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Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin American Countries
(UNIDO 140297, GEF 5554)

Office of Evaluation and Internal Oversight

OFFICE OF EVALUATION AND INTERNAL OVERSIGHT
INDEPENDENT EVALUATION UNIT

FINAL REPORT

Independent Evaluation of

Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs Waste of Electronic or Electrical Equipment (WEEE) in Latin American Countries (PREAL)

(UNIDO ID: 140297 / GEF ID: 5554)

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Abstract

The independent terminal evaluation of the project "Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin American Countries (PREAL)" was conducted for UNIDO management, personnel, external stakeholders, and potential partners. Implemented by UNIDO from April 2017 to June 2024, the project aimed to improve WEEE management, and particularly the management of Persistent Organic Pollutants (POPs) in WEEE across 13 Latin American countries.

The project effectively addressed critical needs in WEEE management, aligning with national and regional priorities, and accelerating regional efforts. It demonstrated strong coherence by integrating private sector needs and promoting synergies with existing initiatives, though it could have better incorporated the public sector and ensured long-term sustainability. Significant progress was made in policy development and capacity building, although some targets were overly ambitious. Delays and budget reallocations impacted efficiency, but the project adapted well to challenges. Sustainability prospects are mixed; while some countries show strong potential for sustaining benefits, others face challenges. The project raised awareness and built foundational capacities, but long-term impacts will depend on national continued efforts and funding.

Recommendations emphasize the need for tailored support to countries, robust business models for WEEE management, and enhanced regional cooperation. The report concludes that while the project achieved many of its objectives, future initiatives should address identified gaps to ensure lasting benefits.

Resumen

La evaluación final independiente del proyecto «Fortalecimiento de las iniciativas nacionales y mejora de la cooperación regional para la gestión ambientalmente racional de los COP en los residuos de aparatos electrónicos o eléctricos (RAEE) en los países de América Latina (PREAL)» se llevó a cabo para la dirección de la ONUDI, el personal, las partes interesadas externas y los socios potenciales. Ejecutado por la ONUDI desde abril de 2017 hasta junio de 2024, el proyecto tenía como objetivo mejorar la gestión de los RAEE y, en particular, de los contaminantes orgánicos persistentes (COP) en los RAEE en 13 países de América Latina.

El proyecto abordó eficazmente las necesidades críticas en la gestión de RAEE, alineándose con las prioridades nacionales y regionales, y acelerando los esfuerzos regionales. Demostró una gran coherencia al integrar las necesidades del sector privado y promover sinergias con las iniciativas existentes, aunque podría haber incorporado mejor al sector público y garantizado la sostenibilidad a largo plazo. Se lograron avances significativos en el desarrollo de políticas y la capacitación, aunque algunos objetivos eran demasiado ambiciosos. Los retrasos y las reasignaciones presupuestarias afectaron a la eficiencia, pero el proyecto se adaptó bien a los retos. Las perspectivas de sostenibilidad son dispares;

mientras que algunos países muestran un gran potencial para mantener los beneficios, otros se enfrentan a desafíos. El proyecto aumentó la concientización y creó capacidades básicas, pero los efectos a largo plazo dependerán de la continuidad de los esfuerzos nacionales y la financiación.

Las recomendaciones hacen hincapié en la necesidad de un apoyo adaptado a los países, modelos empresariales sólidos para la gestión de RAEE y una mayor cooperación regional. El informe concluye que, aunque el proyecto logró muchos de sus objetivos, las iniciativas futuras deberán abordar las brechas detectadas para garantizar beneficios duraderos.

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Evaluation Team

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Abbreviations and Acronyms

Abbreviation	Meaning
BAT	Best Available Technologies
BC	Basel Convention
BEP	Best Environmental Practices
BFR	Brominated Flame Retardants
ECLAC	Economic Commission for Latin America and the Caribbean
EPR	Extended Producer Responsibility
ESM	Environmentally sound management
EWAM	E-waste Academy for Managers
EWAS	E-waste Academy for Scientists
GEF	Global Environmental Facility
LATU	Laboratorio Tecnologico del Uruguay
ILO	International Labor Organization
ITU	International Telecommunications Union
MTR	Mid-term Review
NGO	Non-governmental Organizations
NIP	National Implementation Plan
N-PMU	National Project Management Unit
PAC	Project Advisory Committee
PAHO	Pan American Health Organization
PBDE	Polybrominated Diphenyl Ether
PIR	Project Implementation Report
POP	Persistent Organic Pollutants
PREAL	Proyecto Residuos Electronicos America Latina (Project Acronym in Spanish)
PSC	Project Steering Committee
RELAC	Regional Latin American Platform for E-waste
R-PMU	Regional Project Management Unit
SC	Stockholm Convention
ToC	Theory of Change
ToR	Terms of Reference
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UNU	United Nations University
WEEE	Waste of Electronic or Electrical Equipment
WIPO	World International Property Organization
WHO	World health Organization
XRF	X-ray Fluorescence

Executive Summary

This report contains the independent terminal evaluation of the project entitled “Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic and Electrical Equipment (WEEE) in Latin-American Countries", locally known as "PREAL". The project was implemented in 13 countries in Central and South America from April 2017 to June 2024, with a total cost of US$47.6 million, of which US$9.5 million were financed by a grant from the Global Environment Fund (GEF) through the United Nations Industrial Development Organization (UNIDO).

The evaluation was carried out following the methodology and criteria established by UNIDO for projects financed by GEF, described in detail in Annex 2.

This summary provides a brief analysis of project results and ratings, as well as a discussion of the main recommendations.

The PREAL project is considered highly relevant to growing importance of electronic waste worldwide and in the participating countries, and fully consistent with the need for specific policies and regulatory framework to identify solutions aimed at addressing the environmental consequences of inadequate disposal of waste from electronic and electric equipment.

Based on the comprehensive assessment conducted, the overall project rating was considered Moderately Satisfactory. Taking into account some limitations observed in project design and related operational shortcomings, this rating reflects the adequate level of global achievement of targets, and the fact that project implementation and outcomes in some countries exceeded expectations in several of the goals set for each component and generated valuable positive results, although with limited possibilities to sustain and expand them in the future in all 13 participating countries.

In terms of quality at entry, regardless of the results achieved, some shortcomings were identified in the design of the project which, to some extent, affected the effectiveness and efficiency of implementation. These include the complexity of the proposed development objective, the inadequate definition and quantification of key indicators and targets for waste processing, a certain lack of realism with respect to the implementation timeline in relation to the number of participating countries and budgets allocated, and the limited actions included to advance the essential Extended Producer Responsibility (EPR) dimension.

The progress towards meeting project objectives was partially achieved through the synergies and coordinated implementation of its three components. Specifically, the project contributed to strengthened environmental policies through the development of regulatory frameworks and the knowledge base on waste conversion and recovery, fostered private sector knowledge in technologies relevant to the project's objective, developed capacities (both in the public and private sectors, and to a lesser extent in academia), and devoted considerable efforts to communicate and disseminate the knowledge gained.

Through the implementation of specific waste identification, management and disposal interventions in all participating countries, a relatively modest quantity of contaminated

plastics from electronic equipment was adequately disposed of during the life of the project. Although not considered sophisticated, the application of these practices was appropriate and innovative for the development stage of waste valorization in most individual countries, providing a few concrete examples of potential success, and demonstrating, although not consolidating, the technical and economic feasibility of adopting the practices and technologies tested.

As for project implementation, based on the detailed information provided, the analysis of all factors related to technical and financial parameters suggests that aggregate project indicators were mostly achieved, while project funds, despite the limited allocation per country, were efficiently utilized and administered by UNIDO, well complemented by a reasonable level of project governance and coordination, in all cases taking into consideration the complexity of implementing a regional project covering 13 countries.

However, several important shortcomings were identified, including the extremely low degree of implementation progress in the early years of the project, lack of uniformity in individual country commitment and performance with limited management proactivity to identify remedial measures, deficiencies in data quality and reporting, and an unusually long project extension period, resulting in major cost increase of regional management and coordination activities.

In terms of sustainability, the comprehensive evaluation conducted makes it possible to conclude that reasonable conditions exist for the various contributions of PREAL to be supported after project completion in those countries that more efficiently implemented the activities supported by the project and effectively incorporated WEEE considerations into existing environmental policies, therefore generating a solid basis for achieving positive long-term impacts. The potential impact resulting from the project depends largely on the sustainability of the instruments developed or promoted for the consolidation and possible expansion of PREAL's actions within public sector priorities and the subsequent adoption of these practices by the private sector. For this to materialize, active public interventions will be needed to continue the development of policies, instruments, and knowledge, as well as to promote the massive adoption of successful experiences by the private sector.

In summary, the PREAL project can be rated as Moderately Satisfactory, basically because overall design expectations were mostly achieved in relation to the targets set for each component, although with considerable differences between participating countries in relation to all performance evaluation criteria. In addition, despite the described quality at entry and operational shortcomings, the project was instrumental in supporting several positive technological, institutional, and regulatory improvements, all with reasonable chances of being sustained and expanded in the future by several of the countries. The efforts aimed at improving inter-institutional coordination, developing incentive mechanisms, and private sector stakeholder engagement were somewhat limited, but nevertheless provide an encouraging scenario for the identification and promotion of more advanced, effective and sustainable WEEE management models based on adequate regulatory instruments.

Despite the design and implementation shortcomings, the PREAL experience has generated a set of relevant lessons learned and recommendations that should contribute not only to the design of future regional environmental projects, but also to the specific aspects of WEEE sound management and disposal.

The above global assessment is reflected in the individual ratings awarded to the different elements of project design and implementation.

Evaluation Rating Table

#	Evaluation criteria	Mandatory rating	Rating
A	**Progress to Impact**	Yes	**MS**
B	**Project design**	Yes	**MS**
1	• Overall design	Yes	MS
2	• Project results framework/log frame	Yes	MS
C	**Project performance and progress towards results**	Yes	**MS**
1	• Relevance	Yes	HS
2	• Coherence	Yes	HS
3	• Effectiveness	Yes	MS
4	• Efficiency	Yes	MS
5	• Sustainability of benefits	Yes	MS
D	**Gender mainstreaming**	Yes	**S**
E	**Project implementation management**	Yes	**MS**
1	• Results-based management (RBM)	Yes	MS
2	• Monitoring and Evaluation, Reporting	Yes	MS
F	**Performance of partners**		
1	• UNIDO	Yes	MS
2	• National counterparts	Yes	MS
3	• Implementing partner (if applicable)	Yes	N/A
4	• Funding partner	Yes	N/A
G	**Environmental and Social Safeguards (ESS), Disability and Human Rights**	Yes	**MS**
1	• Environmental Safeguards	Yes	S
2	• Social Safeguards, Disability and Human Rights	Yes	MS
H	**Overall Assessment**	Yes	**MS**

Evaluation Rating Scale

Score		Definition	Category
6	Highly satisfactory	Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).	SATISFACTORY
5	Satisfactory	Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).	
4	Moderately satisfactory	Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).	

3	Moderately unsatisfactory	Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).	UNSATISFACTORY
2	Unsatisfactory	Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).	
1	Highly unsatisfactory	Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).	

Resumen Ejecutivo

Este informe contiene la evaluación final independiente del proyecto titulado "Fortalecimiento de Iniciativas Nacionales y Mejora de la Cooperación Regional para el Manejo Ambientalmente Racional de COPs en Residuos de Aparatos Electrónicos y Eléctricos (RAEE) en Países de América Latina", conocido localmente como "PREAL". El proyecto se implementó en 13 países de América Central y América del Sur desde abril de 2017 hasta junio de 2024, con un costo total de US$47,6 millones, de los cuales US$9,5 millones fueron financiados por una donación del Fondo para el Medio Ambiente Mundial (GEF/FMAM) a través de la Organización de las Naciones Unidas para el Desarrollo Industrial (ONUDI).

La evaluación se llevó a cabo siguiendo la metodología y los criterios establecidos por la ONUDI para los proyectos financiados por el GEF/FMAM, que se describen en detalle en el anexo 2.

Este resumen proporciona un breve análisis de los resultados y calificaciones del proyecto, así como una discusión de las principales recomendaciones.

El proyecto PREAL se considera muy pertinente debido a la creciente importancia de los residuos electrónicos en todo el mundo y en los países participantes, y es plenamente coherente con la necesidad de políticas y marcos normativos específicos para identificar soluciones destinadas a abordar las consecuencias medioambientales de la eliminación inadecuada de los residuos de equipos electrónicos y eléctricos.

Sobre la base de la evaluación exhaustiva realizada, la calificación general del proyecto se consideró Moderadamente Satisfactoria. Teniendo en cuenta algunas limitaciones observadas en el diseño de los proyectos y las deficiencias operacionales conexas, esta calificación refleja el nivel adecuado de logro de las metas a nivel mundial, y el hecho de que la ejecución y los resultados de los proyectos en algunos países superaron las expectativas en varios de los objetivos establecidos para cada componente y generaron valiosos resultados positivos, aunque con posibilidades limitadas de mantenerlos y ampliarlos en el futuro en los países participantes.

En cuanto a la calidad del diseño, independientemente de los resultados obtenidos, se identificaron algunas deficiencias en; a elaboración del proyecto que, en cierta medida, afectaron la eficacia y eficiencia de la ejecución. Estos incluyen la complejidad del objetivo de desarrollo propuesto, la definición y cuantificación inadecuadas de indicadores y metas clave para el procesamiento de desechos, cierta falta de realismo con respecto al cronograma de implementación en relación con el número de países participantes y los

presupuestos asignados, y las acciones limitadas incluidas para avanzar en la dimensión esencial de la Responsabilidad Extendida del Productor (REP).

Los resultados alcanzados en el cumplimiento de los objetivos del proyecto se lograron en parte gracias a las sinergias y la aplicación coordinada de sus tres componentes. Concretamente, el proyecto contribuyó al fortalecimiento de las políticas ambientales mediante el desarrollo de marcos normativos y la base de conocimientos sobre la conversión y recuperación de desechos, fomentó los conocimientos del sector privado en tecnologías pertinentes para el objetivo del proyecto, desarrolló capacidades (tanto en el sector público como en el privado y, en menor medida, en el mundo académico) y dedicó esfuerzos considerables a comunicar y difundir los conocimientos adquiridos.

Mediante la ejecución de intervenciones específicas de identificación, gestión y eliminación de desechos en todos los países participantes, se eliminó adecuadamente una cantidad relativamente modesta de plásticos contaminados procedentes de equipos electrónicos durante la vida útil del proyecto. Aunque no se consideró sofisticada, la aplicación de estas prácticas fue apropiada e innovadora para la etapa de desarrollo de la valorización de desechos en la mayoría de los países, proporcionando algunos ejemplos concretos de éxito potencial y demostrando, aunque no consolidando, la viabilidad técnica y económica de adoptar las prácticas y tecnologías probadas.

En cuanto a la ejecución del proyecto, sobre la base de la detallada información proporcionada, el análisis de todos los factores relacionados con los parámetros técnicos y financieros indica que en su mayoría se lograron los indicadores agregados del proyecto, mientras que los recursos financieros, a pesar de la asignación limitada por país, fueron utilizados y administrados eficientemente por ONUDI, bien complementados por un nivel razonable de gobernanza y coordinación, en todos los casos teniendo en cuenta la complejidad de implementar un proyecto regional que abarca 13 países.

Sin embargo, se identificaron varias deficiencias importantes, entre ellas el grado extremadamente bajo de progreso en la ejecución en los primeros años del proyecto, la falta de uniformidad en el compromiso y el desempeño de los distintos países, con una proactividad limitada de la gestión para determinar las medidas correctivas, deficiencias en la calidad de los datos y la presentación de informes, y un período de prórroga del proyecto inusualmente largo, que dio lugar a un importante aumento de los costos de las actividades regionales de gestión y coordinación.

En términos de sostenibilidad, la evaluación realizada permite concluir que existen condiciones razonables para que las diversas contribuciones de PREAL sean continuadas después de la finalización del proyecto en aquellos países que implementaron de manera más eficiente las actividades apoyadas por el proyecto e incorporaron efectivamente las consideraciones de RAEE en las políticas ambientales existentes, generando así una base sólida para lograr impactos positivos a largo plazo. El impacto potencial resultante del proyecto depende en gran medida de la sostenibilidad de los instrumentos desarrollados o promovidos para la consolidación y posible expansión de las acciones de PREAL dentro de las prioridades del sector público y la posterior adopción de estas prácticas por parte del sector privado. Para que esto se materialice, se requerirán intervenciones públicas activas que continúen el desarrollo de políticas, instrumentos y conocimientos, así como que promuevan la adopción masiva de experiencias exitosas por parte del sector privado.

En resumen, el Proyecto PREAL es calificado como Moderadamente Satisfactorio, básicamente debido a que las expectativas globales de diseño se alcanzaron en su mayoría

en relación con los objetivos establecidos para cada componente, aunque con diferencias considerables entre los países participantes en relación con todos los criterios de evaluación del desempeño. Además, a pesar de las deficiencias mencionadas en cuanto a diseño y operación, el proyecto ha sido instrumental para respaldar varias mejoras tecnológicas, institucionales y regulatorias, todas con posibilidades razonables de ser sostenidas y ampliadas en el futuro por varios de los países. Los esfuerzos destinados a mejorar la coordinación interinstitucional, el desarrollo de mecanismos de incentivos y la participación de las partes interesadas del sector privado fueron algo limitados, pero sin embargo proporcionan un escenario alentador para la identificación y promoción de modelos de gestión de RAEE más avanzados, efectivos y sostenibles basados en instrumentos regulatorios adecuados.

A pesar de las deficiencias de diseño e implementación, la experiencia de PREAL ha generado un conjunto de lecciones aprendidas y recomendaciones relevantes que deberían contribuir no solo al diseño de futuros proyectos ambientales regionales, sino también a los aspectos específicos de la gestión y eliminación racional de RAEE.

La evaluación global descripta se refleja en las calificaciones individuales otorgadas a los diferentes elementos del diseño y la ejecución de los proyectos.

Tabla de Evaluación

#	Criterios de evaluación	Calificación obligatoria	Rating
A	**Progreso hacia impacto**	Si	**MS**
B	**Diseño del proyecto**	Si	**MS**
1	• Diseño general	Si	MS
2	• Marco de resultados del proyecto/marco lógico	Si	MS
C	**Desempeño del proyecto y progreso en los resultados**	Yes	**MS**
1	• Relevancia	Si	AS
2	• Coherencia	Si	AS
3	• Efectividad	Si	MS
4	• Eficiencia	Si	MS
5	• Sostenibilidad de beneficios	Si	MS
D	**Perspectiva de Genero**	Si	**S**
E	**Gestión de la ejecución del proyecto**	Si	**MS**
1	• Gestión basada en los resultados (RBM)	Si	MS
2	• Seguimiento y Evaluación, Presentación de Informes	Si	MS
F	**Desempeño de los socios**	Si	
1	• UNIDO	Si	MS
2	• Contrapartes Nacionales	Si	MS
3	• Agencia Implementadora (si procede)	Si	N/A
4	• Entidad Financiadora	Si	N/A

G	**Salvaguardas ambientales y Sociales (ESS), Discapacidad y Derechos Humanos**	Si	**MS**
1	• Salvaguardas ambientales	Si	S
2	• Salvaguardas sociales, Discapacidad y Derechos Humanos	Si	MS
H	**Evaluación general**	Si	**MS**

Escala de evaluación

Score		**Definición**	**Categoria**
6	Altamente satisfactorio	El nivel de logro no presenta deficiencias (tasa de logro del 90% al 100% de las expectativas y objetivos planificados).	SATISFACTORIO
5	Satisfactorio	El nivel de logro presenta deficiencias menores (tasa de logro del 70% al 89% de las expectativas y objetivos planificados).	
4	Moderadamente satisfactorio	El nivel de logro presenta deficiencias moderadas (50% - 69% de tasa de logro de las expectativas y metas planificadas).	
3	Moderadamente insatisfactorio	El nivel de logro presenta algunas deficiencias significativas (tasa de logro del 30% al 49% de las expectativas y objetivos planificados).	INSATISFACTORIO
2	Unsatisfactory	El nivel de logro presenta deficiencias importantes (tasa de logro del 10% al 29% de las expectativas y objetivos planificados).	
1	Altamente insatisfactorio	El nivel de logro presenta graves deficiencias (tasa de logro del 0% al 9% de las expectativas y objetivos planificados).	

1. Introduction

This report describes the results of the independent terminal evaluation of the project 'Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin American Countries', locally known as 'PREAL', acronym to be used throughout this report. The project was implemented by the United Nations Industrial Development Organization (UNIDO), with financing from the Global Environmental Facility (GEF).

In compliance with the team's Terms of Reference (ToR), the **purpose** of the independent terminal evaluation (TE) was to independently assess the project to help UNIDO improve the performance and results of ongoing and future programs and projects. See full TOR in Annex 1.

The evaluation of PREAL had two specific **objectives**:

(i) Assess and rate overall project performance in terms of relevance, effectiveness, efficiency, sustainability, coherence, and progress to impact; and

(ii) Generate a series of findings, lessons, and recommendations for enhancing both the design of new projects and the implementation of ongoing UNIDO projects.

In terms of **scope**, the evaluation involved a comprehensive analysis of the information collected from stakeholders of the 13 participating countries. The task was conducted by a team of four specialists with complementary skills which undertook the assessment of the project during the period September-December 2024.

1.1 Theory of Change

The project's reconstructed Theory of Change (ToC) included below provides a foundational framework outlining the intended pathways from activities to impacts, focusing on the project objective of strengthening national initiatives and enhancing regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in the LAC region. However, several areas require further refinement to enhance clarity and effectiveness in achieving the project's intended outcomes.

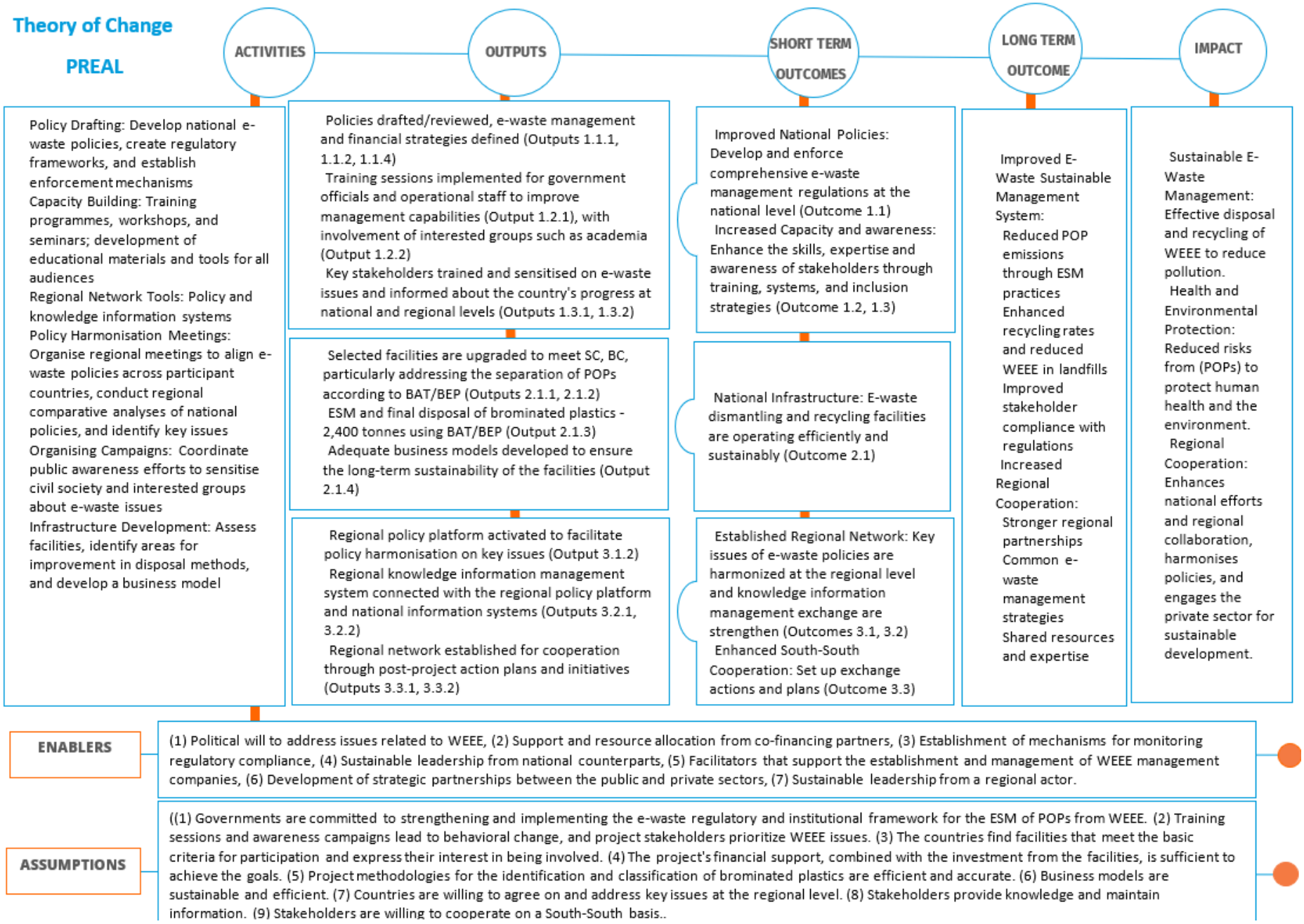
Strengths in the Design and Strategic Alignment: The project is well-grounded in a comprehensive baseline assessment and benefits from the technical and operational expertise of UNIDO. The ToC highlights critical actions such as policy drafting, capacity building, and the creation of regional networks to foster collaboration and knowledge sharing. The project's aim aligns with its ultimate goal of eliminating POPs in e-waste and protecting public health and the environment. The initial documentation, including the Mid-Term Review, provides a strong basis up to 2022, with clear recommendations and an action plan that contribute to the terminal evaluation. Following up on these recommendations would be an effective starting point to assess progress and identify gaps.

Focus on Outputs over Outcomes: Despite its strategic intention, the project results framework appears overly focused on outputs rather than outcomes. For example, the ToC references activities like organizing "PREAL Tuesdays" meetings and conducting training sessions. However, these outputs are not clearly linked to broader outcomes, such as how a regional strategy, agenda, or tools would contribute to significant reductions in POP

emissions by the country partners, or how the regional network will help each member achieve impact level goals and ensure sustainability after the project's conclusion. This output-driven approach limits the project's capacity to demonstrate deeper impact and outcome-level achievements, which is crucial for a comprehensive evaluation of its effectiveness and sustainability.

Lack of Clarity in Causal Pathways: The causal relationships among outputs, outcomes, and impacts within the ToC are not sufficiently articulated. The logical connections between drafted policies (output) and improved e-waste management systems (outcome) need to be more explicit. For instance, while Outcome 1.1 involves drafting or reviewing national policies, the ToC does not clearly define how these policy changes translate into measurable improvements in e-waste management practices or environmental health. This ambiguity in causal pathways could undermine the project's ability to substantiate its impacts.

Roles, Responsibilities, and Assumptions: The ToC does not adequately define the roles and responsibilities of different stakeholders or outline the assumptions underlying the project's success. Achieving the desired outcomes depends on various factors, such as government commitment, private sector engagement, and regional cooperation. These elements are critical drivers or barriers to success and need to be explicitly integrated into the ToC to provide a realistic assessment of potential challenges and mitigation strategies.


Theory of Change
PREAL
ACTIVITIES
OUTPUTS
SHORT TERM OUTCOMES
LONG TERM OUTCOME
IMPACT
Policy Drafting: Develop national e-waste policies, create regulatory frameworks, and establish enforcement mechanisms
Capacity Building: Training programmes, workshops, and seminars; development of educational materials and tools for all audiences
Regional Network Tools: Policy and knowledge information systems
Policy Harmonisation Meetings: Organise regional meetings to align e-waste policies across participant countries, conduct regional comparative analyses of national policies, and identify key issues
Organising Campaigns: Coordinate public awareness efforts to sensitise civil society and interested groups about e-waste issues
Infrastructure Development: Assess facilities, identify areas for improvement in disposal methods, and develop a business model
Policies drafted/reviewed, e-waste management and financial strategies defined (Outputs 1.1.1, 1.1.2, 1.1.4)
Training sessions implemented for government officials and operational staff to improve management capabilities (Output 1.2.1), with involvement of interested groups such as academia (Output 1.2.2)
Key stakeholders trained and sensitised on e-waste issues and informed about the country's progress at national and regional levels (Outputs 1.3.1, 1.3.2)
Selected facilities are upgraded to meet SC, BC, particularly addressing the separation of POPs according to BAT/BEP (Outputs 2.1.1, 2.1.2)
ESM and final disposal of brominated plastics - 2,400 tonnes using BAT/BEP (Output 2.1.3)
Adequate business models developed to ensure the long-term sustainability of the facilities (Output 2.1.4)
Regional policy platform activated to facilitate policy harmonisation on key issues (Output 3.1.2)
Regional knowledge information management system connected with the regional policy platform and national information systems (Outputs 3.2.1, 3.2.2)
Regional network established for cooperation through post-project action plans and initiatives (Outputs 3.3.1, 3.3.2)
Improved National Policies: Develop and enforce comprehensive e-waste management regulations at the national level (Outcome 1.1)
Increased Capacity and awareness: Enhance the skills, expertise and awareness of stakeholders through training, systems, and inclusion strategies (Outcome 1.2, 1.3)
National Infrastructure: E-waste dismantling and recycling facilities are operating efficiently and sustainably (Outcome 2.1)
Established Regional Network: Key issues of e-waste policies are harmonized at the regional level and knowledge information management exchange are strengthen (Outcomes 3.1, 3.2)
Enhanced South-South Cooperation: Set up exchange actions and plans (Outcome 3.3)
Improved E-Waste Sustainable Management System:
Reduced POP emissions through ESM practices
Enhanced recycling rates and reduced WEEE in landfills
Improved stakeholder compliance with regulations
Increased Regional Cooperation:
Stronger regional partnerships
Common e-waste management strategies
Shared resources and expertise
Sustainable E-Waste Management: Effective disposal and recycling of WEEE to reduce pollution.
Health and Environmental Protection: Reduced risks from (POPs) to protect human health and the environment.
Regional Cooperation: Enhances national efforts and regional collaboration, harmonises policies, and engages the private sector for sustainable development.
ENABLERS
(1) Political will to address issues related to WEEE, (2) Support and resource allocation from co-financing partners, (3) Establishment of mechanisms for monitoring regulatory compliance, (4) Sustainable leadership from national counterparts, (5) Facilitators that support the establishment and management of WEEE management companies, (6) Development of strategic partnerships between the public and private sectors, (7) Sustainable leadership from a regional actor.
ASSUMPTIONS
((1) Governments are committed to strengthening and implementing the e-waste regulatory and institutional framework for the ESM of POPs from WEEE. (2) Training sessions and awareness campaigns lead to behavioral change, and project stakeholders prioritize WEEE issues. (3) The countries find facilities that meet the basic criteria for participation and express their interest in being involved. (4) The project's financial support, combined with the investment from the facilities, is sufficient to achieve the goals. (5) Project methodologies for the identification and classification of brominated plastics are efficient and accurate. (6) Business models are sustainable and efficient. (7) Countries are willing to agree on and address key issues at the regional level. (8) Stakeholders provide knowledge and maintain information. (9) Stakeholders are willing to cooperate on a South-South basis..

