scope of the project, through the evidence previously described in section 4.2.2.

4.3.3 Effectiveness (*)

Effectiveness is the extent to which the project objectives have been achieved. In this sense, the project is evaluated as having had a Highly Satisfactory effectiveness. This evaluation is based on the following considerations on the different expected results:

Output 1. Prevent and minimize the generation of unintentional POPs and carry out their inventory.

Output 1.1. One (1) inventory of unintentional POPs developed.

The National Inventory of unintentional POPs was developed, made public and socialized with information for the year 2018, considering the guidelines of the 2013 Toolkit.

Output 1.2. Four evaluations at national level in the sectors and evaluation reports finalized.

Four National Assessments were conducted on: i) the integrated management of hazardous waste with biological or infectious risk in entities that provide health care services in Colombia (published on Web); ii) the implementation of Best Available Techniques (BAT) and Best Environmental Practices (BEP) in the production process of the Colombian steel and metallurgical industry (published on Web); iii) the management of waste electrical and electronic equipment - WEEE in Colombia (in process of publication on Web). The evaluation of biomass burning was addressed through several documents: a) Diagnosis to advance the inventory of unintentional POPs (includes rice, corn, banana, plantain, oil palm, among others); and b) Reports of results of dioxin and furan releases from biomass burning in wood stoves April 2019 and biomass burning 2020 (published on Web as Annexes 3 and 4 of the National Inventory of unintentional POPs).

Output 1.3. Ten (10) demonstration projects implemented leading to the reduction of release of 100 g-TEQ of unintentional POPs.

The following demonstration projects were implemented:

a) Acquisition and installation of three (3) treatment systems in public hospitals in: i) Leticia; ii) Puerto Inírida and iii) Puerto Carreño.

Technical assistance was provided to obtain the environmental license for the operation of the health care waste treatment system (bio-sanitary) at the San Andres departmental hospital.

In addition, support was provided for the environmentally appropriate management of 139 tons of waste in public hospitals in: Chocó (3 municipalities) and Urabá (9 municipalities).

b) Implementation of Best Available Techniques (BAT) and Best Environmental Practices (BEP) in 5 companies producing and using secondary metals nationwide: SIDOC SAS (steel); Gerdau Diaco Colombia (steel); Alumina S.A. (aluminum); Ateco SAS (aluminum) and Cobres de Colombia (copper). By improving the quality of the scrap that reaches the smelting furnaces (reducing the amount of plastics, foams, rubber and other materials) and through the adaptation of the furnaces, energy reconversion and improvement of the emission control systems, a reduction in the release of unintentional POP emissions and other pollutants was achieved.

c) Implementation of 3 demonstration projects for the use of agricultural harvest residues (RAC) as part of the fuel in boilers for energy generation in the sugarcane agroindustrial sector, implementation of sustainable production initiatives to avoid practices

that involve burning biomass in the sugarcane sector, and application of biological decomposers of rice chaff to avoid burning: Cenicaña, Asocaña and Fedearroz.

d) Actions were implemented to promote the processes of identification, separation and environmentally sound management of WEEE plastics through partnerships with: Computadores para Educar, Lito SAS, Red Verde, Ecocómputo, ICIPC and GAIA Vitare.

Outcome 2. Prevention and reduction of mercury releases.

Output 2.1. One (1) comprehensive assessment on the use of mercury containing equipment in the health sector and one (1) guide on the substitution of mercury containing equipment in the health sector formulated and developed.

The document National evaluation of mercury-added products was prepared and is in the process of final layout adjustments for its subsequent publication. Contributed to the preparation of the following documents: i) Guidelines for the substitution of mercury-added products other than dental amalgam, which is in the process of final layout adjustments for subsequent publication and ii) Guidelines for the controlled use of dental amalgam in dental services.

Output 2.2. Two (2) demonstration projects implemented in the health and WEEE sector, as a result of improved management and the replacement of 300 kg of mercury through the introduction of BAT and BEP.

The demonstration projects implemented in the health sector were: i) Fundación Clínica Infantil Club Noel for the substitution of mercury thermometers and sphygmomanometers at the institutional level; ii) New Stetic S.A. for the substitution of mercury in its dental amalgam production process.

The health secretariats at departmental and local level were: Amazonas, Boyacá, Cesar, Cundinamarca, Cali and Envigado.

The demonstration projects implemented in the WEEE sector were: i) LÚMINA to implement BAT and BEP in a post-consumer management program for fluorescent bulb waste; ii) ECOINDUSTRIA SAS to develop the country's capacity for the decontamination process of fluorescent bulb waste containing mercury, allowing its subsequent use; iii) Innovación Ambiental (INNOVA SAS) for the treatment of mercury-containing waste from the WEEE sector, through chemical stabilization and encapsulation processes.

Technical assistance for environmental licensing for WEEE management was provided to the Puerta de Oro Recyclers Association - ARPO.

OUTCOME 3. Strengthened institutional, administrative, legal, technical and regulatory framework for the reduction of unintentional POPs and mercury.

Output 3.1. Four (4) national guidelines and two (2) technical regulations based on BAT/BEP published.

The documents elaborated as National Guides based on BAT and BEP for each sector are the following: 1. Best Available Techniques and Best Environmental Practices (BAT and BEP) in the management of light bulb waste; 2. Technical guidelines for the environmentally sound management of recycled plastics from WEEE and disintegrated vehicles; 3. Environmental guidelines for the treatment of end-of-life vehicles or vehicle disintegration, which is currently under review and final adjustment by the Ministry of Environment to be put out for public consultation and subsequently adopted by resolution by the Ministry. Technical guidelines for the environmentally sound management of metal scrap; 5. Good practices for the management of rice crop residues; 6. Aspects for evaluating the effectiveness of non-combustion thermal treatment of biohazardous waste, which includes BATs and BEPs for the management of this type of waste and the corresponding recommendations.

The documents prepared for the technical regulations were:

(i) technical inputs for the Manual for the Integrated Management of Waste Generated in Health Care and the draft Resolution adopting it, which is in the final phase for issuance. The document has already been completed at the technical level. The Ministry of Health is conducting the corresponding legal review.

ii) The project supported the process of compiling and preparing the technical support for the following regulatory instruments: a) Decree 284 of 2018, which regulates Law 1672 of 2013 in relation to the integrated management of WEEE; b) Resolution 0076 of 2019; c) Resolution 0076 of 2019, which regulates the management of WEEE; d) Resolution 0076 of 2019, which regulates the management of WEEE, which regulates the management of WEEE. b) Resolution 0076 of 2019 of the Ministry of the Environment, which adopts the terms of reference (TOR) for the preparation of the Environmental Impact Assessment (EIA), for the environmental licensing process of projects for the construction and operation of facilities whose purpose is the storage, treatment, and/or use (recovery/recycling) of Waste Electrical or Electronic Equipment (WEEE). ; c) Resolution 480 of April 17, 2020 of the Ministry of Commerce, Industry and Tourism (Mincomercio) based on the development of the conceptual model of several WEEE functionalities of the Registry of Producers and Marketers of EEE - RPCAEE, within the framework of Law 1672 of 2013 and Decree 284 of 2018. ; d) Resolution 0851 of 2022, which regulates the guidelines, conditions and requirements for the operation of the WEEE Collection and Management Systems, as well as the Classification of EEE for the purposes of managing their waste and the obligations of marketers.

In addition, support was provided for the publication of the National Policy for the Integral Management of WEEE.

Output 3.2. One (1) registration system for the generation and management of WEEEs established.

The registration system for the generation and management of WEEE in Colombia has been conceived as a set of data and information management tools, involving a series of inputs and outputs that will optimize the operational work of entities involved in the control and monitoring of the management of EEE and its waste at the national level. In this sense, the project has contributed with technical inputs for the conceptual model, development and improvement of the following computer tools:

a) Registry of Producers and Marketers of Electrical and Electronic Equipment (RPCAEE), regulated by the Mincomercio through Resolution 480 of April 17, 2020, which allows knowing, among other aspects, quantitative and qualitative information on imported, manufactured and exported electrical and electronic equipment at the national level. The project provided inputs for its conceptualization. Mincomercio has been in charge of its development and administration.

b) WEEE Calculator, which makes it possible to estimate the generation of WEEE based on the information available in the RPCAEE. The project provided inputs for its conceptualization and computer development.

c) SmartRAEE is a web and mobile application whose purpose is to guide WEEE managers in the identification and separation of plastics according to their content of brominated flame retardants, as well as in the reporting of quantities, weights, types of plastics, as main characteristics for their adequate environmental management. This application was developed and improved within the framework of the project.

d) POLYGUESS is a mobile application that allows the quick identification of plastic materials to strengthen the country's recycling chain, increasing the knowledge of managers, recyclers and collectors of discarded materials in the identification of the types of plastics. This application was developed within the framework of the project in partnership with ICIPC.

e) Capture forms for WEEE collection and management systems that will facilitate the standardization of information reporting for monitoring and control of their management, which have been conceptualized by the project team together with the technical teams of the Ministry of the Environment and the ANLA, since it will allow homogenizing and systematizing the initial presentation reports and annual follow-ups foreseen in Resolution 0851 of 2022.

Output 3.3. Four (4) training programs for authorities and two (2) training programs for laboratories.

The following training programs were developed:

a) WEEE and health sectors (8): 1. Self-learning virtual course "Life cycle of plastics contaminated with POPs", 2. Training to personnel of WEEE management companies; 3. Self-learning virtual course "Environmentally sound management of mercury in Colombia"; 4. Self-learning virtual course "Implementation of BAT/BEP to reduce unintentional POP emissions in priority sectors."; 5. Course "Use and interpretation of results of microbiological quantitative indicators in the treatment of medical waste" for authorities, waste managers and health institutions; 6. Two (2) Workshops to socialize the mercury substitution guide between 2018 and 2019; 7. Three (3) Workshops to socialize the medical waste manual; 8. Symposium "Experiences in the reduction of POPs and Hg emissions in Colombia".

b) Metallurgy and biomass sectors (4): 1. Virtual self-learning course "Implementation of BAT/BEP to reduce unintentional POP emissions in priority sectors"; 2. Symposium "Experiences in the reduction of POPs and Hg emissions in Colombia"; 3. Training through FEDEARROZ to 2,774 farmers; 4. Course "Managing and Recycling" implemented during 2018-2021 in alliance with GERDAU DIACO in Bogota and Medellin.

c) From November 23 to December 28, 2020, the online course "Validation and accreditation of POP and Hg analysis laboratories" was carried out. In alliance with the Corporación Autónoma de Cundinamarca (CAR), three sampling campaigns were carried out and the analytical method for quantifying mercury in waste from the treatment of fluorescent bulbs was validated and adjusted, and the laboratory was strengthened with the necessary inputs to generate installed capacity. In partnership with the Institute for Research and Training in Plastics and Rubber (ICIPC), the laboratory test was verified under IEC 62321 to determine brominated POPs in plastics, generating installed capacity for this purpose.

Outcome 4. Dissemination of lessons learned, Monitoring and Evaluation.

Output 4.1. Two (2) publications with lessons learned about the demonstration projects published.

The document on lessons learned and main achievements of the project was prepared, which has three chapters as follows: 1. Prevention and minimization of unintentional POPs; 2. Prevention and minimization of mercury; 3.

The document is published and available to the public on the Ministry of the Environment and Sustainable Development's microsite on chemicals and hazardous waste management.

Output 4.2. One (1) Project Initiation Workshop and five (5) workshops during the development of the project.

Inception Workshop: The project initiation workshop was held on June 15-16, 2017. With 123 attendees and 11 environmental authorities represented, the project objectives, goals and general activities were socialized, as well as the 2017 work plan.

Annual workshops: 1. 2017 - International POPs Seminar in which topics related to Unintentional POPs and PBDE were presented by national and international experts; 2. 2018 - Annual workshop to disseminate the results of Project COL 98842; 3. 2019 - International Seminar on Environmentally Sound Management of Mercury Products and their Residues, which was attended by international experts in the implementation of the Minamata Convention and additionally the results of the pilot projects being implemented in the Project were presented; 4. 2020 - International Seminar on Environmentally Sound Management of Mercury Products and their Residues, in which international experts in the implementation of the Minamata Convention attended and additionally the results of the pilot projects being implemented in the Project were presented. Year 2020 - Virtual seminar that addressed issues on the generation of unintentional POPs in the treatment of health care waste, in the processing of metals in the steel industry and in biomass burning, as well as the issue of flame retardants in WEEE plastics. Year 2021 - Virtual seminar focused on the environmentally sound management of materials and wastes. 6. Year 2022 - International Seminar on Chemical Substances, Respel, WEEE and POPs 2022, which had two modalities, a hybrid seminar (virtual and face-to-face).

Regional workshops 2022: 1. Medellin: Regional symposium on the management of WEEE and POPs; 2. Cali: Regional symposium on the management of WEEE and POPs; 3. Bogota: Regional symposium on the management of WEEE and POPs; 4. Barranquilla: Regional symposium on the management of WEEE and POPs.

Output 4.3. One (1) mid-term evaluation report and one final evaluation report prepared.

A Mid-Term Evaluation report developed in September 2020 and the Terminal Evaluation report in preparation (expected completion March 2023).

4.3.4 Efficiency (*)

Efficiency is the evaluation of how the project's financial resources were translated into results. In this sense, the project is considered to have had a Highly Satisfactory Efficiency.

The project executed 97.87% of the total grant provided by the GEF, achieving all of the expected results, and in some cases surpassing them, which demonstrates adequate planning and monitoring of the programmed resources. In turn, the project has exceeded the co-financing foreseen in the Project Document.

The project has evidenced, through the minutes of the Steering Committee, a systematic follow-up of both planned and executed resources in order to generate the appropriate revisions and reprogramming to achieve the budget execution with the consequent achievement of the objectives foreseen in the project. In this sense, the request and approval of the extension of the project's execution period is evaluated as appropriate, making it possible to achieve and surpass the expected results and to demonstrate a budget execution that is in line with the project's objectives.

Similarly, the allocation of resources was consulted in the different interviews conducted with both members of the Steering Committee and the actors involved in the different collaboration mechanisms, and in all cases the evaluation of the resources provided by the project was considered appropriate and efficiently executed to deliver results in adequate quality and time.

4.3.5 Overall Project Outcome

The overall result of the project considers the ratings given to the aspects of relevance, effectiveness and efficiency, so that once the analysis of each of these aspects has been carried out, a rating of Highly Satisfactory (HS) is considered for the results of the project.

The following table summarizes the ratings for each of the aspects previously analyzed.

Table 13. Relevance, Effectiveness, Efficiency Evaluation

3. Assessment of Outcomes	Rating
Relevance	S
Effectiveness	HS
Efficiency	HS
Overall Project Outcome Rating	HS

See Annexo 6.6. “Summary of rating scales”

4.3.6 Sustainability: financial, socio-political, institutional framework and governance, environmental, overall likelihood of sustainability

Sustainability is the assessment of the likely continuation of the positive effects of the project after it has come to an end, and its potential for scaling up and/or replication. GEF-funded projects supported by UNDP are intended to be environmentally, institutionally, financially, politically, politically, culturally and socially sustainable. In this way, the following are assessed:

Financial sustainability

There is no evidence of financial risks that could impact the sustainability of the results obtained. This is mainly due to the stakeholders' ownership of the results obtained, which have shown positive results for all parties. In turn, the private sector made the planned investments and in some cases these were surpassed, which shows that these sectors are interested in continuing to invest in the issues addressed in the project.

In the iron and steel sector, the investments made to reduce UPOPS have brought benefits in the operation of the different actors due to greater efficiency, which is why they will seek to sustain the modifications implemented.

In the WEEE sector, the economic benefit of the correct segregation and identification of WEEE plastics for their subsequent recovery has been evidenced, so that the operators can sustain these practices. It is important to mention that prior to the project, WEEE plastic was not considered a valuable material.

In the health sector, the treatment equipment installed generates, in addition to an environmental benefit, a notable reduction in the cost of treatment of the facilities that have received this equipment, so naturally they will seek to maintain this practice.

In the agricultural sector, the biodegradation of rice chaff benefits farmers in terms of productivity and soil fertility. Similarly, in sugarcane cultivation, the activities linked to the use of agricultural harvest residues (RAC) for energy use and the development of sustainable productive alternatives for the beneficiaries in Valle de Cauca, generate economic benefits for the actors that result in their interest in sustaining the results.

For this reason, financial sustainability is considered likely.

