



# Final Evaluation of Project URU/08/G33 “Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay.”



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Santiago, November 19, 2014

<i>Project Name</i>	<i>URU/08/G33 “Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay.”</i>
<i>GEF ID</i>	61545
<i>UNDP PIMS</i>	3563
<i>UNDP Atlas “Award Number”</i>	50024
<i>UNDP Atlas “Project Number”</i>	61545
<i>country/Region included in Project</i>	Uruguay
<i>Final Evaluation Timeframe</i>	July-August 2014
<i>Final Evaluation Report Date</i>	
<i>GEF Focal Area</i>	Persistent Organic Pollutants
<i>GEF Operational Programme</i>	OP 14
<i>GEF Strategic Priorities</i>	POPs; SP-1; SP-2; SP-3
<i>Local Implementing Agency</i>	MVOTMA-DINAMA
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<i>Acknowledgements</i>	I would like to thank to all Project team members to DINAMA, UNDP and UTE for they collaboration and good willingness for organizing field visits and interviews. With any doubts, without this support this evaluation work would be impossible.

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## LIST OF ABBREVIATIONS

<b>BCCCLAC</b>	Basel Convention Coordination Center for Latin-America and Caribbean
<b>CTA</b>	Chief Technical Advisor
<b>DINAMA</b>	National Directorate for the Environment
<b>ESM</b>	Environmentally Sound Management
<b>GEF</b>	Global Environment Facility
<b>GoU</b>	Government of Uruguay
<b>IA</b>	Implementing Agency
<b>LA</b>	Legal Advisor
<b>LFA</b>	Logical Framework Approach
<b>MoU</b>	Memorandum of Understanding
<b>MSP</b>	Medium-Sized Project
<b>MVOTMA</b>	Ministry of Housing, Use of Land and Environment
<b>M&amp;E</b>	Monitoring and Evaluation
<b>NEA</b>	National Executing Agency
<b>NGO</b>	Non-governmental Organization
<b>NIP</b>	National Implementation Plan
<b>NPC</b>	National Project Coordinator
<b>OP</b>	Operational Program
<b>PCB</b>	Polychlorinated Biphenyl
<b>PDF A</b>	Project Development Facility Block A
<b>POP</b>	Persistent Organic Pollutant
<b>ppm</b>	parts per million
<b>Prodoc</b>	Project Document
<b>PSC</b>	Project Steering Committee
<b>TC</b>	Technical Committee
<b>UNDAF</b>	United Nations Development Assistance Framework
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>US EPA</b>	Environmental Protection Agency
<b>UTE</b>	National Utility and Electric Transmission Administration

## Executive Summary

Uruguay signed the Stockholm Convention on Organic Persistent Pollutants (POP), and therefore it has to implement a national plan in order to manage these substances that should be phase out by 2025.

The only POPs in use in Uruguay are Polychlorinated Biphenyls (PCB), which are presented in electric equipment such as transformers and capacitors.

The main owner of these types of equipment with PCB is the state company National Utility and Electric Transmission Administration (UTE), who produces and distribute electric energy across the country.

According the national inventory made during preparation of NIP in 2006<sup>1</sup>, an estimation of 40,000 transformers was made, from which 95% belong to UTE. This company was already incorporated good practices in the maintenance of its transformers (PCB assessment, labeling, and handling) and by 2006 it had exported 68 tons of equipment and oils contaminated with PCB to destruction plants located in Europe, therefore, the main expertise of the country's management for these substances was concentrated in this company.

The project "Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay" was approved by GEF, where the UNDP country office acted as an United Nations Implementing Agency and the MVOTMA – trough DINAMA- was the national executing body.

The goal to which the project wanted to contribute was to reduce the risks for human health and environment from the use of PCB in Uruguay. The main objective of the project was the development of an environmental sound management system for PCB (assessment, handling, maintenance, storage and disposal).

Therefore, the main expected results were the following: i) strengthening of national capacities for management and PCB analytical detection capabilities; ii) elaboration of a National Management Plan for PCB; iii) elaboration of a specific regulation, an inventory and a database system for reporting before environmental authorities and iv) the execution of demonstrative projects in order to show the practical implementation of the PCB management system.

Eventually, it was expected that lessons learnt and experience accumulated during project implementation could be replicated at both, national and international level.

The project budget according to prodoc, was of US\$ 2,053,400, where GEF and government contributions in cash were US\$ 954,550 and US\$ 220,000, respectively. Co-financing in kind from government was at US\$ 649,350 plus an investment of US\$ 200,000 from UTE.

This project it's in its final stage of implementation, therefore UNDP - as a GEF implementing agency- has to carry out a final evaluation for the results attained by the project in its 6 years of implementation.

With respect to project progress, it can be stated that the country has today an increased institutional capacity for management and control of its PCB inventory. In fact, the project

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<sup>1</sup> Inventory was a GEF project implemented by UNDP, UNEP and Ministry of Housing.

provided to DINAMA and UTE with analytical equipment and it allowed the development of reliable sampling and analytical procedures for detecting this kind of substances. In addition, the project produced a wide number of technical guides and trained about 150 workers involved in the handling and maintenance of PCB containing equipment.

At the same time, stack emissions from the Batlle Thermoelectric power plant (owned by UTE) could be measured in order to assess the use of PCB containing oils < 50 ppm as an alternative fuel. It was verified that dioxin and furan emissions from this combustion process were lower than international accepted standards.

As per June 2013, new regulation for industrial solid waste management was approved (Decree N° 182/2013) which includes management for PCB containing wastes. Despite of a specific regulation for these types of pollutants has not yet been approved, the project team has a proposal for DINAMA, who asked to reformulate it in order to align it according the approved new rule (Decree 182/2013). DINAMA's Planning Division expects to have this rule enacted by first half of 2015.

The project exported to destruction facilities located in the European Union, 125 tons of PCB containing equipment and oils, along 8 tons of banned pesticides, thus achieving its objective of elimination of these substances.

Therefore, it can be stated that the project helped in reducing health and environmental risks related from use of these substances, and at the same time it contributed to DINAMA and UTE's institutional strengthening for a sound environmental management of PCB.

Two important activities are yet to be implemented: the assessment of a potential polluted site (Peñarol, owned by UTE) and its further cleaning and the National PCB Management Plan (currently ongoing). The former activity has not yet been possible to implement, since 2 early bidding processes could not be awarded, and most probably the project will need an extension for at least half a year, due to complexities of both, the bidding process (> US\$ 100,000) and the further technical implementation. Currently, the project team is in the process of preparing an agreement between MVOTMA and the Technological Laboratory of Uruguay (LATU), through which the latter could perform the activity in the Peñarol's site. It's expected to start the administrative process in 2014 in order to make the works by 2015.

Finally, a final workshop with stakeholders for discussion of project results should be implemented.

Regarding project finances, disbursement rates were slow for the 2008-2010 period (< 20% from total) and then it boosts for 2011-2014 period, where approximately US\$ 253,000 are pending for disbursement (approx. 19% of in cash budget). From undisbursed funds, US\$ 42,000 are from ongoing activities (final project's evaluation, elaboration of the National PCB Management Plan and a balance from PCB exports), whereas US\$ 211,000 are to be bided and executed (PCB detection at Peñarol's site and further cleaning).

The co-financing in cash from government exceeded of that committed in the prodoc, since UTE made cash transfers for US\$ 216,000 to the project account, which were additional to the US\$ 200,000 transferred by government. The US\$ 216,000 replaced the US\$ 200,000 committed by UTE in the original prodoc in order to make investments for the project. In any case UTE made additional investments for approx. US\$ 16,000.

In kind co-financing are yet to be assessed (salaries, infrastructure, goods, professional fees, overtime, investments, etc), but it's believed this co-financing is also higher than committed.

As a general conclusion on implementation, the project reached its objectives and results, even when there are some activities which need to be implemented. It's also necessary to remark that the elaboration of the project presented some deficiencies that should be solved in future projects, such as improving the phrasing for results in the logic frame matrix (the language used did not describe an expected future condition as a result of project implementation) , and indicators should also be improved, which are formulated for products more than for results.

The adaptive management was very effective during project implementation, thanks to a good level of planning and consultations made with the project's relevant stakeholders.

The project was designed according to the country needs and responded to DINAMA and UTE priorities, as well as to development aid plans that UNDP provided to the country, therefore it can be stated that this project has been relevant for the main stakeholders involved.

The project has been effective in the attainment of its goal of developing a PCB sound management system. In fact, the country has today an analytical capacity superior than that existed in 2006, as much as is concerned to equipment and procedures for determination of PCB levels. At the same time, in spite of a specific regulation could not been yet approved, decree 182/2013 constitutes a good starting point for controlling in a better way PCB disposal, until definitive rules are approved by DINAMA.

The elimination of 125 ton of equipment and oils containing PCB and 8 tons of banned pesticides certainly contributes in reducing the environmental stress imposed by these substances due to their potential to contaminate soil, water, organic tissue and food. In addition, their withdrawn appears to be a reduction for human health threat mainly for those workers that have to handle contaminated equipment and who have available today enough knowledge and practice to minimize the potential risks from the manipulation of these substances.

The sustainability of the project results will most likely to succeed, since the acquired knowledge and expertise will stand at DINAMA (project team and the chemical analyst hold permanent appointments with its institution). Even more, the acquired capacities will be also kept at UTE which will continue the activities for detection of PCB and maintenance of it equipment, using now the technical guidelines developed for such activities. The DINAMA's recently approved regulation aimed to control industrial solid wastes (Decree 182/2013) will also support project for both its short and long term results, as equipment owners shall have to report its wastes' inventories and management plans to environmental authorities.

The Uruguayan institutions have showed a high involvement in the development of the project, as revealed by the high co-financing made (U\$ 416,000). GEF funds and co-financing used during project implementation have directly contributed to meet both project goals and its expected results.

Unsuccessful biddings have diminished effectiveness to project implementation, which is delayed and it will surely have to be extended by at least half a year more, since PCB levels determination at Peñarol site and its further cleaning are complex activities to implement, due to the administrative and technical processes involved. Reasons behind delays are mainly related with



both bidders' scarceness and imposition of some specifications in ToR's bidding documents meaning a new bidder entrance barrier, such as utilization of specific analytical techniques involving costs beyond of project reach.

Waste exports represent risks in both, costs and delays higher than initially expected for projects of this type, since shipping companies showed reluctance to accept this kind of cargo. This situation could be appeared in other small size countries where shipping companies could have more power of pressure on local authorities.

The requirement of having a Project Steering Committee involving a wide participation of stakeholders, with meetings every 4 months, seems not to be an efficient formula for small size countries, due to the limited number of actors who also participate in other workgroups, which made in fact that the steering committee almost disappeared and it was replaced by other instances which seemed more viable and direct for making agreements.

### Corrective Measures

The project's logic framework did not have the language of change and indicators seemed more related with products than results. In future projects, attention should be paid in elaborating indicators for results that could measure in a better way the change to the desired situation.

For coming projects, a more comprehensive project replication component, including workshops, publication and stakeholders' awareness, should be elaborated.

Time frame and goals stipulated in project design should be more realistic and reflect better project's inception times into both institutional and administration processes involved.

Tentative budgets for activities should be shown in the bidding documents, along taking care of not include conditions that could mean unnecessary entrance barriers for newcomers. Care should be taken in order to have an equilibrium among price, quality and desired goals: do not include more objectives than the necessary ones.

Special attention with shipping companies should be taken when exporting wastes. Unfortunately, this situation seems to be out of control for project teams and local authorities, since these companies reserve themselves the right for rejecting any cargo, even after signing commitment letters during bidding processes. This factor greatly increases the uncertainties in wastes' export processes and therefore, in the successes of similar projects which could be under implementation in other small size countries.

### Recommended Actions to follow-up or strength project initial benefits

As a first recommendation the project should be extended by at least 6 months in order to allow finalization of PCB detection and cleaning of the Peñarol's site and elaboration of the national management plan. This extension should maintain the momentum to accelerate the PCB specific regulation that DINAMA shall have to enact and eventually close the project.

It's recommended that UNDP could make an international workshop for exchanging the experience of Uruguay with other small size countries which could face similar situations (e.g., the need of exporting their wastes, buy equipment or contract of services). In this regard, the ToR elaborated by Uruguay and its approach to tackle adverse situations could facilitate the implementation of other projects in the region.

Specific activities designed for private sector involvement is recommended, since participation of this sector in the project was rather limited. Examples of such activities could be a workshop, acceleration of specific regulations or awareness on implementation of decree 182/2013 for the particular case of PCB contaminated equipment.

It's also recommended to carry out awareness activities on PCB management and associated regulations for local authorities and NGOs to provide them a basic knowledge that allow them to have some role in the control or enforcement of PCB regulations.

The project produced a series of good quality technical guides which would be useful for other countries in the region, therefore beyond of printing and distributing more copies of these material, implementation of workshops of the type "train the trainers" is recommended.

Finally, according the standards for GEF projects, the following table shows the ratings obtained by the project, including both its design and implementation.

<b>Rating Project Performance</b>			
<b>1. monitoring and Evaluation:</b>	<i>Rating</i>	<b>2. IA &amp; EA Execution</b>	<i>Rating</i>
Monitoring and Evaluation (initial design)	MS	Implementing Agency Execution	S
Monitoring and Evaluation (implementation)	S	Executing Agency Execution	S
Overall quality of M&E	MS	Overall Quality of Project Implementation/Execution	MS
<b>3. Outcomes</b>	<i>Rating</i>	<b>4. Sustainability</b>	<i>Rating</i>
Relevance	R	Financial resources	P
Effectiveness	S	Socio-economic	P
Efficiency	MS	Institutional framework and governance	P
Overall Quality of Project Outcomes	S	Environmental	P
		Overall likelihood of risks to Sustainability:	P

## 1. Introduction

### 1.1. Purpose of the Evaluation

The Uruguay UNDP country office made a public call for bidding in order to carry out the final evaluation of the project URU/08/G33 “Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay”, which was financed by the Global Environmental Facility (GEF), being UNDP the GEF implementing agency whereas DINAMA was the project national executing institution.

According to policies and procedures for M&E of both, UNDP and GEF, all regular and midsize projects supported by UNDP and financed by GEF should have a final evaluation once its activities ended.

The project’s main objective was to overcome current barriers which impeded the implementation and compliance with Uruguay’s international commitments from the Stockholm Convention, specifically those related to PCB phase out.

The expected results were four:

- i) Project soundly managed among private, state and NGO sectors;
- ii) A environmental management system developed and strengthened regulations;
- iii) The environmental management system showed in practice trough the implementation of pilot projects;
- iv) Elaboration of a National Management Plan for PCB.