1.2 Methodology

As stated in the Terms of Reference (ToR), the terminal evaluation focused on the overall assessment of project performance and sustainability of results, and the identification of lessons learned.

More specifically, the overall performance of the project was assessed against the key criteria of project design, relevance, coherence, effectiveness, efficiency, progress to impact and sustainability. In addition, other cross-cutting issues such as gender, environmental and socio-economic considerations, project implementation management and partner performance were included in the evaluation.

A comprehensive set of evaluation questions was developed and organized according to evaluation criteria, information sources, data collection and data analysis methods (see Annex 2).

The terminal evaluation identified and summarized the main lessons learned from the successful and unsuccessful practices of the project and provided recommendations aimed at contributing to UNIDO's relevant portfolio of ongoing and future projects.

The evaluation followed a participatory and mixed-methods approach, combining document review, semi-structured interviews, focus group discussions and field visits to ensure the robustness of the evaluation:

- Document and Platform Assessment: The review of documents and platforms related to the project contributed to the assessment of selected criteria, such as CEO endorsement, Mid-Term Report (MTR), project implementation reports, current core indicators, minutes of PSC meetings, individual country contracts (where available), Monday platform, interactive map of WEE management firms, PREAL website, and others included in the common folder of UNIDO progress reports.

- Interviews: Semi-structured interviews were conducted with the UNIDO project team (HQ project manager and team, regional project manager, component 2 consultant) and key international organizations such as PHO, ITU, WEEE Forum and ILO.

- Focus Group: A focus group discussion was conducted with five (5) National Coordinators and four (4) Country Focal Points from Bolivia, Guatemala, Honduras, Nicaragua and Venezuela (countries not considered for field visits). This session provided valuable insights for a better understanding of the consensus opinions, facts and examples.

- Field visits: The evaluation team visited eight (8) countries, selected based on their reported progress on national policies and capacities, e-waste management, dismantling and recycling facilities and infrastructure, and regional cooperation. As a result, field visits were conducted in 60% of the participating countries, with an appropriate geographical balance:
    - Central America: three countries (Costa Rica, El Salvador and Panamá)
    - Andean Region: three countries (Peru, Ecuador and Chile)
    - Southern Cone: two countries (Uruguay and Argentina)

The field visits were very helpful to interact with different project stakeholders such as public sector, universities, private sector (WEEE management companies, final disposal, recyclers, producers, importers and others) and to gain direct observation of stakeholder behavior, project results and support provided.

Annex 4 lists the stakeholders consulted by the evaluation team through the various data collection methods applied.

1.3 Limitations

Although the project was formally closed in June 2024, activities will continue through the end of December and financial data will continue to be collected throughout 2025.

Given the nature of the project, it would have been desirable for all team members to have visited all 13 countries over an extended period of time, but time and budget constraints did not allow for this. Nevertheless, the sample of countries visited, the availability of data reviewed, and the key informants interviewed are considered to be representative of the overall performance of the project and sufficient to draw reliable conclusions.

2. Project Background and Context

The PREAL project focused on supporting relevant Ministries in 13 participating countries to protect human health and the environment from Persistent Organic Pollutants (POPs) present in some Waste of Electronic or Electrical Equipment (WEEE) fractions. Political and public concerns about the handling and treatment of e-waste have arisen due to the presence of hazardous components and POPs (mainly Polychlorinated Biphenyls (PCBs), and Polybrominated Diphenyl Ethers (PBDEs), used for housings/casings of computers, TV monitors and printed circuit boards). At the same time, e-waste seems to offer important economic and business opportunities that can help generate new businesses and employment through promoting refurbishment and reutilization or improving the extraction and commercialization of WEEE-containing valuable materials (plastics, ferrous and non-ferrous metals).

Participating countries had significant development and socio-economic differences, as well as regarding the relevance and importance awarded to the problem of electronic waste. Prior to the project, some countries in Latin America had already started implementing several initiatives, including the enactment of specific rules and regulations for the proper management and collection of WEEE, as well as awareness-raising activities and the strengthening of national capacities on WEEE dismantling and recycling. However, progress was not homogeneous throughout the region, and inadequate dismantling and recycling of plastic-containing POPs was prevalent in the region. The project aimed at supporting national initiatives and enhancing regional cooperation for the environmentally sound management of POPs in WEEE in the countries selected for participation in the project.

To achieve its intended objective, the project was implemented through four components:

- Component 1: Strengthening of national e-waste management initiatives
- Component 2: Strengthening of national capacities on e-waste dismantling and recycling facilities/infrastructure
- Component 3: Enhancement of Regional Cooperation on e-waste management
- Component 4: Project Monitoring and Evaluation

The PREAL project focused on promoting national initiatives, strengthening existing frameworks in participating countries, and fostering greater regional cooperation. To achieve this, the project established a multi-stakeholder partnership involving diverse roles and levels of commitment. This collaborative approach was crucial for implementing a complex project with varying needs, capacities, and priorities across countries. Below is a summary of the key stakeholders and their contributions:

- UNIDO HQ-based Management: The UNIDO headquarters team played a pivotal role in ensuring the coherence of the project and driving decision-making processes to address barriers or mitigate potential risks. Their strategic oversight supported the alignment of project activities with its objectives and facilitated the resolution of implementation challenges.

- Regional Project Management Unit (R-PMU): The R-PMU, based in Bogota, Colombia, was instrumental in advancing project implementation, identifying synergies, and fostering regional collaboration among stakeholders. Their systemic approach ensured the engagement of key change agents and contributed to the project's overall success.

- National Counterparts: National counterparts were critical actors for the implementation of the project at the country level. However, their progress and ownership of the project varied significantly due to differing government priorities, institutional capacities, and frequent changes in leadership. Nonetheless, these stakeholders benefited greatly from regional interactions facilitated by the project.

- Private Sector: The participation of waste collectors and recycling companies was essential, particularly for the advancements made under Component 2 of the project. More than 40 recycling companies engaged with the project, demonstrating the importance of the private sector in achieving its goals.

- Universities: Universities were expected to actively integrate e-waste management courses into their curricula. In practice, the level of involvement and progress achieved by academic institutions varied across countries. Nonetheless, they contributed to the project by serving as channels for dissemination and training, and in some cases, by conducting testing activities through their laboratories.

- Regional Latin American and Caribbean Platform for Electronic Waste (RELAC): RELAC primarily served as the communications hub at the regional level. However, the project could have further benefited from stronger synergies with national communication strategies and RELAC's broader experience in other areas. Moving forward, RELAC is expected to play a key role in sustainability by acting as a repository and dissemination channel for project information.

- Other Relevant International Institutions: UN agencies such as the International Telecommunication Union (ITU), United Nations University (UNU), World Health Organization (WHO), International Labor Organization (ILO), Economic Commission for Latin America and the Caribbean (ECLAC), Pan American Health Organization (PAHO), and World Intellectual Property Organization (WIPO) were involved at various stages of the project. While their expertise added value, their contributions could have been leveraged more effectively.

A detailed analysis of stakeholder performance is provided in Section 3.10, offering insights into the strengths and areas for improvement in their engagement. By fostering this multi-stakeholder collaboration, the PREAL project has set a solid foundation for advancing e-waste management and regional cooperation in Latin America and the Caribbean.

2.1 Project factsheet

Project Title	Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic and Electrical Equipment (WEEE) in Latin-American Countries. (PREAL)
GEF project ID	5554
Region	Latin American Region
Countries	The Argentine Republic, the Plurinational State of Bolivia, the Republic of Chile, the Republic of Costa Rica, the Republic of Ecuador, the Republic of El Salvador, the Republic of Guatemala, the Republic of Honduras, the Republic of Nicaragua, the Republic of Panama, the Republic of Peru, the Eastern Republic of Uruguay and the Bolivarian Republic of Venezuela.
GEF focal area(s) and operational programme	GEF-5, Persistent Organic Pollutants
GEF implementing agency	United Nations Industrial Development Organization - UNIDO
GEF executing partners	Secretary of Environment and Sustainable Development in the Argentine Republic, the Ministry of Environment and Water of the Plurinational State of Bolivia, the Ministry of Environment of the Republic of Chile, the Ministry of Health of the Republic of Costa Rica, the Ministry of Environment of the Republic of Ecuador, the Ministry of Environment and Natural Resources of the Republic of El Salvador, the Ministry of Environment and Natural Resources of the Republic of Guatemala, the Secretariat of Natural Resources and Environment (SERNA) of the Republic of Honduras, the Ministry of Environment and Natural Resources (MARENA) of the Republic of Nicaragua, the Ministry of Health of the Republic of Panamá, the Ministry of Environment of the Republic of Peru; the Ministry of Housing, Land Planning and Environment of the Eastern Republic of Uruguay, and the Ministry of People's Power for Ecosocialism and Water of the Bolivarian Republic of Venezuela.

Project size (FSP, MSP, EA)	Full-Size Project (FSP)
Project CEO endorsement / Approval date	March 15, 2017
Project implementation start date	April 5, 2017
Expected implementation end date (indicated in CEO endorsement/Approval document)	March 15, 2022 (60 months)
Project Completion Date as reported in FY23:	June 30, 2024
Expected Project Completion Date:	December 31, 2024
Project duration:	Planned: 60 months Actual: 94 months
GEF project grant (excluding PPG, in USD)	USD 9,500,000
Agency Fee (in USD)	USD 902,500
UNIDO co-financing (in USD)	USD 500,000
Co-financing amount (in USD)	USD 38,022,531
Cumulative disbursement as of 30 June 2024 (in USD)	USD 9,410,912.49
Total project cost (Actual)	USD 45,000,000
Mid-term review date	August 12, 2022
Expected Terminal Evaluation (TE) Date	January 31, 2025
Expected Financial Closure Date	November 30, 2025
UNIDO Project Manager	Lamia Benabbas

3. Findings

3.1 Project design

The PREAL design comprehensively covered different levels and stakeholders, addressing the region's fundamental issues related to management of POPs and WEEE. The design of the project is inferred from the CEO Endorsed Project Document of 2015 (referred in this report as the GEF document). The objective of the project was *"To strengthen national initiatives and enhance regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries".*

The design was well-conceived and of high-quality rationale and background information, although shortcomings were identified regarding the goals, baseline, indicators, and certain activities that could have been better aligned with project objectives.

The project is ambitious in scope and spans countries with very different baselines, which are described in detail in the GEF document. Component 1 (focused on improving regulations for electronic waste) recognizes the existence of different progress at the policy level and establishes differential goals (from reinforcing for countries more advanced on the subject to initial development for those countries lagging). The design of this component is adequate, except for Output 1.2.2, which aims to incorporate e-waste into the curricula and research programs in universities. Developing new curricula at the university level requires certainty that a substantial number of students would take the new courses. Being these WEEE-related topics new at a global level, expecting universities to develop specific programs appears to have been an unrealistic goal. Moreover, developing research programs at universities requires substantial funding; however, universities were seen as co-financers rather than project beneficiaries. As most universities from the participant countries are not research intensive, it is unclear how the design envisioned the achievement of this outcome.

Component 2 aimed at strengthening national capacities for e-waste dismantling and recycling facilities/infrastructure. However, in the GEF document the scope was narrowed down to a more specific objective: the handling and disposal of polymeric fractions of e-waste that may contain POP -PDBEs (lines 205-206 of the GEF document). Complementing this, in line 207 the design establishes the need to collect 600 tons of brominated plastics annually, totalling 2400 tons during the project's lifespan. The document mentions the need for safe disposal of these plastics suggesting that, *"At this time, the best option seems to be disposal through co-processing by cement kilns".*

There are several weaknesses in the design of Component 2. Despite the project's broad scope of POPs in WEEEs, Component 2 scope is considered too narrow as it only focuses on one type of component present in some electronic waste: brominated flame retardants (BFR). Although BFRs are indeed toxic, they have been mostly banned. Based on this, the design of the project should have pursued a broader view of other potential contaminants present in the dismantling of e-waste and probably identifying those that were most relevant to each country as part of the baseline. This selection had profound consequences on the project. Although all countries complied with what they had been requested to separate, stakeholders consulted by the evaluation team did not know why BFRs were more critical than other potential contaminants. Regardless, stakeholders commented on the fact that the project was positive

because it allowed their countries to include e-waste on the environmental agenda but recognized that the focus on BFRs was a top-down mandate.

In addition, line 205 of the design document narrows down the scope even more and refers to Polybrominated Diphenyl Ethers (PBDEs), a specific type of Brominated Flame Retardants (BFRs). There seems to be some disconnection in the approved proposal, as line 207 talks again about brominated plastics in general and not only PBDEs. The problem here is that the first contract signed by some countries focuses on the separation of PBDEs (the evaluation team had access to the contracts for some of the countries where the PBDE text is included as part of outputs 2.1.2 and 2.1.3). The text indicates that the number of tons requested is for brominated plastics in general, but the preceding paragraphs lead to interpret that this requirement is limited to PBDEs. An amendment made in 2022 corrected this issue and requested brominated plastics in general, not only PBDEs, which was a positive change. However, three years of a broader BFR-suspected plastic collection might have been lost due to this, affecting the quantities of plastic collected towards the end of the period. Overall, some stakeholders perceived this 2022 amendment as a change in Component 2's direction.

Furthermore, it is not clear how the annual target of 600 tons in Output 2.1.3 (Line 207) was established. In addition, multiplying the tons per the number of years of the project to arrive at a final 2,400 tons goal does not seem logical, as the infrastructure capacity and institutional capabilities needed to be built over these six years should have been taken into account.

Moreover, the goal was established for the entire project, but the countries had individual specific goals in their contracts. Upon inquiring how these goals were calculated, the team was informed that the allocation among countries was probably made based on their population, which does not appear to be adequate, given the differences in their starting points (i.e., countries that started with a better baseline or had a smaller population were favoured by this criteria)

Also, line 41 of the GEF document states: *"According to statistics compiled by UNEP on the percentage of the various types of WEEE present in the waste streams, the fraction of plastic polymer and the content of POP-PBDEs can be estimated. So, the e-waste generated by the 13 participating countries, represents an emission of POP-PBDE estimated between around 26 and 60 tons/year. The project aims to tackle about 10% of them*". In numerical terms, 10% of 26-60 tons/year is 2.6-6 tons/year, which is much less than the 600 tons mentioned above and used as a key project target, which adds even more uncertainty to the rationale and feasibility of the goals that were set in the individual country contracts.

Another relevant feature of project design was that substantial support was expected from stakeholders without providing any type of financial support. Output 2.1.2 states that "*selected facilities are upgraded*", and "*This output aims particularly at improving the current processes, practices and operations used by a number of selected existing facilities for separating PBDE containing fractions in WEEE either through hand-held equipment in case of manual dismantling or technologies incorporated in semi-automated waste separation lines in the participating countries*". However, the project did not allocate any funding to support the required improvements, largely assuming they would be achieved through cofinancing.

Component 3 focused on regional integration and harmonization and was a responsibility of the central coordination unit implemented by UNIDO, i.e., component 3 was not included in the contracts signed by the participating countries. The first outcome aimed at developing a

system for information, public registration and reporting to be harmonized with the participating countries, and a publicly accessible online platform on e-waste policies to be developed to inform regarding the regulatory e-waste framework and its implementation. The second outcome aimed at enhancing the existing regional knowledge and information systems and coordinating them with the policy platform mentioned above and implementing a model to promote the linkage between the national knowledge/information systems and the regional one. The third outcome aimed at strengthening country cooperation and enhancing knowledge sharing. The design of this component as expressed in the GEF-endorsed project, is deemed adequate.

The ambitious approach of the design allowed for setting goals that aimed high, inspiring stakeholders with the project's vision to drive substantial progress in the region. These goals, although challenging, reflected the project's intention to improve the infrastructure of participating countries and eliminate significant amounts of waste within the project's framework. When analysing its capacity to tackle the challenges associated with WEEE and POPs, both strengths and areas for adjustment/improvement in future initiatives emerge.

The regional strategy provided the opportunity for participating countries to share experiences and learn from each other, which was one of the project's main added values. This collaboration facilitated the creation of a knowledge-sharing platform. Although not achieved systematically, countries which benefited from the lessons learned from other participants were able to set more realistic and contextually appropriate goals. Similarly, countries lacking experience in WEEE management took advantage of regulatory progress in other participating countries, illustrating the potentially positive results of this collaborative approach.

Nevertheless, some aspects could have been approached in a more balanced manner. Project goals and scope were seen as highly ambitious, especially considering the diversity of baseline conditions in participating countries. Some countries had already made strides in developing regulatory frameworks, other countries were starting from scratch in terms of regulations and infrastructure, posing unanticipated challenges. A more differentiated allocation of resources, tailored to these initial conditions, could have optimised progress and outcomes across countries.

Furthermore, although clear goals were established, those less advanced countries in addressing WEEE concerns faced difficulties due to a lack of appropriate timeline planning. The project could have been more flexible with regards to deadlines, considering the different starting points of the participating countries. In some cases, this variation in implementation times affected the ability to meet goals, highlighting the importance of a more adaptable timeframe design.

One area identified as an opportunity for improvement was the need for a deeper baseline analysis, which would have allowed for the establishment of goals more closely aligned with the realities of each country. While quantitative goals were necessary, the design could have better considered the technical capacities and infrastructure available in each context, where the lack of reliable data on WEEE generation complicated planning.

Moreover, some National Coordinators and Technical Focal Points pointed out that the project could have involved additional key actors, such as informal recyclers and end consumers, who play a crucial role in WEEE collection and generation. Engaging these actors could have strengthened the project's sustainability. Similarly, the inclusion of circular economy

strategies, such as the refurbishment of electronic devices, could have added value, especially in terms of waste reduction, as noted in Ecuador and Panama.

For example, although the improvement of national infrastructure was mentioned as one of the key effects, the proposed activities primarily focused on assessing existing WEEE management firms and enhancing their knowledge, which actually required considerable capital investment that was not accounted for in the design. This highlights a need for more clarity regarding how the targets would be achieved and an overestimation of the assumptions.

Furthermore, the project assumed that the private sector would invest in a market that, in many cases, needed to be developed and regulated. The intervention approach seemed more suitable for countries with greater experience in the management of POPs and WEEE, which created challenges to countries where the initial conditions were much less advanced. In other words, the heterogeneity and level of maturity regarding WEEE issues among the participating countries should have been taken into account in designing the connection between outcomes, effects, and the establishment of targets.

Component 4 focused on the monitoring and evaluation (M&E) system, with efforts concentrated on achieving its key outputs: an established and functioning monitoring system, timely delivery of progress reports to inform decision-making, independent mid-term and final evaluations, and sharing of lessons learned with all stakeholders.

The project design started with a national baseline and successfully implemented platforms such as Monday and other standardized formats, provided training to national teams, incorporated PREAL Tuesday as a space for sharing progress, and conducted annual progress reporting through the regular Project Implementation Reports (PIR) to consolidate country information and measure progress toward results. The monitoring system gradually adapted to the different organizational cultures, processes and capacities. However, as described in the Monitoring and Reporting section, several shortcomings in the design of the project's M&E were identified, including (i) lack of explicit outcomes in the Logical Framework; and (ii) predominant focus on output indicators; and (iii) unclear or overly ambitious targets.

In summary, while the design of the PREAL project was appropriate in its regional conception and knowledge-sharing approach, limitations existed regarding the goals, indicators and resource allocation based on the technical and regulatory differences among participating countries. Furthermore, the lack of clear definitions regarding the key performance indicators for Component 2 posed significant differences in both interpretation and reporting of results. On the other hand, the PREAL project intervention logic presents strengths and weaknesses, with a noticeable disconnect between the products and the expected effects. While the project's design comprehensively included various stakeholders and activities, it featured unrealistic targets for some of the critical planned actions.

3.2 Relevance

Overall, PREAL was highly relevant to the region and to the participating countries, as although several countries had previously implemented independent initiatives related to WEEE, no project or organisation had done so with a focus on the environmentally sound management of POPs from WEEE at the regional level. Several participants mentioned that they had

encountered this subject for the first time through the project, which underscores its significance and the latent need to address the issue through a targeted intervention.

All countries had substantial problems with electronic waste disposal, and the project played a key role in strengthening public institutions, raising awareness throughout the community, engaging recycling facilities and decision-makers on proper disposal requirements. All stakeholders agree that there was a “before and after” PREAL. Furthermore, the project is seen as highly relevant as it catalysed the discussion on WEEEs in general, although the specific focus on BFRs was not clearly supported or even understood. However, many stakeholders mentioned that project relevance could have been further enhanced if the project would have provided each country more freedom to focus on the types of e-waste deemed as more problematic for the country.

A distinctive feature of the project was its regional approach. Although specific evaluation criteria revealed challenges that hindered significant progress and the full achievement of project goals, from a regional perspective the approach followed promoted the inclusion of all countries, regardless of their progress on the WEEE issue. Notably, more advanced countries in the region, such as Brazil, Colombia, and Mexico, chose to refrain from participating directly in the project. However, in some cases, they engaged indirectly, highlighting the importance of the exchange of technical expertise across the region.

The project's relevance can also be analysed by considering the key stakeholders involved. For governments and ministries, which acted as national counterparts through focal points, PREAL helped to enhance visibility and prioritise WEEE management. This result was most evident in the few countries that succeeded in legalising and implementing specific regulations for the introduction of Extended Producer Responsibility (EPR).

For the private sector associated with WEEE (producers, assemblers, and importers), the project was a turning point, as it enabled them to learn about EPR and ESM related to WEEE-compliance practices required to operate in the region. The larger the company or, the more significant its regional coverage, the faster the required actions were adopted. One challenge for PREAL was ensuring that companies adhered to the regulations. In some countries, authorities monitored companies with the largest market share of products likely to become WEEE, allowing them to follow up with businesses representing most of the local market. On the other hand, for some companies, the project's relevance depended on whether the regulations were mandatory. Where compliance was obligatory, companies were more likely to engage, absorb costs, and even consider involving other parts of the supply chain, such as distributors and customers.

The project was critical for WEEE management companies and organisations offering environmental compliance services, as it opened a new market of producers seeking advice on regulatory compliance. This was particularly evident in countries where regulations were approved and implemented. In countries where compliance with regulations were voluntary, producers were less inclined to cover the additional costs, affecting the project's relevance for the management and final disposal of WEEE companies.

Companies reusing and refurbishing equipment to extend product life also saw value in the project, increasing their visibility within the value chain. Although many of these firms actively

participated in the project, PREAL should have also emphasised raising awareness on the relevance of POPs among end-users, who generate WEEE and can drive initiatives to extend product life and ultimately decide how and where to dispose of their equipment.

To a lesser extent, the project was also relevant for stakeholders such as academia, as in some of the countries, it allowed students, teachers, and future professionals to acquire and apply knowledge about WEEE management. However, the project's relevance could have been clearer for key actors such as informal waste collectors, although awareness-raising efforts were supported. According to some interviewees, these actors were more driven by economic incentives, as they are informal workers who rely on the daily sale of collected waste.

When analysing the project's relevance by component, the first component focused on developing legal frameworks and regulations, catalysing discussions on managing POPs in WEEE across the region. This component was crucial in enabling the creation of a regulatory framework that made WEEE management more transparent throughout the production chain. This legislative action was crucial for consolidating many of the project's advances and had a tangible impact on the region by encouraging the adoption of ESM practices. Equally important, although not sufficiently addressed was the promotion of mechanisms to ensure the engagement of producers in the process through EPR.

The second component, aimed at strengthening national infrastructure for managing POPs in WEEE, was also highly relevant. Approximately 1,000 tons of WEEE plastics were managed, preventing these materials from being discarded in landfills and other sites where they would have caused significant environmental impact. However, the relevance of this component was limited by budget constraints and difficulties in ensuring the long-term sustainability of actions, particularly in countries with insufficient political support or a lack of viable business models.

The third component, which aimed to strengthen regional cooperation and capacity in managing POPs in WEEE, was particularly significant as it was the first initiative with such a broad regional scope. This component allowed stakeholders from different countries to meet, interact, and collaborate to create networks beyond the project's boundaries. The tools developed, such as the interactive map of management companies and the collaborative platforms "Monday" and "Martes PREAL", improved communication and the exchange of practices among participating countries, strengthening regional capacity to manage POPs in WEEE. This collaborative approach could serve as a foundation for future regional initiatives.

In conclusion, the PREAL project was highly relevant for the region and the participating countries, addressing the growing concern and critical needs of reducing the environmental footprint of electronic equipment by improved management of POPs in WEEE. Through the development of regulatory frameworks, and the promotion of safe disposal mechanisms, PREAL not only improved the management of hazardous waste but also laid the groundwork for future regional collaboration and knowledge sharing.

3.3 Coherence

The project's coherence is deemed highly satisfactory, as it contributed to strengthening solid waste disposal initiatives in all countries. The project demonstrated strong alignment with

previous interventions in several of the participating countries, reflecting the emerging and complex nature of Persistent Organic Pollutants (POPs) management in WEEE. At the regional level, no prior projects had adopted the comprehensive approach of PREAL, which made it not only coherent with current efforts but also innovative.

The project complemented and expanded existing actions as well as boosted emerging projects during its execution. As such, in several countries PREAL promoted the establishment of synergies between private sector associations and companies responsible for WEEE management under the extended producer responsibility principle. While these associations were already operating in other environmental value chains, PREAL facilitated communication and awareness-raising platforms, such as workshops and fairs, which helped bring together key actors to address POPs in WEEE.

Project activities, especially those related to the second component, were consistent with the needs of private sector firms involved in WEEE management in the participating countries, regardless of their level of maturity. As a result, there is now a group of firms in all countries with environmental licences, and well-versed in every step required for managing POPs in WEEE. Through project support, these entities have improved their links with all relevant stakeholders along the chain, from WEEE producers and business associations to final disposal companies and academia.

In certain countries, PREAL also included stakeholders who, while not initially prioritized, contributed to the WEEE management chain. This included entities specialising in computer reuse, promoting a circular economy approach by reducing WEEE volumes through revalorisation and raising awareness among end consumers.

One area for improvement in terms of coherence was the limited integration of the public sector in WEEE management activities supported by the project. Despite being one of the largest consumers of equipment in many countries, the role of public agencies was not sufficiently addressed in the development of regulations or awareness-raising campaigns, thus missing the opportunity to foster a sense of involvement and environmental responsibility among public stakeholders. As most ministries in PREAL countries currently lack awareness or procedures for the final disposal of WEEE, implementing regulations should have also included those who design and promote them.

As part of the evaluation, focus groups with regional coordinators and focal points confirmed that the PREAL project was not only compatible and coherent with other ongoing initiatives but also played a catalytic role in advancing WEEE management. Although not all results can be fully attributed to PREAL, its undeniable catalytic role was instrumental in complementing, strengthening, and accelerating actions that would otherwise have progressed at a much slower pace.

In summary, despite the different baseline conditions and varying degrees of market development across countries, PREAL played a significant role in advancing WEEE management and aligning with other initiatives. In some cases, it acted as a key facilitator, integrating academic, private, and governmental actors. In others, where market development challenges and financial limitations were more pronounced, the project still provided valuable support, although its full potential for alignment was not achieved due to limitations in the WEEE management system. Nevertheless, in all cases, PREAL accelerated regional efforts to tackle

POPs and WEEE, achieving outcomes that, without its intervention, would have taken considerably longer to materialise.

3.4 Effectiveness

The PREAL project had an overarching goal with two key intervention pillars: strengthening national initiatives and improving regional coordination for the environmentally sound management of POPs in WEEE.