Socio-political sustainability

It is assessed that there are no major socio-political risks for the sustainability of the results. Interviews with the different stakeholders of the project, both from the public and private sectors, have shown a high level of commitment and ownership of the results obtained. The project has achieved a remarkable degree of involvement of the stakeholders and beneficiaries during the design and execution of the activities, which has resulted in the sustainability of the results obtained, since they bring benefits that were evidenced by the different stakeholders.

This is why socio-political sustainability is considered to be likely.

Institutional framework and governance sustainabillity

Within the institutional and governance framework, the project provided support for the development of different regulatory instruments to ensure the continuity of the results, as described below. It is worth mentioning that the project's inputs on the updating of Resolution 909 of 2008 regarding dioxin and furan emissions, as well as the adoption of the modification of the hospital waste manual, have not yet been incorporated into a regulatory instrument. For this reason, institutional and governance sustainability is considered moderately likely.

With respect to institutionalization in WEEE management, the project supported the process of compiling and preparing the technical support for the following regulatory instruments: (a) Decree 284 of 2018, which regulates of Law 1672 of 2013 in relation to the integrated management of WEEE; (b) Resolution 0076 of 2019 of the Minambiente, by which the terms of reference (TOR) are adopted for the preparation of the Environmental Impact Assessment (EIA), for the environmental licensing process of projects for the construction and operation of facilities whose purpose is the storage, treatment, and/or use (recovery/recycling) of Waste Electrical or Electronic Equipment (WEEE). ; c) Resolution 480 of April 17, 2020 of Mincomercio based on the development of the conceptual model of several functionalities regarding WEEE of the Registry of Producers and Marketers of EEE - RPCAEE, within the framework of Law 1672 of 2013 and Decree 284 of 2018. ; d) Resolution 0851 of 2022 which regulates the guidelines, conditions and requirements for the operation of the WEEE Collection and Management Systems, as well as the Classification of EEE for the purposes of the management of their waste and the obligations of marketers; Additionally, the publication of the National Policy for the Comprehensive Management of WEEE was supported.

With respect to the institutionalization of UPOPS and Hg controls in certain sectors, the project provided technical support for the preparation of inputs to update Resolution 909/2008 in this regard. At the moment these inputs are under revision; consequently, the aforementioned regulation has not been updated.

With respect to the institutionalization of hospital waste management, the project provided technical support for the preparation of technical inputs for the Manual for the Integral Management of Waste Generated in Health Care and the draft Resolution that adopts it. To date, the Ministry of Health has not approved and published this resolution.

Environmental sustainability

There is no evidence of environmental factors that could jeopardize the continuity of the results obtained. Therefore, environmental sustainability is considered likely.

Table 14. Evaluación sostenibilidad

4. Sustainability	Rating
Financial sustainability	L
Socio-political sustainability	L
Institutional framework and governance sustainability	ML
Environmental sustainability	L
Overall Likelihood of Sustainability	L

See Annex 6.6. “Summary of rating scales”

4.3.7 Country ownership

The project is considered to have a strong national implication since it has been designed and executed in line with national policies. In turn, the Ministry of Environment and Sustainable Development through the Directorate of Environmental and Urban Sector Affairs (DAASU) has been permanently involved in the design and execution of the project, being part of the Steering Committee and being one of the co-financiers of the project. Throughout its execution, the project was able to involve and generate adequate ownership by relevant institutions and organizations in the country to achieve its objectives.

Finally, as described in previous sections, the project supported the preparation of technical inputs for the design of national policies, the development of regulatory instruments and the updating of regulatory frameworks, of which mainly those related to WEEE management were adopted as a regulatory framework and national policies.

4.3.8 Gender equality and women´s empowerment

In terms of gender and women's empowerment, the following activities were carried out within the framework of the project:

(a) In conjunction with ASOCAÑA, the project provided support to 60 women from families of carretilleros de Corinto in the development and implementation of sustainable productive initiatives that would allow diversifying the activities of families engaged in sugarcane requisitioning which is one of the activities where more biomass is burned in the region of the geographic valley of the Cauca River. The results were: i) 22 families dedicated to raising laying hens for egg production; ii) 23 families dedicated to the processing of dairy and meat products and 15 families dedicated to the mixed commercialization of eggs, dairy and meat products.

This activity has empowered the women in the families as agents of change and strengthened their leadership skills, generating employment and improving their quality of life. Interviews with some of the beneficiaries of this initiative revealed the social and economic impact it produced, as well as the continuity of their enterprises and the needs and challenges they envisioned.

Asocaña as an implementing partner is of utmost importance for the sustainability and replication of the results obtained, and has expressed its commitment as well as the projection of this initiative in other regions where they are present (as it is being requested by its associates).

b) In conjunction with GERDAU DIACO, the project worked with 16 Recyclers' Associations, 9 of which are led by women, located in the cities of Medellin and Bogota. This activity has improved the technical and leadership skills of those women who have been involved.

Once again, GERDAU DIACO as implementing partner is of utmost relevance for the sustainability and replication of the results obtained, and has expressed its commitment to continue working with these associations.

c) Participation of women in the different workshops developed by the project.

It is evaluated that the project has taken into consideration the gender perspective and that in those sectors where it was possible to implement empowerment activities, it has done so effectively.

4.3.9 Cross-cutting issues

The project has had a positive impact on the entire population, mainly due to the reduction of exposure to hazardous substances (POPs and Hg) in the different sectors addressed.
It is also important to highlight the following areas of work that have been evaluated as having a social impact that has exceeded the project's objectives:
- The work with recyclers association. This sector was strengthened in its technical capacities and its formalization capabilities, allowing the optimization of its operations, an improvement in the quality of its products (improving income),
- The work with the women of Corinto, as an activity that generates employment, improves the quality of life, empowerment and leadership of women.
- Valorization of WEEE plastics for the development of pedagogical strategies based on 3D printing for public education and as potential inputs for social impact organizations (e.g., Humanos 3D).
- The generation of capacity for the treatment of hospital waste in isolated areas of the country.

4.3.10 GEF Additionality

GEF additionality has enabled the Colombian government to make significant progress in meeting its obligations under the Stockholm and Minamata Conventions through the various interventions implemented by the project.

For the prevention and minimization of UPOPS generation, the GEF additionality has allowed the updating of the UPOPS inventory (based on 2018), providing more accurate information on the sources of these emissions in the country, useful not

only as input for project activities but also as input in future action plans of the country. It also contributed to the development and dissemination of four national evaluations of the sectors covered by the project.

Through the implementation of 17 demonstration projects, it contributed to: Evidencing and installing hospital waste treatment technologies other than incineration, providing technical support for the implementation of BAT and BEP in the iron and steel sector, providing technical advice for the use of RAC, sustainable productive alternatives to avoid burning practices in the sugarcane sector and the biodegradation of chaff in rice, the promotion of processes for the identification, separation and environmentally sound management of WEEEa plastics.

For the prevention and reduction of mercury releases, GEF additionality enabled the national evaluation of products with added mercury in the health sector, together with the preparation of guidelines for the substitution of these products and the controlled use of dental amalgam.

Through five demonstration projects, it contributed to the replacement of thermometers and blood pressure monitors, technical advice for the production process of dental amalgam with resin, technical advice for the creation of installed capacity for the decontamination of fluorescent bulb waste, and the treatment of mercury in WEEE through chemical stabilization and encapsulation.

To strengthen the institutional, legal, technical and regulatory framework, it contributed to the preparation of 6 national guides, the support of technical inputs for the Integrated Management of Waste Generated in Health Care and the development of technical support for 5 regulatory instruments approved for the management of WEEEs. In turn, the strengthening of analytical capacity through training programs on measurements, methods and technologies for measuring UPOPS and Hg.

There is a direct relationship between GEF participation, environmental benefits and project results. As described in the Sustainability section, the project results are assessed as likely to be sustained over time.

4.3.11 Catalytic/Replication Effect

As defined in the project document, the replication of the results obtained was foreseen mainly in terms of the following activities:

Development (and consequent adoption) of two technical regulations and 4 technical guides. The technical regulations and guidelines, which will be developed based on the experiences, results, challenges and lessons learned from the evaluations conducted and the demonstration projects, will support the scaling up/replication of the interventions among the entities/stakeholders that did not participate in the project, through the promulgation and monitoring of these technical regulations/guidelines by the MADS and other public entities.

In this sense, it is considered that the sector dedicated to the integrated management of WEEE has a high potential for replication on a national scale, since the project has been able to provide support for the preparation of different regulatory instruments that were approved and published. In turn, the demonstration projects have provided evidence of the economic benefit in the valuation of plastics from WEEE, a condition that further favors the adoption of the practices.

With respect to hospital waste management, the project has supported the generation of technical inputs for the consolidation of the "Manual for the Integral Management of Waste Generated in Health Care and other activities" to be approved and published by Resolution. To date, the Ministry of Health has not published this Resolution. Until this regulation is approved, replication on a national scale in order to restrict the incineration of hospital waste and promote the use of alternative technologies that do not generate unintentional POPs will present difficulties.

With respect to the reduction of UPOPS from the steel sector, the project has supported the introduction of BAT and BEP in 5 national production companies, as a result of which a document on "Technical guidelines for the environmentally sound management of metal scrap" has been developed and published. It has also provided technical inputs for the modification of Resolution 909 on the activities covered and UPOPS emission controls. At the moment, this Resolution has not been modified and published, it is under review. Based on this, it is considered that the possibility of replication is limited beyond the companies that were part of the project.

With respect to the reduction of UPOPS from biomass burning in the sugarcane and rice sector, the project has carried out 3 demonstration projects that contributed to the use of agricultural crop residues (RAC) as part of the fuel in boilers for energy generation in the sugarcane agroindustrial sector, implementation of sustainable productive initiatives to avoid practices that involve biomass burning in the sugarcane sector and application of biological decomposers of rice chaff to avoid burning. The possibility of replication on a national scale in the different crops is evaluated as possible since, first, economic and productive benefits have been evidenced and, second, the main national referents in each of the sectors CENICAÑA, ASOCAÑA and FEDEARROZ have been successfully involved and have the possibility of extending the knowledge and practices to their associates.

In addition, the lessons learned and results for each of the project components were compiled in a publication that is currently available on the dissemination platform (https://quimicos.minambiente.gov.co/cop-acciones/), constituting a tool that favors the replication of the results.

4.3.12 Progress to impact

The progress to impact evaluates how the project results can contribute to the long-term impact established in the Project's Theory of Change, with the expected impact being To protect human health and the environment at the global, regional and local levels to improve the management of chemicals of concern (unintentional POPs and mercury) in four priority sectors. These sectors, after the modifications introduced are: steel industry, health sector, sugar cane and rice industry, and WEEE sector.

In the first place, progress in terms of impact can be measured in terms of the reduction of environmental stress generated by the project throughout its execution:

(a) Total Cumulative PCDD/PCDF reduction: 124,399 gTEQ.

Health sector: estimated reduction of 1.48 gTEQT of PCDD/PCDF.

Metallurgical industry: estimated reduction of 66.33 gTEQ of PCDD/PCDF.

Open biomass burning: estimated reduction of 56.58 gEQT of PCDD/PCDF.

b) Cumulative environmentally sound management of 1,331,926 kg Hg.

WEEE Sector: Environmentally sound management of 198.17 kg of mercury.

Health sector: Environmentally sound management of 698.48 kg of mercury.

Other sectors: Environmentally sound management of 435.28 kg of liquid mercury.

Secondly, the defined mechanisms and installed capacities that the project has achieved that make progress towards impact possible are evaluated:

- Identification and classification of plastics from WEEE and vehicles containing PBDEs and alternatives for treatment and valorization in a circular economy framework. Implementation of SmartREE and segregation procedures in a WEEE management plant.

- Control of secondary metal production, cleaning scrap to reduce the production of Dioxins and Furans and improving Emission Control Systems to reduce the release of POPs.

- Utilization of wastes as feedstock, e.g. agricultural crop residues as fuel, or ashes as material additives; Green harvesting technology for sugar cane; Biodegradation of RAC from rice chaff.

- Health care waste treatment technologies other than incineration.

- Replacement of mercury equipment in the sector; Treatment of waste electrical and electronic equipment to avoid mercury emissions into the environment; Collection and recycling of mercury from dental amalgam waste to avoid mercury emissions into the environment.

Based on the above, it is considered that the project has contributed to a long-term impact that will increase as the results are scaled up/replicated based on the analysis in section 4.3.11.

5. Main findings, Conclusions, Recommendations, Lessons Learned

5.1 Main findings

- The project proceeded with the request and approval of the extension of the execution period for 12 months due to the COVID-19 pandemic, which made it possible to advance in the execution of the activities in order to achieve the expected results.

- The project achieved all the expected results, most of which were surpassed. In particular, the Global Environmental Benefits were exceeded, achieving a reduction of 124.43 g TEQ of unintentional POPs releases and an environmentally sound management of 1,331.9 kg of mercury during the project development period.

- The project has had a satisfactory budgetary execution reaching 97.87% of the donation received by the GEF and has additionally exceeded the co-financing committed by the interested parties reaching a value of USD 55,133,487.83, highlighting that 92% corresponds to the private sector.

- With respect to the recommendations of the EMT, the project has followed up and taken the pertinent actions. Specifically: i) The project has followed up on the process of approval and promulgation of the regulations, which were under review and negotiation with different stakeholders at the EMT level, and at the time of the EF these regulations were published and in force; ii) Although the project provided support in the process of updating the regulations on UPOPS emissions, in particular Resolution 909 of 2008, at the time of the EF they had not been approved and published.

- The updating of the inventory of UPOPS releases has been a document of great importance for both the authorities of the Ministry of Environment and the industrial sector for the adequate design of action plans in line with the obligations of the Stockholm Convention.

- In order to strengthen the sustainability of some of the project's results, the regional environmental authorities need to become more involved and their capacities need to be strengthened.

- The involvement and commitment of the stakeholders in the different project activities is noteworthy, as they have expressed their agreement throughout the execution process, highlighting the quality of the technical support received to achieve the objectives, as well as their interest in continuing to work on new initiatives of this nature.

- There are some points for improvement in terms of internal and external communication of the project, in order to further promote the dissemination of the project's activities and achievements beyond those directly involved in the project.

- The Project Coordination and Project Team constituted a strength throughout the execution of the project.

5.2 Conclusions

The main findings of the project are listed below:

- The project from its inception had a clear and structured design, including a complete Theory of Change. In its design the project was aligned with the obligations assumed by Colombia in the Stockholm and Minamata Conventions, as well as with other national priorities and with UNDP and GEF strategic priorities.

- The Project faced adaptive management in the following dimensions: i) Incorporation of rice cultivation as a UPOPS contributing sector to achieve the objectives established in the project; ii) Identification of new actors in the steel sector in view of the refusal of some steel companies to participate; iii) Risk management resulting from the COVID19 global pandemic, establishing different measures for its mitigation. All of them have been successfully managed, making it possible to achieve the expected results.

- The financial and administrative management of the project has been transparent and efficient. This adequate management has been documented in all the external audits to which the project has been subjected.

- The effectiveness of the project's execution is considered highly satisfactory, as all the planned objectives were achieved and most of them surpassed. It should also be noted that the project incorporated initiatives with a high social impact in order to achieve the expected environmental benefits.

- The sustainability of the results obtained is generally considered probable, with a potential risk assessed in the institutional and governance dimension.

- The project incorporated gender considerations in both design and implementation, and although there was no gender action plan, the project implemented activities that promoted gender equity and women's empowerment.

- The project documented all project results and lessons learned during implementation, facilitating their dissemination.

5.3 Recommendations

In order to reinforce, but mainly to extend the benefits achieved so far, the following recommendations are made:

- Agree with the Directorate of Sectorial and Urban Environmental Affairs on an action plan to:

o Promote the review and approval process of the Manual for the Integral Management of Waste Generated in Health Care and the draft Resolution that adopts it.

o Promote the review and update process of the regulatory framework corresponding to UPOPS releases, specifically Resolution 909/2008.

o Promote the strengthening of environmental authorities for the appropriation of BAT/BEP by the different actors in each of the jurisdictions of the different regional environmental authorities.

- It is important to continue exploring new forms of communication with stakeholders as well as for the socialization of results and benefits of the project, in order to promote the sustainability of the measures implemented and likewise generate the scaling up of the results.

- With respect to the existing platform (https://quimicos.minambiente.gov.co), its maintenance and the incorporation of access and consultation statistics are recommended.