In order to meet these results, the project had a total financing of US\$ 2,053,000 from which US\$ 954,550 were from GEF and other US\$ 1,069,350 were a contribution from the Government of Uruguay and US\$ 29,500 came from other sources.

The time for implementation of activities was set at 2 years (2008-2010), but currently the closing date was established for end of 2014.

Three professionals were hired to implement project activities, who are now appointed by DINAMA as staff personnel to carry out project activities and support for the Solid Wastes and Substances department, located at the DINAMA’s Environmental Planning Division.

### 1.2. Scope and Methodology

According to ToR of the evaluation, verification for attainment of project expected results according its logic frame matrix is desired. It should be noted that even when this project had a mid-term review, the activities and objectives of the final evaluation are self-contained, i.e., a full and comprehensive evaluation of the project is carried out.

The final evaluation had covered the different stages of project cycle, starting with the analysis of its design (logical framework, stakeholders’ participation, implementation agreements, institutional capacity of the executing agency, adequate approach to tackle the issue, risks analysis made and expected results formulation) and then its implementation (use of the LFA as M&E tool, planning, reporting, implementation agreements, adaptive management, roles of executing institutions, partners, UNDP and interactions with stakeholders); financing (budget execution,

annual planning, compliance with co-financing commitments, efficiency and effectiveness of expenditures made in order to meet the expected results); prospective and sustainability for results (risks and challenges) and finally impacts attained (according to GEF methodology).

Evaluation was also expected to address matters such as likeliness for replication and lessons learnt from project implementation.

The methodology used was the “Guidance for Conducting Terminal Evaluations of UNDP Supported, GEF financed Projects”, which estates the steps involved in the evaluation of GEF projects implemented by UNDP.

The final evaluation of the project consisted of a document review, including project document, contract, progress reports, minutes from steering committee, annual programing, UNDP country program, etc. Details for all documents reviewed can be found in Annex 5.

An evaluation matrix was also made and contained the questions which the evaluation was expected to answer. This evaluation matrix is shown in Annex 6.

Country mission was carried out afterwards (July 14-17, 2014, see agenda in Annex 2), where interviews were made with all project stakeholders (UNDP Program Officer, project team, DINAMA and UTE’s management, private sector and the NGO “ Uruguayan Environmentalist NGOs’ Network”. Interviews via Skype with the project’s RTA and UNDP country office Procurement Assistant were not possible (see interview details in Annex 3).

UTE’s facilities were also visited during the mission, with the aim of seeing some important works made by the project, i.e., the remodeled area for storage of equipment with PCB<500 ppm (Central Battle) and another building for storage of equipment with PCB > 500 ppm (Peñarol Site). Finally, before leaving the country, the evaluator made before stakeholders (UNDP, DINAMA, UTE), a presentation showing the preliminary results of the evaluation.

Regarding of project financial analysis, tender documents, contracts and financial statements provided by the project team and UNDP officials were reviewed.

The collected information was confronted with project activities and its progress to results and objectives, situations faced by the project team and solutions found by the project team in order to overcome the problem which arose.

Finally, the different stages of the project were rated according the scale elaborated by the methodology of GEF and showed in Table 1.

It has to be noted that the methodology used included a wide participation of main project stakeholders, who provided their views about the design, implementation and results of the project. These testimonies were confronted with documental evidence and, when this was not possible, it was tried to maintain for each message an adequate objectivity and analysis of contexts which could affect the project in its different phases of its life cycle and prospective.

Table N°1: Qualification Scale for project used by GEF

Relevance	Results, efficiency, M&E, implementation	Sustainability	Impact
2. Relevant ( <b>R</b> )	6: Highly Satisfactory ( <b>HS</b> ): Project had no shortcomings in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.	4. Likely ( <b>L</b> ): negligible risks to sustainability.	3. Significant ( <b>S</b> )
1. Not Relevant ( <b>NR</b> )	5: Satisfactory ( <b>S</b> ): There were only minor shortcomings.	3. Moderately Likely ( <b>ML</b> ): moderate risks.	2. Minimal ( <b>M</b> )
	4: Moderately Satisfactory ( <b>MS</b> ): Project had moderate shortcomings	2. Moderately Unlikely ( <b>ML</b> ): significant risks.	1. Negligible ( <b>N</b> )
	3. Moderately Unsatisfactory ( <b>MU</b> ): Project had significant shortcomings.	1. Unlikely ( <b>U</b> ): severe risks.	
	2. Unsatisfactory ( <b>U</b> ): there were major shortcomings in the achievement of project objectives in terms of relevance, effectiveness, or efficiency.		
	1. Highly Unsatisfactory ( <b>HU</b> ): The Project had severe shortcoming.		

### 1.3. Structure of the evaluation report

This report has six sections clearly defined. On its opening page a general project information is shown (financing, Id codes, both Implementing and executing agencies, timeframe, etc), followed by a glossary of terms and an executive summary where the reader will find a synthesis of the project, main findings, recommendations and conclusions, along the general rating for the project.

In the introductory section, scope and objectives for the evaluation will be found, as well as a detailed on methodology used and its main milestones.

Section 2 is focused in the country's development context analysis in regards of the subject that the project want to tackle, giving details on project implementation timeframe, immediate objectives, expected results and key indicators, as well as coordination associative arrangements made with the involved stakeholders.

In section 3, evaluation findings are shown, covering project design, implementation (financial and activities), results obtained and its sustainability.

In Section 4, project ratings will be found, whereas Section 5 shows all conclusions, recommendations and lessons learnt. Finally, Section 6 includes all annexes showing information on mission agenda, ToR, logical framework matrix, list of documents reviewed, etc.

## 2. Project Description and Development Context<sup>2</sup>

### 2.1. Development Context and Baseline situation of PCB in Uruguay

“Based on a ranking drawn up by Yale University and data from The World Economic Forum of Davos, Uruguay is place third out 146 countries in the Environmental Sustainability Index (ESI). It was the best placed country of MERCOSUR. The relatively stable social and economic situation of Uruguay in the Latin American Region has created an adequate framework for developing environmental policies in the medium and long term. The above plus its low industrial development, was decisive to classify the country as one of high environmental sustainability, close to Finland, Norway, Sweden and Iceland”<sup>3</sup>.

Since 2001, Uruguay is signatory of Stockholm Convention on Persistent Organic Compounds (POP), whose main global objective is to protect Human Health and Environment from damaging effects of these substances that prevail intact for long periods and moreover, these have the ability of being transported long distances by the atmosphere, water courses and soil.

The Convention also requires capacity strengthening for environmental management of contaminated equipment and wastes, PCB phase out, safety stock storage and elaboration of National Phase out Management Plans (NIP) for these substances<sup>4</sup>.

Within this context, the only POP substances in use in Uruguay are PCB confined in equipment for power generation and distribution of electricity, such as capacitors and transformers.

With the UNEP/UNDP/GEF support, the country elaborated in 2006 its National Implementation Plan (NIP), where main owners and quantity of PCB equipment were identified. The country’s main weaknesses in terms of regulations, management and control capacity for PCB and its equipment were also assessed. In addition, existence of capacity to identify, managing and disposal of PCB equipment and oils was found at the national electricity company named “National Administration of Power Plants and Electric Transmission Networks (UTE)”.

Uruguay had approximately 40,000 transformers in operation of which 95% were owned by UTE. However, during NIP elaboration, cross contamination in approx. 26,000 of transformers belonging to this company could not be determined, but an estimation of 4,000 to 6,000 of transformers could be contaminated with PCB levels below 500ppm. The remaining 5% would be dispersed trough 500 small and middle size companies consuming electricity in ranges of medium to high voltage. Regarding capacitors, no definitive information could be collected, but UTE could be one of the owners of this type of equipment. Only 24 capacitors - owned by 77 companies- out of 150 identified during NIP formulation, were declared as equipment containing PCB. Detection of PCB in this type of equipment is difficult due to its air-tight nature, therefore the enclosed vessel has to

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<sup>2</sup> Unless specifically mentioned in another reference, information of this section is based on the following documents: Medium Size Project Proposal: Request for GEF Project Funding “Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay”; GEF, 2007; and “Medium Size Project Document (MSP) “URU/08/G33-“Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay”; UNDP; PIMS 3563, May 2008.

<sup>3</sup> URUGUAY: COUNTRY STRATEGY PAPER 2007-2013; Annex 8, EUROPEAN COMMISSION, 10.04.2007 (E/2007/613).

<sup>4</sup> “Stockholm Convention on Persistent Organic Compounds (POP)”; UNEP, amended in 2009, see art. 1 and 5.

be drilled in order to make the PCB analysis, meaning this the disablement or destruction of the equipment.

Uruguay had a limited experience for PCB management, since the country had a shortage of infrastructure to properly handle equipment and its PCB content, no specialty facilities for final treatment and disposal was in place neither. In addition, the country did not have sufficient mechanisms for detecting PCB contaminated equipment.

The restricted experience for PCB management was in UTE, which had a program to handle PCB containing equipment (characterization, labeling, training, maintenance, storage and disposal). Between 1998 and 2007, UTE had exported about 113 tons of PCB to treatment plants located in the European Union.

UTE has its own workshops located in Montevideo, where equipment owned by UTE is sent for reparation, disposal or maintenance. On a sporadic basis, UTE also repairs equipment from third parties. The company made chemical analysis and classified the equipment according to its PCB content.

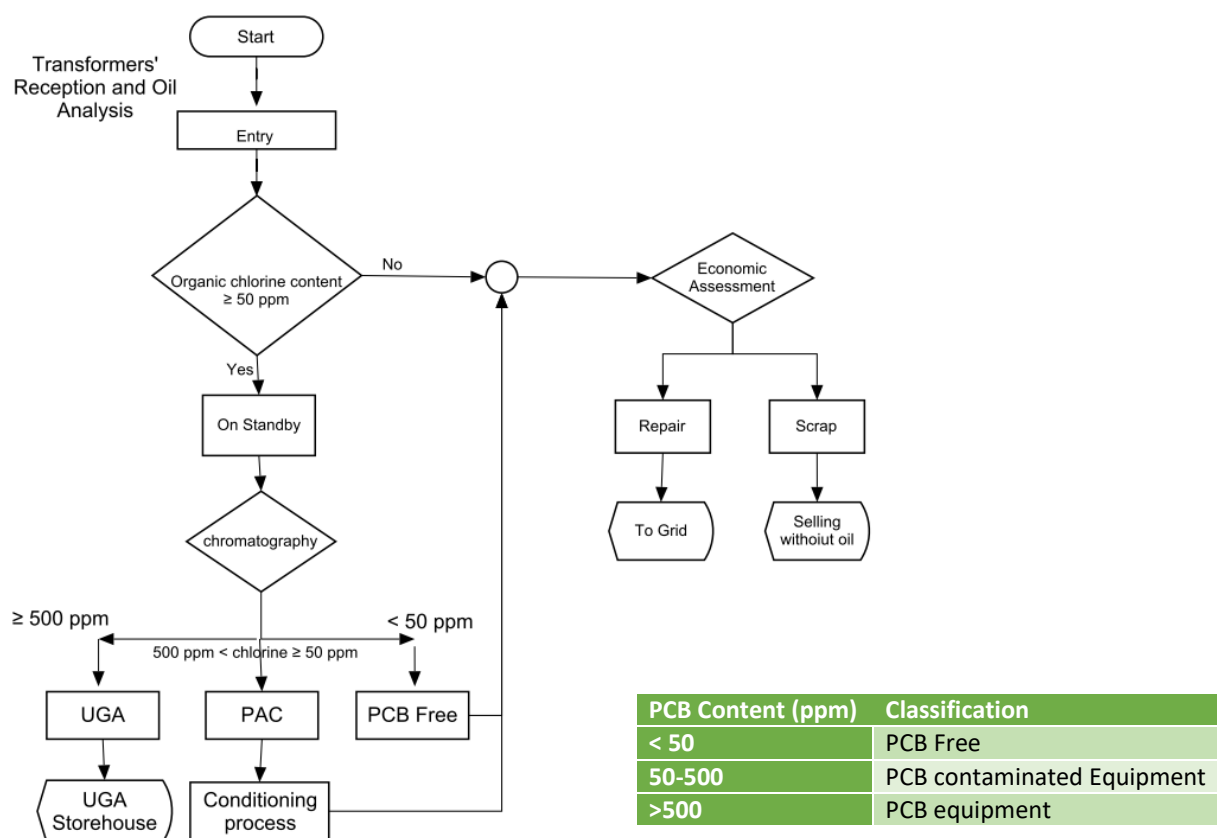
By 2004, UTE carried out its own pilot experience for treatment of 7,000 lt of dielectric oils containing 50-100 ppm of PCB, using de-chlorination technology (alkali metal reaction with PCB). Koshi S.A. was the company in charge of the treatment made at the facilities of Hidroelectrica Salto Grande.

With regards of private sector, there were companies making maintenance of transformers containing PCB, the main being Partiluz, Urutransfor, Ingener, SCR Ingeniería and Mantenimiento Especializado SRL. These companies analyzed the equipment, rejecting all of those with PCB in order to avoid cross contamination.

Regarding regulations, Uruguay has a general law for protection the environment (Law N° 17,283/Dec 2,000) that includes in its art.20, the ability of the MVOTMA to enact regulations for protecting the environment from adverse effects of chemicals' use. However, specific regulations to control inventories, characterization, handling, storage and final disposal of oils and PCB containing equipment were missing. In 2003, there was only a draft of regulation made by DINAMA, in order to control industrial, agriculture and livestock solid wastes. The draft stated that wastes' owners had to compulsory report to environmental authorities on the quantity, type, hazard level, handling and storage of its wastes.

As per 2003, there was a complementary regulation for chemical substances, such as that in charge of the Internal Affairs Ministry- through the Firemen Service- which deals with chemical emergencies. At the same time, firemen service is also responsible for verification of new buildings compliance with fire safety standards (Law 15,896, art- 3 to 6).

Fug. N°1: Management Schema for PCB equipment and its characterization made by UTE (see table)<sup>5</sup>



## 2.2. The Project

### 2.2.1. Project start and length

As a result of the NIP supported by UNEP/UNDP/GEF, the country could have a suitable diagnostic that was very useful for start planning of PCB's environmental sound management activities in the country<sup>6</sup>.

In this way, UNDP and Uruguay signed in May 2008, a contract for implementing a medium size project called "Development of the National Capacities for the Environmental Sound Management of PCBs in Uruguay", where UNDP acted as the Implementing Agency and the MVOTMA – through DINAMA-was the national executing institution.

Execution for the project was established as 2 years period (2008-2010) and it had a budget of US\$ 2,053,000, from which GEF funding in cash was US\$ 954,550 and Government of Uruguay financed US\$ 220,000. Total investment committed by UTE, as per prodoc, was at the level of US\$ 200,000, whereas in-kind funding was US\$ 878,850. Table N°2 shows the expected counterpart funding (in cash and in-kind).