When effectiveness is broken down by components, it is clear that the maturity level of each participating country significantly influenced the individual outcomes achieved, especially in meeting targets and indicators. While many indicators were met, evaluating the quality, and magnitude of the progress achieved is crucial to determine overall project effectiveness.

For the first component, which involved the drafting of national policies and regulations, out of the thirteen participating countries, six have completed the drafting and approval of regulations (Costa Rica, Ecuador, Peru, Uruguay, Venezuela, and Argentina). Three countries have finalised their regulations and were awaiting legalisation (El Salvador, Chile, and Panama), while four others were finalising drafts (Nicaragua, Honduras, Bolivia, and Guatemala). Additionally, several countries developed key outputs such as national WEEE management strategies and financial guidelines within the framework of policies and regulations.

One of the most notable achievements in this component has been the strengthening of national capacities at all levels: from public institutions, such as national counterparts and inter-ministerial committees, to the private sector, including collection, management, and multinational companies involved in the WEEE value chain, as well as critical actors such as academia.

More specifically:

- Outputs 1.1.1 and 1.1.2: As outlined above, substantial progress was achieved in all countries. However, political instability, changes in government, and the complexity of government practices have affected the establishment of WEEE management strategies in some countries. Regardless, the project was highly successful in implementing these outputs (i.e. as successful as the political environment allows for).
- Output 1.1.3: The strategy and guidelines for e-waste management were adopted from a previous experience in Colombia. The strategy was based on a colour-coded classification of plastics from WEEE: the colour RED is for equipment known to have plastics containing BFRs; GREEN was for equipment known to have plastics proven not to contain BFRs (at least with current testing). Lists of equipment that should be labelled red or green were placed in recycling facilities. All equipment not included in the red or green lists was classified as BLUE and treated as suspicious. Although these color-coded lists could have served as a starting point to kick off the project, the project missed the opportunity to improve this list by (i) adding scientific rigor and (ii) combining the efforts of 13 countries to analyse the WEEEs chemically and populate the list with more items. The list is considered problematic, as very few items that are

included in the red list, and the inclusion criteria specified “black radio”, “white iron”, “white tester”, while radios, irons and testers of other colours were not considered part of the red list. Upon consultation to stakeholders regarding the scientific basis of this criteria, the reply was mostly: ”it came from UNIDO”. One stakeholder mentioned that a statistical test had been conducted and determined that these colours and equipment were problematic, but appliances of other colours were not. Proof of such a statistical test could not be verified as it was done before PREAL, in another country.

- This lack of scientific basis to classify the plastics also led to problems in relation to the tons of material that were reported. Some countries reported only those in the red list while other countries reported material from both the red and blue lists. Toward the end of the project, countries were instructed to purchase a handheld device for the identification of Bromine in plastic matrices (the “pistola”). This device was mentioned to be very expensive (US$20k-50k, depending on the country). Some countries bought the device and tested their plastics during PREAL time while some countries only purchased the device recently and at closing were still waiting for the device to be delivered. Conversely, one country decided not to spend such an unexpected amount of money on the device. Regarding the possibility of combining the efforts of the 13 countries to analyse the WEEEs chemically and populate the list with more items, it is worth mentioning that most participating countries do not have a strong electronic-manufacturing industry. Consequently, the producers are mainly importers of goods, which are mostly the same in all countries. This created a huge opportunity for each country to have (chemically) tested some of the equipment, compared, and shared results, which would have resulted in a much more proper and comprehensive way to classify equipment.

- Output 1.1.4: The financing strategy is defined within policies and regulations. This output has mostly not been achieved, and substantial barriers remain. In some cases, adding the financial strategy to the regulation most likely would have paralyzed its approval. A lobbying case in one country and the perceived lack of proper support, were mentioned in the interviews as concrete examples of the lack of progress on this output.

- Output 1.2.1: Officials and staff on e-waste management trained: This was fully achieved.

- Output 1.2.2. Selected universities include e-waste in their curricula and research programs. This output was changed in the 11/2022 amendment with “*The formal incorporation into the curricula of the selected national universities will depend on their will*.” This change seems adequate as, as commented in the Project design document, making universities change their curricula as the result of a single project is considered unrealistic. The evaluation team verified the involvement of universities in the project in several ways. Still, researchers received very limited funding from the project, which prevented the establishment of a serious research program. Future funding should include financing of doctoral-level research within the countries if significant support to (and from) the academic sector is sought.

- Output 1.2.3 National knowledge and information management systems are set and ready for regional exchange. This is deemed as complete, and in fact, represents a strength of the project.

- Outputs 1.3.1- 1.3.2. Media and journalists were trained on e-waste issues and informed regarding the progress of the national and regional initiatives. Awareness raising campaigns/customized events were developed to address the needs of specific target groups (i.e. children, women) and society at large. This is an area where the project was very effective and assessed as a strength of the project. It should be noted that, as opposed to academia and industry, substantial funding was devoted to these campaigns.

The project also made progress in creating regional platforms for information and knowledge management, having developed six new systems. However, challenges still need to be addressed to ensure the sustainability of these systems. In terms of communication and awareness, notable results were achieved, with over 100 communication pieces produced and an estimated 15,000 people reached. Other strategies, such as fairs and academic events, showed more tangible and sustainable results. As an example, a WEEE collection competition in Ecuador involved 35,000 students from three universities.

Component 2 aimed to strengthen a group of dismantling and recycling facilities to implement ESM systems for WEEE in each of the countries. For this, four distinct phases were established. The first two involved identifying and adequately training management companies. The third focused on disposing of 2,400 tons of brominated flame-retardant plastics across the region, while the final phase sought to develop suitable business models to ensure the long-term sustainability of the facilities.

The results achieved in the first two phases were effective. In all countries, as a total of 38 management companies were identified and engaged (as of June 2024). However, the maturity and sustainability of these companies are closely related to the progress of the project in each country and the adoption and implementation of regulations. In many cases, the selection and identification of the management companies were challenging; no management companies were found in some countries, leading to the engagement of companies with potential for improvement and interest. In many cases, informal companies that, for example, exported circuit boards became management companies that, through PREAL, obtained environmental licences and moved into the formal collection, waste classification, and the final disposal of non-recoverable elements, as well as the recovery of valuable materials.

The third phase aimed to begin WEEE collection and classification. Some countries sent samples to laboratories or acquired X-ray fluorescence (XRF) equipment, and all countries trained their management companies in the "colour-coded lists" methodology to identify equipment with POPs. These strategies presented ongoing challenges and opportunities for sustainability. For example, while most countries acquired equipment, there needs to be a clear path for assigning responsibility for these and ensuring continuity in this activity. Although, in theory, it is the responsibility of the private companies, they have stated that they do not have the resources to cover such investments. Furthermore, many interviewees questioned the effectiveness of the "colour-coded lists" methodology, observing that, in some cases, such as the "blue list", large amounts of material are accumulated without being processed.

Following classification, the programme set a goal of disposing of 2,400 tons across the region. However, some countries indicated that the targets set per country, although based on

previous studies, were overly ambitious in practice, and the budgets for each country should have been adjusted according to the amount of waste to be disposed of.

While some results were achieved, there were also sustainability risks and inefficient practices, such as in Panama, where, despite having collected and classified WEEE, everything was disposed of in a single batch.

The second component lastly aimed to develop long-term sustainable business models for WEEE management companies. This objective was achieved only in Costa Rica and Chile, while well advanced in Peru and Uruguay. In other countries, while regulations were implemented, the private waste management firms still need to develop a clear business model. However, they recognise the potential profitability of managing POPs in WEEE, as producing companies require these services to comply with regulations. Final disposal companies in countries with implemented regulations have also identified business opportunities, such as Holcim in Ecuador, which went through several processes to obtain a licence and participated in PREAL. In Panama, where regulation approval is still pending, the waste treatment company Veolia managed waste identified by PREAL free of charge, hoping to be identified as a future commercial partner when this market develops in the country.

Specific achievements regarding Component 2 outputs can be assessed as follows:

- Output 2.1.1 In-depth assessments of pre-selected facilities and infrastructure was carried out in selected facilities that would be upgraded/scaled up: As mentioned previously, the in-depth assessments were satisfactorily achieved and conducted in 38 firms. Conversely, upgrading and scaling up was very limited, and largely dependent on the existence of a suitable regulatory framework.

- Output 2.1.2 Selected facilities upscaled to meet Stockholm and Basel Conventions, and other relevant criteria: This was completed, as all selected facilities adopted the technologies and procedures that PREAL deemed best practices.

- Output 2.1.3 ESM and final disposal of brominated plastics using best available technologies and best environmental practices BAT/BEP. This was considered a key project indicator and as such received considerable technical and financial resources from both the regional coordination and the participating countries. The output established the number of tons that needed to be disposed of. Overall, the project did not meet the goals. Moreover, the number of tons that were reported should not be considered as a measure of the success of the project. The arguments are:
    a. As expressed in the evaluation of project design, there is a significant incoherence in the expectation of tons to be collected: 10% or 60 tons/year or 600 tons per year? Should only PDBEs be counted? Should only BFRs be counted?
    b. Using the current color-coded list, most WEEE ends up in the blue category, so countries that only reported those classified as red underestimated the amounts collected, and those that reported red plus blue overestimated them.
    c. The updated ToR (November 2022) indicates: *"The country is expected to have this stream around 19 tons of brominated plastics annually, totalling 76 tons during the project lifespan (quantities of tons to be rectified according to data gathering in the first phase of the project)."* Where the text *"(quantities of tons to be rectified according to data gathering in the first phase of the project)"* is

an addition to the original GEF document. It is not clear to the evaluation team if the quantities were rectified and by how much.

- By September 2024, a total 1,031 tons were reported as been eliminated under PREAL (42% of the target), with 542 tons classified as "red", 426 tons as "blue", and the remainder as "green". Three countries met their targets (Costa Rica, El Salvador, and Uruguay), seven reported being "in progress" (Bolivia, Ecuador, Honduras, Panama, Peru, Venezuela, and Nicaragua), and three were categorised as "at risk" (Argentina, Chile, and Guatemala).
- Output 2.1.4 The highly significant output of developing adequate business models to ensure the long-term sustainability of the facilities was not achieved, with very limited specific interventions at country level aimed at advancing the development of sustainable business models for WEEE management. However, the expectation of having an EPR policy prepared in all countries in a 6-year period seems unrealistic when even many developed countries have not been successful in fully developing and implementing this type of policies.

The third component of the project aimed to achieve three outcomes: first, the harmonisation of policies regarding WEEE; second, the strengthening of knowledge management systems and information exchange; and third, improving South-South cooperation. Significant cooperation between countries was evident in developing policies, standardising concepts, technical glossaries, and practices related to WEEE. Many interviewees indicated that as a result of PREAL, they felt "on the same page and with the same goals as the rest of the region" regarding WEEE management.

Regional platforms and workspaces were built through the PREAL website, alongside collaborative work tools such as Monday software, and knowledge exchange spaces like "PREAL Tuesdays". One area for improvement would be ensuring the sustainability of all these tools and spaces after the project ends.

Face-to-face exchanges were organised by the project for South-South cooperation, with the last one held in Panama in 2024. These exchanges aimed to establish the basis for future cooperation and share project results. Members of the Project Steering Committee also remain in contact, creating an active working network. However, a significant challenge remains in ensuring the sustainability and continuity of the strategies developed. Although the counterparts now know each other and have worked together, there is yet to be a clear agenda for continuing these actions. However, the project missed a great opportunity to integrate stakeholders that would have been relevant to the long-term sustainability of the project. For example, initiatives such as PREAL Tuesdays could have also engaged recyclers and university professors/graduate students more actively, which would have been more successful and cost effective in creating knowledge-sharing opportunities than the European-based educational initiatives implemented.

Specific achievements regarding Component 3 outputs can be assessed as follows:

- Output 3.1.1. Comparative analysis of existing national policies/regulations conducted to identify key issues that need to be addressed at the regional level: Countries and UNIDO met weekly (virtually) on what is known as “Martes de PREAL” (PREAL Tuesdays). These weekly meetings served as the venue to exchange information. Based on the field

visits and online focus groups, the evaluation team confirmed these meetings were successful in terms of country participation, allowing for comparisons of policies and regulations in each country and sharing experiences. As such, all countries became aware of the policies, regulations, and challenges faced by other countries. Countries with less experience in WEE processing greatly benefited from the regular PREAL interactions.

- Output 3.1.2. A regional policy platform operating to facilitate policy harmonization on key issues, with the involvement of national officials: The project financed a regional web-based platform (https://residuoselectronicosal.org/ managed by RELAC) in which the countries actively exchange information. The platform has a public section and an intranet section where the countries share information.
- Output 3.2.1. The policy platform is integrated into a regional knowledge and information management system: The platform https://residuoselectronicosal.org/ also serves as the repository for the policies that individual countries are implementing.
- Output 3.2.2. National knowledge/information systems linked to the regional one: The platform https://residuoselectronicosal.org/ also serves as the repository for the documents that individual countries have produced
- Output 3.3.1 Country cooperation strengthened in the region through enhanced knowledge sharing: The project invested a significant amount of funding in activities implemented by UN University (UNU) and UN Institute for Training and Research (UNITAR). These agencies organized E-waste academies for managers and scientists (EWAM and EWAS), as well as several webinars. While these trainings were useful, they did not focus on knowledge sharing among the countries. Lecturers and speakers were from universities outside the region, and country participation was mainly in the role of "students". The 2024 PIR indicates that only 12 of the 21 participants were from countries participating in the project (noting that the participation of the non-PREAL participants was financed by other sources). Moreover, none of the scientists interviewed by the evaluation team had participated in the EWAS. These facts raise questions about the representativeness of the participants who were selected to attend these events and possibly prevent a trickle-down effect where the knowledge acquired in the EWAS remains in local universities and national labs.
- Output 3.3.2 Development of regional post-project action plans and initiatives: The countries presented their post-project plans during the final meeting in Panamá (Spring 2024). The plans were developed and can be found in project files (*524_Steering Committee minutes_23 Mayo 2024_Final_signed)*. The countries asked for the continuation of the PREAL project (or a new project aligned with these themes) to support the post-project plans. The project manager indicated that this was not possible as the project belongs to GEF cycle 5.

To further illustrate the levels of achievement reached in relation to the targets set for each indicator, the following table includes the Results Framework of the project, with achievements updated to June 2024.

Project Progress up to June 2024

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress up to June 2024 [1/2/]
Component 1 - STRENGTHENING OF NATIONAL E-WASTE MANAGEMENT INITIATIVES				
Outcome 1.1 National Policies are drafted or reviewed				
Output 1.1.1: National policies and regulations are drafted or reviewed.	# of national e-waste policies and regulations drafted or reviewed	3 countries have national policies, 10 do not have e-waste specific policies.	13 countries draft their e-waste policies and corresponding regulations or prepare amendments to them (3 of 3 countries draft amendments and 10 of 10 draft policies)	• 2 national policies revised (Costa Rica and Perú) • 2 countries with new national policies (Venezuela and Ecuador) • 7 countries draft e-waste policies and/or corresponding regulations (Chile, El Salvador, Uruguay, Panamá, Nicaragua, Honduras, Argentina).
Output 1.1.2: National e-waste management strategies are established	# of national e-waste strategies drafted or reviewed	Only few countries have a written strategy for e-waste management	1 strategy per country drafted or reviewed	• 2 countries implemented e-waste strategy • 7 countries drafted strategies
Output 1.1.3: Guidelines for the e-waste management activities are developed and tested	# of countries using existing/newly developed and tested guidelines	Guidelines exist but are not fully integrated into the national implementation processes.	At least 6 countries use existing/newly developed and tested guidelines to establish their e-waste management strategy	• 5 countries implemented a guideline of different topic (general public, e-waste managers, journalist), • 5 countries developed a guideline
Output 1.1.4: A national financial strategy is defined within policies and regulations	# of countries with sustainable financing strategies in e-waste policies and regulations	Lack of overall financing strategies to sustain the national e-waste management system (operations, administration, monitoring, etc.)	At least 10 countries have developed a sustainable financing strategy for all aspects of the e-waste management system	• 10 financing strategies developed in e-waste policies and regulations [1/]. No country implemented it yet. [2/]
Outcome 1.2: National Capacity for e-waste management is in place				
Output 1.2.1 Officials and staff on e-waste management trained	# of training participants/trainees (male/female)	Lack of specific knowledge in e-waste management among officials and operational staff	At least 80% of government officials (male/female) responsible for e-waste management pass training. At least 80% of staff from selected facilities involved in e-waste operations are properly	• 180 training events [2/] • 9365 government officials trained [2/] Male: 4527 trained [2/] Female: 4838 trained [2/] .

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress up to June 2024 [1/2/]
			trained (according to tests / assessments).	
Output 1.2.2 Selected universities include e-waste management in their curricula and research programs	# of universities providing e-waste management curricula and research programs	Lack of learning programs, research opportunities and projects on e-waste management at the university level within the region	At least 5 selected universities (within the region) have incorporated e-waste management into their curricula and research programs.	51 agreements [1/] that include the linking of universities in diploma courses on WEEE management, the integration of this topic into various subjects in the study plans, research topics, among others.

Output 1.2.3 National knowledge and information management systems are set and ready for regional Exchange	# of national knowledge and information systems implemented
	
	# of participants in KM and information system (male/female)
		information systems are available to enhance national and regional KM and information exchange on e-waste.	Knowledge management and information system available, per country.
			
			At least one training/workshop per country on the KM and information system totalling around 200-250 of participants (male/female) regionally
				• 13 countries[1/] have new information and knowledge management systems.
				• 622 participants trained[1/]:
				  ○ Male: 296
				  ○ Female: 326

Outcome 1.3: National society is informed and aware of e-waste issues				

Output 1.3.1 Media and journalists are trained on e-waste issues and informed regarding the progress of the national and regional initiatives	# of trainings for media and journalists (male/female)
	
	# of e-waste related contributions in audio, visual and printed media
		Lack of knowledge on e-waste management and risks associated with human health and the environment among media and journalists.	2 trainings per country and at least 30 participants / trainees per event (male / female).
			30 e-waste related contributions in audio, visual and printed media.
				• 26 trainings for journalists [1/]
				• 2127 trainees [1/]
				  • Male: 1020
				  • Female:1107
				• 3147 E-waste related contributions in notes[1/]

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress up to June 2024 [1/2/]
Output 1.3.2 Awareness raising campaigns / customized events are developed to address the needs of specific target groups (i.e. children, women) and society at large	# of awareness raising campaigns addressing the needs of all targeted groupies (male/ female) # of gender-specific campaigns (e.g. on WEEE handling and disposal). #gender and children-specific information materials	Lack of awareness about e-waste management and risks associated with environment and human health among society and specific targeted groups.	At least 4 awareness raising campaigns per country per year, including gender-related issues.	• 195 of awareness raising campaigns [2/] addressing the needs of all targeted groups • 16391 males trained [2/] • 1062 female trained 2[/]
Component 2 - STRENGTHENING OF NATIONAL CAPACITIES ON E-WASTE DISMANTLING AND RECYCLING FACILITIES/INFRASTRUCTURE				
Outcome 2.1: E-waste dismantling and recycling facilities or infrastructure are operating efficiently and sustainably in participating countries				
Output 2.1.1: In-depth assessments of pre-selected facilities and infrastructure are carried out to select facilities that will be upgraded/scaled up	# of facilities with detailed assessments	More than 70 formal e-waste recycling companies exist in the participating countries. A pre-selection of eligible facilities to be upgraded / scaled up within the project was carried out based on their level of development.	77 e-waste facilities are assessed in detail for their potential to be upgraded / up scaled	162 facilities that have been assessed throughout the Project [1/],
Output 2.1.2 Selected facilities are up scaled to meet SC, BC and other relevant criteria	POPs releases avoided in e-waste (tons). e-waste treated by the selected facilities (tons per year). # of facilities adopting BAT/BEP related with the environmentally sound management of POPs.	A majority of existing facilities lack technical and operational capacities and do not pay special attention to POPs management.	90% of up-scaled facilities manage POPs in an environmentally sound manner. 60% of e-waste in each country is treated by the upgraded / scaled up facilities. At least 25 facilities adopted BAT/BEP for POPs	• 669 tons of POPs releases avoided in e-waste [1/] • 78984 tons of e-waste treated by the selected facilities [1/] • 41 facilities that the participating countries have selected to work with the project are, for the most part, the largest in the respective countries and manage between 50% and 90% of WEEE generated at the national level, depending on the country. [1/]
Output 2.1.3 ESM and final disposal of 600 tons of brominated plastics annually (totalling 2400 tons during the project lifespan) using BAT/BEP	# quantity of brominated plastics disposed of	There are gaps with the e-waste collection system, manual dismantling and safe final disposal of BFR-plastics	Disposal of 600 tons of brominated plastics annually, totalling 2400 tons during the project lifespan	801 tons have been sent for final disposal,[1/]

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress up to June 2024 [1/2/]
Output 2.1.4 Adequate business models are developed to ensure long-term sustainability of the facilities	# of jobs created (male/female). Time to break even per recycler applying the recommended business model	Identified need to develop business models taking into account the improved framework conditions.	At least 90 jobs in total created at each facility. 2 years maximum to break even per recycler applying the recommended business model.	139 jobs created [1/] • Male: 110 [1/] • Female: 29 1 year to break even per recycler applying the recommended business model
Component 3 - ENHANCEMENT OF REGIONAL COOPERATION ON E-WASTE MANAGEMENT				
Outcome 3.1 Key issues of e-waste policies are harmonized at the regional level, with due consideration of the relevant MEAs and mechanism like SAICM				
Output 3.1.1. Comparative analysis of existing national policies / regulations is conducted to identify key issues that need to be addressed at the regional level	Key regional issues identified through comparative analyses of existing national policies.	Key issues that need to be addressed at the regional level are being identified during the PPG phase.	Agreement among participating countries regarding key regional issues to be tackled in the national policies	20 meetings regarding key regional issues to be incorporated into the national policies [1/]
Output 3.1.2. A regional policy platform is operating to facilitate policy harmonization on key issues, with involvement of national MEAs officials	# of countries actively participating in the regional platform to harmonize their policies	No regional policy platform available at this stage.	All participating countries are actively taking part in the regional platform for harmonization purposes	The vast majority of countries continue to actively participate in the exchange of information, The disaggregated data was not available. [1/]
Outcome 3.2 Knowledge management systems and information exchange are strengthened				
Output 3.2.1. The policy platform is integrated into a regional knowledge / information management system	# of national policies available on regional knowledge / information management system	The existing regional knowledge / information system provides limited information and is not used for harmonization purposes	13 national policies are available on regional knowledge / information management system	In this period, the project website https://residuoselectronicosal.org/normativas-globales/ was kept updated, where all the regulations that have been reviewed, drafted or approved (according to result 1.1.1) are available [1/].
Output 3.2.2. National knowledge / information systems are linked to the regional one	# of national documents of participating countries that are published in the regional knowledge management system	Missing information exchange between countries.	All relevant documents published at the national level within the project are available on the regional knowledge management system	The technical and regulatory documents that were produced in this period were uploaded to the site Documentos Generales – PREAL (residuoselectronicosal.org) and Documentos PREAL – PREAL (residuoselectronicosal.org).[1/]
Outcome 3.3 South -South cooperation is enhanced				
Output 3.3.1 Country cooperation is strengthened in	# of regional exchange events	Limited South-South cooperation between the	At least 5 regional events are organized	3 in person regional exchange events (Costa Rica, Ireland and Panama) 18 virtual regional exchange events [1/] .

Project Strategy	KPIs/Indicators	Baseline	Target level	Progress up to June 2024 [1/2/]
the region through enhanced knowledge sharing		participating countries	throughout the project duration.	
Output 3.3.2 Regional post-project action plans and initiatives are developed	Post-project action plan(s) developed	There is a small number of isolated regional initiatives that should be better coordinated.	All participating countries have at least one planned activity for the post-project phase. They decide whether or not a new regional project is warranted.	13 countries expressed their interest and desire for UNIDO to continue supporting them on these issues. [1/]

1/ Source: Project Implementation Report 2018-2024, Monitoring report with updated indicators (June 2024)
2/ UNIDO. (2024, July). Final Report of the Latin American E-Waste Project (PREAL). UNIDO-GEF Project ID: 5554.

While progress was made across the three components, significant shortcomings were assessed regarding the key project indicators. During implementation, challenges such as budget limitations, the complexity of promoting project activities across 13 distinct countries, and the dependence on political will, prevented the project from fully realising its potential. Moreover, important challenges remain, particularly in terms of long-term sustainability, business model development, the lack of uniformity in progress by individual participating countries, and the capacity of less advanced countries to continue and sustain initiatives after project completion.

A challenge that remains in many Latin American countries is the prevalence of a large informal sector ("*chatarreros*" or "*recuperadores de base*") that, despite being illegal in most countries, collects a substantial amount of plastic garbage. This informal sector often collects residues door to door and sells whatever it can to established processors or exporters. Given that the metallic components of WEEE are very valuable, whereas the plastic parts are not, many times established industries only receive the metallic part, and the informal sector just throws away the plastic. Incentivizing industries to accept whole equipment and not just parts are seen as a key step toward fully addressing the WEEE plastics problem.

Another challenge is knowing what to do with clean plastic. Countries with a strong plastic industry were able to find a demand for non-brominated plastic, as clean plastic can also be valorised through a circular economy approach. However, in many countries, non-brominated plastic is being accumulated as they do not possess the recycling capabilities. For reasons that are not clear to the evaluation team, cooperation between countries to take advantage of these differential capabilities, was not established, allegedly due to technical and market factors.

Regarding national initiatives, all participating countries made progress in managing POPs in WEEE to varying degrees, largely depending on their baseline situation. A key achievement was the acquisition of knowledge and the identification of the need to manage plastics from WEEE containing POPs.

Regarding regional coordination, the project also met its goal by connecting stakeholders from various countries, including the public and private sectors, academia, and international cooperation organisations. However, this second approach reveals areas for improvement,

particularly concerning the sustainability of the results. It is important to highlight that the accomplishments in managing POPs in WEEE are attributable to PREAL, as it represents the first regional intervention focused on these compounds, marking a milestone compared to previous interventions, which generally addressed WEEE more broadly.

Implementation of M&E attempted to adapt to the diverse conditions of the participating countries by focusing on establishing a monitoring system that would allow for regular data collection and reporting on the progress of the project's outputs and outcomes. However, both the design issues described earlier (such as the absence of outcome indicators, ambitious targets for key indicators, and the lack of a robust protocol for integrating national and regional data) were further compounded by implementation challenges (particularly those related to ensuring data quality and consistency as well as the utilization of a fragmented system comprised of different platforms) limited the effectiveness, usefulness and reliability of the information generated by the M&E system.

3.5 Efficiency

The PREAL project had an approved budget of USD 9,500,000 from the GEF, distributed as follows: USD 3,600,000 for the first component, USD 3,900,000 for the second, USD 1,350,000 for the third, and USD 200,000 for the fourth. According to the CEO Endorsement document, the funds were allocated to the 13 countries as follows: USD 703,704 to 11 countries, USD 776,730 to Argentina, and USD 982,536 to Venezuela. In addition to the USD 9.5 million, the standard 9.5% was allocated as the Agency Fee to UNIDO, amounting to USD 902,500.

The PREAL project was approved in March 2017 with a planned duration of 60 months until March 2022. However, the 2021 Mid-Term Review (MTR) recommended extending the project until December 2023 due to delays caused by the COVID-19 pandemic, implementation difficulties, and challenges in identifying and assigning executing units.

Moreover, a crucial finding of the Mid-Term Review (MTR) highlighted early signs of inefficacy, particularly in the need to improve the planning, risk management, and regular financial reporting within Component 4, while recommending an extension of the closing date. Despite these recommendations, the project was extended but did not fully implement the suggested improvements. The difficulties encountered to implement this recommendation further exacerbated the project's challenges in managing the complexities of a multi-country intervention, ultimately limiting its ability to adapt and allocate resources effectively in response to evolving needs and risks.

In June 2023, during the annual Project Steering Committee meeting, the need for a second extension was identified. Despite efforts, the lingering effects of the pandemic and changes in the leadership of the ministries that acted as counterparts continued to affect project execution, resulting in only 61% of the grant utilised six months before the scheduled closure. Consequently, a second extension until June 2024 was approved without requiring additional investment from the countries. Furthermore, at the 2024 in-person event in Panama, a final six-month extension was approved, extending project closing to December 2024 and the financial closure in June 2025, resulting in a total execution period of 94 months.

This significantly extended implementation period had major implication on budgetary allocations, as a considerably higher budget was required to maintain UNIDO’s management and coordination functions, as well as contracts with key suppliers. From a financial evaluation

perspective, although the project adapted to unforeseen challenges, the management of implementation timelines and schedules was subject to improvements. While the reasons for the extensions, such as the pandemic, staff turnover, and complexities in designating executing units in some countries are understandable, the need for three extensions and the fact that only 61% of the budget had been executed six months before the planned closure suggests insufficient oversight and risk management, as well as limited planning at the regional coordination level.

When analysing the results achieved against the budgeted amounts, it is evident that some countries used their resources more efficiently than others, despite having similar goals and indicators. As of 14 October 2024, a total of USD 9,493,423 had been disbursed or committed, leaving an estimated USD 600,000 undisbursed, of which only USD 6,577 were uncommitted until the financial closure scheduled for June 2025. The administrative model implemented by the project, in which entities as the Uruguayan *Laboratorio Tecnologico del Uruguay* (LATU) and the offices of the Basel and Stockholm Conventions (BC and SC) performed as administrative support for local procurement and flow of funds functions contributed positively to budgetary monitoring and most importantly, replace the lengthy procurement procedures of the participating countries.