- Review and agree on internal information mechanisms (MADS, UNDP, GEF Operational Focal Point, Project Coordination) to ensure effective communication.

- Maintain the staff trained within the project, so that their knowledge and experience continue to ensure successful project execution and enable further strengthening of capacities within the MADS for chemicals and waste management.

- Within the framework of the activities developed with FEDEARROZ, it is suggested to follow up on the results of the measurements (which were in the process of being evaluated) on the levels of agrochemicals in the soil achieved with the introduction of biodiesel by biodigestion of the chaff.

- Continue strengthening mechanisms such as the provision of additional information by the trade associations, to learn about the characteristics of the technologies and specific processes used in the country; as well as the gathering of information with the environmental authorities, through inspection visits, that allow for the proper classification of the economic activities that can potentially release unintentional POPs, within the categories established in the Stockholm Convention Toolkit.

- Regarding the initiatives developed with the women of Corinto and with the Recyclers Associations, it is recommended that mechanisms be defined to maintain a permanent dynamic of mutual support, in alliance with different local and institutional actors, to overcome technical and commercial difficulties or different contingencies.

- With respect to the pedagogical strategies with 3D printing, it is recommended that the results of the project be disseminated to a greater number of teachers at the national level, with the accompaniment and support of the Ministry of Education, the National School for Environmental Training (SAVIA), the Computers to Educate program, the private sector and other local and national entities.

5.4 Lessons Learned

There are numerous lessons learned from the implementation of the project, of which the following stand out:

The mechanism for developing collaboration agreements with the different stakeholders for carrying out activities within the framework of the project has proven to be an effective tool for the involvement and commitment of the actors, while minimizing the risks of non-compliance that impact the project.

Collaborative and integration processes between actors in the same production chain (even among competitors) facilitate collective strengthening processes to improve productivity and competitiveness, as long as they take place in scenarios of mutual trust and respect.

The consolidation of work teams that include different areas of knowledge and experience makes it possible to advance adequately in the execution of the project, which, together with adequate and permanent follow-up, makes it possible to prevent possible deviations from the proposed objective.

Collective contributions in science, technology and innovation for the development of new products that are useful and attractive to society, which allow greater added value to be given to waste, are essential contributions to progress in the circular economy model.

Public-private partnerships are an appropriate mechanism to facilitate the technological reconversion processes of organizations that use chemicals that are regulated or in the process of being banned.

Technologies that use steam as a treatment agent (e.g. wet heat autoclaves) can generate offensive odors for nearby communities, especially in regions with high temperatures and humidity, it is recommended to prioritize technologies with steam condensation systems to reduce offensive odor emissions, as well as those with waste segregation and shredding to facilitate and improve operation.

Obtaining better quality scrap, especially free of chlorine-containing components such as plastics, paints and other elements, helps to avoid the formation of unintentional POPs. Although emission control systems consisting of bag filters and/or rapid gas cooling are effective in controlling dioxin and furan emissions in secondary metal smelting, it is concluded that they should be accompanied by periodic maintenance (preventive or corrective), control of variables (e.g. temperature, pressure, etc.) and periodic training of process personnel, highlighting the benefits of having better quality scrap for smelting.

6. Annexes

6.1 ToR

TERMS OF REFERENCE

No. DEL PROYECTO	**COL94749**
TÍTULO DEL PROYECTO	Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa
No. DEL OUTPUT	*00098842*
FECHA DE TERMINACIÓN DEL PROYECTO	*30/12/2022*
AGENCIA	*PNUD*

TÍTULO DE LA CONSULTORIA	*Consultor para la evaluación final para el proyecto* Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa *PIMs 5481*
TIPO DE CONSULTORIA	Nacional ☒ (Requiere conocimiento y experiencia local o nacional) Internacional ☒(Requiere conocimiento y experiencia global o internacional)
TIPO DE CONTRATO	**IC**

Descripción del proyecto

INTRODUCCIÓN

De acuerdo con las políticas y los procedimientos de SyE del PNUD y del Fondo para el Medio Ambiente Mundial (FMAM), todos los proyectos de tamaño mediano y ordinarios respaldados por el PNUD y financiados por el FMAM deben someterse a una evaluación final una vez finalizada la ejecución. Estos términos de referencia (TdR) establecen las expectativas de una evaluación final de un proyecto *ordinario* titulado *Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa (N.º del PIMS* 5481*)* implementado a través de Ministerio de Ambiente y Desarrollo Sostenible y el PNUD. El proyecto comenzó en 16 agosto 2016 y está en su *último* año de implementación. La evaluación final se realizará según se establece en la "Guía para realizar evaluaciones terminales de proyectos respaldados por el PNUD y financiados por el FMAM" *(http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE--Guide_SPA.pdf).*

ANTECEDENTES Y CONTEXTO DEL PROYECTO

El Programa de las Naciones Unidas para el Desarrollo – PNUD - trabaja en más de 170 países y territorios, dando asistencia para desarrollar políticas, habilidades de liderazgo y asociación,

capacidades institucionales y construcción de resiliencia, con el fin de mantener resultados de desarrollo.

El PNUD hace parte de las 26 Agencias, Fondos y Programas de las Naciones Unidas en Colombia y aporta al logro del Marco de Cooperación de las Naciones Unidas para el Desarrollo Sostenible (UNSDCFpor sus siglas en inglés), que para el periodo 2020-2023 se concentra en los retos de la construcción de la paz y el desarrollo sostenible, con el propósito de contribuir a la transición del conflicto armado haciaun escenario de paz, bienestar y desarrollo.

El actual Plan Estratégico del PNUD 2022-2025 describe cómo la organización quiere trabajar junto con los socios para conseguir resultados a la escala y la ambición necesarios para el momento sin precedentes que estamos viviendo. El Plan está estructurado en torno al marco "3x6x3": 3 ejes de cambio, 6 soluciones distintivas y 3 catalizadores. Esta combinación ayudará al PNUD a seguir haciendo lo que mejor sabe: soluciones de desarrollo integradas con las prioridades nacionales. Durante los próximos cuatro años, trabajaremos con los países para ampliar las opciones de las personas para que tengan un futuro más justo y sostenible, y con el objetivo de retomar el camino para lograr los Objetivos de Desarrollo Sostenible.

Adicionalmente, el Documento Programa País (CPD por sus siglas en inglés) del PNUD 2021-2024 busca apoyar los esfuerzos del gobierno de Colombia para la transición hacia la paz y la consolidación de su posición como país de renta media-alta con la membresía de la OCDE. El CPD propone tres prioridades de trabajo: 1) Construcción de paz y transformación pacífica de conflictividades; 2) Crecimiento inclusivo y sostenible; y 3) Gobernabilidad inclusiva para el desarrollo urbano y rural.

En ese marco, la Oficina del PNUD Colombia con presencia en 25 territorios trabaja en alianza con el Gobierno - a nivel nacional y local – el sector privado y organizaciones sociales en priorizar acciones que permitan transformar las condiciones de vida de las poblaciones más vulnerables. Actualmente enfrenta desafíos de relevancia nacional, relacionados con su aporte al Gobierno Nacional, a otras Agencias del sistema de Naciones Unidas y a otras contrapartes, en asuntos que tienen que ver con un escenario de posconflicto en Colombia y otras iniciativas importantes para el país.

A nivel programático la oficina en Colombia está organizada en dos Clústeres y cuatro Portafolios que trabajan de manera articulada en diferentes iniciativas de desarrollo: El Clúster de Desarrollo Sostenible Inclusivo agrupa a los portafolios de Desarrollo Sostenible y Reducción de la Pobreza e Inequidad y, el Clúster de Construcción de Paz y Gobernabilidad Inclusiva que reúne a los Portafolios de Gobernabilidad Democrática y Construcción de Paz.

De acuerdo con las políticas y los procedimientos de Seguimiento y Evaluación (SyE) del PNUD y del FMAM, todos los proyectos de tamaño mediano y regular respaldados por el PNUD y financiados por el FMAM deben someterse a una evaluación final una vez finalizada la ejecución. Estos términos de referencia (TdR) establecen las expectativas de una Evaluación Final (EF) para el proyecto denominado Reducción de las liberaciones de los Contaminantes Orgánicos Persistentes (COP) no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, Residuos de Aparatos Eléctricos y Electrónicos (RAEE), procesamiento de chatarra metálica y quemas de biomasa. (Nº PIMS 5481), implementado a través de Ministerio de Ambiente y Desarrollo Sostenible (MADS) y el Programa de las

Naciones Unidas para el Desarrollo (PNUD) Colombia que se lleva a cabo y tiene como fecha de cierre diciembre de 2022.

Colombia firmó el Convenio de Estocolmo sobre los Contaminantes Orgánicos Persistentes en mayo de 2001 y la ratificó mediante la Ley 1196 de 2008. En julio de 2010, el Plan Nacional de Implementación (PNI) fue aprobado y enviado a la Secretaría del Convenio. Desde la firma del Convenio de Estocolmo, Colombia ha hecho progresos sustanciales para alcanzar los objetivos que la misma ha previsto, relacionados con la identificación, prevención, reducción y eliminación de los contaminantes orgánicos persistentes y sus residuos.

Así mismo, Colombia suscribió en octubre de 2013 el Convenio de Minamata sobre el mercurio, tratado a nivel mundial que pretende proteger la salud humana y el medio ambiente de las liberaciones antropogénicas de mercurio y compuestos de mercurio. Dentro de las obligaciones que el país adquirió en el marco de esta Convención se encuentra la necesidad de eliminar los usos del mercurio y manejar sus residuos de forma adecuada.

Con el fin de dar cumplimiento a los acuerdos de Estocolmo sobre los Contaminantes Orgánicos Persistentes y de Minamata, el Ministerio de Ambiente y Desarrollo Sostenible recibió a través del Programa de las Naciones Unidas para el Desarrollo recurso del Fondo para el Medio Ambiente Mundial, para lo cual se firmó el documento de proyecto COL 98842/94749.

El objetivo del proyecto propuesto es el de disminuir y potencialmente minimizar la liberación de COP no intencionales y mercurio por medio de la implementación de Mejores Prácticas Ambientales (MPA) y las Mejores Técnicas Disponibles (MTD) en cuatro sectores prioritarios a través de un número de proyectos demostrativos, mejorando el manejo y control de esas sustancias por medio delfortalecimiento de las políticas y el marco regulatorio relacionados con estas sustancias, así como creando la capacidad analítica en los laboratorios nacionales.

Información general del proyecto

Título del Proyecto / outcome	Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa		
PNUD-FMAM PIMS ID:	5481		
FMAM ID:	6928		
Corporativo outcome and output	00094749/00098842		
País	Colombia		
Región	LAC		
Fecha de firma de documento de proyecto	16 agosto 2016		
Fechas del proyecto	Inicio	16 agosto 2016	cierre planeado: 31 de agosto 2021 (extendido a diciembre 2022)
Presupuesto de proyecto	USD 5.800.000		
Ejecución del proyecto a la fecha	USD 5.328.900 (Dic 2021)		
Fondos	FMAM		
Parte responsable	Ministerio de Ambiente		

El proyecto ha sido organizado en cuatro componentes:

Prevenir y minimizar la generación de COPs no intencionales y actualizar su inventario;

Prevenir y reducir la liberación de mercurio;

Fortalecer el marco institucional, administrativo, legal, técnico y regulatorio para reducir los COP no intencionales y mercurio; y

La difusión de las lecciones aprendidas, monitoreo y evaluación.

Resultados Esperados: El objetivo del proyecto es aplicar las MPA y MTD para reducir las liberaciones de COPs no intencionales y Mercurio generados por el tratamiento de residuos hospitalarios, el procesamiento de Residuos de Aparatos Eléctricos y Electrónicos (RAEE), la producción primaria y secundaria de metales y la quema de biomasa.

Durante su duración, el proyecto contribuirá a reducir la liberación de COPs no intencionales en 100 g- EQT y la liberación de mercurio en 300 kg, disminuyendo el riesgo a la salud humana y al ambiente a nivel global, ya que esos químicos son de preocupación mundial y han sido reconocidos de riesgo global.

El proyecto se enmarco dentro de los siguientes indicadores de instrumentos estratégicos del PNUD. En el caso del UNDAF/Country Programme el Outcome al cual aporto fue: Fortalecimiento de las políticas y estrategias nacionales y locales para lograr una gestión ambiental integral, avanzar en la gestión de riesgos de desastre e incrementar la resiliencia de los territorios; y para el caso del UNDP Strategic Plan Output: Producto 1.3: Estrategias de compensación y mitigación para lograr la transición a una economía "verde" implementadas por los sectores productivos con mayor impacto ambiental y por instituciones subnacionales. Los anteriores debido a que el proyecto ayuda al país en el cumplimiento de los acuerdos internaciones ya mencionados y a las metas de país relacionadas con la sostenibilidad ambiental y la gestión de residuos peligrosos.

La implementación de este proyecto requirió de la participación activa de varios participantes, del sector público así como de la sociedad civil y el sector privado. Los participantes para del proyecto han sido resumidos en las Tables 1, 2 y 3.

Table 1. Participantes del Sector Público

Participante
Ministerio de Salud y Protección Social
Ministerio de Vivienda y Desarrollo Territorial
Ministerio de Agricultura y Desarrollo Rural
Ministerio de Interior
Corporación Autónoma Regional del Valle del Cauca (CVC)
Ministerio de Comercio, Industria y Turismo
Ministerio de Información, Tecnología y Comunicaciones
Ministerio de Trabajo
Autoridades Ambientales Regionales

Participante
Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM)
Unidad Técnica de Ozono (unidad perteneciente a MADS)

Table 2. Participantes de las Organizaciones de la Sociedad Civil

Participante
COLNODO
Asociación Nacional de Industriales, ANDI
Centro Nacional de Producción Más Limpia
Asociación de Recicladores y Recolectores de Residuos Solidos

Table 3. Participantes del sector privado

Sector de la Salud	ASEI (Centro de Gestión de Residuos)
	COAMBIENTAL (Centro de Gestión de Residuos)
	VERTISA (Centro de Gestión de Residuos)
	FUTURASEO (Centro de Gestión deResiduos)
	PRESERVEC (Centro de Gestión deResiduos)
	TECNIAMSA (Centro de Gestión de Residuos)
	ECOFUEGO (Centro de Gestión de Residuos)
	La Chorrera HC center – San Rafael (hospital)
Industria del Acero	SIDENAL
	GERDAU DIACO
	Siderúrgica de Caldas Ternium
	Paz del Rio
	CI Metales la Unión
Industria de la Caña de Azúcar	ASOCAÑA
Retardantes de Llama Bromados en RAEEs	ECOCOMPUTO
	Red Verde
	CENARE
	SIDENAL
	OCADE
	Holcim
Mercurio en residuos hospitalarios	Red de hospitales de Medellín
	Meredi Hospital
	New Stetic

El proyecto desarrollo actividades en el ámbito nacional bajo el liderazgo del ministerio de ambiente y desarrollo sostenible, al tiempo que varias de sus actividades tuvieron acciones específicas en territorio las cuales se desarrollaron con beneficiarios y aliados que se han nombrado anteriormente, los principales sitios dónde se generaron impactos positivos son los siguientes: Puerto Inírida, Tuta, Ibagué,Medellín y Cali.

Los principales ajustes y acciones adaptativas que realizó el proyecto se dieron en relación con el cambio de algunos aliados que, durante el proceso de aprobación y puesta en marcha del proyecto, cambiaron sus prioridades e interés en participar del proyecto. De igual forma el contexto de la Pandemia incidió en la necesidad de hacer ajustes al plan de trabajo y en los tiempos de cumplimiento de las metas del proyecto.

La EF se realizará según las pautas, normas y procedimientos establecidos por el PNUD y el FMAM, según se establece en la Guía de Evaluación del PNUD para Proyectos Financiados por el FMAM.

Los objetivos de la evaluación analizarán el logro de los resultados del proyecto (**ANNEXO G)** y extraerán lecciones que puedan mejorar la sostenibilidad de beneficios de este proyecto y ayudar a mejorar de manera general la programación del PNUD.

2.1PROPÓSITO DE LA EVALUACIÓN FINAL

En el informe de la evaluación final se valorará el logro de los resultados del proyecto con respecto a lo que se esperaba lograr, y se extraerán lecciones que puedan mejorar la sostenibilidad de los beneficios de este proyecto, así como ayudar a mejorar la programación general del PNUD. El informe de la evaluación final promueve la rendición de cuentas y la transparencia, y evalúa el alcance de los logros del proyecto.