<sup>5</sup> Schema provided by Project team

<sup>6</sup> During NIP preparation, it was not possible to have many conclusions on capacitors



Table N°2: Expected funding from GEF, GoU and other sources as per project document.

Source	Cash	In-Kind	Investment	Total (US\$)
GEF	954,550			954,550
GoU (MVOTMA)	220,000	272,350		492,350
UNDP		19,500		19,500
UTE		377,000	200,000	577,000
Coordination Center for Latin-America and the Caribbean for the Basel Convention		10,000		10,000
<b>Total</b>	<b>1,174,550</b>	<b>678,850</b>	<b>200,000</b>	<b>2,053,400</b>

### 2.2.2. Issues that project attempted to tackle

As it was mentioned in the previous section, at the moment of the project elaboration, the NIP identified the following issues related with the use and management of PCB in Uruguay:

- i. insufficient regulatory instruments for making an adequate management for these PCB substances and equipment containing them;
- ii. insufficient regulatory procedures for identifying contaminated equipment (mainly lack of analysis protocols, detection instruments, and training for technical personnel;
- iii. Pollution risks during maintenance operation for either, PCB containing or contaminated equipment;
- iv. Lack of a comprehensive inventory for equipment covering private and public sectors (mainly transformers and capacitors);
- v. Improper management and disposal of out of service equipment;
- vi. Lack of national infrastructure for either, sound environmental treatment or disposal of wastes contaminated with dielectric oils containing PCB;
- vii. Risks for human health and environment from potentially contaminated sites;
- viii. Insufficient capacity of public institutions and private companies for proper handling of contaminated equipment;
- ix. Lack of awareness and knowledge among companies using and/or owning equipment, about risks and country's international commitments.

### 2.2.3. Immediate and development objectives of the project

In order to correct the deficiencies found, the project focused in 3 immediate objectives:

- i) Remove the barriers that precluded the country's compliance of its commitments with the Stockholm Convention;
- ii) Reduce risks for human health and environment due to PCB use in Uruguay and;
- iii) Strength national capacities for a sound environmental management of PCB.

### 2.2.4. Expected Results

The following were the immediate results that the project wanted to attain:

- a) Install capacities for solving issues at country level by means of strengthening of institutions and infrastructure;

- b) Establishment of a PCB sound management system, including specific regulations for PCB;
- c) A detailed national inventory;
- d) Identify treatment and disposal options for PCB;
- e) Removal and final disposal of PCB containing equipment through demonstrative projects;
- f) Public awareness and proper training for technical personnel involved in PCB handling;
- g) A PCB National Management Plan;
- h) A replication plan in place- of national or international use-, for the PCB National Management Plan.

The above objectives were to be reach through the following actions:

- i) Participation of stakeholders by means of a project Steering Committee and work groups;
- ii) Improvement of the country's chemical analytic capacity for identification and monitoring of equipment, wastes and dielectric oils containing PCB;
- iii) Elaboration of a specific regulation for PCB management and its disposal and treatment (including handling, equipment maintenance, treatment and cleaning of contaminated sites and disposal);
- iv) Implementation of demonstrative projects of good practices, treatment and disposal of PCB inventory;
- v) Evaluation of alternatives for treatment of dielectric oils containing PCB between 50-2,000 ppm;
- vi) Remodeling a PCB storage site;
- vii) Making a PCB inventory at national level.

The project defined 5 results and a total of a 28 activities that should be reach in two years of implementation. A summary of the project is shown in Table N°3, whereas the detailed Logical Framework Matrix can be found in Annex 9.

Table N°3: Summary of the project, its outcomes and original budget.

Outcome	Description	N° of Activities	Budget approx. (US\$)
1	Coordination and monitoring	4	168,750
2	Institutional Strengthening, capacity building and development of a Sound Management System (SMS) of PCB, for authorities and PCB owners	12, with 2 intermediate results.	541,650
3	PCB management through demonstrative projects and practical implementation of the SMS.	9, con 3 intermediate results.	1,128,700
4	Elaboration of a National Management Plan for PCB base on demonstrative activities	2	12,500
5	Project closure and dissemination of results.	1	9,500

According to GEF standards, the project had a mid-term review in 2010, where the following comments and recommendations were made:

- ✓ Potential bidders for tendering process should have more information on UNDP purchase procedures, e.g., making workshops;
- ✓ The fact that 2/3 of the cash budget was linked to only 3 biddings (PCB exports, cleaning of contaminated sites and database for PCB), was identified as a risk for the attainment of the project objectives, since problems could arise in any of these activities, the whole project could be at stake;
- ✓ Incorporate more number of stakeholders and make an effort of getting the program more visible among the community;
- ✓ Make an effort in getting more support to project team, in order to take advantage of the experience gained in the implementation of similar projects in other countries;
- ✓ The EMT considered that uncertainties in the contractual situation of the project team and the lack of specific regulations for PCB as the main risk sources for project sustainability.

### 2.2.5. Main stakeholders

The main stakeholders involved in this project were UTE, DINAMA, the “Uruguayan Network of environmental NGOs”, the Chamber of Industry of Uruguay, private companies of electric maintenance equipment and other state institutions owning PCB containing equipment.

### 2.2.6. Baselines indicators established

The project document contained a series of indicators for both, results and activities. Table N°4 depicts a synthesis of the most relevant indicators.

Table N°4: Summary for the expected results and its main indicators.

<i>Result</i>	<i>Main indicators</i>
<b>1. Project Coordination and monitoring</b>	Project Steering committee established
	Workshop made for Project presentation and strategic consultation for PCB elimination.
	Defined criteria for contaminated sites' selection, projects' listing and priority sites.
<b>2.-Strengthening for Institutional and Regulations</b>	Number of Guidelines elaborated for sampling, analytic capacity, procedures for labeling and reporting of PCB containing equipment, prevention of unintentional leaks, good practices in maintenance, safety operation measures for transformers of 5-15 Kva.
	Elaboration of guidelines on strategic approaches for contaminated sites; pre-selection of sites for development of demonstratives remediation projects.
	Database elaborated for PCB and its equipment.
	Installed Chemical analytic capacity for PCB (detection equipment and training made)
	Elaboration of study for assessment of alternative for disposal of oils containing PCB levels 50-2,000 ppm
	Elaborated Regulatory framework proposal for PCB
<b>3.- PCB management through demonstrative projects and practical implementation of the environmental management system.</b>	Number of training workshops made for implementing the Environmental Management System for PCB.
	Number of sampled equipment with PCB and number of assessment of contaminated sites.
	Amount of equipment with PCB in inventory, including an estimated of capacitors with PCB.
	Withdrawn for PCB containing equipment scheduled
	Study made identifying potential temporary locations for PCB containing equipment.
	Signed Memorandum of Understanding with stakeholders and number of companies interested in building the facilities.
	Finished design for a modification of a storage site for PCB and accepted by UTE.
	Number of analysis made to PCB temporary storage facilities.

Result	Main indicators
4.-Elaboration of a National Management Plan for PCB based on demonstrative activities.	Finished assessment for PCB inventory.
	A National Management Plan elaborated and agreed among stakeholders.
5.- Project closure and dissemination of results.	Workshop made and number of participants.

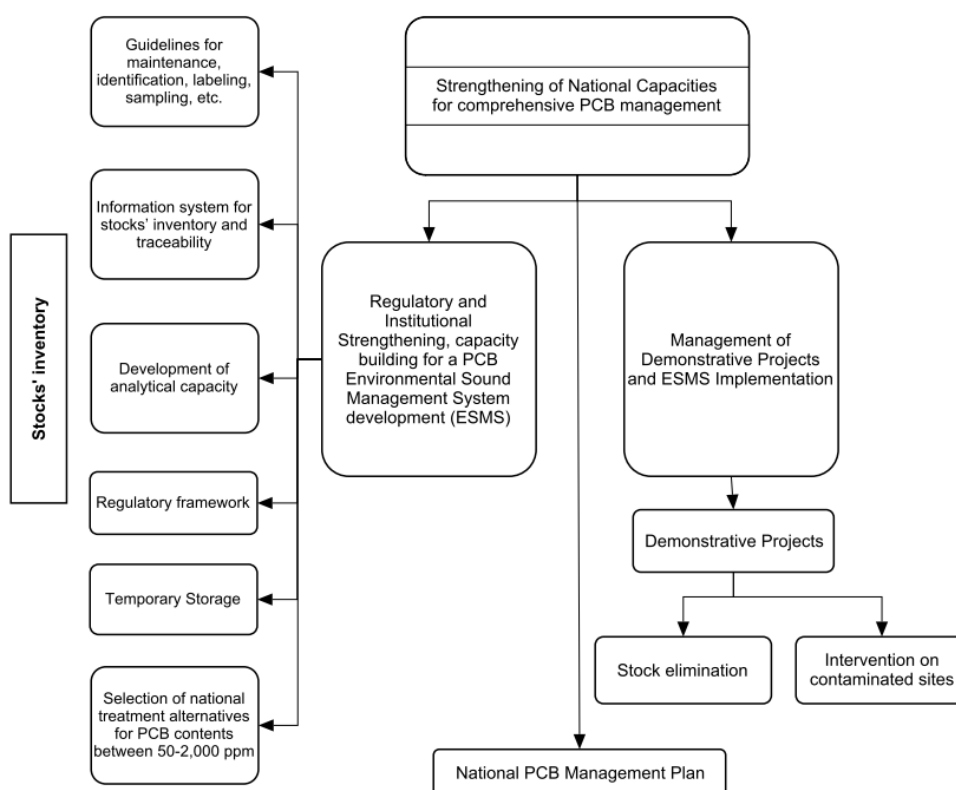
### 3. Findings

#### 3.1. Project Design and formulation

##### 3.1.1. Analysis of the Logical Framework

The design of the project was aimed to tackle a situation where no proper inventory for PCB and its equipment existed and insufficient regulations and technical and analytical skills for an adequate management of PCB substances were in place. In this way, the project concept was created and it is shown in Figure 2.

Exhibit 2: Project's Block diagram<sup>7</sup>



<sup>7</sup> Diagram provided by the Project Team

As a first note for the project design, it is that includes very ambitious objectives and activities (PCB phase out, cleaning of polluted sites, elaboration of specific regulations and settling of a management system for PCB), all of them to be reached in a short timeframe (2 years). The experience acquired by the evaluator for these type of projects is that technical components can have a straightforward implementation, but however, components including institutional aspects (such as regulations, project inception in the institutional framework and learning curve), will take considerable time to the number of actors and administrative processes involved.

With regards of the project logframe matrix, it can be mentioned that the expected results were not formulated according to “language of change”, i.e., a statement of a final situation that the project wants to establish. Instead of that, the results are shown as project components (in some cases are shown as products) which include a series of activities that had to be executed.

The project indicators comply with the “SMART” criteria, i.e., they are specific, measurable, easy to obtain, pertinent and are considered in a given timeframe.

With regards of the project’s incremental cost determination, it is not possible to comment so much on it, since the figures shown in the project document do not clearly show the way on how this costs were calculated.

### 3.1.2. Assumptions and Risks

The project logframe identified different risk situations, among which the most relevant are lack of government commitment for developing a sound management for PCB, enforcement of a regulatory framework and lack of interest from key stakeholders.

Fortunately and as it will be shown in further sections, none of this sort of short commitment or interest was observed (DINAMA appointed the project team as staff, and it created an internal waste division and enforced a decree for controlling industrial solid wastes; and UTE continues making use of its proper management procedures for PCB contaminated equipment); and key stakeholders participated in the project (mainly DINAMA, UTE and other organizations from public sector). However, there was a lack of interest from the private sector (only one company disposed its inventory of PCB), but it did participated in the training workshops organized for technical personnel from the sector.

Some important assumptions were not the case in reality, such as one that prices for final disposal were going to be constant in time and that regulations would be in place during project implementation, boosting both a detailed inventory for PCB and the implementation of its management system.

There was another issue not envisaged during the project design phase: the complexity and difficulty of making exports of PCB, where shipment companies played a crucial role, since in some occasions rejected transport for this type of cargo.

### 3.1.3. Lessons from other relevant projects

One of the key aspects of project design was its ability of taking advantage of previous experience of UTE in eliminating PCB contaminated material and its management system for this type of equipment. It was also a very good move to let UTE participating since the very beginning in the NIP and project formulation, thus aligning in a decisive way this institution with its interest in providing financial and human resources in order to boost PCB phase out and improve its

management of contaminated equipment (characterization, decommissioning, storage and exports).

It has to be noted that this project is under the umbrella of the National Implementation Plan for POPs, which establishes priority goals and activities to allow country compliance with its commitments under the Stockholm Convention.

#### 3.1.4. Replication Approach

Perhaps, replication at local, national and international level was one of the least elaborated project components. In fact, only one closing workshop for showing project results was envisaged. No awareness activities, dissemination campaigns nor coordination with either local or international actors were included, and the allocation of only US\$ 1,500 confirm this statement.

#### 3.1.5. UNDP comparative advantage

The national execution (NEX) was the chosen modality for implementing this project, where UNDP provides its financial service support, procurement experience and specific consultancy services when requested (search for both local and international experts). In addition, through its local program officer and the regional technical adviser (RTA), UNDP makes the follow up, provides expert advice on project implementation and suggests changes when appropriate.

MVOTMA through DINAMA, in turn, carries out the project's everyday management and puts to its service the needed infrastructure, technical support and regulatory capacity in order to achieve the project objectives.

The national execution is perhaps, the most suitable way for creating institutional capacities and knowledge transfer to countries, in spite of its implementation is slower than desired, but at the end, the capacities obtained stay in the country, thus augmenting chances for both replication of the experience in other fields and in sustainability of the results achieved.

With regards to UNDP comparative advantage, the most relevant is that it is physically settled in the country and part of its professional staff is local, thus endowing understanding of culture, operation of local institutions and economy and country perspective. Besides, as UNDP makes activities in other projects and has global experience in the design and implementation of projects in other countries, it is able to properly understand the reasons by which some procedures, approaches and practices work in one place, but not necessarily in another.

Lastly, the UNDP/GEF prodoc clearly shows the roles of each participant and the main project milestones.

### 3.2. Project Implementation

#### 3.2.1. Project Activities

As it was mentioned before, the project should have a duration of only 2 years, but since its ambitious goals and complexities found during its implementation, it was extended by four more years, being this extension a more realistic window to reach the proposed goals. The activities made and the obtained products are shown in Table N°5, where it is also shown the progress for the desired products. This section will not discuss the achievement of results, since this can be later found on this report.

In summary, various activities were reworked into one, such as the guidelines, where the content of some of them specified in the logframe was presented in fewer guidelines.