The analysis of project's efficiency revealed several challenges in fund management from the country perspective. While the countries were informed of changes and the planning of funds for components 3 and 4, they did not play an active role in the decision-making process. This situation made it difficult for some countries to reconcile the national budget allocated to them with what was outlined in the CEO Approval Document. Specifically, countries received significantly less than the funds indicated in the CEO Endorsement Approved document: Specific cases verified by the evaluating team show that El Salvador and Uruguay contract indicate USD 555,556.00 as the contract value, whereas Uruguay's allocation in the GEF-approved proposal indicates USD 703,704. Upon consultation, other countries also expressed having received amounts in the order of USD 500k, as confirmed by UNIDO. This apparent misunderstanding is due to the fact that in the endorsed document, the amount allocated to each country also included the budget for Component 3, implemented by UNIDO

Additionally, as part of the project extension, all countries reported a budget reallocation to cover activities related to Component 3 of the project, such as the "Improvement of Regional Cooperation in the Management of Electronic Waste" and the incremental costs of personnel responsible for project coordination. During the visits to Ecuador, El Salvador, Costa Rica, and Uruguay, the evaluation team verified that USD 40,000 had been deducted from the initial budget, although the amounts varied between countries, with larger reductions in Argentina and Venezuela. Although fully consistent with the GEF procedures, countries highlighted the need for more feedback regarding the use of these funds.

Ultimately, the proportion of project funds allocated to the project regional coordination component (including the costs of Component 3) and management functions executed by UNIDO with RELAC, ITU, WHO/PAHO, ILO, UNU/UNITAR added to approximately USD 2.6 million (equivalent to 27% of the total GEF grant significantly higher than the proposed USD 2.0 million budgeted at endorsement. Despite the higher costs resulting from the complex task of coordinating and administering implementation in 13 countries, this proportion is considered

high and would suggest the need to further assess the efficiency and value for money of the model implemented by PREAL in the design of future regional WEEE projects.

Although the execution of project funds was clear and transparent from the countries, the communication of fund management from the regional level to the countries could have been more efficient. Country counterparts mentioned to the evaluation team that they would have liked to receive feedback on financial information. However, UNIDO informed them that it does not hold that specific responsibility, and that no country had requested this information from them. Better understanding of procedures and adequate communication regarding this information at the project governance level represents a significant area for improvement.

While some countries managed resources efficiently and formed partnerships to enhance the impact of the funds, the lack of adjustments in resource allocation based on each country's performance resulted in imbalances in the outcomes. Countries that demonstrated greater commitment and efficiency did not receive proportional support compared to those with more limited performance. Although not easily implemented, this underscores the need for designing mechanisms and criteria for adjustments in resource allocation, to be implemented during project design execution based on recorded progress and results.

In conclusion, the PREAL project's efficiency was hampered by several critical issues. The project faced significant challenges in being cost-effective. The extended duration—from the originally planned 60 months to 94 months—directly impacted the project's cost efficiency. The prolonged timeline meant that resources had to be stretched over a more extended period, leading to increased expenses in management and coordination costs, including regional personnel, administration, and operational support. These recurring costs further diluted the impact of the investment and strained the available resources, ultimately affecting the project's ability to deliver results efficiently.

Therefore, while the project did achieve specific outcomes and showed flexibility in adapting to unforeseen challenges, the combination of these factors—extended timelines, unmet recommendations, and financial management shortcomings—led to results that were not fully compatible with the resources allocated.

3.6 Sustainability

The PREAL project incorporated key elements as sustainability anchors, including: (i) the development or approval of national policies establishing an institutional framework for continuity, (ii) the creation of tools and materials (such as guides and manuals) to support scaling up capacity-building efforts, and (iii) training a broad array of relevant stakeholders on identifying contaminant components in plastics within WEEE. However, the long-term sustainability of these outcomes faces significant challenges due to several factors including (i) the uncertain political intention of governments across countries to finalize and implement the essential regulations, (ii) the absence of a comprehensive post-project knowledge management strategy, and (iii) difficulties in the methodological design for identifying and managing organic contaminant components (as supported by Component 2), which create uncertainty regarding the continuation of the implementation process by the private sector involved in WEEE beyond the life of the project. Key factors linked to PREAL's sustainability are detailed below.

Policy and Regulatory Development: Although limited, progress in developing national policies, particularly those related to Extended Producer Responsibility (EPR), remains one of the project's most important contributions to sustainability. These policies would provide incentives for the private sector and create a structured approach to WEEE management. However, the continuity and implementation of these policies post-project are uncertain due to shifting government priorities and, in some cases, insufficient political will to overcome resistance from EEE producers and importers. While the project prioritized WEEE by allocating dedicated human resources, the sustainability of EPR implementation and compliance remains questionable once the project concludes.

Tangible resources such as the existing website and the materials generated during the project, such as technical guides, remain available for future use by ministries and the stakeholders involved for capacity building. Furthermore, some countries have demonstrated a proactive attitude, using the results of PREAL to seek international support to continue with the WEEE agenda, indicating a degree of self-management that could be replicated.

The academic sector was another key actor in the project. In some cases, the sustainability of their activities would be relatively assured thanks to the involvement of universities in the process. In these countries, WEEE modules have been included as part of the curriculum in specific degree programs. Additionally, the participation in PREAL sparked interest in research topics and dissertations, which ensures some continuity of efforts in this area. The University of Panama, which was the project's executing unit, has more solidly ensured the sustainability of its WEEE-related initiatives. However, a factor that limits continuity is the need for more direct links between universities and government, making it difficult to maintain the connections established during the project.

Waste Management: The project raised awareness and provided training to various stakeholders, building capacities on a relatively new environmental matter within each country. Specifically, training for teams within WEEE firms helped develop and/or improve internal expertise. However, the sustainability of these efforts is hindered by several factors, including the somewhat experimental methodology introduced by the project, an underdeveloped and unregulated value chain for WEEE, and the absence of a clear strategy for replication and scaling. These limitations have created significant uncertainty around the long-term sustainability of project interventions regarding the management of electronic equipment.

The private sector, including importers and telecommunications operators, appears to be willing to comply with regulations, primarily if these are legally required. Although some enterprises are proactive and willing to invest without a legal obligation, the majority will depend on the existence and enforcement of clear regulations, that provide the necessary assurance of operational and financial sustainability and their enforcement.

Regional Interaction and Knowledge Sharing: Although initiatives such as "PREAL Tuesdays" and specific bilateral exchanges between countries were highly valued as platforms for sharing progress and best practices, Component 3 did not fully capitalize on its potential to establish institutional foundations for sustained regional cooperation. The project's focus remained on exchanges between national coordinators and focal points, missing opportunities for a systematic regional interaction strategy among other stakeholders such as universities,

laboratories (e.g., the plastics laboratory at the University of Santiago, Chile, and INTI in Argentina), communication strategy implementers (e.g., Costa Rica's communication strategy), and WEEE recycling companies. Furthermore, no regional entity that could lead the process once the project ended has been identified, representing a critical factor of sustainability, as tools such as the interactive map of private businesses in the region do not have a responsible party to ensure their post-project updating and operation. A more integrated approach could have created stronger institutional foundations to support replication and sustainability, fostering collaboration across all key stakeholders.

Finally, the methodologies and approaches applied in PREAL have been classified as replicable for managing other types of waste and value chains. Participatory practices for drafting regulations, collaboration among value chain actors, and knowledge exchange with technical counterparts at the international level are examples of approaches that have proven effective and can be adapted to other contexts. However, replicability does not guarantee sustainability by itself, as it requires an enabling environment and ongoing leadership to maintain the progress achieved.

Additional key Challenges affecting Sustainability:

Political and institutional turnover: The project's sustainability is further challenged by political and institutional turnover. Despite agreements and focal points established in ministries, high personnel turnover within public institutions has disrupted continuity. Many individuals who gained expertise through the project are no longer part of these institutions, leading to a loss of institutional memory. This issue is worsened by government changes and the turnover of ministers, weakening the long-term effectiveness of the project's outcomes.

Furthermore, in several cases, focal points delegated responsibilities primarily to National Coordinators, who became the "face" of the project. However, after their departure, there remained no solid relationship or close connection between the actors in the WEEE value chain and the ministries. This poses a significant risk to the long-term sustainability of the project, as local capacities were not sufficiently developed to sustain the results independently once external support is withdrawn.

Lack of financial resources: Another significant barrier is the lack of financial resources to support the critical functions of both public and private sector in addressing WEEE management. Although staff in several countries have been sensitized and trained, insufficient budget allocations make it difficult to continue or replicate actions independently. Local stakeholders stress that achieving the remaining objectives without international cooperation funds is unlikely, underscoring the dependence on external financing. Additionally, coordination among various ministries remains a challenge.

In conclusion, the sustainability of PREAL's interventions faces considerable challenges. While the project incorporated WEEE within the environmental agenda of most participating countries, and established important regulatory foundations and replicable methodologies, the lack of financial resources, institutional weaknesses, and the absence of specific regulations and business models pose considerable risks to the long-term sustainability of project achievements. Furthermore, the reliance on international cooperation and the need

for a clear regional sustainability strategy limit the ability of countries to maintain the progress made.

3.7 Progress to Impact

The most relevant effect of the project has been its success in introducing a relatively new environmental issue in the region, promoting not only greater awareness but also incorporating WEEE into the country's environmental agenda and the national regulations. According to the participating countries and experts, the progress in advancing the establishment of a regulatory framework is entirely attributable to the project. While many countries are still in the process of approving and adopting these regulations, the mobilization of 13 governments to address Persistent Organic Pollutants (POPs) in WEEE and their regulatory framework has had a notably transformative effect.

In terms of practical progress to impact, the most significant achievement has been the acceleration of the development of regulatory instruments, driven partly by the collective momentum fostered through the project and partly by the level of commitment of individual countries. Nevertheless, achieving fully harmonized regional policies will require a continued process, particularly in addressing critical areas such as transboundary movement, customs regulations, and international certification standards. The knowledge management system, while valuable, still needs further reinforcement to be fully effective. Furthermore, although the project created opportunities for experience exchange and some spontaneous capacity transfers between countries, it has not developed a systematic mechanism to promote and facilitate long-term bilateral or regional cooperation initiatives.

The project has made progress in raising awareness about contaminants in WEEE plastics, but it is still too early to demonstrate behavioural changes among stakeholders. Although there are examples of concrete actions taken by some actors, indicating a higher level of awareness—such as integrating student projects into certain university courses or implementing activities at local government levels — these remain relatively isolated efforts that require more time for consolidation and long-term impact.

Another significant outcome of the project was the strengthening of the value chain for managing POPs in WEEE. Relevant stakeholders in most countries gained knowledge, defined roles, and benefitted from the project. At the public level, ministries developed control processes, while waste management companies obtained formal licences, and acquired essential expertise. Stakeholders were identified and engaged in various activities, including training, awareness-raising, development of standards, and increased participation in the collection, sorting, and final disposal of electronic waste. Although the level of engagement varied by country, the majority of participants experienced notable advancements in addressing an issue previously considered of low priority within the waste management agenda.

Component 2, which focused on the implementation of WEEE management, has faced greater challenges, thus requiring a longer process to generate significant results and impacts. Methodological design difficulties and the limited development of the plastic waste market in

the countries (e.g., few waste managers, the absence of a final disposal market, and limited research on plastic treatment) have limited the achievement of concrete results. Although the project falls short of achieving transformational effects on WEE-related health and environmental concerns, it has provided valuable insights and lessons, positioning this component as a valuable, albeit pilot, intervention.

Similarly, the regional component of the PREAL project has yet to achieve the harmonization of WEEE and EPR policies, the strengthening of a comprehensive knowledge management system, and the establishment of a robust South-South cooperation mechanism. However, the progress made so far has laid the groundwork for moving in this direction. The project successfully developed comparative assessments on policies and best practices, which have supported countries in advancing their national regulations and business development. Additionally, although applied mostly for M&E purposes, PREAL provided tools and resources such as the Monday platform, technical guides, and a dedicated website, all of which facilitated the collection and dissemination of information on project progress and promoted experience-sharing that enabled some capacity transfers among countries.

At the regional level, the project fostered collaboration among participating countries, resulting in the alignment of concepts, technical terms, and criteria. This harmonisation effort established a network of contacts among counterparts across the region, which facilitated valuable knowledge exchange, including an informal network of major recycling private companies from within and outside PREAL. Through these efforts, countries were able to share insights and experiences, building a foundation for a more coordinated effort. If continued, these initial steps towards public and private regional cooperation mark an important achievement in strengthening communication and understanding among countries, which may contribute to generate sound and tangible long-term impacts.

3.8 Gender Mainstreaming

Although a gender analysis was not conducted, the project incorporated gender considerations primarily through awareness campaigns and training workshops, as well as integrating gender-specific indicators into its monitoring framework. Thanks to the project, more women in the participating countries are now aware of WEEE and the presence of POPs. However, countries reported that there was no specific strategy, activities or budget within the project to address the impact of WEEE on women or children, nor were policies developed to make it more attractive for women to work in WEEE-related businesses. In some countries during site visits to the facilities, female representation was observed, although mainly in administrative roles rather than in technical or operational positions. In those countries visited where fieldwork technicians, managers and heads of environmental departments were women, the perception that women's participation in the sector has been slowly increasing was unanimous.

Project Management Units in some countries noted that gender equity is now a standard, whereas generally 50% of technical counterparts, consultants, and training attendees are women.

3.9 Environmental Impacts

All project interventions directly or indirectly pursued environmental impacts. As such, despite the limited results achieved, the environmental impact of PREAL is highly positive. More specifically, the project focused on the improved regulation of POPs, considerable environmental awareness and capacity building efforts, and the environmentally sound management (ESM) of an estimated 1,100 tons of WEEE plastics containing BFR/PBDEs. These activities contributed to the proper handling of hazardous waste, directly helping to reduce environmental risks.

3.10 Social Impact

Regarding the social dimension, the project did not directly address social issues such as informal recycling or health risks faced by vulnerable individuals in the sector. While some indirect results were achieved in terms of developing specific plans to address informality of gatherers and providing support to community initiatives, future WEEE projects should consider the integration of social aspects more specifically and in line with the needs of these vulnerable groups.

3.11 Performance of Partners

Project Steering Committee: The Project Steering Committee (PSC) served as the primary governance body for high-level decision-making and annual review of project progress. The Mid-Term Review recommended a more active role of the PSC to better support project goals. Although the PSC helped align project decisions with national policies in coordination with political counterparts, records of PSC meeting indicate limited evidence of proactive engagement. High turnover in public sector roles likely affected continuity, with multiple officials occupying the same positions over the life of the project, which most likely reduced the committee's overall strategic contribution.

UNIDO/Regional Project Management Unit: UNIDO coordinated the project from its headquarters, led by a Project Manager who maintained contact with GEF through the submission of regular implementation reports (PIRs) and provided oversight of national-level implementation through the Regional Management Unit (R-PMU) based in Bogota, Colombia. This unit helped maintain stability and direction across the 13 participating countries despite the logistical challenges presented by a project of this nature and scope, further aggravated by external factors such as COVID-19 restrictions. The Regional Coordinator and his small team introduced initiatives such as regular meetings called "PREAL Tuesdays," maintaining active stakeholder engagement to keep project momentum, mostly through virtual meetings, and consolidated country information into a comprehensive project database. These efforts highlight the R-PMU's role to support participating countries, facilitating communication, and troubleshooting challenges as they arose. Despite this, it is important to note that, except for Nicaragua, the project did not involve the management and staff of the existing UNIDO local field offices (Bolivia, Ecuador, and Uruguay), thus missing their potential contribution to a more fluent project-related dialogue with local authorities, and their knowledge and understanding of the broader local political and institutional context.

National Coordination: The effectiveness of National Coordination Units depended mainly on the level of support each country ministry provided. In cases where ministries were actively engaged, coordinators were integrated into ministry teams, working collaboratively to achieve project objectives and strengthen institutional learning. In other cases, the ministries delegated full responsibility to the National Coordinator, leaving them to lead independently, which placed additional strain on resources and limited sustainable progress. Despite these differences, the coordinators showed resilience and commitment, with some countries having expressed commitment to retain coordinators post-project due to the valuable knowledge acquired through the implementation of PREAL.

Executing Units: Selected and contracted by UNIDO, PREAL's Executing Units, such as the University of Panama, LATU from Uruguay and the local offices of Basel and Stockholm Conventions, played a crucial role in managing funds and procurement, overseeing disbursements, and providing essential logistical support to individual countries.

National Counterparts: Ministries – of Environment or Health, as designated by each country – varied in their level of engagement with the project. In cases where ministries integrated the PMU and National Coordinators within their staff, the collaboration fostered shared responsibility and a stronger sense of ownership, positively influencing project implementation. Conversely, in cases where ministries delegated all responsibility to the National Coordinator, the ministry's direct participation and learning was limited. This inconsistency in ministry engagement across countries highlights the need for balanced institutional involvement to ensure that project outcomes are achieved and sustained in the long term. Limited engagement of other key ministries, such as Planning or Finance, was a common feature within most countries, thus reducing the chances of mainstreaming and sustaining WEEE-related activities during and beyond the life of the project.

Funding Partner: Consistent with its institutional mandate, once the project proposal was evaluated and approved, the GEF did not actively participate in the process of overseeing project implementation, other than receiving regular implementation reports (PIRs) from UNIDO. As such, GEF's performance was not evaluated, who delegated these functions to UNIDO. While it is considered that GEF's evaluation of the proposal should have identified the design shortcomings described in the corresponding section of this report, the decision to provide funding to support the innovative environmental challenge addressed by PREAL, together with the programmatic approach and the continuity and coherence shown by GEF with tangible and strategic contributions to public environmental policies in the region and participating countries are much valued.

Conclusion: Overall, project partners displayed a strong commitment, with the Regional Coordinator providing support to all participating countries, fostering collaboration, and adapting to emerging challenges. The performance of the National Coordination Units strongly depended on the level of institutional support from their respective ministries, which in some cases has affected project results and potential sustainability. Executing units generally managed their roles effectively, while inconsistent involvement of authorities impacted on local ownership. Overall, the adaptability and dedication of project partners was evident, though more robust institutional continuity and engagement would have enhanced the project's long-term impact. As analysed previously, the proportion of project funds allocated to regional coordination and management functions is considered high and would suggest the

need to further assess the efficiency and value for money of the model implemented by PREAL in the design of future regional WEEE projects.

3.12 Results-based Management

Results-based management is defined as a management strategy – at project and programme, portfolio, organizational, country, and global levels – based on managing for the achievement of intended results within a given context by integrating a results philosophy and principles into all aspects of management and by integrating good practices and lessons learned from past performance into management decision-making.

As previously described, the complexity of the project in terms of number of participating countries and the considerable technical, institutional and operational differences between countries posed significant challenges to develop and effectively implement a result-based management strategy. Efforts made by the R-PMU to develop adequate and timely communication and reporting instruments allowed UNIDO to consolidate country information on progress of monitoring indicators but were insufficient to contribute to decision making based on results. The description and assessment of the institutional arrangements provides further understanding of the limitations faced to fully adopt a management strategy anchored on results.

The design of the project included the establishment of a unit to carry out the functions of coordination and technical support, based in Colombia. This unit, identified as R-PMU, was led by a Coordinator, and integrated by a small technical/administrative team. Consistent with the project management format, the members of the PMU were contractually accountable to UNIDO, complementing the administration, financial management and monitoring functions performed by UNIDO staff at headquarters in Vienna. The PMU not only became the visible face of the project but also managed to establish a substantial level of articulation with all the country-level institutions directly linked to the implementation of the project.

The contribution of the R-PMU to the project was very relevant from a technical point of view, largely thanks to the recognized leadership and capacity of its coordinator and the commendable dedication and commitment of all its members. Through its performance, the PMU achieved a reasonable integration with the public and private institutions linked to the project. This included generating important technical inputs and fulfilling the multiple coordination functions required by the complexity and scope of the project, as well as the important function of supporting the governance structure of the project, and the preparation of timely and comprehensive Project Implementation Reports (PIR). Although influenced by the restrictions imposed by COVID, the overreliance on virtual meetings resulted in a limited number of R-PMU visits to the participating countries, a factor considered to have somewhat affected the engagement and project-related decision-making of the countries.

The coordination and technical management work carried out by the R-PMU was adequately complemented by the UNIDO headquarter team in Vienna, which performed the fiduciary and administrative functions required by the project in a satisfactory manner assisted by the designated Executing Units, particularly regarding the complex processes of procurement of services, equipment and materials by the countries. Of great relevance to the work of this evaluation, are the comprehensive filing and information systems used by UNIDO and the quality of the technical and financial information generated and made available to the evaluation team.

Another relevant aspect of project management relates to the project's communication and outreach activities at both regional and international levels. At the regional level, in addition to the creation and maintenance of the project's informative website, the R-PMU developed a significant number of results management and communication tools, in addition to organizing virtual and face-to-face exchange events between the participating countries. At the international level, UNIDO managed the participation and contribution of important institutions such as the ILO, PAHO and UN University.

3.13 Monitoring & Reporting

The project's monitoring and reporting system effectively managed the complexities of generating, collecting and consolidating data across 13 countries, each with distinct data collection methods, organizational capacities, and cultural context. Based on the data collected, comprehensive PIRs were prepared and submitted to UNIDO management and GEF. Despite the challenges, the PREAL system achieved several positive outcomes, including: (i) implementing the Monday platform to standardize and centralize indicator tracking across all countries, (ii) establishing structured reporting mechanisms to systematically capture and analyze progress data at the national level, and (iii) creating virtual communication spaces like "PREAL Tuesdays" aimed at facilitating collaboration, progress reporting, and decision-making discussions.

However, several significant challenges emerged during implementation:

- The difficulties in the design and implementation of Component 2 led to inconsistent interpretations across countries regarding the focus of the project. Some countries were uncertain whether the focus was on identifying brominated compounds broadly or specifically on PBDEs, leading to disparities on data collection and reporting. Furthermore, inconsistencies in the measurement methods used to track tons of waste collected added further complexity to the ambitious targets set for this component. For the evaluation team, these issues raised concerns about the accuracy, reliability, and consistency of the reported data. Field visits conducted as part of the evaluation confirmed these M&E shortcomings, revealing variations in implementation and measurement approaches. Generally, waste management firms submitted reports to ministries, which then forwarded them to the regional level. However, this information was generally not verified or validated, with only a few ministries using XRF technology to conduct sample measurements during the later stages of the project.

- Platform Utilization: While the Monday platform provided a centralized tool for data collection, analysis, and visualization, its effectiveness was limited as not all countries consistently used it to report progress. This lack of consistent engagement required additional efforts to cross-verify platform data with individual country reports, resulting in inefficiencies.

- One-Way Reporting Flow: The reporting process predominantly operated in a unidirectional manner. Countries submitted their reports to the regional level for consolidation and reporting, but they did not receive regular feedback on the overall regional report. This approach reduced the opportunities for countries to take ownership of the regional project, identify areas for improvement, and engage in shared learning.

- Virtual monitoring: While the pandemic initially restricted the ability to conduct in-person monitoring, the project continued to rely solely on virtual meetings, such as the "PREAL Tuesdays" sessions, even after COVID restrictions were lifted. The project did not allocate sufficient resources for in-person monitoring visits, which are critical for gaining a deeper understanding of each country's regulatory, cultural, and environmental context. Similarly, the MTR was fully conducted virtually. Evidence from interviews with several countries indicated that although they had requested in-person monitoring visits, these visits were not conducted because they had to be financed through the countries' own budget allocation, despite being an essentially monitoring task. Based on available information, throughout project implementation, only two of the 13 participating countries (Costa Rica and Honduras) were visited for monitoring purposes. This lack of dedicated resources limited the project's ability to adapt actions based on on-the-ground realities and delayed decision-making processes that could have been expedited through site visits.

In summary, while the monitoring and reporting system successfully delivered key outcomes and demonstrated adaptability across diverse conditions, the challenges encountered highlighted areas for improvement both in terms of design and implementation. Addressing these issues, particularly the consistency of implementation and data reliability across all countries, enhancing two-way communication, implementing country visits would have been crucial for improving the M&E system, strengthening regional ownership and promoting shared learning.

3.14 Need to follow up

The main issue requiring follow-up is the absence of arrangements for sustained financing in most countries. The evaluation team is aware of a follow-up GEF global project on WEEE management that, while not intended as a continuation of PREAL, is closely aligned with its objectives and will include one PREAL country (Peru) in its scope. However, for the remaining countries, there is no evidence of financing arrangements to ensure the continuation of activities initiated under PREAL, except for a few cases where other bilateral or multilateral sources of financing are being pursued. This lack of financial support for continuity of WEEE-related activities poses a significant risk to the sustainability of the project's outcomes.

Another matter requiring post-project attention is the financing and institutional arrangements to ensure the continuity of the project's regional webpage.

3.15 Assessment of Cofinancing

According to the CEO Endorsement of the project, the expected cofinancing commitments from stakeholders represented 88% of the total project cost (USD 71,411,312), with 50% of the contributions expected in cash. Government counterparts and organizations in participating countries, along with committed international entities, effectively engaged in the project through various roles, primarily contributing staff hours, training sessions, and investments in equipment. However, the full materialization of the committed cofinancing has not been achieved. Based on the evaluation team's analysis of the available data, the following observations have been identified:

- Materialization of reported cofinancing: As of August 7, 2024, 53% of the committed cofinancing (USD 38,022,531) has been reported as materialized. The Mid-Term Review had

previously highlighted the need to review cofinancing figures. However, the extension of the project duration likely fostered expectations of active private sector engagement in Component 2, leading to assumptions that materialization was feasible. Despite the gap, the cofinancing-to-grant ratio remains at 4:1, aligning with GEF's expectations at the project's endorsement stage.

Table 1. Cofinancing Executed as of August 7, 2024

Source	CEO Endorsement	Executed as of 07/08/2024	% executed / expected
National	58,040,036	36,315,926	63%
Others	13,371,276	1,706,605	13%
Total	**71,411,312**	**38,022,531**	**53%**

Source: Evaluation Team

- Contribution gap from international stakeholders: A significant portion of the cofinancing shortfall stems from international entities, as 87% of the committed amount did not materialize. Only 4 out of the 14 entities identified in the approved project proposal (Dell, EMPA, ILO, and UNU) that pledged support during project formulation have reported their contributions.

- National contributions across countries: National contributions, excluding Bolivia (which has not submitted a report), reflect 63% of the committed cofinancing. Notably, two countries (Peru and Uruguay) have provided more than 160% of their pledged contributions. However, as illustrated in table below, 7 out of 13 participating countries have contributed less than 50% of their initially committed cofinancing.

Table 2. Distribution of Cofinancing Gap Among Countries

%executed/ expected cofinancing	N° of countries	Countries
0% - 10%	4	Bolivia, Panamá, El Salvador, Honduras
11% - 25%	2	Chile, Guatemala
26% - 50%	1	Argentina
51% -75%	2	Venezuela, Ecuador
76%-99%	1	Costa Rica
100%	1	Nicaragua
101% - 194%	2	Perú, Uruguay
Total	**13**	

Source: Evaluation Team

- Improvement opportunities for the reporting process:
  - There is no consolidated report detailing cofinancing contributions, differentiating between cash and in-kind support.
  - Although UNIDO developed a reporting form for national partners, its adoption has been inconsistent, contributing to errors, such as the duplication of a USD 50,254 contribution from Chile in the consolidated report.

- The standardized reporting format did not facilitate minimum verification of the information provided. For instance, it did not require the exchange rate to be used or clarify which amounts were supported by documentation. Consequently, the materialization of reported cofinancing remains uncertain, considering that the project's reporting process did not assign specific roles or milestones for verifying the materialization of cofinancing.

- The available information does not allow for a full verification of the actual materialization of the cofinancing. While some explanatory documents provide justifications for the reported cofinancing amounts, there is no supporting evidence to validate whether these amounts accurately reflect reality. During field visits, investments in equipment and infrastructure were observed; however, access to documentation verifying the attribution of the reported amounts or their use for the project's intended purposes was not available.

3.16 Updated monitoring and assessment tool of core indicators

As described previously, the PREAL project implemented a regular progress monitoring process, facing the challenges of ensuring the quality and timeliness of information, as well as managing the project's results framework which presented some design difficulties. The project not only had to monitor ambitious indicators and targets, but also to coordinate data collection from 13 countries with different management capacities. As significant progress was made in the operational monitoring capacities of participating countries, PREAL results were reflected annually in aggregate form through the Project Implementation Reports (PIR), which served as the main reporting instrument.

Consistent with the result framework included in project design, PREAL focused primarily on monitoring output indicators rather than outcome indicators. This limitation was largely due to the absence of explicitly defined outcome indicators in the approved Project Results Framework. Consequently, outcomes were reported as conceptual aggregations of achieved outputs rather than as objectively verifiable measurements. For example, it was assumed that increasing the number of media training sessions (Output 1.3.1) and public awareness campaigns (Output 1.3.2) would automatically lead to the achievement of Outcome 1.3, which stated that civil society and the public would be informed and aware of WEEE issues. Alternatively, the project could have defined specific indicators to monitor progress toward this outcome, such as increased WEEE collection in key cities.