Objetivo General

Evaluar los resultados finales realizados en el logro de los objetivos y actividades del proyecto "Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa". (Nº PIMS 5481) recogidos en su Documento de Proyecto, con el fin de extraer lecciones que puedan mejorar la sostenibilidad de beneficios de este proyecto y ayudar a mejorar de manera general la programación del PNUD, identificar los aportes a las metas globales establecidas para el donante (FMAM), y el aporte a las metas a nivel país del PNUD, el cumplimiento de salvaguardas socioambientales, y el cumplimiento de los principios de eficiencia, eficacia, relevancia y sostenibilidad del proyecto.

Objetivos Específicos

Examinar la eficacia y efectividad con la que el proyecto logró los resultados deseados (tener en cuenta los Annexos a este documento).

Evaluar la relevancia y la sostenibilidad de los rendimientos como contribuciones a los resultados a mediano y largo plazo (tener en cuenta los Annexos a este documento).

Presentar una explicación integral y sistemática del desempeño al final del ciclo del proyecto (teneren cuenta los Annexos a este documento). Actualizar herramienta de seguimiento Tracking Tool y elaboración de medidas de gestión (Management Response)

Evaluar el progreso al impacto y aporte a las metas e indicadores del CPD y UNSDCF bajo los cuales se rige el PNUD

4 ACTIVIDADES Y RESPONSABILIDADES

Elaboración de un informe inicial, el cual debe incluir un cronograma propuesto de tareas, actividades y resultados finales esperados, además, se deberá mostrar cómo se responderá cada pregunta de la evaluación mediante métodos propuestos, fuentes de datos y procedimiento de recopilación de estos últimos.

Desarrollo de visitas para entrevistar actores del proyecto relevantes. Las entrevistas deben incluir un amplio conjunto de personas interesadas (Ministerio de Ambiente y Desarrollo Sostenible, sector privado, equipo técnico del proyecto, ONG, PNUD y demás socios identificados en el proyecto).

Identificar el aporte del proyecto y oportunidades de mejora en el cumplimiento CPD, UNSDCF, y Plan Estratégico en el marco de apoyo que realiza la Oficina de País en Colombia.
Identificar el aporte del proyecto y lecciones aprendidas en la transversalización del enfoque de género e implementación de salvaguardas.
Identificar los aportes del proyecto al cumplimiento de metas y acuerdos nacionales einternacionales (ODS,PND, Minamata y Estocolmo)

Presentación de la ruta metodológica de la evaluación al iniciar el proceso.

Presentación de los primeros resultados después de concluida la misión en campo.

Elaboración de un borrador con los resultados iniciales establecidos a partir de las entrevistasy la misión en campo.

Presentación del informe final con el itinerario de la auditoría (documento que indica explícitamente cómo se abordaron los comentarios realizados por la Oficina País, el Asesor técnico Regional y el equipo técnico del proyecto.

ENFOQUE Y MÉTODO DE LA EVALUACIÓN TERMINAL -

La evaluación debe proporcionar información empírica que sea creíble, confiable y útil.

El equipo de la evaluación final examinará todas las fuentes de información pertinentes, incluidos los documentos elaborados durante la fase de preparación (es decir, el FIP, el Plan de iniciación del PNUD, el SESP del PNUD) el documento del proyecto, los informes del proyecto, incluidos los IEP anuales, las revisiones del presupuesto del proyecto, los informes de lecciones aprendidas, los documentos estratégicos y jurídicos nacionales y cualquier otro material que el equipo considere útil para esta evaluación con base empírica. El equipo de la evaluación final revisará los indicadores básicos/herramientas de seguimiento de referencia y de mitad de período del área focal del FMAM presentados al FMAM en las fases de aprobación del CEO y de mitad de período, y los indicadores básicos/herramientas de seguimiento finales que deben completarse antes de que comience la misión sobre el terreno de la evaluación final. En el **ANNEXO B** de estos TdR se incluye una lista de documentos que el equipo del proyecto proporcionará al evaluador para el examen, asimismo, deberá identificar

cómo el alcance del proyecto se relaciona con el Programa País - CPD (Country Programme Document for Colombia) 2015 -2019 y en el CPD 2021 -2024 del PNUD, con el Marco de Cooperación de Naciones Unidas para el Desarrollo Sostenible 2020-2023–UNSDCF (por sus siglas en inglés) y con el Plan Estratégico del PNUD 2022-2025. También se debe indicar si se incluyeron consideraciones de género y de derechos humanos.

Se espera que el equipo de la evaluación final acoja un enfoque participativo y consultivo que garantice una estrecha colaboración con el equipo del proyecto, las contrapartes gubernamentales (el Punto focal operativo del FMAM), los asociados en la ejecución, las oficinas del PNUD en el país, el Asesor Técnico Regional, los beneficiarios directos y otras partes interesadas.

El compromiso de los interesados es fundamental para el éxito de la evaluación final. La participaciónde las partes interesadas debe incluir entrevistas con los interesados que tengan responsabilidades en el proyecto, incluidas, entre otras, el Ministerio de Ambiente y Desarrollo Sostenible, el Centro de Coordinación de las Operaciones del FMAM, la Oficina en el País del PNUD, el equipo del proyecto, el Asesor Técnico Regional (ATR) del grupo de Naturaleza, Clima y Energía – NCE del PNUD, y demás socios del proyecto*)*, organismos de ejecución, altos funcionarios y jefes de equipo de tareas/componentes, expertos y consultores clave en el área temática, Junta del proyecto, beneficiarios del proyecto, el sector académico, el Gobierno y OSC locales, etc. Además, se espera que el equipo de la evaluación final lleve a cabo misiones sobre el terreno en *(Bogotá,*
Puerto Inírida, Tuta, Ibagué, Medellín, Cali), incluidos los siguientes sitios de proyecto *(oficinas y plantasde socios y beneficiarios)*. Dichas entrevistas deben asegurar la recolección de información cualitativa y cuantitativa necesaria para poder cumplir con los estándares definidos para este tipo de evaluaciones y como se detalla en los Annexos.

Una vez concluida la misión el equipo evaluador realizará una presentación inicial a la oficina país (OP) del PNUD con los primeros hallazgos, posteriormente presentará un primer borrador en español de la evaluación; la OP, el asesor técnico regional (ATR) y el equipo técnico del proyecto (ETP) realizará observaciones que deberán ser asumidas en la versión final del documento (en español e inglés); elcual deberá estar acompañado de un itinerario de auditoria (documento que indica explícitamente cómo se abordaron los comentarios realizaros por la OP, el ATR y el ET.

El diseño y la metodología específicos de la evaluación final deben surgir de las consultas entre el equipo de la evaluación final y las partes antes mencionadas sobre lo que sea apropiado y factible para cumplir el propósito y los objetivos de la evaluación final y responder a las preguntas de evaluación, dadas las limitaciones de presupuesto, tiempo y datos. No obstante, el equipo de la evaluación final debe utilizar metodologías e instrumentos sensibles al género y garantizar que la igualdad de género y el empoderamiento de las mujeres, así como otras cuestiones intersectoriales y los ODS, se incorporen en el informe de la evaluación final.

El enfoque metodológico final, que incluye el calendario de entrevistas, las visitas sobre el terreno y los datos que se utilizarán en la evaluación, debería esbozarse claramente en el informe inicial de la evaluación final, y el PNUD, las partes interesadas y el equipo de la evaluación final deberían debatirlo y ponerse plenamente de acuerdo acerca de este.

El informe final debe describir plenamente el enfoque de evaluación final adoptado y la justificación de dicho enfoque, haciendo explícitos los supuestos, desafíos, fortalezas y debilidades subyacentes sobre los métodos y el enfoque de la evaluación.

ALCANCE DETALLADO DE LA EVALUACIÓN FINAL

La evaluación final evaluará el desempeño del proyecto en función de las expectativas establecidas en el Marco lógico/Marco de resultados del proyecto (consultar el Annexo A de los TdR). La evaluación final evaluará los resultados de acuerdo con los criterios descritos en la Guía de evaluaciones finales para proyectos respaldados por el PNUD con financiación del FMAM *(http://web.undp.org/evaluation/documents/guidance/GEF/GEFTE--Guide_SPA.pdf)*. La sección de Conclusiones del informe de la evaluación final cubrirá los temas que se enumeran a continuación.

En el Annexo C del TdR se presenta un resumen completo del contenido del informe de la evaluación final.

El asterisco "(*)" indica los criterios para los que se requiere una clasificación.

Conclusiones

Diseño/formulación del proyecto

Prioridades nacionales e impulso del país
Teoría del cambio
Igualdad de género y empoderamiento de las mujeres
Salvaguardias sociales y ambientales
Análisis del Marco de Resultados: lógica y estrategia del proyecto, indicadores
Supuestos y riesgos
Lecciones de otros proyectos pertinentes (p. ej., la misma área focal) incorporadas en eldiseño del proyecto
Participación prevista de las partes interesadas
Vínculos entre el proyecto y otras intervenciones dentro del sector
Disposiciones de gestión

Ejecución del proyecto

Gestión adaptativa (cambios en el diseño y los productos del proyecto durante la ejecución)
Participación real de las partes interesadas y disposiciones de asociación
Financiación y cofinanciación de proyectos
Seguimiento y evaluación: diseño inicial (*), implementación (*), evaluación general del SyE (*)
Organismo de implementación (PNUD) (*) y Organismo de ejecución (*), supervisión/implementación y ejecución generales del proyecto (*)
Gestión de riesgos, incluidos los Estándares sociales y ambientales

Resultados del proyecto

El informe de la evaluación final debe evaluar de manera individual la consecución de los resultados de cara a los indicadores, e informar sobre el nivel de progreso de cada indicador de objetivo y resultado en el momento de la evaluación final, al tiempo que señala los logros finales.
Pertinencia (*), efectividad (*), eficiencia (*) y resultado general del proyecto (*)

Sostenibilidad: económica(*), sociopolítica(*), de marco institucional y gobernanza(*), ambiental(*), probabilidad general de sostenibilidad(*)
Implicación nacional
Igualdad de género y empoderamiento de las mujeres
Cuestiones transversales (reducción de la pobreza, mejora de la gobernanza, mitigación y adaptación al cambio climático, prevención y recuperación de desastres, derechos humanos, desarrollo de la capacidad, cooperación Sur-Sur, gestión del conocimiento, voluntariado, etc., según corresponda)
Adicionalidad del FMAM
Función catalizadora/efecto de replicación
Progreso hacia el impacto

Principales constataciones, conclusiones, recomendaciones, lecciones aprendidas

El equipo de la evaluación final incluirá un resumen de las principales conclusiones del informe de la evaluación final. Las conclusiones deben presentarse como declaraciones de hecho basadas en el análisis de los datos.
La sección sobre las conclusiones se redactará a partir de los resultados. Las conclusiones deben ser declaraciones completas y equilibradas que estén bien fundamentadas por la evidencia y lógicamente relacionadas con las constataciones de la evaluación final. Deben destacar los puntos fuertes, las debilidades y los resultados del proyecto, responder a preguntas clave de evaluación y proporcionar información sobre la identificación y/o soluciones de problemas o cuestiones importantes pertinentes a los beneficiarios del proyecto, el PNUD y el FMAM, incluidas cuestiones relacionadas con la igualdad de género y el empoderamiento de las mujeres.
Las recomendaciones deben ofrecer recomendaciones concretas, prácticas, factibles y específicas dirigidas a los usuarios previstos de la evaluación sobre las medidas que deben adoptarse y las decisiones que deben tomarse. Las recomendaciones deberían estar específicamente respaldadas por las pruebas y vinculadas con las constataciones y conclusiones en torno a las cuestiones clave abordadas en la evaluación.
El informe de la evaluación final también debe incluir lecciones que puedan tomarse de la evaluación, incluidas las mejores y peores prácticas para abordar cuestiones relacionadas con la pertinencia, el desempeño y el éxito, que puedan proporcionar conocimientos obtenidos de la circunstancia particular (métodos de programación y evaluación utilizados, asociaciones,apalancamiento financiero, etc.) Esto se aplica a otras intervenciones del FMAM y del PNUD. Cuando sea posible, el equipo de la evaluación final debe incluir ejemplos de buenas prácticas en el diseño y la implementación de proyectos.
Es importante que las conclusiones, recomendaciones y lecciones aprendidas del informe de la evaluación final incluyan resultados relacionados con la igualdad de género y el empoderamiento de las mujeres.
El informe final se deberá traducir a inglés una vez se tenga la aprobación del documento en español.

El informe de la evaluación final contará con una Table de valoraciones de evaluación, como se muestra a continuación:

Table 4 de los Términos de Referencia: Table de valoraciones de evaluación de
(título del proyecto: Reducción de las liberaciones de los COP no intencionales y mercurio

provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa:)

Seguimiento y evaluación (SyE)	Calificación[1]
Diseño de SyE al inicio	
Implementación del Plan de SyE	
Calidad general de SyE	
Implementación y ejecución	Calificación
Calidad de la implementación/supervisión del PNUD	
Calidad de la ejecución del asociado en la ejecución	
Calidad general de la implementación/ejecución	
Evaluación de resultados	Calificación
Pertinencia	
Efectividad	
Eficiencia	
Valoración de los resultados generales del proyecto	
Sostenibilidad	Calificación
Recursos financieros	
Sociopolítica	
Marco institucional y gobernanza	
Medioambiental	
Probabilidad general de sostenibilidad	

Financiación/cofinanciación del proyecto

La evaluación valorará los aspectos financieros clave del proyecto, incluido el alcance de cofinanciación planificada y realizada. Se requerirán los datos de los costos y la financiación del proyecto, incluidos los gastos anuales. Se deberán evaluar y explicar las diferencias entre los gastos planificados y reales. Deben considerarse los resultados de las auditorías financieras recientes, si están disponibles. Los evaluadores recibirán asistencia de la Oficina en el País (OP) y del Equipo del Proyecto para obtener datos financieros a fin de completar la siguiente Table de cofinanciación, que se incluirá en el informe final de evaluación.

[1] Los resultados, la efectividad, la eficiencia, el SyE, la ejecución de IyE y la relevancia se clasifican en unaescala de 6 puntos: 6 = Altamente satisfactorio (AS), 5 = Satisfactorio (S), 4 = Moderadamente satisfactorio (MS), 3 = Moderadamente insatisfactorio (MI), 2 = Insatisfactorio (I), 1 = Altamente insatisfactorio (AI). La sostenibilidad se clasifica en una escala de 4 puntos: 4 = Probable (P), 3 = Moderadamente probable (MP), 2 = Moderadamente improbable (MI), 1 = Improbable (I)

Table 4 de los Términos de Referencia: Table de valoraciones de evaluación de*(título del proyecto: Reducción de las liberaciones de los COP no intencionales y mercurio provenientes de la gestión de residuos hospitalarios, RAEE, procesamiento de chatarra metálica y quemas de biomasa)*

Cofinanciación (tipo/fuente)	Financiación propia del PNUD (millones de USD)		Gobierno (millones de USD)		Organismo asociado (millones de USD)		Total (millones de USD)	
	Planificado	Real	Planificado	Real	Planificado	Real	Planificado	Real
Subvenciones								
Préstamos/concesiones								
▪ Ayuda en especie								
▪ Otro								
Totales								

Integración

Los proyectos respaldados por el PNUD y financiados por el FMAM son componentes clave en la programación nacional del PNUD, así como también en los programas regionales y mundiales. Laevaluación valorará el grado en que el proyecto se integró con otras prioridades del PNUD consignadas en el CPD y en el marco de cooperación de país, entre ellos la reducción de la pobreza, mejor gobernanza, la prevención y recuperación de desastres naturales y el género. Además, la evaluación se incluirá en el plan de evaluación de la oficina en el país.

Impacto

Los evaluadores valorarán el grado en que el proyecto está progresando hacia el impacto.

Reporte de evaluación

El PNUD utiliza un proceso de selección justo y transparente que considera las competencias/ capacidades de los candidatos, así como sus propuestas financieras. Se alienta a las mujeres y a los miembros calificados de las minorías sociales para que presenten su solicitud.