Other activities like the study of temporary storage locations and its environmental monitoring were cancelled. This decision was taken by the project steering committee, since the number of the existent equipment could be stored at UTE facilities, thus a known existent storage site was prioritized for remodeling in order to be used as storage area.

The amendment of the regulatory framework was also cancelled and it was replaced by a complementary regulatory proposal of Decree 182/2013 on industrial solid wastes that entered into force in 2013. This proposal is expected to be integrated into above mentioned decree, before end of 2014, due to its enactment would be much easier than elaboration of a totally new decree.

From completed activities, it can be mentioned that those corresponding to Result N°2: Institutional Strengthening and Capacity Building were successfully completed, thanks to equipment purchased for DINAMA and UTE, that are currently making sample analysis at its labs. An analytical procedure was also defined and it was standardized by both entities, thus test results made are fully comparable.

The alternative for elimination of PCB contaminated oils performed at the UTE's thermoelectric facility Central Batlle was assessed. The method used by UTE for elimination of oils with PCB<50 ppm consisted in a mixture of these oils with fuel that was burnt in the boiler for electricity production. In this activity, measurement of air emissions from the boiler were made, showing that pollutants' stack emission were lower than limits permitted by current regulations.

For Result N°3, 8 training workshops were held for technical personnel involved in maintenance and handling of PCB containing equipment. These workshops rose awareness on issues of Stockholm Convention, country commitments and showed handling and sampling of contaminated equipment. 150 technician from UTE, DINAMA and private electrical equipment maintenance companies were trained.

UTE made a sampling of 4,000 transformers after these workshops, in order to verify its equipment's PCB content.

With regards of identification and cleaning of contaminated sites, it was opted to cancel the study for temporary storage locations and its environmental monitoring. The reasoning for this decision was that it was better to choose a site that had a high likelihood for PCB contamination and carry out on this place the determination of PCB levels and cleaning.

Thus, the demonstrative activity of site cleaning was reworked and it was decided to make in the UTE's Peñarol site, place where PCB equipment was stored for decades. There were two unsuccessful bidding processes, because of the requirement for using a specific methodology in tender documents and whose cost was beyond of the project budget.

According to the project evaluator, putting priority of a high resolution PCB detection method for identification of the 219 PCB congeners, over a simpler, but more restricted method in PCB range detection (EPA Method 8082, useful for the approximately 17 most common PCB congeners), resulted in a very high entry barrier for new bidders, since local capacity was scarce and the costs for the analysis were too high for the project budget. This hypothesis is refuted by the project team, since is not clear to them that costs are higher, because the economic offer from the other

company which did not comply with requirements for experience, is unknown. In any case, international literature on high resolution methodology exists<sup>8</sup>, and indicates that its cost is higher than low resolution method, thus, there is a reasonable presumption for concluding that a higher requirement shall have an impact on bidders' price.

Currently, the project team is in the process of signing an agreement between MVOTMA and the Technological Laboratory of Uruguay (LATU), with the aim of this last one makes the activity. It's expected to start the administrative process during the present year and implementation by 2015.

The database for the PCB inventory was completed and consisted in two interconnected modules (one for DINAMA and other for UTE). Database population was made with the data from UTE only, since actually there is no reporting requirement for private owners of PCB equipment. In any case, according to the estimates, UTE owns approximately 95% of the country's PCB containing equipment and therefore, the main part of the inventory shall be in the process of implementation. On the other hand, it's expected that the complementary regulation will be enacted by DINAMA before end 2014.

The activity of PCB elimination was successful and a cargo of 125 tons of oils and PCB containing equipment plus 8 tons of expired pesticides was shipped to treatment facilities located in Europe. Main waste exporters were UTE (approx. 60%), OSE, FANAPEL and BHU. This activity faced a critical issue when shipping companies refused the cargo at the last moment, but the project team managed before seaport authorities and shipping countries to finally make the PCB export. However, there was a penalty in the prices for transport, which were higher than those originally quoted.

On the other hand, in order to become the waste export as a viable process, DINAMA had to make signed agreements with each individual waste owner, with the aim of keeping the waste management responsibilities for each one of them. In addition, individual contracts had to be made between the company in charge of coordinating the exports and waste's owners. Finally, a total of 3 loads of containers with PCB were shipped.

For results N°4 and N°5, DINAMA hired a consultant to elaborate the National Management Plan for PCB and it is expected to be finished and ready for discussion with key actors by end of 2014. This activity shall coincide with the implementation of the Final Workshop for disseminating project results.

Concluding this section, there are some activities in progress that will probably require a new and necessary extension of the project for at least 6 more months, since the chemical characterization and cleaning of the Peñarol site will take some time if PCB contamination of soil is found. It is also pending owners' PCB reporting, enactment of the decree 182/2013 complementary regulation, the elaboration and discussion of the National Management Plan for PCB and the final workshop where project results are presented and discussed with the stakeholders.

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<sup>8</sup> "DRAFT RSET WHITE PAPER #8 – PCB Analytical Methods"; CHEMICAL ANALYTE LIST SUBCOMMITTEE, T.Thornburg, Chair, (tthornburg@anchorenv.com); August 15, 2004.



Table N°5: Summary of the final situation of project activities.

<i>Result</i>	<i>Action to be implemented</i>	<i>Final Project situation (2014)</i>
<b>N°1: Coordination &amp; Monitoring</b>	Establishment of the Project Steering Committee (PSC)	Regular: PSC established in 2008, but its sessions are not systematic, due to lack of interest of some key actors (NGO and private sector) and that the same actors participate also in the technical committees. The PSC was-in practice- replaced by technical committees that work properly and evaluate the progress of the Project.
	Consultative workshop on national strategy approach for PCB phase out	Completed: strategy was made public to stakeholders in a kick-off workshop and exchanges of views were made (2008)
	Update of project activities	Completed: activities are monitored on regular basis and updating is made according to decisions taken in PSC, technical committees and consultations with actors.
	Selection of demonstrative sites for remediation.	Completed: a Schedule and criteria for elimination of PCB contained in equipment were elaborated and it was decided to choose only one site for cleaning (Peñarol).
<b>N°2: Institutional strengthening and capacity building for developing a sound environmental system for PCB.</b>	Development of guidelines and procedures for PCB handling, sampling and analysis and creation of analytical capacity.	Completed: 5 technical guidelines were elaborated (sampling procedures for transformers, containers and capacitors), guidelines for equipment labeling, PCB analysis, handling, storage and transportation.
	Database for a PCB inventory, with the aim of supporting regulations to force users to report its inventories.	Regular: 2 database modules were made (one for DINAMA and other for UTE). These modules are operative, but as no compulsory regulations for PCB equipment reporting exists, the database is populated only with data from UTE.
	Development of analytical capacity (purchase of analytical instruments).	Completed: 2 gas chromatographs (GC) were bought and coupled to an electron capture detection system (ECD). These equipment are installed in DINAMA and UTE, where routine analysis for different matrixes (soil, water and biological tissue) are performed. Analytical methods are standard for both labs.
	Assessment of disposal for oils with PCB levels between 50-2,000 ppm.	Completed: monitoring for emissions from PCB oils incineration at the UTE's thermoelectric Central Batlle boiler. The study showed that dioxins and furans' emissions are within international accepted levels.
	Regulatory framework amendment.	Canceled: as there is no a specific regulatory framework in place, this amendment shall be replace by a complementary regulation in line with decree 182/2013.
<b>N°3: PCB management</b>	Training workshops for technical personnel, on	Completed: 8 workshops were made, where 150 technicians were trained on theory and practice of PCB sampling.

<i>Result</i>	<i>Action to be implemented</i>	<i>Final Project situation (2014)</i>
<b>through demonstrative projects and its practical implementation</b>	practical implementation of the PCB management system.	
	Determination of PCB levels on 4,000 equipment belonging to UTE. Total sampling universe of equipment was of 26,000.	Partial: 4,000 UTE's equipment were sample for PCB.
	PCB determination for contaminated sites.	Partial: one site for analysis was defined (UTE's Peñarol site). There were 2 failed bidding processes, because of the requirement of the use of a specific methodology in tender documents. This requirement had costs too high for the project budget. The team is currently in the process of negotiating with the Technological Laboratory of Uruguay (LATU), in such a way that this last one being the entity who carries out the activity through an agreement with MVOTMA. It's expected that the administrative process starts this year and implementation by 2015.
	Development of a detailed inventory of PCB containing equipment, showing composition, condition and location.	Partial: database elaborated, but there is no specific regulation requesting PCB equipment owners to report its inventory. Project team has a proposal of regulation which will be a complement to decree 182/2013, where a compulsory requirement for reporting is included.
	Study for identification of potential temporary locations for PCB storage.	Canceled: this activity was removed, according the decision of remodeling the UTE's storage location (this activity is described below).
	Remodeling of a temporary storage location at UTE.	Completed: an agreement was made with the Ministry of Transport and Public Works, in order to implement the UTE's storage site.
	Development of an environmental monitoring at temporary storage locations.	Canceled: this activity was related with the study for locations that was canceled. UTE's storage site was prioritized.
	Decommissioning and disposal projects for PCB equipment and oils.	Completed: 125 tons of PCB containing equipment and oils plus 8 tons of pesticides were exported for elimination. Stakeholders exporting were UTE (approx. 60%); OSE; FANAPEL and BHU. This activity was at stake due to shipment companies refused to load the cargo at last minute notice. The export could be finally made thanks to team's handling on the situation before both, seaport authorities and shipment companies, but there as an important price penalty for the waste transportation. In addition, DINAMA had to sign individual agreements with every waste owner in order to keep each one's waste handling responsibilities and the company in charge of the exports had to sign contracts with every waste owner.
	Contaminated site cleaning.	Partial: the activity was re-defined in order to focus on UTE site (Peñarol), on which a detailed

<i>Result</i>	<i>Action to be implemented</i>	<i>Final Project situation (2014)</i>
		characterization will be made. First bidding failed because of the requirement of a very costly analytical methodology included in tender documents. A new bidding will be made by second half of 2014 and implementation will probably take place on first half of 2015.
<b>N°4: Elaboration of a National management Plan, based on demonstrative activities.</b>	PCB Inventory estimation	Partial: pending until specific regulations for PCB are enacted.
	Management Plan elaborated and agreed among stakeholders.	Partial: DINAMA hired a consultant to elaborate the Plan. It's expected to be ready for discussion finished by second half of 2014.
<b>N°5: Project closure and dissemination of results.</b>	Final project workshop.	Pending: workshop will be implemented once the management plan is elaborated. This workshop it's expected by second half of 2014. The Project team should decide if Peñarol site cleaning will be made or not.

### 3.2.2. Adaptive Management

Since project approval in 2006 until 2014, the economy of the country and the environmental institution undergo significant changes. In fact, between 2008 and 2013, direct foreign investments increased as never before, from 2.8% (2001-2004) to 6% of GDP for 2005-2001, accumulating 32% of GDP in 2011. Main investments sectors were construction, agriculture, forestry and manufacturing industry, all of them having a high environmental impact potential.

These investments gave rise to mega-projects such as the cellulose plant “Montes del Plata” (US\$2,600 million) and the mining project “Aratiri” (US\$ 3,000 million). The large amount of investment projects resulted in a high work pressure for DINAMA, for instance, for the period 2011-2012 applications for “Previous Environmental Authorization” doubled those for the years 2009-2010<sup>9</sup>.

As a result of the above mentioned situation, DINAMA undergo an extensive internal restructuring in order to confront the challenge of making an efficient and modern management that ensured the sustainability of the investment projects being under implementation in the country.

This restructuring meant that the project team was settled in the Solid Wastes and Substances’ Department, located at the Environmental Planning Division. At the same time, the team changed its contractual bond conditions, being currently part of DINAMA’s staff. These reorganization processes usually mean changes in the institutional structure, procedures and duties that officials have to accept, producing confusion and uncertainties in the beginning and affecting the institutional performance.

Within this context, the project team could make a coordinated management and frequent consultations with other structure’s DINAMA officials, mainly from legal and control’s departments. At the same time, the project had components providing infrastructure for improving the DINAMA and UTE analytic capacities (purchases of equipment for laboratory and training), thus making a straightforward project institutional insertion, since its activities were functional to the more wide DINAMA’s goals.

The project team implemented several workshops and consultations with DINAMA’s internal stakeholders and main external interested parties, such as the Industry Chamber of Uruguay, Ministry of Health, the Estate Water Utility Company and UTE, in order to update project activities and re-adequate them to current needs of these different stakeholders.

An example of a clear and successful adaptive management, was the export of equipment and oils contaminated with PCB to treatment plants of Europe. In this case, the project team had to tackle the last minute’s refusal of shipment companies to load the cargo and-at the same time- to deal with the difficulty of actors not prone to take responsibility for other owner’s wastes shared in the same ship. The solution for the last situation was the elaboration of written agreements with each of wastes’ owners involved in the PCB exports, where each individual took responsibility for its own cargo. In addition to above, the project team made the formalities before seaport authorities and shipment companies for convincing them to transport the requested cargo. Both activities resulted in a successful exportation of 125 tons of PCB containing wastes for treatment in Europe,

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<sup>9</sup> “Programa de Modernización de la Institucionalidad para la Gestión y Planificación Ambiental” (Préstamo 1886/OC-UR, UR-L1033), BID, Evaluación Final, Romina Ordoñez, Julio, 2013.

making the exports an awareness milestone and a success for the project, since this activity was almost 40% of its budget.

There is also another good practice of adaptive management: as the specific PCB regulation proposed by the project team was too comprehensive and contained complexities in its implementation and control, it was decided to simplify the proposal and put it under the umbrella of a new wider regulation on industrial solid wastes (Decree 182/2013: “Solid Wastes and Alike Management Rule”). A complementary regulation to decree 182 for controlling owners of PCB containing equipment, is expected as a result of this approach.

With regard of the general adaptive management of the project, it can be noted that project team made consultations to all interested parties and additionally all issues were discussed in the coordination committee and work groups, thus given as a result the merging of some technical guidelines’ contents, updated implementing schedules and changes for ToR of some project consultancies. It is necessary to note that adjustments made to project activities did not mean changes in project design nor its objectives, but changes responded to the general implementation context of the project and to the need for updating some project components in order to insure the applicability and relevance of the project within DINAMA and UTE.

### 3.2.3. Partnership Arrangements

In order to implement the project, agreements were made with key stakeholders owning PCB equipment and from inside DINAMA (analytical laboratory, Control Division, Legal Advisory and Planning Unit), along with consultations and participation of other government bodies such as Ministry of Health and the water facility state company.

The project Steering Committee and the technical working groups consisting of government officials and private sector were also established, thus all interests and views on the subject were represented.

One of the main project features is that the technical part rests mainly on early UTE’s internal experience on exports and handling of PCB containing equipment. In this case, the project had a key catalytic role of acceleration of PCB phase out which was already in progress at UTE’s.