Output indicators were updated and completed as of June 2024, but there are opportunities for improvement in data quality and the robustness of the monitoring process:

- Fragmented monitoring system: A detailed, integrated monitoring system covering all three components was not accessible. Critical information, such as indicator definitions (inclusions and exclusions), calculation methods, or verification means, was scattered across various tools (Excel sheets, Monday Platform) with annotations on the margins. This fragmentation made it difficult to trace how country-level data were aggregated into the regional consolidated report.

  For example, in Component 1, the monitoring framework aggregated country-level data, but it was unclear how the "official value" for reporting was determined or the criteria for excluding certain country-level data. For Output 1.1.4 (financial strategies in policies and

regulations), the aggregated report from all countries totaled 14, but the "official value reported" was 10, with no accompanying explanation.

- Disaggregated information on indicators on Component 3 implemented by UNIDO was unavailable. Most disaggregated data in the available tools focused on Components 1 and 2, hindering a comprehensive view of the detailed indicators across the entire project.

- Unidentified data sources and verification problems: Reporting formats required countries to provide quantitative data on policies and strategies (e.g. number of regulations), but it is not always possible to identify the regulation concerned or its sources of verification, making it difficult to establish a direct link between the reported indicators and their underlying content.

- Flexible indicator definitions: Considering the rather ambitious targets set at design, the project allowed some countries to adopt broad and flexible definitions for indicators, ignoring established sources of verification. This introduced uncertainty as to the quality of the aggregated data. For example, in outcome 1.2.2 (WEEE management integrated into university curricula and research programs), some reported data included the planning process for integrating WEEE into curricula, awareness-raising workshops or collaborative agreements, which were not directly related to the sources of verification defined for the indicator.

- Inconsistent indicator design and reporting: Inconsistent indicator designs, particularly those linked to Component 2 (as detailed in the Effectiveness Section of this report), led to variations in how countries reported data for the same indicator, undermining the reliability of aggregated results. For example, Output 2.1.2 (improvement of selected facilities), the indicator on avoided COP emissions varied across countries, with some making estimates based on their own assumptions. Similarly, the indicator on treated WEEE was inconsistently reported—some countries included only WEEE from the "red list," while others counted all categories. Due to these challenges, the monitoring process struggled to standardize data collection and ensure the reliability of aggregated reports.

As the project concludes, the shortcomings in implementing a detailed and organized monitoring protocol limited the accuracy of achieved outputs, while challenging the sustainability and utility of PREAL's achievements, particularly at the national level. Based on this, the evaluation team considers that the protocol should have: (i) systematized definitions and documented the decisions made throughout the monitoring process, ensuring clarity and consistency; and (ii) provided detailed access to all supporting information for reported indicators, including routes, folders, and file names, to facilitate the accurate interpretation and use of the data generated by PREAL. This effort would have helped consolidate PREAL's results and support informed decision-making for future initiatives aligned with its objectives.

3.17 Knowledge management approach

As indicated throughout the report, the project provided a comprehensive set of training and capacity building activities, both regionally and internationally. The impressive number of people trained testifies to the importance given to knowledge management, essential to raise awareness and create capacity to address the complexities of the entire technical, operational and institutional dimensions of WEEE. Although a considerable portion of the regional training efforts were aimed at improving project management activities involving local coordinators and focal points, within budget possibilities most countries managed to implement activities

targeting critical stakeholders, including managers and staff of private firms engaged in WEEE, recyclers, technicians and students.

3.18 Project Ratings

#	Evaluation criteria	Mandatory rating	Rating
A	**Progress to Impact**	**Yes**	**MS**
B	**Project design**	**Yes**	**MS**
1	• Overall design	Yes	MS
2	• Project results framework/log frame	Yes	MS
C	**Project performance and progress towards results**	Yes	**MS**
1	• Relevance	Yes	HS
2	• Coherence	Yes	HS
3	• Effectiveness	Yes	MS
4	• Efficiency	Yes	MS
5	• Sustainability of benefits	Yes	MU
D	**Gender mainstreaming**	Yes	**S**
E	**Project implementation management**	Yes	**MS**
1	• Results-based management (RBM)	Yes	MS
2	• Monitoring and Evaluation, Reporting	Yes	MS
F	**Performance of partners**		
1	• UNIDO	Yes	MS
2	• National counterparts	Yes	MS
3	• Implementing partner (if applicable)	Yes	N/A
4	• Funding partner	Yes	N/A
G	**Environmental and Social Safeguards (ESS), Disability and Human Rights**	Yes	**MS**
1	• Environmental Safeguards	Yes	S
2	• Social Safeguards, Disability and Human Rights	Yes	MS
H	**Overall Assessment**	Yes	**MS**

4. Conclusions and Recommendations

4.1 Conclusions

In summary, the PREAL project can be rated as Moderately Satisfactory, basically because overall design expectations were partially achieved in relation to the targets set for each component, although with considerable differences between participating countries in relation to all performance evaluation criteria. In addition, despite the described quality at entry and operational shortcomings, the project was instrumental in supporting several positive technological, institutional, and regulatory improvements, in some countries with reasonable chances of being sustained and expanded/consolidated in the future. The outcomes related to developing incentive mechanisms, private sector stakeholder engagement and improving inter-institutional coordination were somewhat limited but nevertheless provide an encouraging scenario for the identification and promotion of more advanced, effective and sustainable WEEE disposal models based on adequate regulatory instruments.

In terms of design, the detailed baseline developed during preparation was not adequately reflected in the technical requirements and budgetary allocations included in project design, applying a "one-size fits all" approach. This was inconsistent with the fact that some countries had already made strides in developing WEEE regulatory frameworks, other countries were starting from scratch in terms of specific WEEE public policy, infrastructure and private sector engagement, posing expected challenges to meet project implementation goals. A more differentiated allocation of resources, tailored to these initial conditions, is considered that could have contributed to optimise progress and outcomes across countries. Similarly, the number of countries selected, and the consequent limited budget allocated to each participating country appears to have been disproportionately low for the outcomes expected, to a large extend converting PREAL into a primarily pilot project in each country.

Given the complexity and scale of the project, a more robust ToC that explicitly delineated the steps from outputs to outcomes and final impacts would have strengthened the project's strategic framework. The diverse needs and capacities of participating countries, along with ground-breaking policies and technologies, necessitated a clear, evidence-based ToC. This should have included detailed assumptions, potential risks, and the roles and responsibilities of all stakeholders to ensure alignment and accountability.

Regarding the strengthening of national policies and strategies for WEEE management, the project showed significant progress in developing regulations and strengthening national capacities in several participating countries, although with extremely limited implementation. Five countries already have implemented regulations, while others are in the process of finalising them or awaiting legalisation. Furthermore, capacity building at public, private, and academic levels was important, as was the development of regional platforms for information management. However, challenges remain in ensuring the long-term sustainability of these systems.

In relation to strengthening dismantling and recycling facilities and developing sustainable business models: The first two steps of this outcome, involving the identification and training of management companies, were generally effective. Although progress was made in WEEE disposal, the overall outcomes were moderately effective. Furthermore, only two countries (Costa Rica and Chile) succeeded in developing sustainable business models, while important

entry barriers for the private sector still remain, such as the resources and time needed for environmental licencing, and the lack of capital for investment.

Policy harmonisation, knowledge management, and South-South cooperation was promoted through the centralized activities implemented by UNIDO. Cooperation between countries was fostered in developing common policies and standards, as well as strengthening knowledge management systems and collaborative platforms. The tools developed, such as regional platforms and collaborative workspaces, promoted a cooperative environment among stakeholders. However, concerns about the sustainability of these initiatives remain after project closing.

Regarding overall efficiency, the PREAL project experienced operational shortcomings, primarily due to the discrepancy between the resources invested and the results achieved. A significant portion of the budget (40%) was allocated to Component 2, aimed at strengthening infrastructure for managing e-waste and eliminating 2,400 tons of waste. However, only approximately 42% of this target was met. Although project technical assistance was provided to the establishment or operation of 38 management companies (averaging 4 per country), many of them most likely will be unable to sustain processes and outcomes after project closure unless clear regulations are in place and adequately enforced, raising questions about the long-term sustainability of the achievements.

Project management and coordination at the regional level established a reasonable and well qualified structure for implementation, which provided regular support to countries through frequent virtual meetings. Despite dedicated efforts by the coordinator and his team, shortcomings in individual country oversight, quality and frequency of data collection and reporting by countries, the need for a considerable extension – and cost increase – of the implementation period, and the lack of proactive flexibility to make adjustments to country level outputs and indicators, were all factors that reduced project performance and outputs.

The project encountered multiple challenges, both external and internal, such as the COVID-19 pandemic and the diversity capacities and commitments among participating countries. Nevertheless, the extension of the implementation period from 60 to 94 months indicates that initial planning was insufficient, and risk management was inadequate. These challenges could have been mitigated through better anticipation and adjustments in planning, considering the diverse realities of the participating countries – a known aspect when managing a project involving 13 countries simultaneously.

4.2 Recommendations and Management Response

Assessed by the evaluation team as largely a pilot initiative, the analysis of the design and implementation of PREAL provides a wealth of relevant recommendations, largely intended to feed into new projects, either of a regional nature involving several countries or for support to national initiatives focused on addressing the improved management of WEEE.

1. Selection and support to countries in regional projects: Based on the PREAL experience, in the design of projects focusing on relatively new environmental issues such as WEEE, consideration should be given to (i) reducing the number of participating countries, as PREAL has proven that 13 countries is a difficult number to manage efficiently, (ii) developing a specific selection criteria, as the voluntary enrollment method used by PREAL appears to have limited the chances of success; (iii) ensuring the allocation of funds to each country is

adequate to implement the desired outcomes; and (iv) avoiding the "one size fits all" approach, providing specific levels of support and incentives to countries according to their baseline situation.

2. Approach to regulatory design: When developing regulations for the management of WEEE, it is crucial for countries to avoid a partial or superficial definition of hazardous substance issues, as observed in some of PREAL's participating countries. Instead, the focus should be on EPR, which should be central to these regulations. This approach ensures effective implementation and control across the value chain.

3. Need to define a comprehensive WEEE business model for the entire value chain: It is essential to clearly define a business model that covers the entire chain, from identification and valorisation to the final disposal market. The absence of a final market for plastics creates low ownership and interest among waste managers in addressing POPs in WEEE. A well-structured business model focusing on EPR would provide clearer incentives for participation and sustainability.

4. Public sector should be engaged as first practitioners: In the future, both for project design by UNIDO and decision-makers at country level, it is recommended that public sector institutions take on a more active role as primary stakeholders on environmentally sound management of WEEE. This will embed WEEE issues and monitor new regulations within the public sector, not only for the appropriate disposal of WEEE, but also to develop specifications that prioritize the selection and procurement of safer equipment.

5. Understanding of project logic and indicators: It is also recommended for UNIDO to review the coherence and ensure the understanding of critical indicators at each project phase by country stakeholders. In the case of PREAL, there was a lack of alignment between the initial proposal, the methods used to measure indicators, which was defined and adjusted during different stages of implementation, and the actual interpretation by each country. Similar recommendation applies to the quantification of key indicator targets.

6. Other WEEE issues that were not fully covered in PREAL: In future WEEE projects, UNIDO's design and coordination should include specific actions targeted at civil society and the informal collection sector, as well as promoting circular economy initiatives.

7. Develop a comprehensive knowledge management strategy for exit and sustainability: The outcomes, materials, tools, and lessons derived from PREAL have been extensive. It is essential for projects to provide participating countries with a well-structured knowledge management strategy during the period prior to financial closure. This exit strategy should consolidate the lessons learned, institutionalize their use, and facilitate replication across countries. Leaving each country and project team to independently apply regional mechanisms, tools, and knowledge without cohesive guidance represents a major risk, compromising the long-term sustainability of the project, especially since the issue of POPs in WEEE is currently not

8. Information sharing between regional and country structures: In projects of this nature, sharing operational and financial information from the regional level to the national level can enhance stakeholder participation and ownership. Although UNIDO does not have a direct responsibility to report to each country, doing so would foster project ownership, prevent

communication gaps, and strengthen areas that might otherwise remain isolated or centralised within regional executing bodies.

9. Recognition of country progress levels: While maintaining a regional focus, UNIDO should identify mechanisms through which – probably as part of MTR – countries that demonstrate greater commitment and efficiency would receive proportionally higher support compared to those with more limited performance. Although not easily implemented, this underscores the need for resource allocation adjustments during project execution based on recorded progress and results – an important consideration for future interventions.

Management Response

#	Recommendation	Management Response	Responsible entity/-ies	Target Date
1	Improved selection and support to countries in regional projects	UNIDO has integrated the recommendation in the new Global Electronics management (GEM) program under development. While the components are common to all participating countries, specific activities are developed for each country, based on their national interests, needs and the degree of progress.	UNIDO TCS/CEG/RMC	Q3 2025
2	Approach to regulatory design	UNIDO has integrated the recommendation in the new Global Electronics management (GEM) program, where EPR is included as a measure to achieve project objectives while this was advocated by PREAL.	UNIDO TCS/CEG/RMC	Q3 2025
3	Need to define a comprehensive WEEE business model for the entire value chain	Agreed and reflected in the GEM program led by UNIDO. In Latin America, the program will build on the achievements of PREAL	UNIDO TCS/CEG/RMC	Q3 2025
4	Public sector should be engaged as first practitioners	Taken into account in the GEM program led by UNIDO.	UNIDO TCS/CEG/RMC	Q3 2025
5	Understanding of project logic and indicators by participating countries	Taken into account in the GEM program led by UNIDO.	UNIDO TCS/CEG/RMC	Q3 2025
6	Include other WEEE issues that were not fully covered in PREAL	Taken into account in the GEM program led by UNIDO	UNIDO TCS/CEG/RMC	Q3 2025
7	Develop a comprehensive knowledge management strategy for sustainability	UNIDO is developing a global knowledge management strategy under the GEM Program	UNIDO TCS/CEG/RMC	Q3 2025

8	Information sharing between regional and country structures	To be reflected during the implementation of the Global Component of the GEM Program	UNIDO TCS/CEG/RMC	Q3 2026
9	Recognition of country progress Levels	As recommended, UNIDO will take this into account during the MTR of the GEM Program	UNIDO TCS/CEG/RMC	Q2 2029

5. Lessons Learned

Drawing from the above findings and conclusions and abstracting from the project specific to broader circumstances, the following lessons have been developed for wider applicability:

1. **Timely, proactive and coordinated effort to reassess and refine project scope and design challenges are necessary to ensure efficient attainment of results:** The project had several opportunities to review and adjust its overall design to make it more realistic and achievable. There was a significant time gap between the initial design phase in 2014 and the start of implementation in 2018, during which technologies and institutional conditions changed. A reassessment of the project's scope and approach would have ensured an update in best practices and methodologies for management of WEEE. The onset of the pandemic further highlighted these challenges, as progress became primarily limited to the regulatory activities. leading to a request for an extension. This extension period provided another opportunity to revisit the design, review the theory of change, and align expectations around the project's objectives and targets. If a proactive and coordinated approach to adjust the regional project in its entirety is not adopted, leaving the decision to individual countries to decide whether to make adjustments may result in an inefficient fragmented approach.

The lack of a unified effort to reassess and refine project design had a particularly negative impact on the Component dealing with WEEE management and disposal. This component should not have been adjusted reactively and in a disorganized manner throughout project implementation. A comprehensive redesign through a coordinated strategy, is essential to ensure coherent progress and avoiding the project turning into more of a pilot initiative in each country.

2. **Taking into account diversity of countries to obtain tangible benefits consistent with the specific level of progress:** The project's design assumption that strategies and actions could be universally applicable across all countries despite their diversity faced significant implementation challenges. While it would have been ideal to start with a smaller group of countries given the novelty of the WEEE topic in the region, another alternative would have been to segment exchange strategies categorizing countries according to their level of progress. This approach would ensure that all participating countries obtain tangible benefits from regional exchanges that are consistent with the specific level of progress.

3. **An integrated interregional strategy that includes mechanisms and spaces for all key actors is essential to promote broader cooperation among countries and establish stronger institutional foundations for sustainability, rather than relying on voluntary bilateral relationships**: Focusing its interregional coordination and cooperation strategy at the

government level (political representatives, national coordinators, and technical focal points), the project showed limited interregional coordination beyond government levels missing an opportunity to promote interactions among other key stakeholders such as universities, recycling companies, laboratories, and others.

4. **Engagement of all relevant actors for effective EPR implementation:** The successful implementation of EPR regulations requires the active participation from all actors involved in the system. Key actors who should be included in an EPR implementation strategy are public entities responsible for enforcement, local governments that can assist with outreach, awareness, training and WEEE collection, and all private stakeholders linked to the chain, including the informal sector, which must be explicitly integrated into the system to prevent environmental and social risks.

5. **To execute a project involving many countries and diverse stakeholders, investing more time in developing a solid baseline that extends beyond secondary research is essential:** Differences between countries present distinct risks. It is crucial to identify and implement specific prevention and mitigation measures to ensure project success. Specifically, the PREAL experience suggests the need to assess whether all countries should receive the same budget, timeframe, and type of support. The project demonstrated that, despite differences, all countries made progress, though overall effectiveness, efficiency, and sustainability were compromised. It also showed that, with the same resources, significantly different results were achieved, even among countries starting from a similar baseline.

6. **When designing the project logic, it is crucial to build a theory of change that clearly presents the cause-effect relationship between outputs and outcomes**. Additionally, assumptions should be realistic and well-documented. In the case of PREAL, assuming that waste management businesses would invest as needed to meet project objectives was unrealistic. Although companies cooperated, expecting an "infrastructure improvement" outcome without specific project investments was not feasible. Capacity building, training, and support alone do not achieve this level of change.

7. **Connecting technical counterparts at the regional level is a positive approach, as they face similar challenges**. Knowledge and tool-sharing between countries significantly contributes to a regional project, benefiting even non-participating countries. Maintaining collaborative spaces, such as PREAL Tuesdays, strengthens the regional strategy and communications among countries.

8. **Exert influence on sustainability of regional components through execution and implementation arrangements and exit strategy from project design onwards.** Based on the outcomes of component three and its potentially limited sustainability, similar projects may consider including a regional unit as a (partial co-)executor of the regional component, ideally considering combined public-private financing. After closure, this unit could take on regional responsibilities, ensuring continuity.

9. **Sequencing of interventions as part of the implementation strategy is essential:** The approval of legal regulations and the establishment of control and monitoring bodies represents a major trigger for the demand for ESM services related to WEEE, as companies

recognise the need to comply with the law, and management firms identify business opportunities.

10. The shortcomings in implementing a detailed and organized monitoring protocol were a limiting factor to ensure the sustainability and utility of PREAL's achievements. To support informed decision-making for future initiatives aligned with its objectives, the PREAL experience suggests that **M&E protocols in regional projects should: (i) systematize definitions and document the decisions made throughout the monitoring process, ensuring clarity and consistency among participating countries; and (ii) provide detailed access to all supporting information for reported indicators, including routes, folders, and file names, to facilitate the accurate interpretation and use of the data generated**.

6. Annexes

Annex 1: Evaluation Terms of Reference

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE

Independent terminal evaluation of the project:

Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries

UNIDO ID: 140297
GEF Project ID: 5554

12/06/2024

Contents

PROJECT BACKGROUND AND CONTEXT

1. Project factsheet[1]

Project title	Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries
UNIDO ID	140297
GEF Project ID	5554
Country(ies)	The Argentine Republic, the Plurinational State of Bolivia, the Republic of Chile, the Republic of Costa Rica, the Republic of Ecuador, the Republic of El Salvador, the Republic of Guatemala, the Republic of Honduras, the Republic of Nicaragua, the Republic of Panama, the Republic of Peru, the Eastern Republic of Uruguay and the Bolivarian Republic of Venezuela.
Project funding partner(s)	GEF
Project approval date/GEF CEO endorsement date	15/3/2017
Planned project start date (as indicated in project document/or GEF CEO endorsement document)	15/3/2017
Actual project start date (First PAD issuance date)	17/4/2017
Planned project completion date (as indicated in project document/or GEF CEO endorsement document)	15/3/2022
Actual project completion date (as indicated in UNIDO ERP system)	30/6/2024
Project duration (year): **Planned:** **Actual:**	Planned: 5 years (60 months) Actual: 7 years (84 months)
GEF Focal Areas and Operational Programme	Persistent Organic Pollutants (POPs)
Implementing agency(ies)	UNIDO
Government coordinating agency	Secretary of Environment and Sustainable Development in the Argentine Republic, the Ministry of Environment and Water of the Plurinational State of Bolivia, the Ministry of Environment of the Republic of Chile, the Ministry of Health of the Republic of Costa Rica, the Ministry of Environment of the Republic of Ecuador, the

[1] Data to be validated by the Consultant

	Ministry of Environment and Natural Resources of the Republic of El Salvador, the Ministry of Environment and Natural Resources of the Republic of Guatemala, the Secretariat of Natural Resources and Environment (SERNA) of the Republic of Honduras, the Ministry of Environment and Natural Resources (MARENA) of the Republic of Nicaragua, the Ministry of Health of the Republic of Panamá, the Ministry of Environment of the Republic of Peru; the Ministry of Housing, Land Planning and Environment of the Eastern Republic of Uruguay, and the Ministry of People's Power for Ecosocialism and Water of the Bolivarian Republic of Venezuela.
Executing Partners	(Various, depending on countries)
Donor funding	USD 9,500,000
UNIDO input (in kind, USD)	USD 300,000
Co-financing at CEO Endorsement, as applicable	71,411,312
Total project cost (USD), excluding support costs	80,911,312
Mid-term review date	12/8/2022
Planned terminal evaluation date	June 2024
Gender Marker	1 - Limited expected contribution to gender equality

(Source: Project document, UNIDO ERP system)

2. Project context

E-waste has become a prominent issue in the national agendas of several Latin American countries, and the interest is growing steadily within the public and private sectors, as well as in civil society organizations. Political and public concerns about the handling and treatment of e-waste have arisen due to the presence of hazardous components and POPs (mainly Polychlorinated Biphenyls or PCBs, and Polybrominated Diphenyl Ethers (PBDE), used for housings/casings of computers, TV monitors and printed circuit boards). At the same time, e-waste seems to offer important economic and business opportunities that can help generate new enterprises and employment, through promoting refurbishment and reutilization, or improving the extraction and commercialization of WEEE containing valuable materials (plastics, ferrous and non-ferrous metals).

Before the project started, some countries in Latin America had already started implementing several initiatives, including the enactment of specific rules and regulations for the proper management and collection of WEEE, as well as awareness-raising on the issue, and the strengthening of national capacities on WEEE (e-waste) dismantling and recycling. However, due to national differences in policy development and the status of WEEE related initiatives, progress has not been homogeneous throughout the region. In addition, there is still a shortage of adequate dismantling and recycling infrastructure or lack of specific policies on e-waste. The improper recycling of WEEE, which may involve inefficient identification and separation of plastic containing PBDEs and the uncontrolled burning processes of plastic coatings, housings and casings, cause the formation and release of unintentionally-produced POPs (u-POPs), such as dioxins and furans. These are highly toxic chemicals that accumulate in living organisms, including humans, and appear in

higher concentrations at higher levels in the food chain, causing serious toxic effects to both people and wildlife. Thanks to a combination of these factors, the adoption of a successful management model for WEEE at the regional level has stalled. Without this project and support at the national and international levels, this scenario is likely to continue, at least in the short and medium term.
The participating countries have different baselines, dependent upon their different developmental, technical, economic and social situations. This project, therefore, aims to align differences at the national level with the support of regional cooperation. Without GEF support, an alignment and cooperation between them, the participating countries are unlikely to succeed in improving the national WEEE management capacities and the operations and recycling capacity in the existing national facilities, among the main pending tasks. Consequently, this project seeks to create an inclusive project environment with the participation of various stakeholders. Building on a solid commitment to executing the project on the part of national governments, the project also facilitates the assistance of international organizations with strong expertise on e-waste issues and related matters.

3. Project objective and expected outcomes

The Project focuses on supporting Ministries of Environment and Health in 13 participating countries to protect human health and the environment from Persistent Organic Pollutants (POPs) present in some WEEE fractions. The main objective is to strengthen national initiatives and enhance regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries.

The **main objective** of the proposed project is to strengthen national initiatives and enhance regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries.

Summary of components:
Within the different activities that make up **component 1** (Strengthening of National E-Waste Management Initiatives), the project has wanted to place greater emphasis on accelerating the development of regulatory frameworks on WEEE in the participating countries, since these constitute the basis for future developments such as the implementation of the Extended Producer Responsibility (EPR), the collection of larger volumes and policies oriented towards the circular economy. Likewise, the development of other national strategies continues to ensure the sustainability of WEEE management in the coming years. Finally, training for officials and awareness campaigns aimed at the general public continue with the dynamics of previous years. Under **component 1**, there are the following outcomes/ outputs:

- Outcome 1.1 National Policies are drafted or reviewed
    - Output 1.1.1: National policies and regulations are drafted or reviewed
    - Output 1.1.2: National e-waste management strategies are established
    - Output 1.1.3: Guidelines for the e-waste management activities are developed and tested
    - Output 1.1.4: A national financial strategy is defined within policies and regulations
- Outcome 1.2: National Capacity for e-waste management is in place
    - Output 1.2.1 Officials and staff on e-waste management trained

    - Output 1.2.2 Selected universities include e-waste management in their curricula and research programs
    - Output 1.2.3 National knowledge and information management systems are set and ready for regional exchange
- Outcome 1.3: National society is informed and aware of e-waste issues
    - Output 1.3.1 Media and journalists are trained on e-waste issues and informed regarding the progress of the national and regional initiatives
    - Output 1.3.2 Awareness raising campaigns / customized events are developed to address the needs of specific target groups (i.e. children, women) and society at large

In **component 2** (Strengthening of National Capacities on E-Waste Dismantling and Recycling Facilities/Infrastructure), the project continues to provide assistance and training to countries to correctly identify and separate brominated flame retardant plastics that may contain POPs. Thanks to this effort, during this period the first tons of these plastics were sent for safe final disposal, in accordance with the guidelines of the Stockholm Convention. Under **component 2,** there are the following outcomes/ outputs:

- Outcome 2.1: E-waste dismantling and recycling facilities or infrastructure are operating efficiently and sustainably in participating countries
    - Output 2.1.1: In-depth assessments of pre-selected facilities and infrastructure are carried out to select facilities that will be upgraded/scaled up
    - Output 2.1.2 Selected facilities are up-scaled to meet SC, BC and other relevant criteria
    - Output 2.1.3 ESM and final disposal of 600 tons of brominated plastics annually (totaling 2400 tons during the project lifespan) using BAT/BEP
    - Output 2.1.4 Adequate business models are developed to ensure long-term sustainability of the facilities

Within the activities carried out in **component 3 (**Enhancement of Regional Cooperation on E-Waste Management), the project continues to hold weekly meetings with all the participating countries (called PREAL Tuesdays), as a mechanism for exchanging experiences and knowledge. In addition, in collaboration with UNU/UNITAR, an EWAS (E-Waste Academy for Scientists) was held in Ireland in September 2022 with the aim of introducing participants to various perspectives on e-waste management and getting in touch with an international, multidisciplinary, and experienced team. Under **component 3**, there are the following outcomes/ outputs:

- Outcome 3.1 Key issues of e-waste policies are harmonized at the regional level, with due consideration of the relevant MEAs and mechanism like SAICM
    - Output 3.1.1. Comparative analysis of existing national policies / regulations is conducted to identify key issues that need to be addressed at the regional level
    - Output 3.1.2. A regional policy platform is operating to facilitate policy harmonization on key issues, with involvement of national MEAs officials
- Outcome 3.2 Knowledge management systems and information exchange are strengthened
    - Output 3.2.1. The policy platform is integrated into a regional knowledge / information management system
    - Output 3.2.2. National knowledge / information systems are linked to the regional one

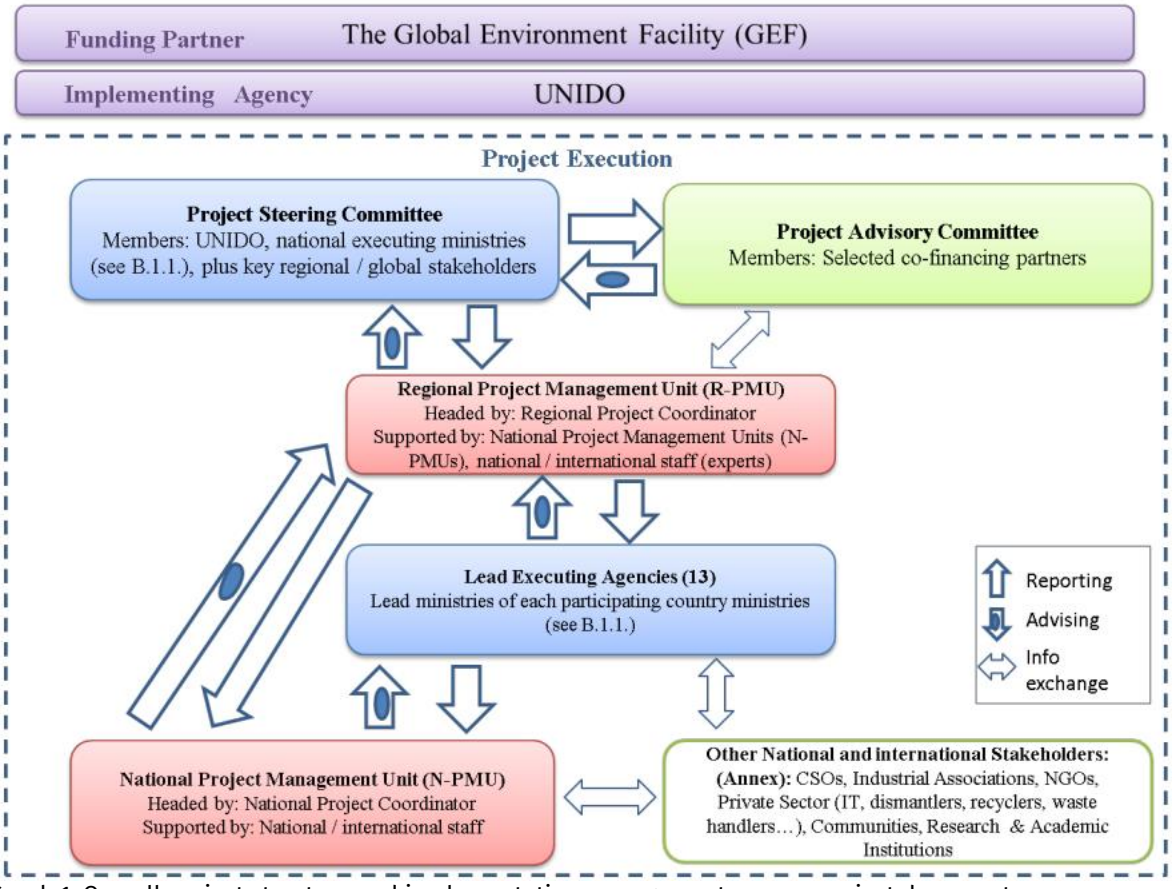
- Outcome 3.3 South -South cooperation is enhanced
  - Output 3.3.1 Country cooperation is strengthened in the region through enhanced knowledge sharing
  - Output 3.3.2 Regional post-project action plans and initiatives are developed

Component M&E: Project Monitoring and Evaluation has the following outputs / outputs:

- Outcome 4.1 Monitoring
  - 4.1.1 Monitoring system is set and works
  - 4.1.2 Progress reports are delivered and required decisions/actions are taken
  - Outcome
- Outcome 4.2 Evaluation
  - 4.2.1 Mid-term review and final independent evaluation are conducted
  - 4.2.2 Lessons learned are shared with all relevant stakeholders for future project improvement

4. Project implementation arrangements

The following illustration summarizes the overall project structure and implementation arrangements.