5. PRODUCTOS ESPERADOS - RESULTADOS CONCRETOS DE LA EVALUACIÓN FINAL

El *consultor/equipo* de la evaluación final preparará y presentará:

No.	Entregable /Productos	Tiempo de entrega después de firmado el contrato.	Tiempo estimado para revisión y aceptación	Revisión y aceptación a cargo de (cargo e institución)	Peso porcentual en la consultoría
1	Informe Inicial (Inception report): El equipo de la evaluación final aclara los objetivos y métodos de la evaluación final a más tardar 2 semanas antes de la misión de la evaluación final. El equipo de la evaluación	15 días después defirmado el contrato	3 días	*Gerente Nacional área de desarrollo*	*10%*

	final envía el informe inicial a la unidad encargada y a la dirección del proyecto. Documento entre 10-15 páginas. El reporte debe incluir: 1. Antecedentes y contexto. 2. Objetivo, finalidad y alcance de la evaluación. 3. Criterios y preguntas de evaluación. 4. Análisis de evaluabilidad. 5. Cuestiones transversales. 6. Enfoque y metodología de la evaluación, destacando los modelos conceptuales que se adoptarán ydescribiendo los métodos de recopilación de datos 7. Matriz de evaluación, identificando las preguntas clave de evaluación y cómo se responderán a través de los métodos seleccionados 8. Un cronograma revisado de hitos clave, viajes, entregables y responsabilidades, incluidas las fases de evaluación (recopilación de datos, análisis de datos e informes). 9. Requerimientos de recursos detallados, vinculados a las actividades de evaluación y entregables detallados en el plan de trabajo. (tener en cuenta Documento Annexo)	Fecha aproximada: (incluir 15 de septiembre)		*sostenible del PNUD*	
2	Borrador de informe final (40 a 60 páginas máximo incluyendo el resumen ejecutivo: Documento que contenga el Borrador del informe o primera versión en español con la evaluación en consonancia con el Esquema de Informe descrito en las guías. Presentación verbal (PPT) – presencial o virtual, y documento escrito con los resultados, conclusiones y recomendaciones de la evaluación (tener en cuenta Documento Annexo). El equipo de la evaluación final envía a la unidad encargada; con revisión del ATR de la DPAP-FMAM, la Unidad de Coordinación de Proyectos, el Punto focal operativo del FMAM	veinte (20) días después de la firma de contrato.	3 días		40 %
3	Informe final (español e inglés) e historial de auditoría: El equipo de la evaluación final presenta un informe revisado en el que se detalla cómo se han abordado (y no se han abordado) todos los comentarios recibidos en el informe final de la evaluación final, a la unidad encargada (tener en cuenta Documento Annexo). El documento debe incluir un capítulo que proporcionede manera específica: 1) constataciones, 2) conclusiones, 3) recomendaciones y 4) lecciones aprendidas.	65 días después de la firma de contrato	3 días		50 %

Nota: El trabajo se puede hacer y ser completado fuera de las oficinas, pocas visitas en la oficinapara la coordinación serán necesarios.

La calidad de todos los informes finales de la evaluación final será evaluada por la Oficina de Evaluación Independiente (OEI) del PNUD. La información sobre la evaluación de la calidad de las valoraciones

descentralizadas realizada por la OEI se encuentra en la sección 6 de las Directrices de Evaluación del PNUD.[2]

6 DURACIÓN DEL CONTRATO – CRONOGRAMA

Duración de la evaluación final (contrato):

Aproximadamente (65 días laborables en promedio) durante un período de 12 de semanas) a partir del (septiembre 2022).

Actividad	**Tiempo**
Primera fase: Revisión de escritorio y elaboración Informe Inicial (Inception report)	15 días
Segunda fase: recolección de información, entrevistas y análisis de datos[14] y elaboración de Borrador de informe final	20 días
Tercera fase: Elaboración de Informe final (español e inglés)	40 días
Total	65 días

El cronograma tentativo de evaluación final es el siguiente:

Cronograma	Actividad
(1 agosto)	Cierre del plazo de solicitud
(30 agosto)	Selección del equipo de la evaluación final
(1 septiembre)	Período de preparación del equipo de la evaluación final (entrega de documentos)
(15 septiembre) 15 días	Examen y preparación de documentos del informe inicial de la evaluaciónfinal
(30 de septiembre) 15 días	Finalización y validación del informe inicial de la evaluación final; inicio tardío de la misión de la evaluación final
(15 de agosto) 7 -15 días	Misión de la evaluación final: reuniones con las partes interesadas,entrevistas, visitas sobre el terreno, etc.
(30 de agosto)	Reunión de recapitulación de la misión y presentación de las constataciones iniciales; finalización más temprana de la misión de la evaluación final
(15 de septiembre) 15 días	Preparación del proyecto de informe de evaluación final
(30 de septiembre)	Distribución del proyecto de informe de evaluación final para comentarios
(15 de octubre)	Incorporación de comentarios sobre el informe de la evaluación final del proyecto en el historial de auditoría y finalización del informe de la evaluación final
(25 de octubre)	Preparación y emisión de la respuesta del personal directivo
(30 de octubre)	Conclusión del taller de partes interesadas (opcional)
(15 de noviembre)	Fecha prevista de finalización de la evaluación final.

[2] Disponible en: http://web.undp.org/evaluation/guideline/section-6.shtml

Las opciones de visitas sobre el terreno deben proporcionarse en el informe inicial de la evaluación final.

SUPERVISIÓN DEL CONTRATO

Gerente Nacional área de desarrollo sostenible del PNUD y Asesor MyS de desarrollossosten**ible**

FORMA DE PAGO

100% de cada producto después de aceptado y cumplidos los requisitos para iniciar el trámite de pago, el cual no tomará más de 30 días.

Entregable /Productos	**%**
1. Informe Inicial y presentación de resultados	10
2. Borrador de informe final	40
3. Informe final (español e inglés)	50

El PNUD no otorga anticipos.

ACUERDOS INSTITUCIONALES

Los socios, partes responsables y beneficiarios serán coordinados e invitados a ser pare de la evaluación. Especialmente la Oficina de Asuntos internacionales del Ministerio de ambiente como punto focal oficial del GEF en Colombia, la igual de la dirección de Asuntos ambientales, Sectorial y Urbanos del Ministerio de Ambiente. Los actores del sector privado que hicieron parte del proyecto serán también incluidos según las acciones que se realizaron en el marco del proyecto.

DISPOSICIONES DE LA EVALUACIÓN FINAL

La principal responsabilidad de la gestión de la evaluación final recae en la unidad encargada. La unidad encargada de la evaluación final de este proyecto es el/la Gerente Nacional del área de desarrollo sostenible de la Oficina del PNUD en Colombia y el/la Asesor/a de MyS de desarrollos sostenible de la Oficina del PNUD en Colombia.

La unidad encargada contratará a los evaluadores y garantizará al equipo de la evaluación final la oportuna provisión de dietas y arreglos de viaje dentro del país. El equipo del proyecto será responsable de establecer contactos con el equipo de la evaluación final para suministrar todos los documentos pertinentes, organizar entrevistas con los interesados y visitas sobre el terreno.

El Equipo del Proyecto será responsable de mantenerse en contacto con el equipo de Evaluadores para establecer entrevistas con los interesados, organizar visitas de campo, coordinar con el Gobierno, entregar la información que sea necesaria y facilitar los espacios de retroalimentación de la evaluación.

El contratista deberá interactuar con: todos los beneficiarios, partes interesadas y socios del proyecto y en especial con el equipo del proyecto.

Los socios y beneficiarios serán tenidos en cuenta y vinculados a la evaluación mediante entrevistas, encuestas y demás herramientas que se definan en la metodología y en el informe inicial, especialmente la Oficina de Asuntos internacionales del Ministerio de ambiente como punto focal oficial del FMAM en Colombia, la igual de la dirección de Asuntos ambientales, Sectorial y Urbanos del Ministerio de Ambiente. Los actores del sector privado que hicieron parte del proyecto serán también incluidos según las acciones que se realizaron en el marco del proyecto.

SEDE DE TRABAJO

i. Sede

Domicilio del consultor, salvo las reuniones que se citen presenciales ya sean para suministro de información o entrega de avances, según se acuerde en la programación de los espacios.

VIAJES POR FUERA DE LA SEDE DE TRABAJO

LOS VIAJES PREVISTOS Y QUE DEBEN INCLUIRSE EN LA PROPUESTA SON:

Ciudad de Origen	***Ciudad de Destino***	***Número de noches***
Domicilio	Bogotá	*4*
Bogotá	Puerto Inírida	*1*
Bogotá	Tuta	*1*
Bogotá	Ibagué	*1*
Bogotá	Medellín	*1*
Bogotá	Cali	*3*

Cualquier gasto de viaje previsto se incluirá en la propuesta financiera*. Esto incluye también los viajes al lugar de destino/repatriación. En general, el PNUD no acepta gastos por concepto de viaje superiores al costo de los boletos de clase económica. Si el titular de un contrato desea viajar en una clase superior, deberá hacerlo con sus propios recursos. Además, cualquier viaje en misión previsto se incluirá en los TDR, para que puedan contemplarse en la propuestafinanciera****.* ***No se cubrirán dietas adicionales para viajes ya previstos en el contrato, ya que estos montos deberán estar incluidos en la propuesta financiera*** *dentro de los honorarios del Contratista/Consultor Individual.*

En el caso de ***viajes imprevistos****, la respectiva oficina administrativa y el Contratista/Consultor Individual acordarán el monto pagar de los costos (pasajes, alojamiento y tasas de embarque) antes del viaje para su posterior reembolso.*

Los gastos por concepto de ***viajes imprevistos*** *finalmente se liquidarán usando la solicitud F-10, independiente de si hubo algún cambio en relación con el plan original.*

*El pago de **viajes imprevistos** se efectuará con antelación al viaje siguiendo el procedimiento administrativo establecido o bien se reembolsará al Consultor/Contratista contra la presentación de una solicitud de reembolso de gastos de viaje (formulario F-10) que incluya todos los documentos justificativos o de respaldo que sean necesarios.*

***Certificado de Seguridad:** Cuando se requiera para el desarrollo del objeto de la consultoría realizar viajes fuera de la sede de trabajo, es necesario que el Consultor Seleccionado obtenga el certificado de seguridad antes de realizar dicho viaje, verificando con el supervisor del contrato el procedimiento requerido. De acuerdo con los niveles de seguridad establecidos en el país.*
***Vacunas**: Antes de viajar, el contratista deberá asegurarse que cuenta con las respectivasvacunas en caso de requerirse.*
***Visa:** El contratista es responsable de gestionar oportunamente cualquier visa que requiera para iniciar la consultoría. Esta información debe ser consultada directamente por el contratista. El PNUD podría facilitar una carta de presentación donde se mencione del ofrecimiento para llevar a cabo la consultoría y el reembolsará los costos de la visa.*

***Certificado médico:** contratistas mayores a 62 años que requieran viajar, deberán obtener un certificado médico emitido por un médico aprobado por las Naciones Unidas, dicho certificado deberá ser emitido después de un chequeo médico completo que incluya rayos x.*

***Seguro médico:** Los contratistas deberán contar con cobertura médica en Colombia.*

COMPOSICIÓN DEL EQUIPO DE LA EVALUACIÓN FINAL

Los evaluadores no pueden haber participado en la preparación, formulación y/o ejecución del proyecto (incluida la redacción del documento del proyecto), no deben haber realizado el examen de mitad de período de este proyecto, ni deben tener un conflicto de intereses con las actividades relacionadas con el proyecto.

La selección de evaluadores tendrá como objetivo maximizar las cualidades generales del "equipo" en las áreas que se indican a continuación:

i. Perfil Requerido

Requisitos	
Título Profesional	Profesional en Ingeniería química, Ingeniería ambiental, medio ambiente, manejo de contaminantes, o desarrollo sustentable uotro campo estrechamente relacionado.
Título de Maestría	Maestría en Ingeniería química, Ingeniería ambiental, medio ambiente, manejo de contaminantes, o desarrollo sustentable u otro campo estrechamente relacionado.
Experiencia Especifica Sólo se tendrá en cuenta la experiencia a partir de la fecha	10 años de experiencia especifica en temas de gestión y manejo de desechos peligrosos o sustancias químicas; y/o experiencia en diseño/evaluación/revisión de proyectos en el área de acción del proyecto.

Requisitos	
de grado. No se aceptantraslapos para la misma experiencia.	Demostrar experiencia pertinente con metodologías deevaluación de la gestión basada en los resultados; Demostrar experiencia en la aplicación de indicadores deltipo SMART y en la reconstrucción o validación de escenarios de referencia; Demostrar la experiencia en la evaluación de proyectos Demostrar la experiencia trabajando en *Latinoamérica yel caribe* Demostrar la experiencia en evaluación y análisis conperspectiva de género Demostrar la experiencia de evaluación/examen de proyectos dentro del sistema de las Naciones Unidasconstituye una ventaja Experiencia Específica Experiencia reciente (durante los últimos 5 años) con metodologías de evaluación de la gestión basada en resultados. Experiencia de trabajo con el FMAM o con evaluaciones realizadas por este organismo o para proyectos financiados por el FMAM. Experiencia a verificar en la propuesta metodológica Demostrar la competencia en la gestión adaptativa, tal como se aplica en la ventana de químicos y contaminantes *del FMAM) -esta competencia se verificará en la propuestametodológica-.* Demostrar la comprensión demostrada de las cuestiones relacionadas con el género y la ventana de químicos y contaminantes del *FMAM)-esta competencia se verificaráen la propuesta metodológica-.* Aptitudes analíticas demostrables *-esta competencia severificará en la propuesta metodológica-.*
Idioma	Idioma: inglés avanzado y español.

Nota: El PNUD se reserva el derecho de adelantar verificaciones, solicitar referencias y evidencia de los títulos obtenidos.

ÉTICA DEL EVALUADOR

El equipo de la evaluación final deberá apegarse a los más altos estándares éticos, y se exige que firme un código de conducta al aceptar el encargo. Esta evaluación se llevará a cabo de conformidad con los principios esbozados en las "Directrices éticas para evaluaciones" del UNEG. El evaluador debe protegerlos derechos y la confidencialidad de los proveedores de información, los entrevistados y las partes interesadas mediante medidas que garanticen el cumplimiento de los códigos jurídicos y de otro tipo

pertinentes que rigen la recopilación de datos y la presentación de informes sobre estos. El evaluador también debe garantizar la seguridad de la información recopilada antes y después de la evaluación, así como de los protocolos que garantizan el anonimato y la confidencialidad de las fuentes de información cuando esté previsto. Los conocimientos y datos de información reunidos en el proceso de evaluación también deben utilizarse exclusivamente para la evaluación y no para otros usos sin la autorización expresa del PNUD y sus asociados.

Lista de Annexos:
Annexo A de los TdR: Marco de lógico/de resultados del proyecto
Annexo B de los TdR: Paquete de información del proyecto que debe revisar el equipo de la evaluación final
Annexo C de los TdR: Contenido del informe de la evaluación final Annexo D de los TdR: Plantilla de matriz de criterios de evaluación Annexo E de los TdR: Código de Conducta de los evaluadores del UNEGAnnexo F del TdR: Escalas de valoración de la evaluación final
Annexo G de los TdR: Formulario de autorización de informe de la evaluación finalAnnexo H de los TdR: Historial de auditoría de la evaluación final

CONDICIONES GENERALES PARA CONTRATOS DE SERVICIOS DE CONTRATISTAS INDIVIDUALES

CONDICIÓN JURÍDICA

Se considerará que el Contratista Individual tiene la condición jurídica de un contratista independiente con respecto al Programa de las Naciones Unidas para el Desarrollo (PNUD), y no será considerado bajo ningún concepto, como "miembro del personal" del PNUD, en virtud del Reglamento del Personal dela ONU, o como "funcionario" del PNUD, en virtud de la Convención de Privilegios e Inmunidades de las NacionesUnidas, adoptada por la Asamblea General de las Naciones Unidas el 13 de Febrero de 1946. Del mismo modo, ninguna disposición dentro del presente Contrato o con relación al mismo establecerá la relación de empleado y empleador, mandante y agente, entre el PNUD y el Contratista Individual. Los funcionarios, representantes, empleados o subcontratistas del PNUD y del Contratista Individual, si hubiere, no se considerarán bajo ningún concepto como empleados o agentes del otro, y el PNUD y el Contratista Individual serán los únicos responsables de todo reclamo que pudiere surgir de la contratación de dichas personas o entidades o con relación a lamisma.