### 3.2.4. Monitoring and Evaluation: design at entry and implementation

In the course of the almost 6 years of project implementation, reporting tools, activity planning, budgeting and the logframe matrix were used in order to verify the project progress and challenges found during its execution.

Activities, results and its respective indicators were specified in the project design phase. However, many of these indicators are representative for products, such as number of technical guidelines made and employees trained, meeting minutes, etc. There were not indicators for results, such as number of workers implementing good practices in its daily work, or supervisions made on disposal centers, or number of companies reporting its PCB inventory on DINAMA’s database or number of management plans elaborated by PCB owners.

Among the monitoring tools used by the project, it can be found the Project Implementation Reports (PIR), Annual Project Reviews (APR), POP’s tracking tools, Operative Annual Plans and Annual Work Budgets. It’s also noted from project steering committee minutes, the use of the logframe matrix for planning and activities’ updates in order to fit the reality of the country and

the involved institutions. Critical changes, i.e. for objectives and results are not observed during the process of activities' adjustments.

The project steering committee met only 4 times (until 2010) in 6 years of implementation, whereas the technical working groups had meetings on regular basis, where the progress, merging or elimination of activities, and all logistics and technical aspects were evaluated.

The reasons by which the steering committee did not have the desired management role, was due to the fact that its members were also part of the technical workgroups, thus a merging of both bodies was made. This overlapping of roles was also produced by the weak participation in the steering committee of the non-governmental actors (NGO) and private companies. The interviews with these late actors revealed that the NGO had a period of restructuration that prevented its active participation in the project activities, but it was interested in participate in future activities of the project, especially in awareness among communities where the NGO has access.

At the same time, interviewees from private sector explained that information about the project was disseminated among its member companies, but not much feedback was obtained. The non-existence of a regulation compelling companies to be concerned about the subject was mentioned as a possible cause of private companies' indifference.

It should be noted that both, the electric equipment maintenance companies and the Chamber of Industry of Uruguay participated as beneficiaries of the training workshops organized by the project.

### 3.2.5. Project Finance

The GEF project had a budget in cash ascending to US\$ 1,174,500; from which US\$ 954,500 were from GEF and US\$ 220,000 were a contribution from MVOTMA. In the same way, UTE committed US\$ 200,000 in investment for project activities (remodeling of the storage location for equipment with PCB levels < 500 ppm, implementation of a PCB database, characterization of PCB containing equipment and analytical equipment purchases).

In addition, contributions in kind were as shown in Table N°6: US\$ 272,500 (government); US\$ 377,000 (UTE); US\$ 10,000 from the Basel Convention Coordination Center for Latin-America and Caribbean (BCCCLAC), and US\$ 19,500 from UNDP. Therefore, the total project financing was US\$ 2,053,400 for two years of implementation.

Table N°6 also shows the detailed committed co-financing and what was the real contribution from each involved party.

The first comment that arises is that the cash project co-financing from government and UTE was at the level of US\$ 436,000, since UTE transferred funds for US\$ 216,000, thus cash resources for the project were of US\$ 1,390,050. Transfers made by UTE replaced the US\$ 200,000 committed for investments, being these last ones implemented with project funds. Thus, it can be concluded that the promised cash co-financing was exceeded by US\$ 216,000 and that UTE investments were made with these cash funds; and also the investments for US\$ 200,000 were also fulfilled, with a positive balance of US\$ 16,000 for the co-financing funds.

Table N°6: Co-financing made as per July 2014 (thousands US\$)

Type/Source	UNDP			Government			UTE			Basel Convention Coordination Center for Latin-America and Caribbean (BCCCLAC)		
	Planned	Real	%	Planned	Real	%	Planned	Real	%	Planned	Real	%
<b>Cash</b>	0	0		220	220	0%	0	216		0	0	
<b>In kind</b>	19,5	S/E		272,35	S/E		377	S/E		10		
<b>Investment</b>	0	0		0	0		200	0		0	0	
<b>Total</b>	<b>19,5</b>	<b>0</b>	<b>0</b>	<b>492,35</b>	<b>220</b>	<b>0</b>	<b>577</b>	<b>216</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>0</b>

S/E: no estimates yet. These are in kind contribution which have not been valued yet.

According to figures provided by the project team, fund disbursements still pending are as follows: US\$ 211,089 for contaminated site cleaning, US\$ 15,000 for international consultants, US\$ 50,567 for PCB wastes' exports and US\$ 4,500 for the elaboration of the PCB National Management Plan. These disbursements shall be effective by 2014.

Regarding to in kind contributions from UTE and UNDP, there have not been calculated yet. However, it estimated that contributions in kind and investments made by UTE exceed those committed, since UTE financed part of the costs of labor and material used for exterior, interior and ground painting of the temporary storage location; and besides the overtime paid to personnel who made the PCB equipment sampling (approx. 4,000 transformers) was at expense of UTE, and elaboration of the PCB database module was made by its own personnel.

The project leveraged additional funds as well, estimated at the level of US\$ 75,000, because the company in charge of coordinating the PCB waste exports added at its own expense, 20 tons of contaminated equipment, this totalizing a total exports of 125 tons of equipment and oils containing PCB.

According to records obtained from the UNDP accounting system (Atlas) and the reported expenses of the project team, disbursement rates for 2008-2014 were reviewed, whose results are shown in Table N°7 and Exhibit N°3. Expenses showed in the figure include committed disbursements for 2014.

Exhibit N°3 and Table N°7 are based on expense categories (administration, strengthening , demonstrative activities and others) instead of project components, thus a clearer view of the project budget related to consultancies, investments and equipment purchases can be obtained. The item "others" contains all expenses less than US\$ 10,000.

As mentioned before, the first 3 years had slow disbursements, mainly due to failed bidding processes (bidders tried to change prices in some occasions; made mistakes in formal bidding aspects and ToR have contributed to rise entry barriers with requirements which have been the source of discussion within DINAMA).

Main expenses made for the first triennium (2008-2011), are related with the technical guidelines elaboration, awareness workshops and purchases of analytical equipment for PCB detection in contaminated equipment, dielectric oils and other matrixes, mainly in soils.

For the term 2012-2014, more disbursement rates are observed, and are related with the PCB waste exports (US\$ 464,000); environmental monitoring at the Batlle thermoelectric plant owned by UTE (US\$ 80,000) and the remodeling of the PCB storage location (US\$ 54,000).

Disbursements for contaminated site cleaning (US\$ 211,000); international consultancies (US\$ 15,000) and an exports' remaining balance of US\$ 21,500 are still pending.

An aspect which is necessary to remark is the fact that expenses allocated to project personnel was substantially decreased from 2012, due to the project team is currently hired by DINAMA (a chemical analyst plus 3 professionals in charge of the project implementation).

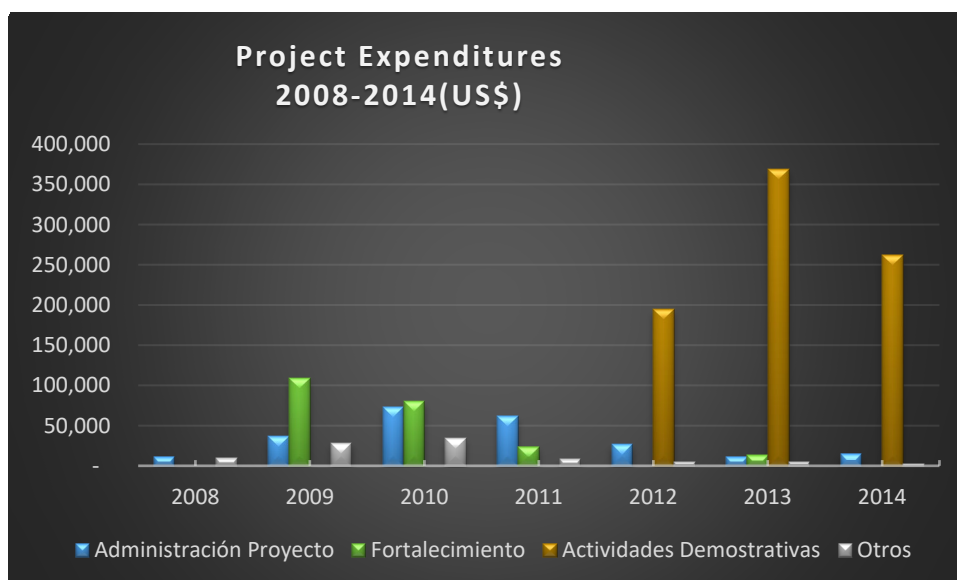
In summary, making the global project data analysis, the following figures for cash expenditures are shown in Table N°7, including pending disbursements for 2014 (in red in table).

Table N°7: Project total expenditures, including pending disbursements.

Item/Year	2008	2009	2010	2011	2012	2013	2014	Total
<b>Project Administration</b>	<b>11.019</b>	<b>37.109</b>	<b>73.111</b>	<b>61.906</b>	<b>27.191</b>	<b>11.055</b>	<b>15.000</b>	<b>236.392</b>
Personnel & local consultants	6.903	30.993	49.716	59.719	22.989	8.525	-	<b>178.844</b>
Transport tickets & daily allowances		2.757	2.919	748			-	<b>6.423</b>
Office material	2.316	3.276	2.607	1.439		2.531	-	<b>12.169</b>
International Consultants	1.800	83	17.870		4.202		<b>15.000</b>	<b>38.955</b>
<b>Strengthening</b>	<b>-</b>	<b>109.940</b>	<b>80.358</b>	<b>23.838</b>	<b>-</b>	<b>13.255</b>	<b>-</b>	<b>227.391</b>
Equipment and Analytical supply	-	105.910	52.931	-	-	-	-	<b>158.841</b>
Workshops & Publications		4.030	10.740			6.104		<b>20.873</b>
PCB Database			16.687	23.838		7.152		<b>47.677</b>
<b>Demonstrative Activities</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>194.588</b>	<b>368.936</b>	<b>261.656</b>	<b>825.179</b>
PCB waste exports					45.000	368.936	<b>50.567</b>	<b>464.503</b>
Environmental Monitoring Central Batlle					79.861			<b>79.861</b>
Site Cleaning							<b>211.089</b>	<b>211.089</b>
Storehouse Remodeling					69.727			<b>69.727</b>
Others	9.273	28.921	34.754	8.491	5.214	4.921	<b>2.917</b>	<b>101.537</b>
<b>Total</b>	<b>20.292</b>	<b>285.911</b>	<b>268.580</b>	<b>118.073</b>	<b>421.581</b>	<b>780.359</b>	<b>541.229</b>	<b>1.390.500</b>



Exhibit N°3: Expenditures' progress for Project cash expenditures, including remaining funds for 2014.



As a conclusion for the project financing aspects, it can be noted that co-financing funds provided by the government of Uruguay (DINAMA, UTE), exceeded those committed by almost US\$ 216,000; being these US\$ 216,000 a replacement for the US\$ 200,000 investments committed by UTE. These funds were used for project works, thus complying with UTE's investments for an equivalent of US\$ 200,000.

In kind contributions have not been exactly assessed yet, but it's estimated that are higher than those committed and have included specialty workforce, overtime and payments for construction works.

The expenditures are directly linked to the attainment of the objectives and project goals, being the most important ones the PCB elimination (US\$ 464,000), institutional and analytical capacity strengthening (US\$ 180,000), project administration and support of key consultancies (US\$ 231,000).

These funds are allowed the country to count today with human capacity and knowledge on control and management for PCB, along with a global environmental improvement thanks to the elimination of 125 tons of PCB and 8 tons of banned pesticides. Funds also installed an initial momentum for the country's permanent preoccupation on the PCB subject.

### 3.2.6. Coordination for implementing and execution

Main project actors were UTE, DINAMA and UNDP. One of the activities of UNDP was the administration of project funds through its accounting system, along its advisory role to the project team on procurement rules and good practices in order to ensure successful bidding processes. UNDP has a strong control over procurement processes, where those of more than US\$ 100,000 need approval from UNDP Advisory Committee on Procurement (ACP).

Besides of its project supervising role, UNDP was also in charge of the project independent financial audit, midterm and final evaluations.

On the other hand, UNDP provides project team with a Regional Technical Advisor (RTA) located in Panama, who shares with the project team the experience of other similar projects implemented in other countries. The RTA also provides information on relevant PCB experts, being the country office in charge of channeling this RTA support to the project team.

The RTA is also the link between GEF and the country and had the mission of reporting the progress on project implementation before different GEF's bodies.

The UNDP country office also makes activities to facilitate agreements among the different stakeholders and makes available to the project team its prestige as United Nation agency and its infrastructure. UNDP also monitors the project and participates in coordination meetings, providing qualified professional for these sensitive tasks.

According to the interviews, there is a good perception among stakeholders with regards of UNDP role in this project, but a closer interaction between the RTA and the project team was suggested.

### 3.3. Project Results

#### 3.3.1. General Results (attainment of objectives)

According the evaluation methodology for GEF financed projects after Cycle 4 and on, project results should be reviewed with indicators and relevant monitoring tools.

The result of the analysis is shown in Table N°8, where the project final situation regarding its objectives and desired results compared with its base situation (2006) is displayed.

Table N°8: Summary of project's progress to attainment of its objectives.