Graph 1: Overall project structure and implementation arrangements as per project document.

The Project established a Project Steering Committee (PSC), which consists of UNIDO, national representatives of the ministries (i.e. the leading project executing counterparts) and additional stakeholders. It includes among others, the following tasks: review of annual work

plans; review of annual GEF reporting (PIRs); review of annual budgets vis-á-vis the GEF grant and co-financing; monitoring and evaluation of project progress; and guidance on strategic issues and activities.
The Project Advisory Committee (PAC) is involved in the review of technical documents as well as monitoring and evaluation activities; the PAC makes recommendations and suggestions but does not have power to enforce them.
The Regional Project Management Unit (R-PMU) consists of a regional project coordinator (RPC) supported by administrative staff. The R-PMU was hired by UNIDO and is mainly responsible for guiding and following up day to day project execution, particularly the harmonization of the activities through the region. The RPC promotes regional activities and supports countries in their exchange of information and knowledge. The main tasks of the R-PMU include, inter alia:

- Accompanying and advising execution of regional project activities
- Coordination of national activities at the regional level
- Establishment of regular project reports, PIRs and other monitoring reports
- Organization of regional workshops and meetings
- Communications regarding its mandate with national, regional and international stakeholders

The previously existing regional knowledge-management platform, RELAC, serves as a starting point for information exchange and harmonization of activities. RELAC hosts the regional knowledge management platform and works in close cooperation with the R-PMU.
At the national level, lead executing agencies are the relevant ministries in charge of the project in their respective countries. Every national executing partner has established a National Project Management Unit (N-PMU) consisting of a National Project Coordinator (NPC) and support staff to supervise day-to-day project activities in their respective countries. N-PMUs liaise regularly with the RPC to align their activities with the initiatives of the other countries.

N.B. At the national level, lead executing agencies are the relevant ministries in charge of the project in their respective countries. This includes the ones listed under 'Lead executing agencies' in graph 1 above. Sub-contracts for national project execution for management of national outputs under components 1 and 2 were issued to either these national executing partners or other partners. For countries where the subcontract was not issued to the executing partners, the subcontracted entity was selected by the national executing partner under procedures that warrant the best value for the money, fairness, accountability, integrity and transparency of the procurement processes, effective competition, and the best interest of the GEF, UNIDO, and the participating countries.

5. Main findings of the Mid-term review (MTR)

The project is still highly relevant to address the urgent need to regulate e-waste issues and reduce POPs in the region. It also has a very relevant geographical coverage to advance towards a regional vision and the outcomes remain consistent with the GEF's focal areas and UNIDO's mandate. Its design benefitted from both institutions' technical expertise and experience and, although not underpinned by a comprehensive theory of change (not requested at the time of design), it is solidly founded on the analysis of the main factors affecting the issue of POPs in e-waste (comprehensive baseline and stakeholder analysis).

The PREAL is contributing to strategic objectives and has advanced towards achieving the planned outcomes. One of the main achievements of the project is that it has facilitated and

pushed a relevant number of countries to address the issue of e-waste and POPs. It is expected that important outcomes of the project, like the setup of legislation, capacity building, increased awareness and improved control of the recycling infrastructure in the countries will be achieved eventually after the end of the project.

Nevertheless, it is unlikely that the expected outcomes are achieved by the current deadline (March 2022). The project has delivered quality outputs, but the implementation is significantly delayed (it actually did not start until 2019). In this sense, the indicators and targets are too ambitious and should be revised to reflect changing circumstances and lessons learned during implementation. In fact, the project is currently working with a workplan that goes beyond its deadline and national workplans that go even further (up to 2024).

The PREAL has built on the coordinated capacities of the national and regional partners. The complexity of the project was initially underestimated (e.g. novel sector that involves ground-breaking policies and technology; countries with diverse needs, capacities, and priorities; staff and government changes, etc.) This resulted in accumulated delays (e.g. slow start-up, time-consuming arrangements to set-up a multi-stakeholder partnership, etc.) Nevertheless, the implementation arrangements are paying off in terms of increased ownership and efficiency. In general, the management and overall coordination mechanisms have been efficient and effective contributing to strengthening local ownership. The services provided by the Regional Project Management Unit (R-PMU) and National Project Management Units (N-PMUs) are considered highly satisfactory. On the other hand, the Project Steering Committee (PSC) and Project Advisory Committee (PAC) could have played a more significant and defined role.

The project's results framework has been used as an operational management tool and has been able to respond to changing circumstances (e.g. by organizing regular coordination and substantive remote meetings in response to the Covid-19 pandemic). Nevertheless, some indicators are not relevant or realistic and the project is not implementing a robust monitoring and evaluation system which compromises its own learning. In this sense, reporting has not been consistent, and responsibilities remain somehow vague.

The project did not develop a comprehensive gender mainstreaming strategy to contribute to transformational changes likely to affect gender relations and social norms. Nevertheless, the design included a baseline study that addressed specific women's needs. During implementation, concrete efforts were made to address specific issues of interest for women, and attention was given to ensure gender participation.

Information extracted from the MTR Report:

1. ***Project design assessment***

- There is evidence of the added value of UNIDO and GEF and the project design took advantage of their technical expertise and experience
- The project design is based on a comprehensive baseline assessment
- The project design is based on a comprehensive stakeholder analysis
- The results framework seems output-driven and not underpinned by a robust theory of change
- The indicators and targets are too ambitious and do not reflect changing circumstances and lessons learned during implementation
- The project design is underpinned by relevant assumptions, but it would benefit from a more comprehensive analysis of the risks

2. ***Project performance and progress towards results***

- Relevance: The project outcomes remain consistent with the GEF focal areas, UNIDO mandate, and the beneficiary needs and priorities

- Effectiveness and progress towards expected results: Although the project is contributing to strategic objectives, it is unlikely that it will complete the overall workplan and achieves the expected outcomes by the current deadline.

3. ***Efficiency***

- The project has delivered quality outputs and the implementation arrangements through a multi-stakeholder partnership are paying off in terms of increased ownership and efficiency.

4. ***Project implementation management***

- Project management: In general, the management and overall coordination mechanisms have been efficient and effective contributing to strengthen local ownership.

- Results-Based work planning: The project accumulates delays partly due to a slow start-up and time-consuming arrangements to set-up a multi-stakeholder partnership. The current work plans (overall and national) extend beyond the project's end date.

- Results-based monitoring and evaluation: The project is not implementing a robust monitoring and evaluation system which compromises the project's own learning. The project's results framework has been used as an operational management tool, but it has not been updated and some indicators are not relevant or realistic.

- Results-based reporting: The project reporting has not been consistent, and responsibilities remain somehow vague.

- Financial management and co-finance: In line with the project delays, the budget execution corresponds to approximately 30% of the GEF grant. In line with the project delays, approximately 30% of the pledged amount is estimated to have been contributed as co-financing.

- Stakeholder engagement: The project has put in place a multi-stakeholder partnership that has facilitated the development of synergies and leveraged collaboration.

- Communication and dissemination: The project has responded to changing circumstances such as the covid-19 pandemic by organizing regular coordination and substantive remote meetings.

5. ***Sustainability***

- The project has contributed to increase ownership and the interest of governments and other stakeholders, but the engagement of the private sector is limited, and the regional dimension is not sufficiently developed.

6. ***Gender mainstreaming***

- The project has given specific attention to women participation but has not developed a thorough gender mainstreaming strategy (tailor-made approach for the e-waste sector).

7. ***Performance of Partners***

- The project has built on the coordinated capacities of the national and regional partners.

6. Budget information

Table 1. Financing plan summary - Outcome breakdown
Financing plan as reported in project document:

Budget per outcome (USD)	
Outcome 1.1	1,200,000
Outcome 1.2	1,600,000
Outcome 1.3	800,000
TOTAL Component 1	**3,600,000**
Outcome 2.1	3,900,000
TOTAL Component 2	**3,900,000**
Outcome 3.1	350,000
Outcome 3.2	600,000
Outcome 3.3	400,000
TOTAL Component 3	**1,350,000**
Outcome 4.1	100,000.00
Outcome 4.2	100,000.00
TOTAL Component 4	**200,000.00**
TOTAL PMC	450,000.00
TOTAL PROJECT COSTS	**9,500,000.00**

Source: Project document, Annex E

Table 2. Co-Financing source breakdown
Co-financing as reported in project document ($)

Sources of Co-financing	Name of Co-financier (source)	Type of Co-financing	Co-financing Amount ($)
GEF Agency	UNIDO	In-kind	300,000

GEF Agency	UNIDO	Cash	200,000
National Government	Argentina (PELCO, PROGEA)	Cash	3,398,087
National Government	Argentina	In-kind	2,868,983
National Government	Bolivia	In-kind	746,471
National Government	Bolivia	Cash	1,780,487
National Government	Chile	Cash	1,470,000
National Government	Chile	In-kind	1,380,000
National Government	Costa Rica	In-kind	2,814,816
National Government	Ecuador (Telefonica-OTECEL, MINTEL, Lexmark)	Cash	282,936
National Government	Ecuador	In-kind	3,737,159
National Government	El Salvador	In-kind	2,098,245
National Government	El Salvador	Cash	2,918,800
National Government	Guatemala	In-kind	154,931
National Government	Guatemala (Scrapex, Selmet, Liquidacion, E-waste de Guatemela, Reciclados de Occidente)	Cash	3,231,687
National Government	Honduras	In-kind	994,204
National Government	Honduras (Invema, Recacel, Reciclados de Honduras)	Cash	2,769,963
National Government	Nicaragua	In-kind	2,814,816
National Government	Panama	In-kind	1,335,252
National Government	Panama (Linvestor Group)	Cash	7,129,900
National Government	Peru (COIPSA, COMIMTEL, San Antonio)	Cash	7,367,299
National Government	Uruguay	In-kind	949,000
National Government	Uruguay (Pan Ceibal, TRIEX, WERBA)	Cash	3,862,000
National Government	Venezuela	In-kind	3,935,000
Others	EMPA	In-kind	1,781,675
Others	EMPA	Cash	194,125
Others	ISWA	In-kind	71,500
Others	ISWA	Cash	20,000
Other Multilateral Agenc	UNU	In-kind	158,500
Others	BOKU University Vienna	In-kind	12,931
Others	BOKU University Vienna	Cash	58,508
Private Sector	Ericsson	In-kind	6,318,088
Private Sector	Ericsson	Cash	407,655
Private Sector	Microsoft	In-kind	7,000
Private Sector	Microsoft	Cash	14,000
Others	RELAC	In-kind	865,150
Others	RELAC	Cash	54,000
Other Multilateral Agenc	International Telecommunication Union	In-kind	538,800
Other Multilateral Agency(ies)	International Telecommunication Union	Cash	524,000

National Government	US-EPA	In-kind	189,464
Other Multilateral Agenc	World Health Organization	In-kind	300,000
Other Multilateral Agenc	International Labor Organization	In-kind	87,880
Private Sector	Ernst & Young Belgium	In-kind	1,103,000
Private Sector	Ernst & Young Belgium	Cash	88,000
Private Sector	Dell	In-kind	4,000
Private Sector	Dell	Cash	73,000
Total Co-financing			71,411,312

Source: Project document

Table 3. UNIDO budget allocation and expenditure by budget line

Budget line	Items by budget line	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Total expenditure (at completion)		Total allocation (at approval)		Expend as % of initial allocation
										USD	%	USD	%	
2100	Contractual Services	-	1,276,248.00	1,927,832.50	1,920,762.99	1,753,439.66	1,358,373.85	(193,932.81)	(55,542.54)	7,987,181.65	85	3,775,000	40	212
4500	Equipment	-	-	-	37.53	29.69	6.41	-	-	73.63	0	2,205,000	23	0
1500	Local travel	-	24,904.90	24,444.27	2,130.65	-	6,664.23	49,889.58	30,708.14	138,741.77	1	350,000	4	40
1700	Nat. Consult. /Staff	12,413.53	36,361.64	39,959.92	42,166.94	36,255.39	20,742.77	17,058.76	10,952.84	215,911.79	2	150,000	2	144
5100	Other Direct Costs	-	-	7,758.32	6,417.63	3,758.73	861.97	8,806.12	2,617.80	30,220.57	0	60,000	1	50
4300	Premises	-	-	-	-	-	-	-	-	-	0	0	0	
1100	Staff & Intern Consultants	-	67,021.18	107,168.35	123,802.44	154,911.48	85,259.49	196,823.69	70,111.72	805,098.35	9	1,035,000	11	78
3000	Train/ Fellowship/ Study	-	-	-	-	1,268.39	31.13	1,879.18	-	3,178.70	0	1,465,000	15	0
3500	International Meetings	-	84,129.65	84,009.11	26.60	-	-	-	22,251.00	190,416.36	2	460,000	5	41
Total		**12,413.53**	**1,488,665.37**	**2,191,172.47**	**2,095,344.78**	**1,949,663.34**	**1,471,939.85**	**80,524.52**	**81,098.96**	**9,370,822.82**	**100**	**9,500,000**	**100**	**99**

Source: Project document and UNIDO Project Management ERP database as of 14/05/2024

Table 4. UNIDO budget allocation and expenditure by component

		Total allocation (at approval)		Total expenditure (at completion)	
#	**Project components**	**USD/Euro**	**%**	**USD/Euro**	**%**
1	National policies and society-TA	3,600,000	38	3,325,268.06	35
2	National e-waste recycling capacity	3,900,000	41	3,594,792.39	38
3	Regional south-south cooperation	1,350,000	14	1,706,709.58	18
4	M&E	200,000	2	14,069.40	0.2
5	Project management	450,000	5	729,983.39	8
	Total	**9,500,000**	**100**	**9,370,822.82**	**100**

Source: Project document and UNIDO Project Management ERP database as of 14/05/2024

SCOPE AND PURPOSE OF THE EVALUATION

The purpose of the terminal evaluation (TE) is to independently assess the project to help UNIDO improve performance and results of ongoing and future programmes and projects. The terminal evaluation (TE) will cover the whole duration of the project from its starting date in 03/2017 to the estimated completion date in 06/2024.

The evaluation has two specific objectives:

Assess the project performance in terms of relevance, effectiveness, efficiency, sustainability, coherence, and progress to impact; and

Develop a series of findings, lessons and recommendations for enhancing the design of new and implementation of ongoing projects by UNIDO.

EVALUATION APPROACH AND METHODOLOGY

The independent TE will be conducted in accordance with the UNIDO Evaluation Policy[2], the UNIDO Guidelines for the Technical Cooperation Project and Project Cycle[3], and UNIDO Evaluation Manual. In addition, the GEF Guidelines for GEF Agencies in Conducting Terminal Evaluations, the GEF Monitoring and Evaluation Policy, and the GEF Minimum Fiduciary Standards for GEF Implementing and Executing Agencies will be applied.

The evaluation will be carried out as an independent in-depth exercise using a participatory approach whereby all key parties associated with the project will be informed and consulted throughout the process. The evaluation team leader will liaise with the UNIDO Independent Evaluation Unit (EIO/IEU) on the conduct of the evaluation and methodological issues.

[2] UNIDO. (2021). Director General's Bulletin: Evaluation Policy (UNIDO/DGB/2021/11)

[3] UNIDO. (2006). Director-General's Administrative Instruction No. 17/Rev.1: Guidelines for the Technical Cooperation Programme and Project Cycle (DGAI.17/Rev.1, 24 August 2006)

The evaluation will use a theory of change approach[4] and mixed methods to collect data and information from a range of sources and informants. It will pay attention to triangulating the data and information collected before forming its assessment. This is essential to ensure an evidence-based and credible evaluation, with robust analytical underpinning.
The theory of change will depict the causal and transformational pathways from project outputs to outcomes and longer-term impacts. It also identifies the drivers and barriers to achieving results. Learning from this analysis will be useful for the design of future projects so that the management team can effectively use the theory of change to manage the project based on results.

1. Data collection methods

Following are the main instruments for data collection:

(a) **Desk and literature review** of documents related to the project, including but not limited to:
- The original project document, monitoring reports (such as progress and financial reports, mid-term review reports, technical reports, back-to-office mission report(s), end-of-contract report(s), and relevant correspondence.
- Notes from the meetings of committees involved in the project.

(b) **Stakeholder consultations** will be conducted through structured and semi-structured interviews and focus group discussions. Key stakeholders to be interviewed include:
- UNIDO Management and staff involved in the project; and
- Representatives of funding partners, counterparts, and other stakeholders.

(c) **Field visit** to project sites in selected countries.
- On-site observation of results achieved by the project, including interviews of actual and potential project beneficiaries.
- Interviews with the relevant UN Resident Coordinator and UNIDO Country offices' representative to the extent that she/he was involved in the project and the project's management members and the various national [and sub-regional] authorities dealing with project activities as necessary.

(d) **Online data collection** methods will be used to the extent possible.

2. Key evaluation questions and criteria

The key evaluation questions (corresponding to the six OECD/DAC criteria) are the following:

1) Relevance: Is the intervention doing the right things? To what extent do the project/programme's objectives respond to beneficiaries, global, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change?
2) Coherence: How well does the intervention fit? How compatible is the project/programme with other interventions in the country, sector or institution?
3) Effectiveness: Is the project/programme achieving its objectives?
4) Efficiency: How well are resources being used? Has the project/programme delivered results in an economic and timely manner?
5) Impact: What difference does the intervention make? To what extent has the project/programme generated significant positive or negative, intended or unintended, higher-level effects? Has the project/programme had transformative effects?
6) Sustainability: Will the benefits last? To what extent will the net benefits of the project/programme continue, or are likely to continue?

[4] For more information on Theory of Change, please see chapter 3.4 of UNIDO Evaluation Manual.

The table below provides the key evaluation criteria to be assessed by the evaluation. The detailed questions to assess each evaluation criterion are in Annex 2 of UNIDO Evaluation Manual.

Table 5. Project evaluation criteria

#	Evaluation criteria	Mandatory rating
A	**Progress to Impact**	**Yes**
B	**Project design**	**Yes**
1	• Overall design	Yes
2	• Project results framework/log frame	Yes
C	**Project performance and progress towards results**	Yes
1	• Relevance	Yes
2	• Coherence	Yes
3	• Effectiveness	Yes
4	• Efficiency	Yes
5	• Sustainability of benefits	Yes
D	**Gender mainstreaming**	Yes
E	**Project implementation management**	Yes
1	• Results-based management (RBM)	Yes
2	• Monitoring and Evaluation, Reporting	Yes
F	**Performance of partners**	
1	• UNIDO	Yes
2	• National counterparts	Yes
3	• Implementing partner (if applicable)	Yes
4	• Funding partner	Yes
G	**Environmental and Social Safeguards (ESS), Disability and Human Rights**	Yes
1	• Environmental Safeguards	Yes
2	• Social Safeguards, Disability and Human Rights	Yes
H	**Overall Assessment**	Yes

Performance of partners

The assessment of the performance of partners will ***include*** the quality of implementation and execution of the GEF Agencies and project-executing entities in discharging their expected roles and responsibilities. The assessment will take into account the following:

- Quality of Implementation, e.g. the extent to which the agency delivered effectively, with a focus on elements that were controllable from the given implementing agency's perspective and how well risks were identified and managed.
- Quality of Execution, e.g. the appropriate use of funds, procurement, and contracting of goods and services.

Other assessments required by the GEF for GEF-funded projects:

The terminal evaluation will assess the following topics, for which ***ratings are not required***:

a. **Need for follow-up**: e.g. in instances of financial mismanagement, unintended negative impacts, or risks.
b. **Materialization of co-financing**: e.g. the extent to which the expected co-financing materialized, whether co-financing was administered by the project management or by

some other organization, whether and how shortfall or excess in co-financing affected project results. At the terminal evaluation point, the Project Manager will update table 3 on co-financing and add two more columns to submit to the evaluation team: 1) Amount of co-financing materialized at mid-term review (MTR); and 2) Amount of co-financing materialized at terminal evaluation (TE). The evaluation team has the responsibility to validate and verify the co-financing amount materialized during the evaluation process. This table MUST BE included in the terminal evaluation report, as per requirement by the GEF.

c. **Environmental and Social Safeguards**[5]: appropriate environmental and social safeguards were addressed in the project's design and implementation, e.g. preventive or mitigation measures for any foreseeable adverse effects and/or harm to environment or to any stakeholder.

d. **Updated Monitoring and Assessment tool of core-indicators:** The project management team will submit to the evaluation team the up-to-date core-indicators or tracking tool (for older projects) whereby all the information on the project results and benefits promised at approval and actually achieved at completion point must be presented. The evaluation team has the responsibility to validate and verify updated core-indicators during the evaluation process. This table MUST BE included in the terminal evaluation report, as per requirement by the GEF.

e. **Knowledge Management Approach:** Information on the project's completed Knowledge Management Approach that was approved at CEO Endorsement/Approval.

3. Rating system

In line with the practice adopted by many development agencies, the UNIDO Independent Evaluation Unit uses a six-point rating system, where the highest score is highly satisfactory (6), and the lowest score is highly unsatisfactory (1) as per the table below.

Table 6. Project rating criteria

Score	Definition
Highly satisfactory (6)	Level of achievement presents no shortcomings (90% - 100% achievement rate of planned expectations and targets).
Satisfactory (5)	Level of achievement presents minor shortcomings (70% - 89% achievement rate of planned expectations and targets).
Moderately satisfactory (4)	Level of achievement presents moderate shortcomings (50% - 69% achievement rate of planned expectations and targets).
Moderately unsatisfactory (3)	Level of achievement presents some significant shortcomings (30% - 49% achievement rate of planned expectations and targets).

[5] Refer to AI/2021/03 - UNIDO Environmental and Social Safeguards Policies and Procedures; https://www.thegef.org/sites/default/files/documents/gef_environmental_social_safeguards_policy.pdf

Unsatisfactory (2)	Level of achievement presents major shortcomings (10% - 29% achievement rate of planned expectations and targets).
Highly unsatisfactory (1)	Level of achievement presents severe shortcomings (0% - 9% achievement rate of planned expectations and targets).

EVALUATION PROCESS

The evaluation will be conducted from July 2024 to November 2024. The evaluation will be implemented in five phases, which are not strictly sequential, but in many cases iterative, conducted in parallel and partly overlapping:

1) Inception phase: The evaluation team will prepare the inception report providing details on the evaluation methodology and include an evaluation matrix with specific issues for the evaluation to address (including if and how MTR findings were addressed, and how the project structure and implementation arrangements performed with a view to relevant ministries assuming the role of lead executing agencies); the specific country and site visits will be determined during the inception phase, taking into consideration the findings and recommendations of the mid-term review.
2) Desk review and data analysis.
3) Interviews, survey, and literature review.
4) Country visits (whenever possible) and debriefing to key relevant stakeholders in the field.
5) Data analysis, report writing, and debriefing to UNIDO staff at the Headquarters; and
6) Final report issuance and distribution with a management response sheet, and publication of the final evaluation report in UNIDO website.

TIME SCHEDULE AND DELIVERABLES

The evaluation is scheduled to take place from July 2024 to November 2024. The evaluation field missions are tentatively planned for end-July/August 2024. At the end of the field mission, the evaluation team will present the preliminary findings for key relevant stakeholders involved in this project in the country. The tentative timelines are provided in the table below. After the evaluation field mission, the evaluation team leader will arrange a virtual debriefing and presentation of the preliminary findings of the terminal evaluation with UNIDO Headquarters. The draft TE report will be submitted 4 to 6 weeks after the end of the mission. The draft TE report is to be shared with the UNIDO Project Manager (PM), UNIDO Independent Evaluation Unit, the UNIDO GEF Coordinator, and GEF OFP, and other stakeholders for comments. The Evaluation team leader is expected to revise the draft TE report based on the comments received, edit the language, and submit the final version of the TE report in accordance with UNIDO EIO/IEU standards.

Table 7. Tentative timelines

Timelines	Tasks

July 2024	Desk review and writing of inception report
July 2024	Online briefing with UNIDO project manager and the project team based in Vienna.
End-July/August 2024	Field visit to selected countries.
Beginning of September 2024	Debriefing in Vienna Preparation of first draft evaluation report
October 2024	Internal peer review of the report by UNIDO's Independent Evaluation Unit and other stakeholder comments to draft evaluation report
November 2024	Final evaluation report

EVALUATION TEAM COMPOSITION

The evaluation team will be composed of one international evaluation consultant acting as the team leader, and as team members one or two regional evaluation consultants, and potentially one regional expert with expertise in chemicals and with evaluation experience (pending the evaluation budget constraint). The evaluation team members will possess a mixed skill set and experience including evaluation, relevant technical expertise, social and environmental safeguards and gender. All three consultants will be contracted by UNIDO.[6]

The tasks of each team member are specified in the job descriptions annexed to these terms of reference. The evaluation team is required to provide information relevant to follow-up studies, including terminal evaluation verification on request to the GEF partnership up to three years after completion of the terminal evaluation.

According to the UNIDO Evaluation Policy, members of the evaluation team must not have been directly involved in the design and/or implementation of the project under evaluation.

The UNIDO Project Manager and the project management teams in the 13 participating countries will support the evaluation team. The UNIDO GEF Coordinator and GEF Operational Focal Point (OFP) will be briefed on the evaluation and provide support to its conduct. GEF OFP(s) will, where applicable and feasible, also be briefed and debriefed at the start and end of the evaluation mission.

An evaluation manager from UNIDO Independent Evaluation Unit will provide technical backstopping to the evaluation team and ensure the quality of the evaluation. The UNIDO Project Manager and national project teams will act as resource persons and provide support to the evaluation team and the evaluation manager.

REPORTING

Inception report

These Terms of Reference (TOR) provide information on the evaluation methodology, but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with the project manager, the Team Leader will prepare, in collaboration with the team members, a short inception report that will operationalize the TOR relating to the evaluation questions and provide information on what type and how the evidence will be

[6] For more information on the evaluation team composition, see UNIDO Evaluation Manual.

collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Manager.
The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework ("evaluation matrix"); Unit of work between the evaluation team members; field mission plan, including places to be visited, people to be interviewed and possible surveys to be conducted; and a debriefing and reporting timetable[7].

Evaluation report format and review procedures

The draft report will be delivered to UNIDO Independent Evaluation Unit (with a suggested report outline) and circulated to UNIDO staff and key stakeholders associated with the project for factual validation and comments. Any comments, responses, or feedback on any errors of fact to the draft report will be sent to UNIDO's Independent Evaluation Unit for collation and onward transmission to the evaluation team who will be advised of any necessary revisions. On the basis of this feedback, and taking into consideration the comments received, the evaluation team will prepare the final version of the terminal evaluation report.
The evaluation team will present its preliminary findings to the local stakeholders at the end of the field visit and take into account their feedback in preparing the evaluation report. A presentation of preliminary findings will take place at UNIDO HQ afterwards.
The evaluation report should be brief, to the point, and easy to understand. It must explain the purpose of the evaluation, what was evaluated, and the methods used. The report must highlight any methodological limitations, identify key concerns, and present evidence-based findings, consequent conclusions, recommendations, and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved, and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.
Findings, conclusions and recommendations should be presented in a complete, logical, and balanced manner. The evaluation report shall be written in English and follow the outline given by UNIDO Independent Evaluation Unit.