ESTÁNDARES DE CONDUCTA

En General: El Contratista Individual no solicitará ni aceptará instrucciones de ninguna autoridad externa al PNUD en relación con el desempeño de sus obligaciones conforme a las disposiciones del presente Contrato. En caso de que cualquier autoridad externa al PNUD buscara imponer cualquier instrucción sobre el presente Contrato, con respecto aldesempeño del Contratista Individual en virtud del presente Contrato, el mismo deberá notificar de inmediato al PNUD y brindar toda asistencia razonable requerida por el PNUD. El Contratista Individual evitará cualquier acción que pudieraafectar de manera adversa al PNUD y llevará a cabo los servicios comprometidos bajo este Contrato velando en todo momento por los intereses del PNUD. El Contratista Individual garantiza que ningún funcionario, representante, empleado o agente del PNUD ha recibido o recibirá ningún beneficio directo o indirecto como consecuencia del presente Contrato o de su adjudicación por parte del Contratista. El Contratista Individual deberá cumplir con toda ley, decreto, norma y reglamento a los cuales se encuentre sujeto el presente Contrato. Asimismo, en el desempeño de sus obligaciones, el Contratista Individual deberá cumplir con los estándares de conducta establecidos en el Boletín del Secretario General ST/SGB/2002/9 del 18 de junio de 2002,titulado "Estatuto relativo a la Condición y a los Derechos y Deberes básicos de los Funcionarios que no forman parte del personal de la Secretaría y de los Expertos en Misión". El Contratista Individual deberá cumplir con todas las Normas deSeguridad emitidas por el PNUD. El incumplimiento de dichasnormas de seguridad constituye los fundamentos para la rescisión del Contrato individual por causa justificada.

Prohibición de Explotación y Abuso Sexual: En el desempeño del presente Contrato, el Contratista Individual deberá cumplircon los estándares de conducta establecidos en el boletín del Secretario General ST/SGB/2003/13 del 9 de octubre de 2003, titulado "Medidas Especiales para Proteger contra la Explotación y el Abuso Sexual". Específicamente, el Contratista Individual no se involucrará en conducta alguna que pueda constituir la explotación o el abuso sexual, como se define en el boletín.

El Contratista Individual reconoce y acuerda que el incumplimiento de cualquier disposición del presente Contrato constituye un incumplimiento de una cláusula esencial delmismo y, junto con otros derechos jurídicos o soluciones jurídicas disponibles para cualquier persona, se considerará como fundamento para la rescisión del presente Contrato. Asimismo, ninguna disposición establecida en el presente limitará el derecho del PNUD de referir cualquierincumplimiento de los estándares de conducta antemencionadosa las autoridades nacionales pertinentes para tomar la debida acción judicial.

DERECHOS INTELECTUALES, PATENTES Y OTROS DERECHOS DE PROPIEDAD

El derecho al equipamiento y los suministros que pudieran ser proporcionados por el PNUD al Contratista Individual para el desempeño de cualquier obligación en virtud del presente Contrato deberá permanecer con el PNUD y dicho equipamiento deberá devolverse al PNUD al finalizar el presente Contrato o cuando ya no sea necesario para el Contratista Individual. Dicho equipamiento, al momento de devolverlo al PNUD, deberá estaren las mismas condiciones que cuando fue entregado al Contratista Individual, sujeto al deterioro normal. El Contratista Individual será responsable de compensar al PNUD por el equipo dañado o estropeado independientemente del deterioro normal del mismo.

El PNUD tendrá derecho a toda propiedad intelectual y otros derechos de propiedad incluyendo pero no limitándose a ello: patentes, derechos de autor y marcas registradas, con relación a productos, procesos, inventos, ideas, conocimientos técnicos, documentos y otros materiales que el Contratista Individual haya preparado o recolectado en consecuencia o durante la ejecución del presente Contrato, y el Contratista Individual reconoce y acuerda que dichos productos, documentos y otros materiales constituyen trabajos llevados a cabo en virtud de la contrataciónde PNUD. Sin embargo, en caso de que dicha propiedad intelectual u otros derechos de propiedad consistan en cualquierpropiedad intelectual o derecho de propiedad del Contratista Individual: (i) que existían previamente al desempeño del Contratista Individual de sus obligaciones en virtud del presenteContrato, o (ii) que el Contratista Individual pudiera desarrollaro adquirir, o pudiera haber desarrollado o adquirido, independientemente del desempeño de sus obligaciones en virtud del presente Contrato, el PNUD no reclamará ni deberá reclamar interés de propiedad alguna sobre la misma, y el Contratista Individual concederá al PNUD una licencia perpetua para utilizar dicha propiedad intelectual u otro derecho de propiedad únicamente para el propósito y para los requisitos del presente Contrato. A solicitud del PNUD, el Contratista Individual deberá seguir todos los pasos necesarios, legalizar todos los documentos necesarios y generalmente deberá garantizar los derechos de propiedad y transferirlos al PNUD, de acuerdo con los requisitos de la ley aplicable y del presente Contrato.

Sujeto a las disposiciones que anteceden, todo mapa, dibujo, fotografía, mosaico, plano, informe, cálculo, recomendación, documento y toda información compilada o recibida por el Contratista Individual en virtud del presente Contrato será de propiedad del PNUD; y deberá encontrarse a disposición del PNUD para su uso o inspección en momentos y lugares razonables y deberá ser considerada como confidencial y entregada únicamente a funcionarios autorizados del PNUD al concluir los trabajos previstos en virtud del presente Contrato.

NATURALEZA CONFIDENCIAL DE LOS DOCUMENTOS Y DE LA INFORMACIÓN.

La información considerada de propiedad del PNUD o del Contratista Individual y que es entregada o revelada por una de las Partes ("Revelador") a la otra Parte ("Receptor") durante elcumplimiento del presente Contrato, y que es designada como confidencial ("Información"), deberá permanecer en confidencia

de dicha Parte y ser manejada de la siguiente manera: el Receptor de dicha información deberá llevar a cabo la misma discreción y el mismo cuidado para evitar la revelación, publicación o divulgación de la Información del Revelador, como lo haría con información similar de su propiedad que no desea revelar, publicar o divulgar; y el Receptor podrá utilizar la Informacióndel Revelador únicamente para el propósito para el cual le fue revelada la información. El Receptor podrá revelar Información confidencial a cualquier otra parte mediante previo acuerdo por escrito con el Revelador, así como con los empleados, funcionarios, representantes y agentes del Receptor que tienen necesidad de conocer dicha Información para cumplir con las obligaciones del Contrato. El Contratista Individual podrá revelar Información al grado requerido por ley, siempre que seencuentre sujeto y sin excepción alguna a los Privilegios e Inmunidades del PNUD. El Contratista Individual notificará alPNUD con suficiente antelación, cualquier solicitud para revelar Información de manera tal que le permita al PNUD un tiempo razonable para tomar medidas de protección o cualquier otra acción adecuada previa a dicha revelación. El PNUD podrá revelar la Información al grado requerido de conformidad a la Carta de las Naciones Unidas, a las resoluciones o reglamentosde la Asamblea General o los otros organismos que gobierna, o a las normas promulgadas por el Secretario General. El Receptor no se encuentra impedido de revelar la Información obtenida por un tercero sin restricciones; revelada por un Revelador a un tercero sin obligación de confidencialidad; que el Receptor conoce de antemano; o que ha sido desarrollada por el Receptor de manera completamente independiente a cualquier Información que le haya sido revelada en virtud del presente Contrato. Las obligaciones y restricciones de confidencialidad mencionadas se encontrarán vigentes durante la duración del Contrato, incluyendo cualquier extensión del mismo; y, a menos que se disponga de otro modo en el Contrato, permanecerán vigentes una vez rescindido el Contrato.

SEGURO MÉDICO Y DE VIAJE Y SEGURO PORFALLECIMIENTO, ACCIDENTE O ENFERMEDAD

En caso de que el PNUD requiera que el Contratista Individualviaje más allá de la distancia habitual de la residencia del mismo, y bajo previo acuerdo por escrito, dicho viaje será cubierto porel PNUD. Dicho viaje será en categoría económica cuando searealizado por avión.

El PNUD podrá requerir que el Contratista Individual presenteun Certificado de Buena Salud emitido por un médico autorizado antes de comenzar con el trabajo en cualquiera de las oficinas opredios del PNUD o antes de comprometerse para cualquier viaje requerido por el PNUD o con relación al desempeño del presente Contrato. El Contratista Individual deberá brindar dicho Certificado de Buena Salud lo antes posible una vez se le hayarequerido, y antes de comprometerse para cualquier viaje, y el Contratista Individual garantiza la veracidad de dicho Certificado, incluyendo, pero no limitándose a ello, laconfirmación de que el Contratista Individual ha sido completamente informado sobre los requisitos de inoculación para el país o los países a los cuales el viaje sea autorizado.

En caso de fallecimiento, accidente o enfermedad del Contratista Individual atribuible al desempeño de servicios en nombre del PNUD en virtud de los términos del presente Contrato mientras que el Contratista Individual se encuentra viajando a expensas del PNUD o desempeñando cualquier servicio en virtud del presente Contrato en cualquier oficina o predio del PNUD, el Contratista Individual o sus empleados, tendrán derecho a indemnización, equivalente a aquella brindada en virtud de la póliza de seguros del PNUD, disponible bajo petición.

PROHIBICIÓN PARA CEDER; MODIFICACIONES

El Contratista no podrá ceder, transferir, dar en prenda o enajenar el presente Contrato, en todo o en parte, ni sus derechos, títulos u obligaciones en virtud del mismo, salvo que contara con el consentimiento escrito previo del PNUD, y cualquier intento de lo antedicho será anulado e invalidado. Los términos y condiciones de cualquier trámite adicional, licencias u otras formas de consentimiento con respecto a cualquier bien o servicio a ser brindado en virtud del presente Contrato no será válido ni vigente contra el PNUD ni constituirá de modo algunoun Contrato para el PNUD, a menos que dicho trámite, licenciau otros formatos de Contratos son el sujeto de un trámite válido por escrito realizado por el PNUD. Ninguna modificación o cambio del presente Contrato será considerado válido o vigentecontra el PNUD a menos que sea dispuesto mediante enmienda válida por escrito al presente Contrato firmada por el ContratistaIndividual y un funcionario autorizado o una autoridad reconocida del PNUD para contratar.

SUBCONTRATACIÓN

En el caso en que el Contratista Individual requiriera de los servicios de subcontratistas para desempeñar cualquier obligación en virtud del presente Contrato, el Contratista Individual deberá obtener la aprobación previa por escrito del PNUD para todos los subcontratistas.

El PNUD podrá, a su discreción, rechazar cualquier subcontratista propuesto o exigir su remoción sin justificación alguna y dicho rechazo no dará derecho al Contratista Individual de reclamar ningún retraso en el desempeño o de mencionar excusas para el incumplimiento de cualquiera de sus obligaciones en virtud del presente Contrato. El Contratista Individual será el único responsable de todos los servicios y obligaciones prestados/as por sus subcontratistas. Los términos de todos los subcontratos estarán sujetos y deberán ajustarse a las disposiciones del presente Contrato.

UTILIZACIÓN DEL NOMBRE, EMBLEMA O SELLO OFICIAL DE LAS NACIONES UNIDAS

El Contratista Individual no publicitará o hará público el hechode que está prestando servicios para el PNUD para su beneficiocomercial o su activo, ni utilizará de modo alguno el nombre, emblema o sello oficial del PNUD o abreviatura alguna del nombre del PNUD con fines vinculados a su actividad comercialo con cualquier otro fin.

INDEMNIZACIÓN

El Contratista indemnizará, defenderá y mantendrá indemne a su costa al PNUD, a sus funcionarios, agentes y empleados contratodos los juicios, reclamos, demandas y responsabilidades de toda naturaleza o especie, incluidos todos los costos y gastos porlitigios, honorarios de abogados, pagos y daños de liquidación,basándose o que surjan de o con relación a: (a) alegatos o reclamos sobre el uso por parte del PNUD de cualquier artículo patentado, material protegido por derechos de autor o por otrosbienes o servicios brindados para el PNUD para su uso en virtudde los términos del presente Contrato, en todo o en parte, en conjunto o por separado, constituye una infracción de cualquierpatente, derechos de autor, derechos de marca u otros derechosintelectuales de terceros; o (b) cualquier acto u omisión del Contratista Individual o de cualquier subcontratista o de cualquier persona empleada directa o indirectamente por los mismos para la ejecución del presente Contrato, que pudiera derivar en responsabilidad jurídica de cualquier parte ajena al presente Contrato, incluyendo pero no limitándose a ello, reclamos y responsabilidades que se vinculen con indemnizaciones por accidentes de trabajo de los empleados.

SEGUROS

El Contratista Individual deberá pagar al PNUD de inmediato por toda pérdida, destrucción o daño a la propiedad del PNUD causada por el Contratista Individual o por cualquier subcontratista, o por cualquier persona empleada en formadirecta o indirecta por los mismos para la ejecución del presente Contrato. El Contratista Individual es el único responsable de tomar y mantener un seguro apropiado requerido para cumplir con todas sus obligaciones en virtud del presente Contrato. Asimismo, el Contratista Individual será el responsable de tomara su costo, todo seguro de vida, salud o cualesquiera otros seguros que considere apropiados para cubrir el período duranteel cual el Contratista Individual deberá prestar sus servicios en virtud del presente Contrato. El Contratista Individual reconoce y acuerda que ninguno de los arreglos de contratación de seguros que el Contratista Individual pudiera realizar, serán interpretados como una limitación de la responsabilidad del mismo que pudiera surgir en virtud del presente Contrato o con relación almismo.

EMBARGO PREVENTIVO Y DERECHO DEGARANTÍA REAL

El Contratista Individual no provocará ni permitirá que un derecho de garantía real, embargo preventivo o gravamen constituido o trabado por alguna persona sea incluido o permanezca en el expediente de cualquier oficina pública o en un archivo del PNUD para cobrar cualquier deuda monetaria vencida o por vencerse al Contratista Individual y que se le deba en virtud del trabajo realizado o por bienes o materiales suministrados conforme al presente Contrato o en razón de cualquier otra demanda o reclamo contra el Contratista Individual.

FUERZA MAYOR; OTRAS MODIFICACIONES EN LAS CONDICIONES.

En el caso de cualquier evento de fuerza mayor y tan pronto como sea posible a partir de que el mismo haya tenido lugar, el Contratista Individual comunicará este hecho por escrito con todos los detalles correspondientes al PNUD, así como de cualquier cambio que tuviera lugar si el Contratista Individual no pudiera, por este motivo, en todo o en parte, llevar a cabo sus obligaciones ni cumplir con sus responsabilidades bajo el presente Contrato. El Contratista Individual también notificará al PNUD sobre cualquier otra modificación en las condiciones o sobre la aparición de cualquier acontecimiento que interfiriera o amenazara interferir con la ejecución del presente Contrato. ElContratista Individual deberá presentar también un estado de cuenta al PNUD sobre los gastos estimados que seguramente serán incurridos durante el cambio de condiciones o el acontecimiento, no más de quince (15) días a partir de lanotificación de fuerza mayor o de otras modificaciones en las condiciones u otro acontecimiento. Al recibir la notificación requerida bajo esta cláusula, el PNUD tomará las acciones que,a su criterio, considere convenientes o necesarias bajo las circunstancias dadas, incluyendo la aprobación de una extensión de tiempo razonable a favor del Contratista Individual para queel mismo pueda llevar a cabo sus obligaciones bajo el presenteContrato.

En caso de que el Contratista Individual no pudiera cumplir conlas obligaciones contraídas bajo el presente Contrato, ya sea parcialmente o en su totalidad, en razón del evento de fuerza mayor ocurrido, el PNUD tendrá el derecho de suspender o rescindir el presente Contrato en los mismos términos y condiciones previstos en el Artículo titulado “Rescisión”, salvoque el período de preaviso será de cinco (5) días en lugar de cualquier otro período de notificación. En cualquier caso, el PNUD tendrá derecho a considerar al Contratista Individual como permanentemente incapaz de prestar sus obligaciones envirtud del presente Contrato en caso de que el ContratistaIndividual sufriera un período de suspensión en exceso de treinta
(30) días.