Project Purpose: to contribute to health and environment risks reduction from the use of PCB in Uruguay.						
Goal/Objective/Result	Performance Indicator	Baseline (2006)	Goal at Project ending (2010)	Current Situation at Project ending (2014)	Final evaluation Comment	Rating
<p><u>Objective:</u></p> <p><i>Strengthen national capacities for the sound environmental management of PCB.</i></p>	Improved Analytical capacity for PCB detection; strengthened national capacity for PCB management.	In 2006, the country did not have an adequate analytical capacity (proper number of equipment, no standard procedures for sampling and analysis); and certain pollution and health risks existed as a consequence of the improper handling of equipment and PCB containing oils. No relevant PCB inventory for contaminated equipment, nor regulations for controlling were in place neither.	At project end, an extensive sound environmental management system for both authorities and PCB owners will be developed.	Currently, the country has a proper analytical capacity to reliably detect PCB, and acquired and developed knowledge on good practices for PCB handling and it also knows alternatives for disposal of these wastes. Eventually, the country enacted a general regulation for controlling industrial solid wastes (including PCB contaminated equipment) and is preparing the enactment of resolutions and/or specific instructions for PCB as a complement to the general regulation. In addition, the country is preparing its PCB National Management Plan and a demonstrative project for PCB detection and cleaning of a contaminated site, for further discussion with key stakeholders.	In spite of there is project activities still pending for implementation, the country already has an adequate basis for making a reliable management of its PCB wastes.	S

Goal/Objective/Result	Performance Indicator	Baseline (2006)	Goal at Project ending (2010)	Current Situation at Project ending (2014)	Final evaluation Comment	Rating
Result N°1: Project coordinated and monitored.	Project Steering Committee (PSC) established, work plans agreed with stakeholders, development of a concept for an environmental PCB, awareness and dissemination approach.	No PSC in place, no work plans established, no concept for a PCB management system, no awareness on PCB issues.	PSC working, concept for a PCB management system elaborated, PCB issues disseminated among key stakeholders.	PSC is working, but not on a regular basis. Some tasks have been delegated to technical committees.	PSC has not worked on a regular basis, but its duties have been transferred to technical committees, since most of participants are also PSC members. These committees have worked on a regular basis and made the Project monitoring.	S
Result N°2: Institutional strengthening and capacity building for developing a sound environmental system for PCB.	Analytical equipment purchased and properly working; PCB regulations elaborated and approved; PCB database working; alternatives evaluated for PCB treatment and disposal; technical guidelines elaborated.	Insufficient analytical capacity; no regulations in place for PCB controlling; no detailed PCB inventory; unknown emissions produced when incinerating PCB at UTE's; improper PCB handling.	PCB detection equipment in operation; PCB specific regulations approved; defined inventory for UTE and non-UTE equipment; emissions from PCB incineration are known; technicians make a safe handling of PCB equipment.	2 PCB detection equipment are currently in place and working, with covered operational costs: one is at DINAMA Lab (GC-EDC) and the second one is at UTE (GC-MS). These equipments are handled by qualified professionals from both institutions, and have allowed an increased capacity in sampling analysis.	Although a quantitative jump in the number of samples for both institutions has not been determined, only UTE had sampled PCB on more than 4,000 equipments.	MS
Result N°3: PCB management through demonstrative projects and its practical implementation	Technicians involved in PCB equipment handling are trained on good practices' procedures, PCB sampling and handling; identified PCB containing equipment; updated PCB inventory; contaminated sites assessed; PCB	Improper equipment handling and disposal practices; no detailed PCB inventory in place; undefined contaminated sites; only 68 tons of PCB eliminated by UTE; no site cleaning.	Technicians make a safe handling of PCB and its equipment; inventory is operative for PCB equipment from UTE and non-UTE sources, contaminated sites are identified; eliminated 125 tons of PCB containing	8 training workshops for technicians from UTE and private companies were made, totalizing 150 persons trained on proper handling of electric equipment containing PCB; inventory is already elaborated by database is populated with UTE	Since UTE owns around 95% of the country's PCB equipment and given that decree 182/2013 on industrial solid wastes is starting its implementation since end of 2013, and a specific regulation for PCB will probably be enacted in the context of	MS

Goal/Objective/Result	Performance Indicator	Baseline (2006)	Goal at Project ending (2010)	Current Situation at Project ending (2014)	Final evaluation Comment	Rating
	containing equipment properly disposed; contaminated sites cleaned.		equipment and oils; cleaning of contaminated sites is made.	data only, since there is no compulsory regulations for PCB owners to reports its inventory; a potentially contaminated UTE's site is identified (Peñarol); but no PCB determination nor cleaning have been made.	<p>the above mentioned decree.</p> <p>At this moment, most of PCB equipment is being controlled and stocktaking by UTE and DINAMA.</p> <p>The contaminated site has been defined, but the bidding process was declared void, since some requirements of making some specific chemical analysis shoot the price up and beyond project budget. This activity is very important for the project (US\$ 200,000) and it's delayed, but with chances of being implemented by 2015.</p> <p>In despite of some shipment companies denied to load wastes, this situation was very well managed by the project and it became a success history.</p>	

Goal/Objective/Result	Performance Indicator	Baseline (2006)	Goal at Project ending (2010)	Current Situation at Project ending (2014)	Final evaluation Comment	Rating
Result N°4: Elaboration of a National management Plan, based on demonstrative activities.	Detailed inventory implemented; a National Management Plan elaborated.	No detailed inventory in place; no PCB National Management Plan	Inventory for UTE and non-UTE equipment defined and operative; a national management Plan implemented.	Inventory is operative for UTE, but not for the rest of the companies; National management Plan in elaboration at DINAMA.	It's estimated that the inventory will be completed when the complementary regulation to decree 182/2013 is enacted, possibly by end of first half of 2015. The management plan could be ready by end of 2014.	MS
Result N°5: Project closure and dissemination of results.	Workshop for disseminating Project results completed.	No awareness on PCB management.	Dissemination workshop with key stakeholders implemented.	Pending.	Waiting for the elaboration of the National Management Plan. Peñarol's site cleaning is pending, awaiting decision if activity will be made or not.	N/R

*N/R: Cannot be rated*

### 3.3.2. Project Relevance

The project is within the context of GEF-4 Operational Program and it was expected to attain POP strategic objectives N°1 (Capacity Strengthening for developing and implementation of National Implementation Plans); N°2 (Partnerships for POP elimination investments) and N°3 (Knowledge Dissemination for facing future challenges in the implementation of Stockholm Convention).

This project is also inserted in the country's national priorities with its commitments of sound PCB management and elimination, coming from the Stockholm Convention. In fact, Uruguay signed the above convention in 2001 and it was ratified in 2004 by the local Law 17.732. Afterwards and with the support of GEF, studies were made in order to elaborate the National Implementation Plan (NIP), in which PCB and its management and elimination are included.

Project activities are incorporated in DINAMA's planning and furthermore, the project team is located in the Planning Division of this institution. Along above, project achievements are annually communicated (2010-2013) in the country management presidential reports posted the government on its website.

The Government of Uruguay is also embarked on a process for improving the country's environmental management, where the analytical capacity strengthening of DINAMA laboratory is one of its important cores, to which the project has contributed by providing analytical equipment (GC-EDS) and with methodologies for PCB detection in various matrixes.

On the other hand, safe handling practices, PCB determination and disposal of PCB contaminated equipment and oils have been included in UTE's internal procedures, in line with the technical guidelines developed by the project. In the same way and thanks to the project, UTE incorporated analytical equipment for PCB detection that has notoriously increased its analysis of PCB containing equipment.

Even though there was not a specific mention in the UNDAF, the project is well framed within the Assistance Area N°1, which aimed for 2010, a progress in capacity creation for incorporating knowledge, innovation, and diversification in goods and services' production.

With regards of UNDP country program, the project is included in the program component "Environmentally Sustainable Development", result N°2: "Capacity Strengthening for national and department governments on management and reduction of chemical pollutants, wastes and substances that affect the ozone layer". For the 2011-2015 term, UNDP contribution to compliance of international commitments, is mentioned in the "Environment and Vulnerability Risk Reduction" program.

As conclusion for this section, it can be mentioned that the project has been relevant to the Government of Uruguay, since it has contributed to DINAMA's institutional and analytical strengthening and it has been in line with the IDB project for DINAMA's reinforcement aiming to improve the environmental services provided by this institution.

The project has also contributed to the country's compliance with its commitments from the Stockholm Convention. On the other hand, the project has also been relevant for UNDP, since it's in line with its country program and UNDAF and, in addition, it was relevant for UTE who has come early with the elimination of its PCB inventory and it gained knowledge and infrastructure for a proper management of its PCB.

### 3.3.3. Effectiveness and Efficiency

The project aimed for institutional strengthening of both, national and private bodies, in such a way that the country could create a sound environmental management system for controlling, handling, maintain, storage and finally dispose or eliminate PCB from the country.

The most important expected results were to provide DINAMA and UTE with equipment, knowledge and procedures for identify and quantify PCB contents in different matrixes. At the same time, technicians and professionals involved in the matter shall have to be trained in order to incorporate into its daily practice and expertise area, the knowledge on PCB issue and get the necessary skills to manipulate, maintain and properly dispose this equipment.

Along the above, and as a part of a management system, a reporting system for PCB stocks should be elaborated and incorporated in a database which was to be the basis for the implementation of a detailed equipment inventory.

This system shall be reinforced by a compulsory regulation requesting PCB owners to report its stocks to the environmental authority, with the aim to have a better control on these stocks and, at the same time, the management system shall benefit with the implementation of demonstrative activities, which would generate experience and knowledge on management, remediation and disposal practices for wastes containing PCB.

From the effectiveness point of view, the project has been very effective (in despite of no specific regulation exists and 2 activities are still pending), since the country has got environmental benefits from elimination of 125 tons of wastes and, therefore, risks for the environment and health have been avoided. At the same order of ideas, the country counts with the infrastructure, knowledge, monitoring and control methods to control in a safer way the PCB stocks compared with what it had in 2006. In this regards, the implementation of the project has been very effective and satisfactory to achieve its objectives.

However, the project's excessive extension (from 2 to 6 years), has undermined efficiency to results, mainly due to the fact that some important biddings had to be repeated twice or more. Causes for this problem have been discussed and are still in debate, but it seems main factors that had influence were a market with a limited number of actors and infrastructure capacity, together with the ToR requirements for using specific analytical methods which increased the prices excessively.

For the above reasons, it can be said that the project has been moderate efficient in the attainment of its goals.

### 3.3.4. Country Ownership

As mentioned before, the project and its preparation have been in hands of local institutions and professionals supported by different external consultants, who developed the different studies and project concepts that shall be implemented in the country. Uruguay has been strongly involved in the PCB subject, since the project responded to national priorities, such as the improvement for both, its national environment management system and DINAMA's capacity to bring a more efficient and modern administration for its users.



An indicator for the country involvement is the incorporation of the project team to DINAMA's staff, and it's currently being paid with institutional resources and not by GEF.

Another indicator to make mention would be the DINAMA and UTE's routine analysis and maintenance made of the equipment purchased by the project. There should also be commented the institutional support that DINAMA has provided to the project team and its incorporation into the wider discussion on the solid waste rules for managing solid wastes in the country, where the project team contributes with its experience in the development of public policy instruments.

### 3.3.5. Mainstreaming

With regards of project mainstreaming into priorities and other development areas encouraged by UNDP, it can be said that the project subject is related with the "Environmental Sustainability" area of the UNDAF, 2011-2015 term. At the same time, the project is also included in the MDG N°7: "Ensure the environment sustainability".

The UNDP country program for 2010-2015 the subject can also be included in Priority N°2: "Preservation of the Environment and Reduction of Vulnerability".

### 3.3.6. Sustainability

It can be stated that the results produced by the project have a high likelihood to remain and intensify in time, thanks to the inclusion of the project team into the DINAMA structure (Department of Solid Wastes and Substances, located at Division of Environmental Planning). In addition, the country has a known reputation of political and institutional stability and a noticeable economic growth, thus, there is no medium term expectations of abrupt institutional or economic changes that could produce country development instability.

The purchased equipment and the analytical capacity remain at the Laboratory of Control in DINAMA and at the Laboratory of UTE, and they count with budget and facilities to continue its duties.

Technicians from private companies continue making use of what learnt from the project and good practices will reinforce even more, when the decree 182/2013 on Industrial Solid Wastes is on regime.

Even though the project has not been able to install a specific regulation for PCB, the application of decree 182/2013 includes the minimum set of rules to start controlling PCB contained in equipment (obligatory reporting and waste management plan submissions). It is expected that DINAMA revises the specific PCB regulation submitted by the project team and distilles the most important elements.

### 3.3.7. Impact

Although is difficult to measure the impacts of the project when it is not completely finished yet, and that it has no explicit indicators for the global environment and human health benefits that should be obtained as a result of project implementation (for instance, number of avoided illnesses o amount of natural resources that will not be contaminated thanks to project implementation), it can be mentioned that 125 tons of PCB and 8 tons of banned pesticides were eliminated straightforward, and this may objectively help in alleviating stress on the environment

and persons. It should be added that there will be an increase in these benefits once the regulation for wastes and PCB, in particular, comes into force and is implemented.

#### 4. Project Rating

Table N°9 shows the final project rating in general and for those which GEF requires being rated.

Table N°9: Final Project Rating.

<b>Rating Project Performance</b>			
<b>1. monitoring and Evaluation:</b>	<b>Rating</b>	<b>2. IA &amp; EA Execution</b>	<b>Rating</b>
Monitoring and Evaluation (initial design)	MS	Implementing Agency Execution	S
Monitoring and Evaluation (implementation)	S	Executing Agency Execution	S
Overall quality of M&E	MS	Overall Quality of Project Implementation/Execution	MS
<b>3. Outcomes</b>	<b>Rating</b>	<b>4. Sustainability</b>	<b>Rating</b>
Relevance	R	Financial resources	L
Effectiveness	S	Socio-economic	L
Efficiency	MS	Institutional framework and governance	L
Overall Quality of Project Outcomes	S	Environmental	L
		Overall likelihood of risks to Sustainability:	L

#### 5. Conclusions, recommendations and lessons learnt

##### 5.1. General Conclusions

The Project was designed according country needs and has responded to DINAMA and UTE priorities, as well as to the aid plans that UNDP provides to the country, thus it can be stated that this project has been relevant to all actors involved in it.

The project has been effective in the attainment of its goals of developing a sound environmental management system for PCB. In fact, the country has now with a superior analytical capacity of that what existed in 2006, both detection equipment and procedures for PCB determination; and at the same time, although no specific regulation for PCB could not been approved yet, decree 182/2013 is a good starting point for controlling PCB containing wastes until specific rules are enacted by DINAMA.

The elimination of 125 tons of PCB contaminated equipment and oils and 8 tons of banned pesticides, certainly contributes to alleviate the environmental stress which these substances represent because of its potential for pollution of soils, water, organic tissues and food. In addition, its withdrawn represents a reduction to human health threat, especially for those workers who have to manipulate contaminated equipment, but they now have the practice and knowledge for minimizing these substances handling's potential risks.

Sustainability of project results is very likely, since the knowledge and experience acquired rest in DINAMA (project team and the chemical analyst are now staff) and also in UTE, entity which will continue determining PCB contents and equipment maintenance, using now the technical guidelines developed for these purposes. The recent regulation for controlling industrial solid wastes, enacted by DINAMA (decree 182/2013) will also contribute to continuity of results, since owners shall have to report its stocks and submit management plans for its wastes.

Uruguay's institutions have shown a high involvement in the implementation of this project, as revealed by the high co-financing figures. GEF and co-financing funds used in the course of the project implementation have contributed directly to the goals and expected results.

Failed biddings had diminished efficiency of project implementation, which is delayed and surely it will have to be extended by at least 6 more months, due to the fact that PCB determination and further cleaning of the Peñarol site will request a project extension, since both activities are complex to implement, because of the administrative procedures and technical aspects involved.

Reasons for project delays are related with the following factors: i) scarcity of bidders and installed capacity in the country and ii) the requirement of specifications in the bidding documents that means an entry barrier to new bidders, for instance, the use of specific analytic technics which involve a cost beyond project budget.