QUALITY ASSURANCE

All UNIDO evaluations are subject to quality assessments by UNIDO Independent Evaluation Unit. Quality assurance and control is exercised in different ways throughout the evaluation process (briefing of consultants on methodology and process of UNIDO Independent Evaluation Unit, providing inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, review of inception report and evaluation report by UNIDO's Independent Evaluation Unit).
The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality. The applied evaluation quality assessment criteria are used as a tool to provide structured feedback. UNIDO Independent Evaluation Unit should ensure that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and is compliant with UNIDO's evaluation policy and these terms of reference. The draft and final evaluation report are reviewed by UNIDO

[7] The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by UNIDO Independent Evaluation Unit.

Independent Evaluation Unit, which will submit the final report to the GEF Evaluation Office and circulate it within UNIDO together with a management response sheet.

Annex 1: Project Logical Framework

From project document (Annex A).

Interventions	Indicators	Baseline	Target	Sources of Verification	Assumptions
Project Objective	**To strengthen national initiatives and enhance regional cooperation for the environmentally sound management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries**				
Outcome 1.1: National policies are drafted or reviewed	# of environment policies, strategies, laws, and regulation related to e-waste approved/enacted	Lack of comprehensive national e-waste policy framework in most countries	13 countries have enacted national policies on e-waste	National Gazettes (e-waste policies, regulations, strategies, guidelines,)	Governments of all participating countries are committed to strengthen the e-waste regulatory and institutional framework in line with the requirements under the Stockholm Convention on POPs.
Output 1.1.1 National policies and regulations are drafted or reviewed	# of national e-waste policies and regulations drafted or reviewed	3 countries have national policies, 10 do not have e-waste specific policies	13 countries draft their e-waste policies and corresponding regulations or prepare amendments to them (3 of 3 countries draft amendments and 10 of 10 draft policies)	Document of newly drafted /improved policies and regulations	
Output 1.1.2 National e-waste management strategies are established	# of national e-waste strategies drafted or reviewed	Only few countries have a written strategy for e-waste management	1 strategy per country drafted or reviewed;	Documents of national e-waste management strategies drafted or reviewed	

Output 1.1.3 Guidelines for the e-waste management activities are used or developed and tested	# of countries using existing/newly developed and tested guidelines	Guidelines exist, but are not fully integrated into the national implementation processes	At least 6 countries use existing/newly developed and tested guidelines to establish their e-waste management strategy	References to guidelines introduced and used from the national e-waste management reports	
Output 1.1.4. A national financial strategy is defined within policies and regulations	# of countries with sustainable financing strategies in e-waste policies and regulations	Lack of overall financing strategies to sustain the national e-waste management system (operations, administration, monitoring, etc.)	At least 10 countries have developed a sustainable financing strategy for all aspects of the e-waste management system	National project reports or other documents pertaining the financing strategies	
Outcome 1.2 National Capacity for e-waste management is in place	# of countries with satisfactory national capacity for e-waste management (i.e. officials trained, training programs, KM and information systems) # of training participants/trainees (male/female) from involved stakeholder groups	Lack of knowledge of e-waste management and its environment and human health risks in particular, those related to POPs management	At least 10 countries possess satisfactory national capacity for e-waste management. At least 1500-1700 trainees (male/female) from involved stakeholder groups are trained	National project reports (sections on capacity building for e-waste management) Participants lists	Governments of all participating countries are committed to strengthen the e-waste knowledge and proper management in their countries and within the region
Output 1.2.1 Officials and staff on e-waste management trained	# of training participants/trainees (male/female)	Lack of specific knowledge in e-waste management among officials	At least 80% of government officials (male/female) responsible for e-waste management pass	Meeting minutes and participants list (male/female)	

		and operational staff	training At least 80% of staff from selected facilities involved on e-waste operations are properly trained (according to tests / assessments)	Training reports	
Output 1.2.2 Selected universities include e-waste management in their curricula and research programs	# of universities providing e-waste management curricula and research programs	Lack of learning programs, research opportunities and projects on e-waste management at the university level within the region	At least 5 selected universities (within the region) have incorporated e-waste management into their curricula and research programs.	Reports on university e-waste courses / research programs linked to the project	
Output 1.2.3 National knowledge and information management systems are set and ready for regional exchange	# of national knowledge and information systems implemented # of participants in KM and information system (male/female)	Insufficient national information systems are available to enhance national and regional KM and information exchange on e-waste	At least one knowledge management and information system available, per country At least one training/workshop per country on the KM and information system totaling around 200-250 of participants (male/female) regionally	User statistics Meeting minutes and participant lists (male/female)	
Outcome 1.3. Civil society and general public are informed and aware of e-waste issues	# of awareness raising campaigns # of published articles / news items per quarter	Lack of awareness about e-waste management and associated risks; limited	13 awareness raising campaigns per year; At least 2 articles published / news items issued per quarter.	Articles, videos and/or records of TV/radio transmissions	People are interested in the e-waste topics

	# of training participants/trainees (male/female)	media coverage of this topic	2 trainings per country and at least 30 participants / trainees per event (male/female)		
Output 1.3.1. Media and journalists are trained on e-waste issues and informed regarding the progress of the national and regional initiatives	# of trainings for media and journalists (male/female) # of e-waste related contributions in audio, visual and printed media	Lack of knowledge on e-waste management and risks associated with human health and the environment among media and journalists	2 trainings per country and at least 30 participants / trainees per event (male/female) 30 e-waste related contributions in audio, visual and printed media	Training materials and list of attendees; Press releases, articles, videos and records of radio transmissions	
Output 1.3.2. Awareness raising campaigns / customized events are developed to address the needs of specific target groups (i.e. children, women) and society at large	# of awareness raising campaigns addressing the needs of all targeted groupies (male/ female) # of gender-specific campaigns (e.g. on WEEE handling and disposal). #gender and children-specific information materials	Lack of awareness about e-waste management and risks associated with environment and human health among society and specific targeted groups	At least 4 awareness raising campaigns per country per year. , including gender-related issues	Awareness raising materials and reports.	

Outcome 2.1. E-waste dismantling and recycling facilities or infrastructure are operating efficiently and sustainably in participating countries	POPs releases from e-waste avoided (tons) e-waste treated through formal recycling chains (tons per year) <u>Co-benefits</u> Materials recycled or reused (tons) Commercial value of materials recycled or reused (USD)	Insufficient number of dismantling facilities with proper technical and operational capacities, in particular regarding POPs management. The e-waste generated by the 13 participating countries represents an emission of POP-PBDE estimated between 26 and 60 tons/year	A minimum 10% of the regional POPs-PBDEs emissions (estimated between 2.6 to 6.0 tons/year) avoided 90% of up-scaled facilities manage POPs in an environmentally sound manner. 60% of e-waste in each country is treated by the upgraded / scaled up facilities. 90% of up-scaled facilities fill reports on quantities of materials recycled, so its commercial value (USD) can be estimated by the project	Project reports, Annual declarations of recycled materials quantities	Existing recyclers are committed to upgrade their facilities
Output 2.1.1 In-depth assessments of existing facilities and infrastructure is carried out to select facilities that will be upgraded / scaled up	# of facilities with detailed assessments	More than 70 formal e-waste recycling companies exist in the participating countries. A pre-selection of eligible facilities to be upgraded / scaled up within the project was done based on their level of development.	77 e-waste facilities are assessed in detail for their potential to be upgraded / up scaled	Assessment reports	

Output 2.1.2 Selected facilities are upgraded to meet SC, BC and other relevant criteria, particularly addressing the separation of POPs containing e-waste fractions and other Stockholm Convention identified emission (through shredders and other usual operations) according to BAT/BEP as laid down in UNEP dioxin tookit categories 2k and 2l	POPs releases avoided in e-waste (tons) e-waste treated by the selected facilities (tons per year) # of facilities adopting BAT/BEP related with the environmentally sound management of POPs	A majority of existing facilities lack technical and operational capacities and do not pay special attention to POPs management.	90% of up-scaled facilities manage POPs in an environmentally sound. 60% of e-waste in each country is treated by the upgraded / scaled up facilities. At least 25 facilities adopted BAT/BEP for POPs	Project reports (upgrading / scaling up of facilities) Audit report of facilities	
Output 2.1.3. ESM and final disposal of 600 tons of brominated plastics annually (totaling 2400 tons during the project lifespan) using BAT/BEP	# quantity of brominated plastics disposed of	There are gaps with the e-waste collection system, manual dismantling and safe final disposal of BFR-plastics	Disposal of 600 tons of brominated plastiscs annualy, totaling 2400 tons during the project lifespan	Disposal reports	

Output 2.1.4 Adequate business models are developed to ensure long-term sustainability of the facilities	# of jobs created (male/female) time to break even per recycler applying the recommended business model	Identified need to develop business models taking into accounts the improved framework conditions.	At least 90 jobs in total created at each facility 2 years maximum to break even per recycler applying the recommended business model	company payroll Project reports Annual financial reports Mass balance of facility	
Outcome 3.1 Key issues of e-waste policies are harmonized at the regional level, with due consideration of the relevant MEAs and mechanisms like SAICM	Key e-waste policy issues harmonized at the regional level	Insufficient regional coordination and harmonization of e-waste management related issues	Participating countries have agreed to harmonize key e-waste policy issues	List of identified key e-waste policy issues. Review report of key e-waste issues in national policies of participating countries Meeting minutes showing agreements and/or progress regarding e-waste policy key-issue harmonization	Countries are willing to agree on and address key issues at the regional level

Output 3.1.1 Comparative analysis of existing national policies / regulations is conducted to identify key issues that need to be addressed at the regional level	Key regional issues identified through comparative analyses of existing national policies	Key issues that need to be addressed at the regional level have been started to be identified during the PPG phase	Agreement among participating countries regarding key regional issues to be tackled in the national policies	List of proposed and agreed key regional issues. Meeting minutes showing agreements	
Output 3.1.2 A regional policy platform is operating to facilitate policy harmonization on key issues, with involvement of national MEAs officials	# of countries actively participating in the regional platform to harmonize their policies	No regional policy platform available at this stage.	All participating countries are actively participating in the regional platform for harmonization purposes	User statistics of policy platform	
Outcome 3.2 Knowledge management systems and information exchange are strengthened	# of countries actively participating in the regional KM and information exchange system	Limited knowledge and information sharing among Latin American countries.	All participating countries actively contribute to the regional information exchange	User statistics of the KM and information exchange system	Stakeholders provide knowledge and maintain information
Output 3.2.1 The policy platform is integrated into a regional knowledge / information management system	# of national policies available on regional knowledge / information management system	The existing regional knowledge / information system provides limited information and is not used for harmonization purposes.	13 national policies are available on regional knowledge / information management system	Uploading records of the knowledge / information management system	

Output 3.2.2 National knowledge / information systems are linked to the regional one	# of national documents of participating countries that are published on the regional knowledge management system	Missing information exchange between countries.	All relevant documents published at the national level within the project are available on the regional knowledge management system	Uploading records of knowledge / information management system	
Outcome 3.3 South-South cooperation is enhanced	# of jointly implemented activities	Limited South-south cooperation between the participating countries	3 jointly implemented activities in the region	Meeting Minutes, event reports	Stakeholders are willing to cooperate on a South-South level
Output 3.3.1 Country cooperation is strengthened in the region through enhanced knowledge sharing.	# of regional exchange events	Limited number of regional exchange events is currently organized.	At least 5 regional events are organized throughout the project duration	Event reports	
Output 3.3.2 Regional post-project action plans and initiatives are developed	Post-project action plan(s) developed	There is a small number of isolated regional initiatives that should be better coordinated	All participating countries have at least one planned activity for the post-project phase. They decide whether or not a new regional project is warranted.	Post-project plan documents	

Annex 2: Job descriptions

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	**Senior Evaluation Consultant, Team Leader**
Main Duty Station and Location:	Home-based
Missions:	Travel to project sites within LAC region (countries to be determined during inception)
Start of Contract (EOD):	July 2024 (exact dates tbd)
End of Contract (COB):	November 2024 (exact dates tbd)
Contract Type:	When actually employed (WAE)
Number of Working Days:	35 working days spread over the above-mentioned period

1. ORGANIZATIONAL CONTEXT

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the Abu Dhabi Declaration adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development. UNIDO's mandate is fully recognized in SDG-9, which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization's programmatic focus is structured in four strategic priorities: Creating shared prosperity; Advancing economic competitiveness; Safeguarding the environment; and Strengthening knowledge and institutions.

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO's four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The UNIDO Independent Evaluation Unit (EIO/IEU) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides evidence-based analysis and assessment on result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide credible, reliable and useful assessment that enables the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. EIO/IEU is guided by

the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

2. PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.
The Senior Evaluation Consultant, Team Leader, will evaluate the project in accordance with the evaluation-related terms of reference (TOR). S/he will perform, inter alia, the following main tasks:

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
Desk review & data analysis: Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data). Define technical issues and questions to be addressed by the national technical evaluator prior to the field visit. Determine key data to collect in the field and adjust the key data collection instrument, if needed. In coordination with the project manager, the project management team and evaluation team members, develop a meeting schedule and list of stakeholders to be interviewed online or in person.	• Key evaluation questions and an evaluation matrix • Draft list of stakeholders to be interviewed • Suitable site identified and data collection plan prepared • Workplan and responsibilities for each team member • Issues and questions to be addressed by the technical expert • Key stakeholder online meeting minutes	4 days	Home-based, online
Inception phase: Based on consultations with the project management team and funding partner representatives, identify the key evaluation questions and prioritize evaluation criteria to be assessed in depth. Prepare an inception report summarizing these expectations and identify the methods to be used and data to be collected, confirm the evaluation methodology, draft a theory of change, and provide a tentative workplan. Provide guidance to the evaluation team to prepare initial draft of output analysis and review technical inputs	• Draft inception report, incl. theory of change and evaluation framework for clearance by IEU • Guidance to the evaluation team to prepare output analysis and technical inputs	3 days	Home based, online

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
prepared by evaluation team members, prior to conducting interviews.			
Interviews, surveys and literature review, incl. field mission to selected country/-ies [8]: Lead field missions to selected countries to consult with stakeholders, partners (incl. the GEF Operational Focal Point (OFP)), and beneficiaries; conduct interviews online and in person, as feasible. Conduct survey, if deemed useful. Conduct additional literature review, if necessary.	• Records of meetings with relevant project stakeholders • Agreement with the evaluation team on the structure and content of the evaluation report and the distribution of writing tasks. • Evaluation presentation of the evaluation's preliminary findings, conclusions and recommendations to stakeholders in the countries, including the GEF OFP, at the end of the missions • After field missions: Presentation slides, feedback from stakeholders obtained and discussed • Report outline	14 days	Home based, selected countries, online
Data analysis & report writing: Coordinate and review the inputs from the evaluation team and draft the evaluation report. Share the evaluation report with UNIDO project management team, funding partner representatives and national stakeholders for feedback and comments. Present overall findings, conclusions and recommendations to the stakeholders in a debriefing meeting.	• Draft evaluation report	12 days	Home-based, online
Report finalization and submission:	• Final evaluation report	2 days	Home-based

[8] The countries will be selected during the inception phase, exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

MAIN DUTIES	Concrete/ Measurable Outputs to be achieved	Working Days	Location
Revise the draft project evaluation report based on verifiable verbal and written comments from key evaluation stakeholders. Conduct final edit of language and form according to UNIDO standards and submit report to IEU evaluation manager.			
Team leading Coordinate and supervise the work of the evaluation team.	• Team performance	Through out	n/a

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education:

Advanced university degree (master's or equivalent) in economics, engineering, sciences, agro-industries, environment, business administration, development studies or other relevant discipline is **required**.

Technical and functional experience:

- Minimum of 10 years' experience in evaluation of development projects and programmes at international level, including 5 years at senior level is required.
- Experience in leading and conducting high-level, strategic or complex evaluations for UN organizations and international development banks/organizations.
- Knowledge of TC programme/project management cycle, design, implementation and M&E is desirable.
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks.
- Knowledge about multilateral technical cooperation and the UN, international development priorities, and frameworks.
- Familiarity with social and environmental analysis, tools and methodologies is an asset.
- Experience in evaluating GEF projects and knowledge about GEF operational programs and strategies and about relevant GEF policies such as those on project life cycle, M&E, incremental costs, and fiduciary standards is an asset.
- Familiarity with gender analysis tools and methodologies is an asset.
- Experience in the needs, conditions and problems in developing countries, particularly in Latin America and the Caribbean is desirable.

Languages:

Fluency in written and spoken English is required. All reports and related documents must be in English and presented in electronic format. Working knowledge of Spanish is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision, and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Unit.

REQUIRED COMPETENCIES

Core values:
WE LIVE AND ACT WITH INTEGRITY: work honestly, openly, and impartially.
WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.
WE RESPECT DIVERSITY: work together effectively, respectfully, and inclusively, regardless of our differences in culture and perspective.

Core competencies:
WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.
WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing, and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.
WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.
WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	**Regional evaluation consultant**
Main Duty Station and Location:	Home-based
Mission/s to:	Travel to project sites within LAC region country/-ies to be selected during inception
Start of Contract:	July 2024 (exact dates tbd)
End of Contract:	November 2024 (exact dates tbd)
Contract Type:	When actually employed (WAE)
Number of Working Days:	25 days spread over the above-mentioned period

ORGANIZATIONAL CONTEXT

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the Abu Dhabi Declaration adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development. UNIDO's mandate is fully recognized in SDG-9, which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization's programmatic focus is structured in four strategic priorities: Creating shared prosperity; Advancing economic competitiveness; Safeguarding the environment; and Strengthening knowledge and institutions.

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO's four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The UNIDO Independent Evaluation Unit (EIO/IEU) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides evidence-based analysis and assessment on result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide credible, reliable and useful assessment that enables the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. EIO/IEU is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.
The regional evaluation consultant will evaluate the projects according to the terms of reference (TOR) under the leadership of the team leader (Senior Evaluation Consultant). S/he will perform the following tasks:

MAIN DUTIES	**Concrete/measurable outputs to be achieved**	**Expected duration**	**Location**
Desk review & data analysis: Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data). Define technical issues and questions to be addressed from a national/regional point of view and advise the team leader.	• Draft list of stakeholders to be interviewed • Workplan and responsibilities for each team member; list of key issues and questions for consideration by the team leader • Key stakeholder online meeting minutes	4 days	Home-based
Inception phase: Based on consultations with the project management team and funding partner representatives, provide inputs to the team leader on key evaluation questions. Based on guidance from team leader prepare initial draft of output analysis.	• Output analysis and technical inputs	2 days	Home-based, online
Interviews, surveys and literature review incl. field mission to selected country/-ies[9]: Conduct field missions to selected countries to consult with stakeholders, partners and beneficiaries; conduct interviews online and in person, as feasible.	• Conduct meetings with relevant project stakeholders, beneficiaries, the GEF Operational Focal Point (OFP), etc. for the collection of data and clarifications. • Provide inputs on the structure and content of the evaluation report and the distribution of writing tasks. • Evaluation presentation of the evaluation's preliminary findings, conclusions and recommendations to stakeholders in the country, including the GEF OFP, at the end of the mission.	14 days (including travel days)	Home-based, online, local travel, regional travel if needed

[9] The countries will be selected during the inception phase, exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

MAIN DUTIES	**Concrete/measurable outputs to be achieved**	**Expected duration**	**Location**
	• After field mission(s): Presentation slides, feedback from stakeholders obtained and discussed • Inputs to report outline • Individual interview summaries • Technical inputs and observations emanating from interviews		
Data analysis & reporting: Follow up with stakeholders regarding additional information promised during interviews. Present overall findings, conclusions and recommendations to the stakeholders at UNIDO HQ in a debriefing meeting.	• Inputs to draft evaluation report	5 days	Home-based, online

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree (master's or equivalent) in economics, engineering, sciences, agro-industries, environment, business administration, development studies or other relevant discipline is **required**.

Technical and functional experience:

- Minimum of seven (7) years' experience in evaluation of development projects and programmes at international level is required.
- Competency in the field of Chemicals, Persistent Organic Pollutants (POPs) or related field desirable.
- Evaluation experience, including evaluation of development cooperation in developing countries is an asset.
- Knowledge of TC programme/project management cycle, design, implementation and M&E is desirable.
- Knowledge about multilateral technical cooperation and the UN, international development priorities and frameworks is desirable.
- Experience in evaluating GEF projects and knowledge about GEF operational programs and strategies and about relevant GEF policies such as those on project life cycle, M&E, incremental costs, and fiduciary standards is an asset.
- Experience in the needs, conditions and problems in developing countries, particularly Latin America and the Caribbean, is desirable.
- Familiarity with social and environmental analysis, tools and methodologies is an asset.
- Familiarity with gender analysis tools and methodologies and asset.

Languages: Fluency in written and spoken English and Spanish is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign

a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Unit.

REQUIRED COMPETENCIES

Core values:

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WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.
WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

TERMS OF REFERENCE FOR PERSONNEL UNDER INDIVIDUAL SERVICE AGREEMENT (ISA)

Title:	Regional technical expert on chemicals
Main Duty Station and Location:	Home-based
Mission/s to:	Potentially travel to project sites within LAC region country/-ies to be selected during inception
Start of Contract:	July 2024 (exact dates tbd)
End of Contract:	November 2024 (exact dates tbd)
Contract Type:	When actually employed (WAE)
Number of Working Days:	20 days spread over the above-mentioned period

ORGANIZATIONAL CONTEXT

The United Nations Industrial Development Organization (UNIDO) is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and environmental sustainability. The mission of UNIDO, as described in the Lima Declaration adopted at the fifteenth session of the UNIDO General Conference in 2013 as well as the Abu Dhabi Declaration adopted at the eighteenth session of UNIDO General Conference in 2019, is to promote and accelerate inclusive and sustainable industrial development (ISID) in Member States. The relevance of ISID as an integrated approach to all three pillars of sustainable development is recognized by the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals (SDGs), which will frame United Nations and country efforts towards sustainable development. UNIDO's mandate is fully recognized in SDG-9, which calls to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation". The relevance of ISID, however, applies in greater or lesser extent to all SDGs. Accordingly, the Organization's programmatic focus is structured in four strategic priorities: Creating shared prosperity; Advancing economic competitiveness; Safeguarding the environment; and Strengthening knowledge and institutions.

Each of these programmatic fields of activity contains a number of individual programmes, which are implemented in a holistic manner to achieve effective outcomes and impacts through UNIDO's four enabling functions: (i) technical cooperation; (ii) analytical and research functions and policy advisory services; (iii) normative functions and standards and quality-related activities; and (iv) convening and partnerships for knowledge transfer, networking and industrial cooperation. Such core functions are carried out in Departments/Offices in its Headquarters, Regional Offices and Hubs and Country Offices.

The UNIDO Independent Evaluation Unit (EIO/IEU) is responsible for the independent evaluation function of UNIDO. It supports learning, continuous improvement and accountability, and provides evidence-based analysis and assessment on result and practices that feed into the programmatic and strategic decision-making processes. Independent evaluations provide credible, reliable and useful assessment that enables the timely incorporation of findings, recommendations and lessons learned into the decision-making processes at organization-wide, programme and project level. EIO/IEU is guided by the UNIDO Evaluation Policy, which is aligned to the norms and standards for evaluation in the UN system.

PROJECT CONTEXT

Detailed background information of the project can be found the terms of reference (TOR) for the terminal evaluation.
The regional technical expert on chemicals will evaluate the projects according to the terms of reference (TOR) under the leadership of the team leader (Senior Evaluation Consultant). S/he will perform the following tasks:

MAIN DUTIES	**Concrete/measurable outputs to be achieved**	**Expected duration**	**Location**
Desk review & data analysis: Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data). Define technical issues and questions to be addressed from a national/regional point of view and advise the team leader.	• Draft list of stakeholders to be interviewed • Workplan and responsibilities for each team member. List of technical key issues and questions for consideration by team leader • Key stakeholder online meeting minutes	4 days	Home-based
Inception phase: Based on consultations with the project management team and funding partner representatives, provide inputs to the evaluation team on technical key evaluation questions. Prepare initial draft of output analysis.	• Output analysis and technical inputs	2 days	Home-based, online
Interviews, surveys and literature review incl. field mission to selected country/-ies [10]: Conduct interviews online and in person, where feasible.	• Individual interview summaries • Technical inputs and observations emanating from interviews	10 days (including travel days)	Home-based, online, local travel, regional travel if needed
Data analysis & reporting: Follow up with stakeholders regarding additional information promised during interviews. Present overall findings, conclusions and recommendations to the stakeholders at UNIDO HQ in a debriefing meeting.	• Inputs to draft evaluation report	4 days	Home-based, online

MINIMUM ORGANIZATIONAL REQUIREMENTS

Education: Advanced university degree (master's or equivalent) in chemistry, environmental science, engineering or other relevant discipline.
Technical and functional experience:

[10] The countries will be selected during the inception phase, exact mission dates will be decided in agreement with the Consultant, UNIDO HQ, and the country counterparts.

- At least seven (7) years of professional experience in the field of Chemicals, Persistent Organic Pollutants (POPs) or related field is required.
- Evaluation experience, including evaluation of development cooperation in developing countries, is an asset.
- Exposure to the development needs, conditions and challenges, particularly in Latin America and the Caribbean, an asset.
- Familiarity with gender analysis tools and methodologies and asset.
- Familiarity with the institutional context of the project is desirable.

Languages: Fluency in written and spoken English and Spanish is required.

Absence of conflict of interest:

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the UNIDO Independent Evaluation Unit.

REQUIRED COMPETENCIES

Core values:

WE LIVE AND ACT WITH INTEGRITY: work honestly, openly and impartially.

WE SHOW PROFESSIONALISM: work hard and competently in a committed and responsible manner.

WE RESPECT DIVERSITY: work together effectively, respectfully and inclusively, regardless of our differences in culture and perspective.

Core competencies:

WE FOCUS ON PEOPLE: cooperate to fully reach our potential –and this is true for our colleagues as well as our clients. Emotional intelligence and receptiveness are vital parts of our UNIDO identity.

WE FOCUS ON RESULTS AND RESPONSIBILITIES: focus on planning, organizing and managing our work effectively and efficiently. We are responsible and accountable for achieving our results and meeting our performance standards. This accountability does not end with our colleagues and supervisors, but we also owe it to those we serve and who have trusted us to contribute to a better, safer and healthier world.

WE COMMUNICATE AND EARN TRUST: communicate effectively with one another and build an environment of trust where we can all excel in our work.

WE THINK OUTSIDE THE BOX AND INNOVATE: To stay relevant, we continuously improve, support innovation, share our knowledge and skills, and learn from one another.

Annex 3: Outline of an in-depth project evaluation report

Abstract

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Annex 4: Quality checklist

	Quality criteria	UNIDO EIO/IEU assessment notes	Rating
1	The inception report is well-structured, logical, clear, and complete.		
2	The evaluation report is well-structured, logical, clear, concise, complete and timely.		
3	The report presents a clear and full description of the 'object' of the evaluation.		
4	The evaluation's purpose, objectives, and scope are fully explained.		
5	The report presents a transparent description of the evaluation methodology and clearly explains how the evaluation was designed and implemented.		
6	Findings are based on evidence derived from data collection and analysis, and they respond directly to the evaluation criteria and questions.		
7	Conclusions are based on findings and substantiated by evidence and provide insights pertinent to the object of the evaluation.		
8	Recommendations are relevant to the object and purpose of the evaluation, supported by evidence and conclusions, and developed with the involvement of relevant stakeholders.		
9	Lessons learned are relevant, linked to specific findings, and replicable in the organizational context.		
10	The report illustrates the extent to which the evaluation addressed issues pertaining to a) gender mainstreaming, b) human rights, and c) environmental impact.		

Rating system for quality of evaluation reports

A number rating of 1-6 is used for each criterion: Highly satisfactory = 6, Satisfactory = 5, Moderately satisfactory = 4, Moderately unsatisfactory = 3, Unsatisfactory = 2, Highly unsatisfactory = 1, and unable to assess = 0.

Annex 2: Evaluation Framework / Matrix

Table 10 displays the evaluation matrix with the main criteria, questions, source of information, data collection and data analysis methods used in the evaluation.