Fuerza mayor, tal como se la entiende en esta cláusula, significaactos fortuitos, de guerra (declarada o no) invasión, revolución,insurrección u otros actos de naturaleza o fuerza similar, siempre que dichos actos surjan por causas ajenas al control, falta o negligencia del Contratista Individual. El Contratista Individual reconoce y acuerda que, con respecto a cualquier obligación envirtud del presente Contrato que el mismo deberá desempeñar eno para cualquier área en la cual el PNUD se vea comprometido,
o se prepare para comprometerse, o para romper el compromisocon cualquier operación de paz, humanitaria o similar, cualquierdemora o incumplimiento de dichas obligaciones que surjan o que se relacionen con condiciones extremas dentro de dichas áreas o cualquier incidente de disturbio civil que ocurra en dichas áreas, no se considerarán como tal, casos de fuerza mayor, en virtud del presente Contrato.

RESCISIÓN

Cualquiera de las partes podrá rescindir el presente Contrato, en su totalidad o parcialmente, notificando a la otra parte por escrito.El período de notificación será de cinco (5) días para contratoscon una duración menor a dos (2) meses; y catorce (14) días para contratos con mayor duración. La iniciación de un procedimiento arbitral o de conciliación según la cláusula que se indica más abajo, no se considerará como “justificación”, ni en sí misma una rescisión del presente Contrato.

El PNUD podrá sin perjuicio de ningún otro derecho o recurso al que pudiera tener lugar, rescindir el presente Contrato en caso de que: (a) el Contratista Individual fuera declarado en quiebra o sujeto a liquidación judicial o fuera declarado insolvente, o si el Contratista Individual solicitara una moratoria sobre cualquier obligación de pago o reembolso, o solicitara ser declaradoinsolvente; (b) se le concediera al Contratista Individual una moratoria o se le declarara insolvente; el Contratista Individual cediera sus derechos a uno o más de sus acreedores; (c) se nombrara a algún Beneficiario a causa de la insolvencia del Contratista Individual, (d) el Contratista Individual ofrezca unaliquidación en lugar de quiebra o sindicatura; o (e) el PNUD determine en forma razonable que el Contratista Individual se encuentra sujeto a un cambio materialmente adverso en su condición financiera que amenaza con dañar o afectar en forma sustancial la habilidad del Contratista Individual para desempeñar cualesquiera de sus obligaciones en virtud delpresente Contrato.

En caso de cualquier rescisión del Contrato, mediante recibo de notificación de rescisión por parte del PNUD, el Contratista Individual deberá, excepto a como pudiera ser ordenado por el PNUD en dicha notificación de rescisión o por escrito: (a) tomarde inmediato los pasos para cumplir con el desempeño de cualquier obligación en virtud del presente Contrato de manerapuntual y ordenada, y al realizarlo, reducir los gastos al mínimo;
(b) abstenerse de llevar a cabo cualquier compromiso futuro o adicional en virtud del presente Contrato a partir de y luego de la fecha de recepción de dicha notificación; (c) entregar al PNUD en virtud del presente Contrato, todo plano, dibujo, toda información y cualquier otra propiedad completados/as en su totalidad o parcialmente; (d) desempeñar por completo el trabajo no terminado; y (e) llevar a cabo toda otra acción que pudiera ser necesaria, o que el PNUD pudiera ordenar por escrito, para la protección y preservación de cualquier propiedad, ya sea tangible
o intangible, con relación al presente Contrato que se encuentre en posesión del Contratista Individual y sobre el cual el PNUD tiene o pudiera tener un interés

En caso de cualquier tipo de rescisión del presente Contrato, elPNUD únicamente tendrá la obligación de pagar al ContratistaIndividual una indemnización en forma prorrateada por no másdel monto real del trabajo brindado a satisfacción del PNUD deacuerdo con los requisitos del presente Contrato. Los gastos adicionales incurridos por el PNUD que resulten de la rescisióndel Contrato por parte del Contratista Individual podrán ser retenidos a causa de cualquier suma que el PNUD le deba al Contratista Individual.

NO-EXCLUSIVIDAD

El PNUD no tendrá obligación o limitación alguna con respectoa su derecho de obtener bienes del mismo tipo, calidad y cantidad, o de obtener cualquier servicio del tipo descrito en elpresente Contrato, de cualquier fuente en cualquier momento.

EXENCIÓN IMPOSITIVA

El Artículo II, sección 7 de la Convención sobre Privilegios e Inmunidades de las Naciones Unidas dispone, entre otras cosas, que las Naciones Unidas, incluidos sus órganos subsidiarios, quedarán exentos del pago de todos los impuestos directos, salvo las tasas por servicios públicos; además se exime a las NacionesUnidas de pagar los derechos aduaneros e impuestos similares en relación con los artículos importados o exportados para uso oficial. Si alguna autoridad de gobierno se negase a reconocer laexención impositiva de las Naciones Unidas en relación con dichos impuestos, derechos o cargos, el Contratista Individual consultará de inmediato al PNUD a fin de determinar un procedimiento que resulte aceptable para ambas partes. El PNUD no tendrá responsabilidad alguna por concepto de impuestos, derechos u otros cargos similares a ser pagados por el Contratista Individual con respecto a cualquier monto pagado al ContratistaIndividual en virtud del presente Contrato, y el Contratista Individual reconoce que el PNUD no emitirá ningún estado de ingresos al Contratista Individual con respecto a cualesquiera delos pagos mencionados.

AUDITORIA E INVESTIGACIÓN

Cada factura pagada por el PNUD será objeto de una auditoría post pago realizada por auditores, tanto internos como externosdel PNUD o por otros agentes autorizados o calificados del PNUD en cualquier momento durante la vigencia del Contrato ypor un período de dos (2) años siguientes a la expiración del Contrato o previa terminación del mismo. El PNUD tendrá derecho a un reembolso por parte del Contratista Individual porlos montos que según las auditorías fueron pagados por el PNUD a otros rubros que no están conforme a los términos y condiciones del Contrato.

El Contratista Individual reconoce y acepta que, de vez en cuando, el PNUD podrá llevar a cabo investigaciones relacionadas con cualquier aspecto del Contrato o al otorgamiento mismo sobre las obligaciones desempañadas bajoel Contrato, y las operaciones del Contratista Individual generalmente en relación con el desarrollo del Contrato... El derecho del PNUD para llevar a cabo una investigación y la obligación del Contratista Individual de cumplir con dichainvestigación no se extinguirán por la expiración del Contrato oprevia terminación del mismo. El Contratista Individual deberáproveer su plena y oportuna cooperación con las inspecciones, auditorías posteriores a los pagos o investigaciones. Dichacooperación incluirá, pero no se limita a la obligación delContratista Individual de poner a disposición su personal y la documentación pertinente para tales fines en tiempos razonablesy en condiciones razonables y de conceder acceso al PNUD a las instalaciones del Contratista Individual en momentos razonables y condiciones razonables en relación con este acceso al personaldel Contratista Individual y a la documentación pertinente. El Contratista Individual exigirá a sus agentes, incluyendo, pero no

limitándose a ello, sus abogados, contadores u otros asesores, cooperar razonablemente con las inspecciones, auditorías posteriores a los pagos o investigaciones llevadas a cabo por elPNUD.

1. RESOLUCIÓN DE CONFLICTOS

Resolución Amigable: El PNUD y el Contratista Individual realizarán todos los esfuerzos posibles para resolver en forma amigable cualquier disputa, controversia o reclamo que surgieseen relación con el presente Contrato o con alguna violación, rescisión o invalidez vinculada al mismo. En caso de que las partes desearan buscar una solución amigable a través de un proceso de conciliación, el mismo tendrá lugar de acuerdo con las Reglas de Conciliación de la CNUDMI (en inglés, UNCITRAL) vigentes en ese momento o conforme a cualquierotro procedimiento que puedan acordar las partes.

Arbitraje: A menos que las disputas, controversias o reclamos que surgieran entre las Partes con relación al presente Contrato,o con el incumplimiento, rescisión o invalidez del mismo, se resolvieran amigablemente de acuerdo con lo estipulado anteriormente, dicha disputa, controversia o reclamo podrá ser presentada por cualquiera de las Partes para la iniciación de unproceso de arbitraje según el Reglamento de Arbitraje de la CNUDMI vigente en ese momento. Las decisiones del tribunal arbitral estarán basadas en principios generales de Derecho Comercial Internacional. Para todo interrogatorio en busca de evidencia, el tribunal arbitral deberá guiarse por el Reglamento Suplementario que Gobierna la Presentación y Recepción de laEvidencia en Arbitraje Comercial Internacional de la Asociación Internacional de Abogados, edición 28 de mayo de 1983. El tribunal arbitral tendrá el derecho de ordenar la devolución o destrucción de los bienes o de cualquier propiedad, ya sea tangible o intangible, o de cualquier información confidencial brindada en virtud del presente Contrato, u ordenar la rescisióndel Contrato, u ordenar que se tome cualquier otra medida preventiva con respecto a los bienes, servicios o cualquier otra propiedad, ya sea tangible o intangible, o de cualquier información confidencial brindada en virtud del presente Contrato, en forma adecuada, y de conformidad con la autoridaddel tribunal arbitral según lo dispuesto en el Artículo 26 ("Medidas Provisionales de Protección") y el Artículo 32 ("Forma y Efecto de la Adjudicación") del Reglamento de Arbitraje de la CNUDMI. El tribunal arbitral no tendrá autoridad para determinar sanciones punitivas. Asimismo, a menos que seexprese de otro modo en el Contrato, el tribunal arbitral no tendrá autoridad alguna para adjudicar intereses que excedan la tasa LIBOR vigente al momento, y cualquier interés deberá ser interés simple únicamente. Las Partes estarán obligadas por el fallo arbitral resultante del citado proceso de arbitraje a modo deresolución final para toda controversia, reclamo o disputa.

2. PRIVILEGIOS E INMUNIDADES

Nada que estuviere estipulado en el presente Contrato o que conel mismo se relacionare, se considerará como renuncia, expresa o tácita, a los Privilegios e Inmunidades de las Naciones Unidas incluyendo a sus órganos subsidiarios.

6.2 List of documents reviewed

N.º	Document
1	Project Identification Form (PIF)
2	UNDP Initiation Plan
3	Final UNDP-GEF Project Document with all its Annexes
4	Request for CEO Approval
5	UNDP Social and Environmental Screening Procedure (SESP) and related management plans
6	Introductory Workshop Report
7	EMT report and management response to EMT recommendations
8	All Project Implementation Reports (PIR)
9	Progress reports (quarterly)
10	Supervision mission reports
11	Steering Committee Minutes
12	GEF monitoring tools (from CEO approval, mid-term and final phases) - GEF 6 Tracking Tol
13	Counterparts Project
14	Financial information, including actual expenditures per project output, management costs, and documents all major budget revisions.
15	Audit reports
16	Products and Publications Project 98842-94749
17	Communications Project 98842-94749
18	CAIA BAT BAT BAT MPA Metallurgy Recommendations
19	Dioxins and Furans Regulatory Analysis
20	Monitoring Indicators Project
21	Table Workshops Project

6.3 List of people interviewed

Date	**Place**	**Stakeholder**	**Name**
10/1/2023	Bogotá	Equipo de Proyecto	Álvaro Rodriguez Edwin Camelo Lissette Castro Santa María Fabián Pinzón
10/1/2023	Bogotá	Coordinador Grupo Sustancias Químicas, Residuos Peligrosos y UTO Directora DAASU Minambiente	Diego Escobar Luz Estela Guevara Andrea Corzo Alvarez
11/1/2023	Medellín	Asociación de recicladores Planeta Verde	Marta Iglesias Fabiola Cardona
11/1/2023	Medellín	Newstetic	Henry Rodriguez Mario Céspedes Daniela Muñoz Salas
11/1/2023	Medellín	RAEEplast	Valentida Estrada
12/1/2023	Medellín	LITO	Camilo Escobar
12/1/2023	Medellín	ICIP	Omar Estrada
12/1/2023	Medellín	Estra	Yenny Angel
12/1/2023	Medellín	Humanos 3D	Esteban Rojas Yoli Mainau
13/1/2023	Ibagué	FEDEARROZ	Juan Pablo Velazquez Xilena Rodriguez
13/1/2023	Ibagué	Beneficiarios agricultores Arroz	Fredy Rodriguez Josue Rodriguez Enrique Rodriguez Martinez
16/1/2023	Yumbo Cali	SIDOC	Claudia Magaña
16/1/2023	Yumbo Cali	ATECO	Juan José Hernández
16/1/2023	Cali	Secretaría de Salud	Lina Grau

16/1/2023	Cali	Fundación Club Noel	Sandra Inés Meneses
17/1/2023	Cali	ASOCAÑA	Miladis Marmolejo
17/1/2023	Cali	CENICAÑA	Andrés Felipe Ospina Nicolás Gil William Ojeda
17/1/2023	Cali	Beneficiarias Proyecto Mujeres	Laura Bedoya Daisy Vargas Diana Ortada
17/1/2023	Cali	INNOVA	Miguel Ozejo Helena Gavrilova
18/1/2023	Bogotá	GERDAU	Flor Marina Eusse González Daniela Rincón Yuber Acosta Luz Angela Mora
19/1/2023	Bogotá	Programa Computadores para educar	Jorge Cotes Lina Paola Quiroga
19/1/2023	Bogotá	Ecocomputo	Natalie Lora
		GAIA	Iván Ricardo Gómez
19/1/2023	Bogotá	RedTech	Ariel Torres Saavedra
		LITO	Nadia Aparicio
19/1/2023	Bogotá	Punto Focal GEF	Yaisa Bejarano
31/1/2023	virtual	PNUD Colombia	Diego Olarte
1/2/2023	virtual	CAIA	David Cubillos Alexander Valencia
1/2/2023	virtual	PNUD Panamá	Carlos Andres Hernandez Kasper Koefoed
1/2/2023	virtual	ANDI	Angela Gomez Rodriguez
3/2/2023	Virtual	Hospital Manuel Elkin Patarroyo, Inírida	Aislen Contreras

6.4 Mission schedule

Día, fecha	Ciudad	Jornada	Actividad	Ubicación
Lunes, 9 de enero	Bogotá	--	Llegada	
Martes, 10 de enero	Bogotá	Mañana 9 am - 1 pm	Reunión con el equipo del Proyecto COP	Oficinas Ministerio de Ambiente
Martes, 10 de enero	Bogotá	Tarde 3 pm	Reunión con Coordinador Grupo Sustancias Químicas, Residuos Peligrosos y UTO y Directora DAASU Minambiente	Oficinas Ministerio de Ambiente
Miércoles, 11 de enero	Bogotá	Mañana 5 am en sala aeropuerto	Viaje a Medellín	
Miércoles, 11 de enero	Medellín	Mañana 8 am	Reunión con Planeta Verde (Recicladores)	Estación de Clasificación y Aprovechamiento
Miércoles, 11 de enero	Medellín	Tarde 12:30 pm	Reunión NewStetic	Visita planta
Miércoles, 11 de enero	Medellín	Tarde 3:30 pm	Por confirmar RAEEplast	Visita planta
Jueves, 12 de enero	Medellín	Mañana 8 am	Reunión con el ICIPC y empresas sector plásticos (Estra, Lito SAS)	Oficinas ICIPC

Día, fecha	Ciudad	Jornada	Actividad	Ubicación
Jueves, 12 de enero	Medellín	Tarde 2 pm en sala aeropuerto	Viaje a Ibagué	
Viernes, 13 de enero	Ibagué	Mañana 8 am - 1 pm	Reunión con Fedearroz	Ibagué
Viernes, 13 de enero	Bogotá	Tarde 5 pm	Viaje a Bogotá	
Sábado, 14 de enero				
Domingo, 15 de enero	Bogotá	Tarde 3 pm	Viaje a Cali	
Lunes, 16 de enero	Yumbo	Mañana 9 am	Reunión con SIDOC y ATECO	Oficinas SIDOC
Lunes, 16 de enero	Cali	Tarde 2 pm	Reunión con Secretaría de Salud de Cali y Fundación Club Noel	Oficinas Secretaría de Salud
Martes, 17 de enero	Cali	Mañana 8 am	Reunión con Asocaña y Cenicaña	Oficinas Cenicaña
Martes, 17 de enero	Cali	Tarde 2 pm	Reunión con INNOVA	Planta INNOVA
Martes, 17 de enero	Cali	Noche 9 pm	Viaje a Bogotá	
Miércoles, 18 de enero	Bogotá	Mañana 6 am	Viaje a Tuta	
Miércoles, 18 de enero	Tuta	Mañana 9:30 am	Reunión con GERDAU	Planta Siderúrgica Tuta
Miércoles, 18 de enero	Tuta	Tarde 3 pm	Viaje a Bogotá	
Jueves, 19 de enero	Bogotá	Mañana 7:30 am	Reunión con Programa Computadores para Educar, Ecocómputo y RedTECH	Planta CENARE
Jueves, 19 de enero	Bogotá	Tarde 3 pm	Reunión con Oficina Asuntos Internacionales Minambiente	Oficinas Ministerio de Ambiente

6.5 Evaluation Criteria Matrix

Evaluation Criteria/Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the GEF's main objectives of interest and to environmental and development priorities at the local, regional and national levels? How do they relate to the scope of the project in the UNDP Country Programme Document for Colombia (CPD) 2015-2019 and 2020-2023 and to the UNSDCF 2020-2023 Development Assistance Framework? Was the focus of the interventions appropriate to the development context?			
To what extent is the project aligned with national environmental and development priorities? What has been the level of stakeholder participation in project design? Does the project take into consideration national realities, national policies and plans in both its design and implementation?	Level of involvement of government officials and other and other partners in the project design process. Consistency with national policies and strategies Extent to which the project supports national environmental policies and plans. Assessment of key stakeholders regarding the level of	- Project documents - National policy and strategy documents - Assessment of key project partners and stakeholders.	- Document analysis. - Interviews with MADS staff, other national and local government authorities, project partners, UNDP and project team.