Waste exports represent delays and costs higher than initially expected for this type of projects, due to shipment companies were reluctant to accept this kind of cargo. This situation might be present in small size countries where companies could have stronger pressure onto authorities.

The requirement of having a project steering committee with meetings every 4 months does not appear as an efficient formula in small size countries, because of the limited number of actors, these also participate in the working groups and, as a matter of fact, the steering committee almost disappears and is replaced by other body which is conceived as more viable and straight for reaching agreements.

## 5.2. Corrective actions for the design, implementation, monitoring and evaluation of the project.

The project logframe did not have the language of change and indicators appeared to be related with product instead of results. In future project designs, more attention should be paid in formulating result indicators that may better measure the desired situation.

For upcoming projects, a more complete replication component should be elaborated, including workshops, publishing and awareness of key stakeholders.

Timeframes and project objectives stipulated in the design of the project should be more realistic and should reflect the project inception time into institutions and administrative processes involved.

Despite of being a standard UNDP practice, the bidding documents should show the tentative budget assigned to the activity. At the same time, ToR should not include conditions which result in unnecessary entry barriers, ensuring that these have a right balance between quality, price and desired objectives, do not include more objectives than necessary.

For waste exports, much attention should be focused on the situation of shipment companies. Unfortunately, this situation appears to be out of control for project teams and local authorities, since these companies deserve by themselves the right of rejecting the cargo, even when a commitment notes have been signed during bidding processes. This factor largely increases the uncertainty level for waste export processes, thus putting at risk the success of other similar projects that could be implemented in other small size countries.

### 5.3. Actions to follow up or reinforce initial benefits from the project

As a first recommendation, the project should be extended by at least 6 months, in order to finish the PCB determination and cleaning of the Peñarol site, and the elaboration of the PCB National Management Plan. This extension should maintain the momentum of also accelerating the specific regulation for PCB that DINAMA has to enact and definitively close the project. According to information gathered during the evaluation, UNDP had already approved an extension of 4 months.

It is recommended that UNDP could implement a workshop for exchanging the Uruguay's experience with other small size countries that could be face similar situations (for instance, the need of exporting its wastes, purchase equipment or hire services). In this regard, the ToR elaborated by Uruguay and its approach to overcome the situation, could make easier the implementation of other projects of the region. According information gathered during the evaluation, UNDP is already organizing a regional workshop for South America and Caribbean.

It is recommended the design of specific activities to involve private sector, whose participation in this project was relatively poor. A workshop, hastening a specific PCB regulation, or spreading the implementation of decree 182/2013 for the particular case of PCB contaminated equipment, could be examples for such kind of activity.

It is recommended to make awareness activities for local authorities and NGOs on the issue of PCB management and related regulations, in such a way that they could either exert some supervisory or have a base for making such action.

The project generated a series of good quality technical guidelines, that could be useful for other countries in the region, therefore, it is recommended not only print and distribute this material, but make workshops of the type "train the trainers".

### 5.3. Lessons Learnt

Category	Situation/Action/Decision	Result for Situation/Action/Decision
<b>Project Design</b>	Language in logic frame with indicators similar to products, no language of change in its components.	Unclear results and indicators, and potential confusion among results and products.
<b>Project Design</b>	Replication component very small.	Limited transfer of results/experience to national, local and international level.
<b>Project Design</b>	Early participation of key actors.	Provides relevance, effectiveness and sustainability to project results.
<b>Project Design</b>	Very tight project schedule, with no consideration of project inception time.	Force to extend Project implementation Schedule.
<b>Implementation</b>	Project steering committee working	For small size countries with few key actors, it

Category	Situation/Action/Decision	Result for Situation/Action/Decision
	every 4 months.	does not appear too viable to work with such a committee sessions regularity.
<b>Implementation</b>	Introducing requirements on bidding ToR more than needed for the planned project activity objectives.	It can create unnecessary entry barriers for new actors and rise costs for the required service, until becomes unviable for bidders.
<b>Implementation</b>	Tentative budgets not shown in bidding documents.	Decreases the chance to bidders for checking purchase objectives with its existing budget, in order to verify offers' viability.
<b>Implementation</b>	Potential pressure on project implementing institutions, from service providers with few local market actors, such as shipment companies.	Risks of failure in biddings processes, implementation delays, uncertainties on results' attainment, such as sea wastes' transport. In this case, a project team well positioned with authorities and local companies is needed, in order to make the necessary negotiations.

## Annex 1: ToR

## Annex 2: Agenda

### Agenda de Misión/ Julio 2014

#### Jorge Leiva – Evaluación Final de Proyecto

Lunes 14		Martes 15		Miércoles 16		Jueves 17	
10:00 - 12:00	<p>Reunión de apertura de la misión con el equipo del Proyecto y representantes de DINAMA , UTE y PNUD. Breve presentación del Proyecto</p> <p>Presentación del alcance de la consultoría y contenido del documento de evaluación.</p> <p>Lugar: DINAMA</p>	10:00 -12:00	<p>9:00-12:00 . Trabajo con equipo de Proyecto</p> <p>Lugar: DINAMA</p>	9:30 – 10:30	<p>Reunión en instalaciones de UTE con el personal que participó en las actividades del Proyecto: Gerencia de Medio Ambiente, Gerencia de Distribución, Gerencia de Transmisión, etc.</p>	9:00 – 11:00	<p>Visita al Centro Logístico de Abastecimiento de UTE – Predio Peñarol</p>
				10:30 – 13:00	<p>Visita a la Planta de Transformadores y Montaje – Talleres Generales: almacenamiento de equipos con PCB y unidad sexta de combustión.</p> <p>Laboratorio de UTE</p>	12:00-13:00	<p>Análisis de los documentos y evaluación de las entrevistas. Elaboración del borrador del informe de evaluación</p>
Almuerzo							
15:00 – 17:00	<p>Reunión con el responsable del seguimiento del Proyecto en PNUD, Ing. Magdalena Preve</p> <p>Lugar PNUD</p> <p>Reunión con el RTA del proyecto, Kasper Koefoed (sin realizar)</p>	14:00 – 15:00	<p>Visita al Laboratorio de DINAMA</p>	15:00 – 16:30	<p>Intercambio de impresiones. Ajuste de la agenda</p>	14:00 – 15:00	<p>Presentación oral en DINAMA de los principales aspectos de la evaluación y presentación del Informe borrador de Evaluación.</p>
		15:00 – 16:00	<p>Reunión con la Cámara de Industrias del Uruguay, Ing. Julio Sosa</p>			16:30	<p>Cierre de la Misión</p>

DINAMA:  
Dirección: Galicia 1133, (esquina Rondeau), 3er. Piso  
Teléfono: (598 2) 917.07.10 ext. 4343, 4344  
Personas de contacto: Silvana Martínez, Federico Souteras

Programa de las Naciones Unidas para el Desarrollo (PNUD)  
Dirección: Javier Barrios Amorín 870, 3er. Piso  
Teléfono: (598 2) 412.33.57  
Persona de contacto: Magdalena Preve



## Annex 3: List of Interviews

Nombre	Institución	Cargo	Fono	email
Julio Sosa	Cámara de Industrias del Uruguay	Coordinador Ejecutivo, Depto Gestión Ambiental	598-26040464	<a href="mailto:jsosa@ciu.com.uy">jsosa@ciu.com.uy</a>
Cyntia N. Lima Diverio	CONAPROLE	Jefe División Medio Ambiente	598-29247171	<a href="mailto:clima@conaprole.com.uy">clima@conaprole.com.uy</a>
Silvana Martínez	DINAMA	Departamento de Residuos Sólidos y Sustancias, División de Planificación Ambiental		<a href="mailto:silvana.martinez@mvotma.gub.uy">silvana.martinez@mvotma.gub.uy</a>
Federico Souteras	DINAMA	Jefe Departamento de Residuos Sólidos y Sustancias, División de Planificación Ambiental		<a href="mailto:federico.souteras@mvotma.gub.uy">federico.souteras@mvotma.gub.uy</a>
Natalia Barboza	DINAMA	Directora Laboratorio Ambiental	598-26044788	<a href="mailto:natalia.barboza@mvotma.gub.uy">natalia.barboza@mvotma.gub.uy</a>
<a href="#">Estefanía Geymonat</a>	DINAMA	Especialista Analítica contratada por el proyecto y actual funcionaria de DINAMA	598-26044788	
Gerardo Rivas	DINAMA	Departamento de Residuos Sólidos y Sustancias, División de Planificación Ambiental		<a href="mailto:gerardo.rivas@mvotma.gub.uy">gerardo.rivas@mvotma.gub.uy</a>
Marisol Mallo	DINAMA	Jefa Unidad Planificación		<a href="mailto:marisol.mallo@mvotma.gub.uy">marisol.mallo@mvotma.gub.uy</a>
Magdalena Preve	PNUD Uruguay	Unidad de Políticas y Programas	598-24123357	<a href="mailto:magdalena.preve@undp.org">magdalena.preve@undp.org</a>
Graciela Salaberri	Red de ONG Ambientalistas	Presidenta	99112893	<a href="mailto:gsalaberri@hotmail.com">gsalaberri@hotmail.com</a>
Jorge Solari	Red de ONG Ambientalistas	Director		<a href="mailto:jsolari@internet.com.uy">jsolari@internet.com.uy</a>
Claudia Cabal Casalla	UTE	Gerente Sector Medio Ambiente	598-22090051	<a href="mailto:ccabal@ute.com.uy">ccabal@ute.com.uy</a>
Gustavo Pampin	UTE	Transformadores		<a href="mailto:gpampin@ute.com.uy">gpampin@ute.com.uy</a>
Gabriel Sardi	UTE	Gerente Operaciones Transmisión	598-22091350	<a href="mailto:gsardie@ute.com.uy">gsardie@ute.com.uy</a>
Diego Vidal	UTE	Transformadores, Planta de Aceite		<a href="mailto:dvidal@ute.com.uy">dvidal@ute.com.uy</a>
Manuel Fajardo	UTE	Ingeniería de Transmisión		<a href="mailto:mfajardo@ute.com.uy">mfajardo@ute.com.uy</a>
Eduardo Iturria	UTE	Laboratorio		<a href="mailto:eiturria@ute.com.uy">eiturria@ute.com.uy</a>
Verónica Azevedo	UTE	Transformadores de Distribución		<a href="mailto:razevedo@ute.com.uy">razevedo@ute.com.uy</a>
Ricardo Kramer	UTE	Jefe Gestión Ambiental		<a href="mailto:rkramer@ute.com.uy">rkramer@ute.com.uy</a>
Marta Alejandra Rosello	UTE	Técnico Prevencionista especialista en industrias		<a href="mailto:mrosello@ute.com.uy">mrosello@ute.com.uy</a>

## Annex 4: Summary of field visits

Time	Date	Subject	Activity Summary
10:00 - 12:00	Monday 14	Initial mission meeting with Project team, DINAMA, UTE and UNDP representatives. Brief project's presentation. Consultant presented scope for the evaluation and contents of the report. Place: DINAMA.	Project team made a presentation on Project implementation. Consultant made a presentation on evaluation's key points and its objectives and activities. ToR contents were discussed and objectives that should be met. It was also discussed the agenda and the need of interviewing a NGO, private sector stakeholders such as Partiluz and the Chamber of Industry of Uruguay.
15:00 – 17:00		Meeting with UNDP official responsible for project follow-up, eng. Magdalena Preve. Place: UNDP	Project progress was discussed and the need of interviewing the RTA and the operations' officer, in order to have a clear view of UNDP's procurement system and his (her) view on project's bidding processes.
		Meeting with RTA, Kasper Koefoed (pending)	Interview could not be made.
10:00 - 12:00	Tuesday 15	Work meeting with project team. Place: DINAMA	Bidding documents, progress and finance reports were reviewed. Detailed discussion of each project activity, attainments, problems found and its solutions. It was also revised the situation of failed biddings and possible causes, such as scarce knowledge of bidders, subject specifics, and inclusion of clauses meaning high entry barriers to bidders.
14:00 – 15:00		Visit to DINAMA Laboratory of Control	DINAMA facilities located at LATU were visited and the strengthening of DINAMA's analytical and control capacity was discussed in regards of PCB and its sustainability. It was also discussed the analytic methods required by bidding documents and pros and cons of each method (EPA 8082 y EPA 1668).
15:00 – 16:00		Meeting with Chamber of Industry of Uruguay, eng. Julio Sosa	Meeting with chamber's executive coordinator and a representative of the Company CONAPROLE. It was discussed the contribution of the project to the companies and the limited participation of privates in PCB exports and project activities. It seems, the lack of interest is linked to the inexistence of a compulsory regulation for reporting its stocks.

Time	Date	Subject	Activity Summary
9:30 – 10:30	Wednesday 16	Meeting with personnel who participated in project activities at UTE facilities: Managements for Environment, Energy Distribution, Transmission, etc.	Importance of the project for UTE was discussed, as well as its sustainability and internal procedures using sampling and analysis methods, the project's catalytic effects, UTE's internal PCB management and recall of its participation in the beginning of project design.
10:30 – 13:00		Visit to Plant of Transformers and Mounting: General Workshops: PCB equipment storage and 6th combustion unit and UTE's labs.	The UTE analysis lab was visited and the usefulness of the equipment purchased by the Project discussed with UTE's staff. Strengthening of analytical capacity and its sustainability were also discussed. The temporary storehouse funded by UTE and the project was visited, and a tour of the installations was made.
15:00 – 16:30		Exchange of views and adjustments to agenda.	
9:00-11:00	Thursday 17	Visit to UTE Logistic Supply Centre, Peñarol site.	Visited storage location for equipment with PCB> 500 ppm. The site cleaning activity and probable alternatives for this activity was discussed.
12:00-13:00		Document review and evaluation of interviews. First draft of the evaluation report.	Potential bottlenecks for contaminated sites biddings were again discussed with the Project team and DINAMA representatives. More documents were reviewed and presentation was elaborated for the mission closing meeting.
14:00-15:00		Document review and evaluation of interviews. First draft of the evaluation report.	Consultant worked on a preliminary report and on a presentation of mission results. Discussion with DINAMA team.
15:00-16:30		Oral presentation at DINAMA, on main aspects of the evaluation and presentation of the preliminary evaluation report. Mission closure.	Meeting with the DINAMA's project team and UTE. Consultant made a presentation on the preliminary evaluation results. Each issue on project design, implementation, procedures and sustainability of results was discussed.