Evaluation criteria	Primary evaluation questions	Desk review	Interviews & focus groups
1. Overall design	• Was the project design adequate to address the problems at hand?	• CEO Endorsement Approval • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus groups discussion notes • Analysis templates of early findings and early evidence
2. Log frame	• Is the expected result-chain (impact, outcomes and outputs) clear and logical, and still valid?	• CEO Endorsement Approval • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
3. Relevance	• To what extent did the project´s objectives respond to the needs of POPs management in WEEE in the region? (TOR) • How relevant is the project for the country? How relevant is each component?	• CEO Endorsement Approval • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting Focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence

4. Coherence	• How compatible is the project with other interventions in the region, country, institution? (TOR)	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Reporting interviews • Other project documents • Reporting Focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
5. Effectiveness	• Is the project achieving its objectives and outcomes? (TOR) • To what extent is the identified progress result of the project attributable to the intervention rather than to external factors?	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting Focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
6. Efficiency	• Has the project delivered results in a cost-efficiency and timely manner? (TOR)	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting Focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
7. Sustainability of benefits	• To what extent will the net benefits of the project continue or are likely to continue? (TOR)	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting Focus group • Field country notes and observation	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence

		• Content analysis of documents	
8. Progress to impact	• Has the project had transformative effects? (TOR)	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting Focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
Evaluation criteria	**Cross cutting evaluation questions**	**Desk review**	**Interviews & focus groups**
9. Gender mainstreaming	• Did the project contribute to reducing the gender gap?	• Gender report • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Reporting interviews • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
10. Environmental and social safeguards (ESS), Disability and Human Rights	• How did the project address ESS challenges and social considerations?	• Environmental reports • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes
11. Project implementation management: M&E (design and implementation) and Results-based management (RBM)	• How was the project´s monitoring and reporting system at the regional or country level, and what were the key results, successes and challenges in its implementation?	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence

	• How efficient and effective was the RBM model for implementing the project and achieving the desired results?	• Reporting focus groups • Field country notes and observation • Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Field country notes and observation • Content analysis of documents	
12. Performance of Partners: UNIDO, national and international counterparts, funding agencies, national executing entities	• To what extent did UNIDO/national counterparts/GEF agencies/project-executing entities fulfil their role in the program?	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Reporting focus group • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Content analysis of focus discussion notes • Analysis templates of early findings and early evidence
Evaluation criteria	**GEF requirement evaluation questions**	**Source of information and data collection methods**	**Interviews & focus groups**
13. Need to follow up	• To what extent has the project generated financial mismanagement, intended or unintended negative impacts or risks?	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Other project documents • Reporting interviews • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Analysis templates of early findings and early evidence
14. Materialization of cofinancing	• To what extent the co-financing materialized?	• Project Implementation Reports 2018-2023 • Mid Term Review 2021 • Statistical data of the project • Field country notes and observation • Content analysis of documents	• Content analysis of key informant interviews • Analysis templates of early findings and early evidence
15. Performance of the GEF agencies	• How well did GEF agencies / project-	• Project Implementation Reports 2018-2023	

and project-executing entities	executing entities identify and manage risks? ● How well did GEF agencies / project-executing entities manage the use of funds, procurement and contracting of goods and services?	● Mid Term Review 2021 ● Other project documents ● Reporting interviews and focus group ● Field country notes and observation • Content analysis of documents	● Content analysis of key informant interviews ● Analysis templates of early findings and early evidence
16. Environmental and social safeguards	● To what extent did the project´s design and implementation address appropriate environmental and social safeguards with measures for any unforeseeable adverse effects or harm to environment or to any stakeholder?	● Project Implementation Reports 2018-2023 ● Mid Term Review 2021 ● Other project documents ● Reporting interviews and focus groups ● Field country notes and observation • Content analysis of documents	● Content analysis of key informant interviews ● Analysis templates of early findings and early evidence
17. Updated monitoring and assessment tool of core-indicators	● To what extent the project´s core-indicators are completed and updated?	● Project Implementation Reports 2018-2023 ● Mid Term Review 2021 ● Statistical data of the project ● Field country notes and observation • Content analysis of documents	● Content analysis of key informant interviews ● Analysis templates of early findings and early evidence
18. Knowledge management approach	● To what extent the information on the project´s knowledge management approach that was approved at CEO Endorsement is completed?	● Project Implementation Reports 2018-2023 ● Mid Term Review 2021 ● Statistical data of the project ● Field country notes and observation	● Content analysis of documents ● Content analysis of key informant interviews ● Analysis templates of early findings and early evidence
Overall assessment	● What is your overall evaluation of the project	● Analysis template of early findings and evidence ● Reporting interviews ● Reporting focus group ● Field country notes and observation • Content analysis of documents	● Content analysis of key informant interviews ● Content analysis of focus discussion notes ● Analysis templates of early findings and early evidence

Annex 3: List of Documentation Reviewed

1. preal.comday.com
2. **UNIDO.** (2016, October). Strengthening *of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries* (GEF-5 Project Document). UNIDO-GEF Project ID: 5554.
3. **UNIDO.** (2022, October 8). *Mid-Term Review of the UNIDO Project: Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic and Electrical Equipment (WEEE) in Latin American Countries*. UNIDO-GEF Project ID: 5554.
4. **UNIDO.** (2023, June). *Adjusted Work Plan for the PREAL Project: June 2023 - June 2024*. Internal project document.
5. **UNIDO.** (2023, June 14). *Minutes of the Seventh Steering Committee Meeting of the PREAL Project: Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic and Electrical Equipment (WEEE) in Latin American Countries*. UNIDO-GEF Project ID: 5554.
6. **Global Environment Facility Independent Evaluation Office.** (2023, October). *Guidelines for Conducting Terminal Evaluations of Full-Size Projects*. Washington, DC: GEF IEO. ISBN: 978-1-64233-052-6.
7. **UNIDO.** (2024, May). *Final Meeting Presentation of the Latin American E-Waste Project (PREAL): Towards a Circular Economy in Latin America*. Presented at the Final Meeting of the PREAL Project, Panama City, Panama.
8. **UNIDO.** (2024, July). *Final Report of the Latin American E-Waste Project (PREAL): Strengthening National Initiatives and Enhancing Regional Cooperation for the Environmentally Sound Management of POPs in Waste Electrical and Electronic Equipment (WEEE) in Latin America*. UNIDO-GEF Project ID: 5554.
9. **UNIDO.** (n.d.). *Fact Sheet: Latin America E-Waste Project*. Retrieved from unido.org.
10. **UNIDO.** (2024, June 12). *Terms of Reference for the Independent Terminal Evaluation of the Project: Strengthening of National Initiatives and Enhancement of Regional Cooperation for the Environmentally Sound Management of POPs in Waste of Electronic or Electrical Equipment (WEEE) in Latin-American Countries* (UNIDO ID: 140297, GEF Project ID: 5554).
11. **UNIDO.** (2024, May). *Final Meeting Presentation of the PREAL Project*. Presented at the Steering Committee Meeting, Panama City, Panama.
12. **UNIDO.** (2024, May). *Minutes of the Final Steering Committee Meeting*. Presented during the PREAL Project's closing session, Panama City, Panama.
13. **www.**residuos electrónicos.al.org

Annex 4: List of Stakeholders Consulted

Name	Position
VIRTUAL INTERVIEWS	
Lamia Benabbas	UNIDO - Project Manager
Carlos Hernández	UNIDO - Regional Coordinator
Yolanda Pandelo	UNIDO - Team Assistant
Belén Casanas	UNIDO - Project Administrator
Veronica Villacis	UNIDO Project Team Member
Uca Silva	RELAC
Reyna Ubeda	International Telecommunication Union (ITU)
Michelle Wagner	WEEE Forum
Luis Francisco Sánchez	Panamerican Health Organization (PAHO)
Ugo Ramos	World Health Organization (WHO)
FOCUS GROUPS	
Alfredo Pérez	National Coordinator Venezuela
Amparo Vallejos	Ministry of Environment and Natural Resources of Nicaragua, National Coordinator
Loly Gutiérrez	Ministry of Environment of Honduras, National Coordinator and Technical Focal Point
Yenzi Guevara / Rafael Darden	National Coordinator Guatemala
Vanessa Valles	National Coordinator and Technical Focal Point Bolivia
José García	Ministerio de Poder Popular para el Ecosocialismo, Director General de Gestión de Calidad Ambiental, Technical Focal Point
Specialist of the Dirección General de Calidad Ambiental	Ministry of Environment and Natural Resources (MARENA) of Nicaragua, Technical Focal Point
Laura Verónica López	Ministry of Environment and Natural Resources of Guatemala, Departamento de Productos Químicos y Desechos Peligrosos
Diego Alvarez	National Country Program coordinator, Bolivia
Pastora Sandino	UNIDO Country Representative Nicaragua
COUNTRY VISITS	
Marisa Quiñones / Christian	PERÚ: National Coordinator
Sandra Matos Paredes	PERÚ: Ministry of Environment, Technical Focal Point, Specialist of Solid Waste (Not municipalities)
Lía Concepción	PERÚ: Universidad Nacional Mayor de San Marcos
Verónica Mendoza Díaz	PERÚ: MINAM- Dirección de Instrumentos de Gestión de Residuos Sólidos y Circularidad, Director
Fernando Saltachín	PERÚ: Representante del Sistema de Manejo REVO (RLG)
Consulo Plasencia	PERÚ: Universidad de Cajamarca
Sonia Aranibar	PERÚ: Ex Directora General, ex asesora del MINAM
Luis Bravo	PERÚ: Ex Gerente de Residuos Sólidos del MINAM. Ex Representante político en el PREAL.
Oscar Espinoza	PERÚ: SAR Ambiental, Gerente General
	PERÚ: COMIMTEL
Carlos Martínez	PERÚ: RECOLECC
Ramzy Kahhat	Pontificia Universidad Católica del Perú
	PERU, Laboratorio Tecnológico del Uruguay (LATU) / BCCC-SCRC
Gariné Guerguerian/Maria José Crovetto	URUGUAY, National Coordinators
Marisol Mallo	URUGUAY: Technical Focal Point, Gerente de Información, Planificación y Calidad Ambiental, Ministry of Environment
Eduardo Andrés	URUGUAY: Political Representative, National Director, Dirección General de Calidad y Evaluación Ambiental
Gabriela Medina / Virginia Santana	URUGUAY: BCCC-SCRC Uruguay (LATU)
	URUGUAY: WERBA
	URUGUAY Plan CEIBAL
	URUGUAY: Cooperativa Volver a la Vida

Marcela Zamorano	ARGENTINA National Coordinator and Technical Focal Point
Ma. Candela Nassi	ARGENTINA: Political Representative, Advisor, Subsecretaria de Ambiente, Coordinadora Nacional PREAL
Lucas Marguli	ARGENTINA: Consultor PREAL en Subsecretaria de Ambiente
Viviana Ambrossi	ARGENTINA: Universidad Nacional de La Plata, Proyecto E-Basura
Ricardo Girolami	ARGENTINA: Representante de RECYCOMB
Alberto Capra	ARGENTINA: Director del Centro Regional de Basilea
Jimena Etcheberry	ARGENTINA: Jefa de Laboratorio del INTI, Parque Tecnológico Miguelete
Julian Gigena	ARGENTINA: Jede del Dptp de Compuestos y productos orgánicos del INTI
Farid Nallim	ARGENTINA: Representante de la Empresa RECICLARG
José Antonio Piedra/Francisco Zurita	ECUADOR National Coordinator
	Political Representative, Director, Dirección de Sustancias Químicas, Residuos y Desechos Peligrosos y no Peligrosos
Luis Roberto Chacón	COSTA RICA National Coordinator
Olga Segura	COSTA RICA: Ministry of Health - Technical Focal Point
Ricardo Morales Vargas	COSTA RICA: Ministry of Health, Political Representative, Jefe de Salud Ambiental
Luis Marin Rondam	COSTA RICA: QUATUM Lifecycle, Gerente Administrativo
Juan Carlos Ramirez	COSTA RICA: QUAMTUN Lifecycle, Jefe de operaciones
	COSTA RICA: CEGIRE
Balmore Contreras	EL SALVADOR Political Representative, Gerente de Residuos Peligrosos
Yolanda Salazar / Nestor Vaquero	El SALVADOR: National Cleaner Production Centre (NCPC) Directorate-General for Water and Sanitation
Suany Zepeda	EL SALVADOR: Banco Atlántida
Oscar Orellana	EL SALVADOR: Representante de MARN
Julio Marroquin	EL SALVADOR: Universidad Francisco Gavidia
Karien Volkier / Florencia Delgado/ Cristobal Giraldi	CHILE: Representante de Fundación Chile
Norma M. Plaza Vergara	CHILE: Ministry of Environment Chile - Of. de Economía Circular
Paz Maluenda	CHILE: Ministry of Environment, Coordinator of batteries and electronic devices
Barbara Peñafiel	CHILE: Ministry of Environment – Regulatory area
Ernesto Perez	CHILE: Representante de DEGRAF
Carla Chacón / Alexandre Carbonell	CHILE: Universidad de Santiago de Chile, Laboratorio de Arquitectura
Adiliz Herrera	PANAMA - National Coordinator Panamá
Jaime Vélez	PANAMA: Stockholm Convention Regional Centre in Panama (SCRC Panama), Technical Focal Point
Hildaura de Patiño	PANAMA: University of Panama – CIIMET

Annex 5: Guideline for focus group discussions

Objective of the Focus Group Discussions

The purpose of these discussions is to gather insights and reach a consensus on key evaluation criteria for a project. Participants, who are stakeholders from different sectors, will collaborate to answer a set of guiding evaluation questions.

1. Welcome and Introduction (10 Minutes)

Begin by welcoming all participants and introducing the focus of the session. Clearly outline the objectives and what is expected from each participant. Provide a brief overview of the Zoom features they'll be using during the session, such as mute/unmute, chat, reactions, and how to raise their hand.

2. Icebreaker Activity (10 Minutes)

Activity: One Word Check-In

Ask each participant to share a single word that describes their current feelings or expectations regarding the Project now that it is ending. This word can be shared verbally or typed in the chat. This activity helps build rapport and encourages participants to engage more freely throughout the session.

3. Review of Evaluation Criteria and Questions (10 Minutes)

Share your screen to display the evaluation matrix. Walk participants through each evaluation criterion and the corresponding guiding questions. This ensures that everyone is on the same page and fully understands the topics to be discussed.

Key Criteria: Overall project design, Relevance, Coherence, Effectiveness, Efficiency, Sustainability and Overall Assessment/Impact

4. In-Depth Evaluation (80 Minutes)

This section is the core of the focus group discussion, divided into four key segments, each focused on specific evaluation criteria. Participants will engage in activities designed to answer the guiding questions in a structured manner.

4.1 Segment 1: Project design & Relevance (20 Minutes)

Methodology: SWOT Analysis

· Objective: Evaluate the project design and relevance to the management of PoPs of WEEE in the region.

· Guiding Questions:

- Was the project design adequate to address the problems at hand?
- To what extent is the Project responding to the needs of the management PoPs of WEEE in the region?
- How relevant is the project to the country? How relevant is each component?

Activity: Participants will engage in a SWOT analysis using a collaborative tool like Google Jam board. Strengths, Weaknesses, Opportunities, and Threats related to the project's design and relevance will be identified and documented.

· Expected Output: A clear SWOT matrix that reflects the group's consensus on the project's overall logic and relevance.

Segment 2: Coherence & Effectiveness (20 Minutes)

· Objective: Assess the coherence of the project's interventions and the achievement of its objectives and outcomes.

· Methodology: Fishbone Diagram (Cause-and-Effect Analysis)

· Guiding Questions:

- ✓ How compatible is the project intervention with other interventions in the country/entity/region?
- ✓ Is the project achieving its objectives and outcomes?
- ✓ To what extent were the goals achieved for Components 1, 2, 3, and 4?

· Activity: Participants will create a Fishbone Diagram, identifying and discussing the root causes affecting the project's coherence and effectiveness.

· Expected Output: A diagram that visually represents the factors contributing to the project's success or challenges in coherence and effectiveness.

Segment 3: Efficiency & Sustainability of Benefits (20 Minutes)

· Objective: Evaluate the project's efficiency and the sustainability of its benefits.

· Methodology: Pros and Cons Discussion

· Guiding Questions:

- ✓ Has the project delivered results in an economic and timely manner?
- ✓ To what extent will the net benefits of the project continue, or are likely to continue?
- ✓ To what extent can project results be replicated?
- ✓ Is there an exit strategy for the project? Do the priorities of the new administration(s) impact the exit strategy?

· Activity: Participants will discuss the pros and cons of the project's approach to efficiency and sustainability, with a focus on how well the project has managed resources and whether the benefits are likely to endure.

· Expected Output: A balanced list of pros and cons, reflecting the group's views on the project's efficiency and sustainability.

Segment 4: Overall Assessment/Impact (20 Minutes)

· Objective: Summarize and prioritize key findings from the discussion.

- Methodology: Dot Voting
- Guiding Question:

  What is your overall evaluation of the project?

  How will this Project impact the region?

- Activity: Participants will use a voting tool to rank the most critical issues or achievements discussed in the previous segments.
- Expected Output: A ranked list of prioritized findings that reflect the group's overall assessment of the project.

5. Conclusion and Next Steps (10 Minutes)

Summarize the main points from each segment, emphasizing areas of consensus. Outline the next steps in the evaluation process, including when participants can expect to receive a summary of the session. Request feedback on the session's effectiveness and gather suggestions for improvement.

6. Closing Remarks (5 Minutes)

End the session by thanking the participants and reiterating the importance of their contributions. Provide any additional information about follow-up activities or next steps.

Annex 6: Details on Interviews

INTERVIEWED:

Name	Gender	Position	Organization	Country	Date

INTERVIEWER:

TO BE CONSIDERED:

- In semi-structured interviews the questions guide the interviews, but evaluation team does not have to follow them strictly. Interviewees may express their views in an "unstructured" way.
- Not all questions have to be asked in each interview. Key and specific questions should be chosen from the guiding evaluation questions, according to the interviewee and his/her role in the project and country. Interviews should last 45-60 minutes.

AT THE BEGINNING OF AN INTERVIEW:

Express appreciation for participating in the interview.

- Explain the purpose of the evaluation: (Project design, project performance, impact, lessons and recommendations)
- Explain your role as independent evaluator; we are not UNIDO staff.
- Stress the confidentiality of the evaluation; we do not quote interviewees.
- Offer to answer questions before the interview
- Make sure to have main contact information of interviewees

MANDATORY QUESTION: What is your level of involvement in the project?

GUIDING EVALUATION QUESTIONS

	Criteria	Type of question	Guiding evaluation questions
Project design	Overall design	**Key question**	**Was the project design adequate to address the problems at hand?**
		Other specific questions:	Is the selection of countries approach sound and appropriate? Does it affect the resiults?
			What is the quality at entry assessment?
			Were the defined indicators realistic?
			Why did the project focus on brominated compounds?
			Why didn't the project considered the metal components of the WEEE?
			Why did the project focus on cement co-procesing as a disposal venue?
	Logic Framework	**Key question**	**Is the expected result-chain (impact, outcomes and outputs) clear and logical, and still valid?**
		Other specific questions:	Is the ToC still valid?
			Why did the project take longer than expected?

	Criteria	Type of question	Guiding evaluation questions
Project performance	Relevance	**Key question**	**To what extent that the project´s objectives respond to the needs, of POPs management in WEEE in the region?**
		Key question	**How relevant is the project to the country? How relevant is each component?**
		Specific questions:	To what extent do the project/programme's objectives respond to beneficiaries, regional, country, and partner/institution needs, policies, and priorities, and continue to do so if circumstances change?
	Coherence	**Key question**	**How compatible is the project intervention with other interventions in the country /entity /region?**
		Specific	How well does the intervention fit?
	Efectiveness	**Key question**	**Is the project achieving its objectives and outcomes? In relation to the ToC?**
		Key question	**To what extent is the identified progress result of the project attributable to the intervention rather than to external factors?**
		Component 1	**To what extent were the goals achieved for this component?**
		Specific questions:	What financial instruments / incentives were developed during the project? How did the project connect with universities? (For example, did the project fund research programs? Were there meetings to discuss the program? Were there meetings to discuss the training materials and alternative technologies? Were the nocive effects of the metals in WEEE dismantling taken into consideration in the WEEE recycling strategies?
		Component 2	**To what extent were the goals achieved for this component?**
		Specific questions:	How were the beneficiaries of the pilots and investments selected? What assumptions were made in the technical and economic feasibility evaluations for the investments supported? The project mentions the selection of facilities for upgrade/scale up? How did project expect these upgrades/scale ups be financed? The project seems to have settled on cement co-processing even at its design stage. Were other alternatives explored? 32% of the waste was sent to security cells. How will the cost of the security cells be supported in upcoming years? Was valorization of the metallic component of the WEEE taken into account in the business model?
		Component 3	**To what extent were the goals achieved for this component?**
		Component 4	**To what extent were the goals achieved for this component?**
		Specific	How was the project monitoring system?
	Efficiency	**Key question**	**Has the project delivered results in an economic and timely manner?**
		Component 1	How much money was disbursed for this component? Are the proposed regulatory instruments being implemented?
		Component 2	How much money was disbursed for this component?Are the investments being implemented? What investments, studies, conferences, expert or exchange visits, publications etc. were carried out?
		Component 3	How much money was disbursed for this component? How much of what was spent is there? What impact and quality did the training, communication events, technical publications have?
		Component 4	How much was spent on M&E? How was it utilized?
	Sustainability of benefits	**Key question**	**To what extent will the net benefits of the project continue, or are likely to continue?**
		Specific questions:	To what extent can project results be replicated? Is there an exit strategy for the project? Do the priorities of the new administration(s) impact the exit strategy?
Progress to impact		**Key question**	To what extent has the project/programme generated significant positive or negative, intended or unintended, higher-level effects?
		Key question	Has the Project had transformative effects?

Criteria		Type of question	Guiding evaluation questions
Cross-cutting performance	Gender Mainstreaming	**Key question**	**Did the project contribute to reducing the gender gap?**
	Environment and socio economic aspects	**Key question**	**How did the project address ESS challenges and social considerations related? Did the project have any negative unintended effects?**
	M&E	**Key question**	**How was the project's monitoring and reporting system at the regional or country level, and what were the key results, successes and challenges in its implementation?**
		Specific questions:	What system was used in the monitoring process (excel, specific software)? Source of data? How was the implementation done? Were there any difficulties? Were the recommendations of the Mid Term Review incorporated? What is the management system (role of each person)?
	Results-based management (RBM)	**Key question**	**How was the project's monitoring and reporting system at the regional or country level, and what were the key results, successes and challenges in its implementation?**
		Specific questions:	How efficient and effective was the Results-based management model for implementing the project and achieving the desired results? What were the main difficulties encountered in carrying out the project and what were the factors that facilitated the process?
Performance of partners		**Key question**	**To what extent did UNIDO/national counterparts/GEF agencies/project-executing entities fulfill its role in the program?**
		Specific questions: UNIDO	How were the management tasks divided? Did UNIDO provide technical assistance? What kind of technical support was provided? Were there missions or was everything handled locally?
		National counterparts	Was there collaboration and involvement of the different participating institutions Regarding the co financiers, were all the planned investments made?
		Donor	Was there any response from GEF to the PIRs?
Overall assessment		**Key question**	**What is your overall evaluation of the project?**

Evaluation criteria	GEF requirement evaluation questions
13. Need to follow up	• To what extent has the project generated financial mismanagement, intended or unintended negative impacts or risks?
14. Materialization of cofinancing	• To what extent the co-financing materialized?
15. Performance of the GEF agencies and project- executing entities	• How well did GEF agencies / project-executing entities identify and manage risks?
	• How well did GEF agencies / project-executing entities manage the use of funds, procurement and contracting of goods and services?
16. Environmental and social safeguards	• To what extent did the project´s design and implementation address appropriate environmental and social safeguards with measures for any unforeseeable adverse effects or harm to environment ir to any stakeholder?
17. Updated monitoring and assessment tool of core-indicators	• To what extent the project´s core-indicators are completed and updated?
18. Knowledge management approach	• To what extent the information on the project´s knowledge management approach that was approved at CEO Endorsement is completed?
Overall assessment	• What is your overall evaluation of the Project

Annex 7: Glossary of Evaluation Related Terms

Term	Definition
Assumptions	The conditions that need to be in place to achieve the results as will or may affect progress or success at different levels of an intervention's causal pathway. The assumptions can be internal or external to UNIDO or the particular programme or project and usually connect outputs to outcomes, and outcomes to impact.
Baseline	The situation, prior to an intervention, against which progress can be assessed or comparisons made.
Coherence	The compatibility of the intervention with other interventions in a country, sector or institution. The extent to which other interventions (particularly policies) support or undermine the intervention, and vice versa.
Effect	Intended or unintended change due - directly or indirectly - to an intervention.
Effectiveness	The extent to which the objectives of a development intervention were or are expected to be achieved.
Efficiency	A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.
Environmental and social safeguards (ESS)	The extent to which environmental, climate change and social risks and impacts of a UNIDO product, service or process have been assessed and addressed (in line with respective administrative issuances).
Gender mainstreaming	The extent to which an adequate gender analysis has been conducted for a UNIDO product, service or process, its findings have been included in its design and monitoring and reporting data is sex-disaggregated where feasible.
Impact	Positive and negative, primary and secondary, intended and non-intended, directly and indirectly, long term effects produced by a development intervention.
Independent evaluation	Independent evaluations provide an independent, credible and evidence-based assessment on a given entity under evaluation, such as a project, programme, or an entire strand of activities under a thematic, geographical or institutional heading. Independent evaluations are conducted and/or managed by staff members of the UNIDO Independent Evaluation

	Unit and conducted by external independent evaluation consultants.
Indicator	Quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect the changes connected to an intervention, or to help assess the performance of a development actor. Means by which a change will be measured.
Intervention	An external action to assist a national effort to achieve specific development goals.
Lessons learned	Generalizations based on evaluation experiences that abstract from specific to broader circumstances. Frequently, lessons highlight strengths or weaknesses in preparation, design, and implementation that affect performance, outcome, and impact.
Logframe (logical framework approach)	Management tool used most often at the project level. It involves identifying strategic elements (activities, outputs, outcomes, impact) and their causal relationships, indicators, and the assumptions or risks that may influence success and failure. It thus facilitates designing, planning, execution, monitoring and evaluation of a development cooperation intervention. System based on MBO (management by objectives) also called RBM (results-based management) principles.
Mainstreaming/sustaining	Initiatives are reproduced/adopted in other geographical areas or regions.
Means of verification	Data sources for indicators; reliable and cost-effective.
Outcome	The achieved or likely short-term and medium-term effects of an intervention's outputs.
Outputs	The products, capital goods and services which result from a development intervention; may also include changes resulting from the intervention which are relevant to the achievement of outcomes.
Policy	A set of ideas or a plan of what to do in particular situations that has been agreed to officially by a group of people, an organization, a business organization, a government, or a political party.
Progress to impact	Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended, including redirecting trajectories of transformational process and the extent to which

	conditions for trajectory change are being put into place.
Progress- and performance measurement and monitoring, reporting & evaluation systems (M, R & E)	The extent to which indicators and means of verification (data sources) as well as M, R & E plans are fit to inform adaptive management and decision-making.
Project	A development cooperation intervention, which is designed to achieve specific objectives (outputs and outcomes) contributing to a higher objective (impact) within a given budget and a specific period of time, i.e. it has a beginning and an end.
Project/programme design	Formulation of the intervention, the plan to achieve a specific purpose.
Project/programme performance	Functioning of a development intervention
Quality	Products, services and processes being free of deficiencies or, in other words, satisfactory in terms of meeting established requirements (i.e. principles, standards and criteria).
Recommendations	Proposals aimed at enhancing the effectiveness, quality, or objectives; and/or at the reallocation of resources.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies. Note: Retrospectively, the question of relevance often becomes a question as to whether the objectives of an intervention or its design are still appropriate given changed circumstances.
Replication	Initiatives are reproduced/adopted in other geographical areas or regions.
Result	Specific and measurable change (output, outcome and impact) that is derived from a cause-and-effect relationship. The causality relationship between the changes is as important as the results themselves as it reflects the theory of change (see below) and the roles of UNIDO and its partners.
Results-Based Management (RBM)	A management strategy – at project and programme, portfolio, organizational, country, and global levels – based on managing for the achievement of intended results within a given context by integrating a results philosophy and principles into all aspects of management and by integrating good practices and lessons learned

	from past performance into management decision-making.
Results chain	The causal sequence for a development intervention that stipulates the necessary sequence to achieve desired results – beginning with inputs, moving through activities and outputs, and culminating in individual outcomes and those that influence outcomes for the community, goal/impacts and feedback. It is based on a theory of change, including underlying assumptions.
Review	A systematic and evidence-based self-assessment of the performance of a programme or project, aiming at determining performance against established criteria. The vehicle for steering corrective action by line management, and therefore a management responsibility (under 1st and 2nd Line of the UNIDO Three Lines Model of Defence (3LM)). It can be conducted internally, i.e. by personnel directly involved in a programme or project, or externally, i.e. by personnel hired specifically for the purpose of conducting the review (good practice), whereby the overall responsibility for the review rests with the programme or project management. Reviews can be carried out at different stages of the programme or project life cycle, i.e. for programmes and projects with start and end dates as mid-term reviews (MTRs) and terminal self-evaluations, and for open-ended programmes periodically.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Scale-up	Scale-up is defined as the multiplication of an achieved result from an intervention, in which a greater number of beneficiaries (people or institutions) benefit more lastingly from the results. The scaling-up process may be: a) horizontal, expanding geographical reach to cover more people through replication and adaptation; and/or b) vertical, expanding institutional reach to guide principles of practice through mainstreaming. Scaling-up of results may require an integrated approach of horizontal and vertical scaling-up
Self-evaluation	Self-evaluations are reviews (see above).

Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.
Target group	The specific individuals or organizations for whose benefit an intervention is undertaken.
Theory of change	Theory of change or programme theory is similar to a logic model but includes key assumptions behind the causal relationships and sometimes the major factors (internal and external to the intervention) likely to influence the outcomes.
Transformational Change	Deep, systemic, and sustainable change with large-scale impact.

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