What has been the level of ownership of key stakeholders in project implementation?	appropriateness of project design and implementation to national realities and existing capacities. Consistency between the needs expressed by national stakeholders and UNDP-GEF criteria.		
To what extent is the project aligned with and supportive of GEF strategic priorities and objectives?	Consistency with GEF strategic objectives Existence of a clear relationship between project objectives and GEF strategic priorities.	- Project Documents - GEF Strategy Documents	- Document analysis. - Interviews with UNDP and project team staff.
To what extent is the project aligned with and supportive of UNDP Colombia's strategic priorities and objectives?	Consistency with UNDP strategic objectives Existence of a clear relationship between project objectives and UNDP strategic priorities.	- Project Documents - UNDP Strategic Plan, Country Program Document.	- Document analysis. - Interviews with UNDP staff and project team.
Are there logical links between the expected results of the project and the project design (in terms of components, choice of partners, structure, implementation mechanisms, scope, budget, use of resources, among others)? How does the theory of change expressed in Prodoc correspond to the structure and composition of the project, the context and the needs of the country? Are the objectives, outcomes, outputs and activities still valid, given the current project implementation context?	- Level of coherence between the results and the design of the project's internal logic. - Level of coherence between the project design and its implementation approach. - Level of correspondence of the theory of change with the structure and composition of the project, the context and the needs of the country. -Level of relevance of the objectives to the current reality. - Level of adaptability shown by the project to achieve the expected results in the context of the Covid-19 pandemic crisis situation.	- Project documents - Appraisal of MADS staff, UNDP, project partners and project team.	- Document analysis. - Interviews with MADS staff, other national and local government authorities, project partners, UNDP and project team.
Effectiveness: To what extent have the project outcomes and objectives been achieved? To what extent has the outcome been achieved, or has progress been made towards achieving them? What are the main factors (internal and external) that explain the level of achievement and/or lack of achievement of outcomes? How have the outputs developed had an impact on the outcome? Or why have they not been effective?			
Has the project been effective in achieving the expected results?	- Analysis of indicators in the framework of the project's strategic results/logical framework, in relation to resources and time invested.	- Project documents. - Quarterly and annual progress reports. - MADS staff, partners, project team and UNDP.	- Quarterly and annual progress reports. - MADS staff, partners, project team and UNDP. - Document analysis. - Interviews with MADS staff, national governments and project partners, UNDP and project team.
What has been the involvement of national and local authorities and other key stakeholders in achieving project results?	- Level of participation and involvement of national and local authorities and key stakeholders in project activities.	- Quarterly and annual progress reports.	- Document analysis. - Interviews with MADS staff, government authorities and

		- MADS staff, partners, project team and UNDP.	project partners, UNDP and project team.
Efficiency: To what extent is the progress achieved in the program the result of the economical use of resources? To what extent have the selected implementation modalities been conducive to the achievement of results? To what extent has the partnership strategy contributed to the progress achieved?			
Annual work plans in line with project resources and objectives? Were activities, outputs and outcomes carried out as planned? Has project execution been as effective as originally proposed (planned vs. actual)?	- Plans and budgets according to expected results. - Timeliness and adequacy of reports delivered. - Quality of results-based management reporting (progress reports, monitoring and evaluation).	- Project documents - Annual plans - Quarterly and annual progress reports, budgets. - Project team.	- Document analysis. - Interviews with project team.
Have financial resources been used efficiently? Have procurements been made in a manner that makes efficient use of project resources? Have the financial and accounting systems been adequate to manage the project and to produce accurate and timely financial information?	- Cost as a function of results achieved compared to costs of similar projects in other organizations. - Level of discrepancy between planned and actually executed expenditure. - Timeliness and adequacy of reports delivered. - Quality of results-based management reporting (progress reports, monitoring and evaluation).	- Project documents - Quarterly and annual progress reports - Budgets - Expenditure reports - Project team.	- Document analysis. - Interviews with project team.
How has adaptive management contributed to the achievement of results and the scaling up of expected outputs?	Existence of changes in project design or implementation approach where necessary to improve project efficiency. - Changes that improved the achievement of project results.	- Project documents. - Quarterly and annual progress reports. - MADS staff, partners, project team and UNDP.	- Document analysis. - Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
Was an activity monitoring and evaluation system implemented?	- Existence of clear indicators and targets; - Frequency of meetings and strategic decisions made by the Project Steering Committee. - Monitoring plans developed.	- Project documents. - Quarterly and annual progress reports. - Mid-term Evaluation Report. - Minutes of Steering Committee meetings and follow-up meetings. - Annual plans. - MADS staff, partners, project team and UNDP.	- Document analysis. - Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
How were project risks and assumptions managed? What was the quality of the mitigation strategies developed?	- Completeness of risk identification and assumptions during project planning and design. - Quality of information systems in place to identify emerging risks.	- Project documents. - Quarterly and annual progress reports. - MADS staff, partners, project team and UNDP.	- Document analysis. - Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
Was it possible to raise counterpart and/or additional resources for the project objectives?	- Amount of resources allocated by project partners;	- Project documents.	- Document analysis. - Interviews with personnel from

Has co-financing been according to plan?	- Level of involvement of project partners. - Existence of budget lines for complementary/related Existence of budget lines for complementary/project-related activities in partner organizations. - Planned vs. actual co-financing received.	- Cash and in-kind expenditure reports from project partners. - MADS staff and project partners.	MADS, state governments and project partners, UNDP and the project team.
What other complementary projects with national and/or international funding are being implemented at the project sites and how are they linked to the project?	- Projects identified with national and/or international funding that are being implemented in the same territories as the project. - Level of linkages achieved for the implementation of aligned activities of the identified projects.	- Project documents. - Quarterly and annual progress reports. - MADS staff, partners, project team and UNDP.	- Document analysis. - Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
Sustainability: To what extent are there financial, institutional, socio-economic, or environmental risks to sustain project results in the long term? Was the intervention designed to have sustainable effects given the identifiable risks, e.g. were exit strategies included? Are the benefits of UNDP interventions sustainable? What mechanisms have been put in place to ensure continuation of benefits? Have stakeholder capacities been developed? To what extent have the knowledge management processes implemented contributed to the country's capacity to address governance challenges?			
To what extent are project results likely to be dependent on continued financial support? What is the likelihood that the necessary financial resources will be available to sustain project results after GEF assistance ends?	Financial requirements for the maintenance of project benefits. Level of expected financial resources available to support maintenance of project benefits.	- Project documents. - Project team and project partners.	- Document analysis.
Do relevant stakeholders have or are they likely to achieve an adequate level of "ownership" of the results to have an interest in ensuring that project benefits are sustained?	Level of initiative and commitment of relevant stakeholders to project activities and outcomes.	- Project documents. - Project team and project partners.	- Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
Do relevant stakeholders have the technical capacity to ensure that project benefits are sustained?	Level of technical capacity of relevant stakeholders relative to the level required to sustain project benefits.	- Project documents. - Project team and project partners.	- Document analysis.
To what extent do project outcomes depend on socio-political factors?	Existence of socio-political risks to project benefits.	- Project documents. - Project team and project partners.	- Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
To what extent do project outcomes depend on issues related to institutional frameworks and governance?	Existence of institutional and governance risks to project benefits.	- Project documents. - Project team and project partners.	- Document analysis.
Are there environmental risks that could undermine the future flow of project impacts and overall environmental benefits?	Existence of environmental risks to project benefits	- Project documents. - Project team and project partners.	- Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.

Impact: Is there evidence that the project has contributed to reducing environmental stress or improving ecological status, or that it has led to progress towards these outcomes?			
What verifiable environmental improvements have been made?	Verifiable environmental improvements	- Project document - Quarterly and annual progress reports. - Project team and project partners.	- Document analysis. - Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
Cross-cutting aspects To what extent did UNDP support positive changes in terms of gender equity in the products generated? What positive changes have been generated? Were there any unexpected effects? To what extent was the rights and human development approach incorporated in the interventions carried out? What positive changes have been generated? To what extent has UNDP taken into account the needs of the most vulnerable groups and excluded sectors in order to promote equity? What positive changes have been generated?			
How were gender issues integrated into project design and implementation? How did the project contribute to gender equality and women's empowerment?	Level of progress of the gender action plan and gender indicators in the results framework.	- Project document - Quarterly and annual progress reports. - Project team and project partners.	- Document analysis.
How did the project's gender outcomes advance or contribute to the project's biodiversity outcomes?	Existence of logical linkages between gender results and project outcomes and impacts.	- Project document - Quarterly and annual progress reports. - Project team and project partners.	- Interviews with personnel from MADS, state governments and project partners, UNDP and the project team.
How were effects on local populations considered in project design and implementation?	Positive or negative effects of the project on local populations.	- Project document - Quarterly and annual progress reports. - Project team and project partners.	- Document analysis.

6.6 Summary of Rating Scales

M&E Ratings Scale

Rating	Descirption
6 = Highly Satisfactory (HS)	There were no short comings; quality of M&E design/implementation exceeded expectations
5 = Satisfactory (S)	There were minor shortcomings; quality of M&E design/implementation met expectations
4 = Moderately Satisfactory (MS)	There were moderate shortcomings; quality of M&E design/implementation more or less met expectations
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of M&E design/implementation was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of M&E design/implementation was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in M&E design/implementation
Unable to Assess (UA)	The available information does not allow an assessment of the quality of M&E design/implementation.

Implementation/Oversight and Execution Ratings Scale

Rating	Descirption
6 = Highly Satisfactory (HS)	There were no shortcomings; quality of implementation/execution exceeded expectations

5 = Satisfactory (S)	There were no or minor shortcomings; quality of implementation/execution met expectations.
4 = Moderately Satisfactory (MS)	There were some shortcomings; quality of implementation/execution more or less met expectations.
3 = Moderately Unsatisfactory (MU)	There were significant shortcomings; quality of implementation/execution was somewhat lower than expected
2 = Unsatisfactory (U)	There were major shortcomings; quality of implementation/execution was substantially lower than expected
1 = Highly Unsatisfactory (HU)	There were severe shortcomings in quality of implementation/execution
Unable to Assess (UA)	The available information does not allow an assessment of the quality of implementation and execution

Escala de calificaciones: relevancia, efectividad, eficiencia.

Rating	Descirption
6 = Highly Satisfactory (HS)	El nivel de resultados obtenidos supera claramente las expectativas y / o no hubo deficiencias
5 = Satisfactory (S)	El nivel de los resultados obtenidos fue el esperado y / o no hubo deficiencias menores o no hubo.
4 = Moderately Satisfactory (MS)	Nivel de resultados logrados más o menos como se esperaba y / o hubo deficiencias moderadas.
3 = Moderately Unsatisfactory (MU)	Nivel de resultados logrados algo más bajo de lo esperado y / o hubo deficiencias significativas
2 = Unsatisfactory (U)	Nivel de resultados logrados sustancialmente más bajo de lo esperado y / o hubo deficiencias importantes
1 = Highly Unsatisfactory (HU)	Solo se logró un nivel insignificante de resultados y / o hubo deficiencias graves
Unable to Assess (UA)	La información disponible no permite una evaluación del nivel de logros de los efectos directos

Escala de calificaciones de sostenibilidad

Rating	Descirption
4 = Likely (L)	There are little or no risks to sustainability
3 = Moderately Likely (ML)	There are moderate risks to sustainability
2 = Moderately Unlikely (MU)	There are significant risks to sustainability
1 = Unlikely (u)	There are severe risks to sustainability
Unable to Assess (UA)	Unable to assess the expected incidence and magnitude of risks to sustainability

6.7 Formulario de acuerdo del consultor de la evaluación

Código de Conducta de los evaluadores del UNEG

Independencia implica la capacidad de evaluar sin influencia o presión indebida proveniente de cualquier parte (incluida la unidad encargada) y proporcionar a los evaluadores acceso irrestricto a información sobre el tema de la evaluación. La independencia proporciona legitimidad y garantiza una perspectiva objetiva de las evaluaciones. Una evaluación independiente reduce el potencial de conflictos de interés que pudieran surgir con calificaciones autorreportadas por los involucrados en la gestión del proyecto/programa que se está evaluando. La independencia es uno de los diez principios generales para las evaluaciones (junto con principios, objetivos y metas convenidos internacionalmente: utilidad; credibilidad; imparcialidad; ética;

transparencia; derechos humanos e igualdad de género; capacidades nacionales de evaluación; y profesionalismo).

Evaluadores/consultores:

1. Deben presentar información completa y justa en su evaluación de las fortalezas y debilidades para que las decisiones o acciones tomadas estén bien fundadas.
2. Deben revelar el conjunto completo de resultados de la evaluación junto con información sobre sus limitaciones mantenerla accesible a todos los afectados por la evaluación, expresión de los derechos jurídicos para recibir resultados.
3. Deben proteger el anonimato y la confidencialidad de los informantes individuales. Deben proporcionar la máxima notificación, minimizar las demandas a tiempo y respetar el derecho de las personas a no participar. Los evaluadores deben respetar el derecho de las personas a proporcionar información con confianza, y deben garantizar que la información sensible no pueda rastrearse hasta su fuente. No se espera que los evaluadores evalúen a las personas, y deben equilibrar una evaluación de las funciones de gestión con este principio general.
4. En ocasiones se descubren pruebas de mala conducta mientras se realizan evaluaciones. Estos casos deben ser comunicados discretamente al órgano de investigación apropiado. Los evaluadores deben consultar con otras entidades de supervisión pertinentes cuando surja alguna duda sobre si y cómo deben informarse los problemas.
5. Deben ser sensibles a las creencias, los hábitos y las costumbres, y actuar con integridad y honestidad en sus relaciones con todas las partes interesadas. De conformidad con la Declaración Universal de Derechos Humanos de las Naciones Unidas, los evaluadores deben ser sensibles y abordar las cuestiones de discriminación e igualdad de género. Deben evitar ofender la dignidad y el amor propio de las personas con las que entren en contacto en el curso de la evaluación. Teniendo en cuenta que la evaluación podría afectar los intereses de algunas partes interesadas, los evaluadores deben llevar a cabo la evaluación y comunicar su propósito y resultados de manera que claramente respete la dignidad y la autoestima de las partes interesadas.
6. Son responsables de su desempeño y de sus productos. Son responsables de la presentación clara, precisa y justa, oral y/o escrito, de las imitaciones, conclusiones y recomendaciones del estudio.
7. Deben reflejar procedimientos contables adecuados y ser prudentes al utilizar los recursos de la evaluación.
8. Deben asegurarse de que se mantenga la independencia de juicio, y de que los resultados de la evaluación y las recomendaciones se presenten de manera independiente.
9. Deben confirmar que no han participado en el diseño, ejecución o asesoramiento del proyecto que se está evaluando, y que no han realizado la revisión intermedia del proyecto.

Formulario de acuerdo del consultor de la evaluación

Acuerdo de cumplir el Código de Conducta para la Evaluación del sistema de las Naciones Unidas:

Nombre del evaluador: Bárbara Ochoa Di Masi

Nombre de la organización de consultoría (si corresponde): _____

Confirmo que he recibido y comprendido y que cumpliré el Código de Conducta para la Evaluación de las Naciones Unidas.

Firmado en Buenos Aires, Argentina (Lugar) el 26/03/2023 (Fecha)

Firma: _____