## Annex 5: Documents Reviewed

Document	Document
Acta de apertura sobre económico.pdf	Anexo_II_Matriz_Marco_Lógico.pdf
Acta de selección firmada.pdf	Anexo_I_Resumen_programa_final.xls
AVISODEDIFUSIONSDP460.pdf	CCP -4.pdf
Carta SDP 402 Eval Tec - Precios.pdf	Form Informe Anual 2008 v2.doc
Cartilla-Recipientes herméticos y Capacitores.pdf	Form InformeAnual 2010v3.doc
Cartilla-Recipientes y transformadores sin válvula.pdf	Form Informe Anual 2013.doc
Cartilla-Transformadores.pdf	GEF POPs Tracking Tool 2013.xls
Enmienda [2]SDP 442.pdf	Informe_final_eval_PCB.pdf
ENMIENDAN°3.pdf	Orden del Día.pdf
ENMIENDAN°1.pdf	POA 2009 v3.xls
EVALUACION FINAL SDP 460.pdf	POA2010_3563 PCB v5.xls
GUIA VERSIÓN final para web.pdf	POA2011_3563 PCB v2.xls
InfoEvalPropEconomica - COPIA.pdf	POA2012_Template Castellano_Final V2 PCB con modificaciones VF.xls
Informe comit, de evaluación.pdf	POPs Tracking Tool 2010.xls
Informe evaluación economica.pdf	PAT 2010.xls
Informe Evaluación Tecnica firmado v2.pdf	PAT 2011.xls
Mission Agenda - Experto en sitios contaminados.pdf	3563_UNDP_GEF_ST_2011_V06_Chemicals 19August.xls
NOTAACLARATORIAN°1SDP402.pdf	Copia de PIMS 3563_UNDP_GEF_ST_2012_V08_revisado pnud v3.xls
NOTAACLARATORIAN°1yENMIENDAN°1SDP460.pdf	GASTOS 2012 Y PREVISIONES 2013 VERSIÓN vsilvana.xls
NOTAACLARATORIAN°2yENMIENDAN°2SDP460.pdf	Gastos 2013 y previsiones 2014 v2.xlsx
notice_doc_15087_330093903_sitios_2014.pdf	PAT 2009 versión teniendo en cuenta cdr.xls
Pliego publicado cromat_grafos UTE DINAMA.pdf	PIR-2013-GEFID3120-PIMS3563.docx
Pliego URU_08_G33-520_sitios_contaminados.pdf	Acta Reunión DNA 02_09_2011 v2.pdf
Propuesta de cotización por Plan de monitoreo.pdf	convenio MTOP-MVOTMA-UTE firmado.pdf
Puntajes resultado licitación.pdf	COTAMA - Propuesta para elaboracion de una LEY DE RESIDUOS.pdf
SDC URU08G32- 312 Pliego.doc	DECRETO DE RESIDUOS SÓLIDOS INDUSTRIALES.pdf
SDP - 460 Informe de evaluación.pdf	Informe_presidencia_2010.pdf
SDP 402.pdf	Informe_presidencia_2011.pdf
SDP G33-341 Evaluación de PP.pdf	Informe_presidencia_2012.pdf
SDP341.pdf	Informe_presidencia_2013.pdf
SDP413NOTIFICACIONRESULTADO[1].pdf	organigrama_ministerio.pdf
SDPURU08G33413.pdf	Proyecto de Decreto PCB - Abril 2011.doc
SDPURU08G33460.pdf	Resolución presidencial reforma vestuario ute.pdf
SDPURU_08_G33-442.pdf	2010.pdf
TdR-consultor--Plan-Nacional-Gestión-PCB-2014.pdf	2010.xls
ToR - Analistas DINAMA vf.doc	2011.pdf
ToR - Analistas UTE vfv1.doc	2011.xls
ToR - PCB Contaminated Sites.pdf	2012.xls
ToR - Secretaría Técnica .doc	2012.xlt

Document	Document
ToR-SecretaríaTécnica- Ene10.doc	2013.pdf
ToR-SecretaríaTécnica- Mar09.doc	2013.xls
Visto bueno EvalTec - Ec Rucks.pdf	2014.xls
Acta CCP-1 v2.pdf	3563_UNDP_GEF_ST_2011_V06_Chemicals 19August.xls
Acta reunión 20 dic. 2010.pdf	AAA URU08G33.xls
Acta reunión V2.doc	CDR 2012.pdf
PIMS 3563_UNDP_GEF_ST_2012_V08_revisado pnud v3.xls	Evaluation of Incremental Cost Assessment Spanish_GEF.pdf
GASTOS 2012 Y PREVISIONES 2013 VERSIÓN vsilvana.xls	Federico Souteras (Uruguay)_presentación_2011.pdf
Gastos 2013 y previsiones 2014 v2.xlsx	GEF POPs Tracking Tool.xls
PAT 2009 versión teniendo en cuenta cdr.xls	GEF POPs Tracking Tool_completo_GEF.xls
PIR-2013-GEFID3120-PIMS3563.docx	Historia Gestion Ambiental_UTE.pdf
Previsiones 2014.xlsx	ley bomberos_uruguay.pdf
tabla-Cofinanciamiento_PCBs_uruguay_silvana.xlsx	Ley17283_ley gral del Ambiente_uruguay.pdf
00050024_U08G33G.doc	MarisolMallo_residuos_uruguay.pdf
02-10-06 PDF A Project Document_PCB_uruguay.pdf	ME_Policy_2010_GEF.pdf
9198-Uruguay_UNDAF__2007-2010__Espanol.pdf	método EPA_8082a.pdf
BaselConventionText-e.pdf	NIP_Uruguay_en_2006.pdf
CPD 2007-2010.pdf	POPs_MSP_URU_PCB_UNDP_FINAL.pdf
decreto_349_005_impacto_ambiental_uy.pdf	POPs_PIF URUGUAY with UNEP comments.pdf
EU_strategy_uruguay_2013.pdf	Presentación_M.Mallo_Dec._182_013_1_res_ind_uy.pdf
Presentación_S._Martínez_Dec._182_013_rellenos_resi duos_ind_uy.pdf	undp-uy-cpd-2011-2015.pdf
presentación_transporte_residuos.ppt	undp-uy-cpd-2011-2015_PP_Uruguay.pdf
UNDAF-2011-2015-Uruguay-English.pdf	undp-uy-undaf-2011-2015.pdf
UNDAFURUGUAY_2007-2010.pdf	UR-L1083_-_LP_-_Evaluacion_Programa_1866-OC- UR_(fase_anterior)_BID.pdf
uruguay-santiago-de-chile-oct-2011.pdf	URU 08 G33 PCB_prodoc.pdf



## Annex 6: Evaluation Question Matrix

Evaluation Criterion	Questions	Indicators	Sources
<p><b><u>Relevance</u></b> The extent to which the activity is suited to local and national development priorities and organizational policies, including changes over time.</p> <p>The extent to which the project is in line with the GEF Operational Programs or the strategic priorities under which the project was funded.</p> <p><b><u>Note:</u></b> 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</p>	Is the project part of priorities of DINAMA?.	Annual institutional reports include Project activities.	UNDP CP; Prodoc; Uruguay Presidency's Annual reports, interviews.
	Is Project included in UNDP CP and UNDAF?	Project included in CP and UNDAF activities.	UNDP CP; Prodoc; UNDAF, interviews.
	Is project within priorities and operational GEF programs?	Project responds to GEF programmatic guidelines and operational programs.	Prodoc, GEF OP, interviews
	Within UTE priorities?	Project activities within UTE procedures, planning and policies.	UTE policy documents, Prodoc, UTE procedures, interviews.
	Within Uruguay commitments with Stockholm?	Activities in line with elimination commitments and elaboration of national implementation plans.	Stockholm convention, Prodoc, interviews.
<p><b><u>Effectiveness:</u></b> The extent to which an objective has been achieved or how likely it is to be achieved.</p>	Safe PCB elimination was reached according to project?	Amount of tons of PCB equipment and oils exported for proper elimination.	Export contracts for PCB and equipment, reports from project executing unit, annual reports, interviews.
	Could a sound environmental management system for PCB be installed?	Number of actors trained in sapling and handling of PCB; government officials concerned on PCB management; number of government and private institutions that eliminated PCB.	Technical guidelines elaborated; purchase orders for UTE and DINAMA equipment; progress reports; interviews.
	Were the analytical and institutional capacities for PCB management strengthened?.	N° of analytical equipment working at UTE and DINAMA.	Field visit, interviews with key actors at DINAMA and UTE.
	Was a specific regulation for PCB elaborated and there is a likelihood for its approval by the government?	Proposal for PCB regulation in place, decree on industrial solid wastes including PCB.	Proposal for PCB regulation in place, decree on industrial solid wastes including PCB, interviews.

Evaluation Criterion	Questions	Indicators	Sources
	Are key stakeholders and civil society conscious on PCB risks and country commitments?	PSC working, N° of meetings, agreements taken, stakeholders attendance to meetings.	PSC minutes, attendance lists, interviews.
	Could a detailed PCB inventory be implemented, including a database for users to report its stocks?.	PCB inventory elaborated and working.	Progress reports, PIR, APR, interviews.
<b>Efficiency:</b> Was the project implemented efficiently, in-line with international and national norms and standards?	Annual reports made?	N° of annual reports (PIR, PO, APR)	Progress Reports, PIR, APR, interviews.
	Annual activity planning made?	N° OP elaborated.	Annual operative plans, interviews.
	Products/services made at least possible costs and time?	N° of quotations in bidding processes	Bidding documents, Project reports, interviews.
	ToR and bidding processes made according UNDP and GEF standards? What were the factors affecting bidding processes, either positive or negatively.	N° of biddings made according UNDP/GEF standards.	Progress reports, PIR, APR, UNDP invitations to tenders, interviews.
	Were M&E activities made and results reported?	Mid-term evaluation report, annual reports and planning, PSC and technical committee meetings.	Mid-term evaluation report, Project reports and annual planning, APR, PIR, PSC and technical committees' minutes, interviews.
<b>Results:</b> The positive and negative, foreseen and unforeseen changes to and effects produced by a development intervention. In GEF terms, results include direct project outputs, short to medium-term outcomes, and longer term impact including global environmental benefits, replication effects and other local effects.	Does the country currently count with better institutional and PCB analytical capacities to make a sound management of PCB?	N° of officials at both, DINAMA and UTE concerned with PCB; number of analytical equipment and storage for PCB.	Project personnel contracts at DINAMA, analytical equipment at DINAMA and UTE, interviews.
	Could a sound environmental management system for PCB be installed?	A National PCB Management Plan elaborated; N° of procedures for identification, characterization, labeling, storage, contaminated sites and final disposal alternatives evaluated, regulations for PCB control.	National Plan document, ToR for professional in charge of plan elaboration, progress reports, interviews.

Evaluation Criterion	Questions	Indicators	Sources
	Did the project contribute to protect human health and the environment from risks related with PCB use?.	N° of UTE personnel working in maintenance of PCB equipment; N° of private maintenance companies working with PCB; PCB regulations, N° of procedures for e handling, labeling identification, and elimination of PCB.	Organizational documents from UTE, estimates of trained companies, workshop reports, interviews.
	Did the Project contribute to the purpose of eliminating PCB at global level?.	Tons of PCB containing equipment and oils, exported for elimination.	Biddings made, progress reports, attestations for PCB destruction, cargo consolidation documents, interviews.
	Did the Project contribute to environmental global benefits?	Tons of PCB containing equipment and oils, exported for elimination.	Biddings made, progress reports, attestations for PCB destruction, cargo consolidation documents, interviews.
	Is there any likelihood of replication of the project at local, national or regional level?	N° international meetings where Project team participated, N° of publications of Project results, Project closing workshop.	International workshops, project publications, closing workshop report, interviews.
<b>Sustainability:</b> The likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally, as well as financially and socially sustainable.	Could the PCB subject and actions be installed at both, DINAMA and UTE?	N° officials related with PCB issues at DINAMA and UTE; number of equipment for PCB analysis and storage.	Project team position at UTE and DINAMA; professionals using analytical equipment, priorities of DINAMA, interviews.
	Could activities of PCB elimination be continued after project ending?	PCB planning activities at DINAMA and UTE; procedures used by UTE for management of equipment and oils with PCB, regulations for PCB control.	Project team position at UTE and DINAMA; professionals using analytical equipment, priorities of DINAMA, interviews.
	Will the installed capacity continue having a regular budget from the institutions?	UTE and DINAMA budgets.	MVOTMA five-year budgets, annual management reports, DINAMA's Waste Management Unit priorities.
	Is there a likelihood for a specific PCB regulation being approved by the government?	Decree of Industrial solid Wastes, proposal for specific PCB regulation from Project team.	Decree of Industrial solid Wastes, proposal for specific PCB regulation from Project team, interviews.

## Annex 7: Itinerary for the Evaluation

The evaluation report had two rounds of comments from the interested parties. Comments can be divided into two categories: i) editorial reviews that improved the accuracy of the involved texts and ii) reviews implicating changes in contents addressed by the report, and therefore, its analysis and conclusions. In total, 387 editorial revisions were obtained and 49 comments meaning changes, in some way, in the content of the evaluation.

The editorial reviews were almost all accepted, since they improved the accuracy of the paragraphs and incorporated, in a better manner, the language commonly accepted in the country.

Regarding comments that meant changes, some focused on the project financing figures when comparing the initial budget and co-financing versus the real figures obtained during project implementation. These comments were not considered by the evaluator, due to some confusion existed between of what co-financing was understood as “investment” and “in cash”. Comments pointed at considering investment as “in cash” and, in addition, reviewers edited and updated the project initial budget tables appeared in the prodoc to actual figures, whose analysis was in the section specifically devoted to project implementation.

There were another comments specifically on UNDP procurement procedures and related with delays and failures in bidding process. In this regard, it was clarified that the Advisory Committee on Procurement (ACP) located in Panama, did not have any participation in the bidding processes, thus all mentions to this committee were deleted from the report text.

There were also comments on UNDP practice of not showing in the bidding documents the available budget and quoted as a factor in failed biddings, since some exceeded the available budgets and therefore, were declared as “void”.

After a new review of the documents provided by the project, the consultant concluded that the technical requirements contained in the ToR, were a decisive factor in the price offers, thus the comment was accepted. However, the evaluator decided to maintain the recommendation for UNDP referring to show the available budget in the bidding processes, since this would allow bidders to quickly check the ToR technical requirements with the budget, in order to verify if there was an acceptable connection between them.

There were also comments regarding the proposal of requesting guarantees to shipment companies in order to assure its offer’s seriousness. The comments pointed out that commitment letters and guarantees were requested in the bidding processes, but at the moment of making the cargo, shipment companies refused to load the cargo arguing that all its quotations contained the clause “final shipment acceptance is bound to IMO cargo approval”. The evaluator accepted the comment and recommendation was deleted, but made a remark on the defenselessness situation produced by the fact that shipment companies may discretionary reject a cargo.

The following tables show a detail on the comments made (Table N°1) and editorial reviews (Table N°2).



