VI. PROJECT RESULTS AND RESOURCES FRAMEWORK

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:

2. The country will have achieved a development model that considers the preservation of the environment, sustainable use of natural resources and the reduction of vulnerability and risk for current and future generations.

Country Programme Outcome Indicators:
Initiatives implemented and strengthened capacities for environmental management and pollution reduction with emphasis on the most vulnerable populations.

Primary applicable Key Environment and Sustainable Development Key Result Area (same as that on the cover page, circle one):
Preservation of the environment and reducing vulnerability.

Applicable GEF Strategic Objective and Program:
3. Pilot sound chemicals management and Mercury reduction

Applicable GEF Expected Outcomes: 1.3 Country capacity built to effectively manage Mercury in priority sectors

Applicable GEF Outcome Indicators: 3.1.1 Countries implement pilot mercury management and reduction activities.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>Targets End of Project</th>
<th>Source of verification</th>
<th>Risks and Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Objective</td>
<td>The objective of the project is protect human health and the environment from Mercury releases originating from the intentional use of mercury in products and the unsound management and disposal of such products.</td>
<td>In Uruguay there are no adequate storage, decontamination and disposal solutions in place for Mercury containing product waste. Most of such wastes are disposed of along with regular household waste. If not disposed of, such wastes are kept in inappropriate interim storage locations. Current “stockpiles” (underestimated) are described in the</td>
<td>In total the project expects to recover 330 kg of Mercury as a direct outcome of the project’s implementation. In addition, changed practices will also result in sustained Mercury reductions of approximately 72.5 kg Hg/year. Elemental Hg recovered from treatment/decontamination has been safely stored (at the Chlor-Alkali facility), exported to a long-term storage facility or immobilized using appropriate technologies. Certificates of destruction. Logbook of the decontamination facility.</td>
<td>It is assumed that the disposal of current stockpiles will be financed by the stockholders as co-financing to the project. Risk: Low It is assumed that stockpiles will be used to test the operation of the decontamination facility and operate it until all the stockpiles have been disposed of before the decontamination facility will start treating the waste flow from the project’s model facilities (healthcare, dental and large public entities) before expanding services to the general public.</td>
</tr>
<tr>
<td>Outcome 1</td>
<td>National Extended Producer Responsibility (EPR) policy and</td>
<td>There are no financial mechanisms in place that promote the LCM</td>
<td>EPR for Hg-containing lamps established as a tool to provide for the financial resources necessary to cover operational costs of the EPR degree drafted and submitted for approval.</td>
<td>Financial proposal for the decontamination and retorting facility submitted during the int. bidding procedures do not exceed budget restrictions.</td>
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<tr>
<td>Strengthen the</td>
<td></td>
<td></td>
<td></td>
<td>Risk: High</td>
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<tr>
<td></td>
<td>Safe decontamination options for Mercury containing products established.</td>
<td>Safe interim storage (to serve decontamination facility) for Mercury containing products established.</td>
<td>Environmental and bio-monitoring programme developed.</td>
<td>Financial proposal for the decontamination and retorting facility submitted during the int. bidding procedures do not exceed budget restrictions.</td>
</tr>
<tr>
<td></td>
<td>Risk: Low</td>
<td>Risk: Medium</td>
<td>Risk: Medium</td>
<td>Municipalities will allow disposal of decontaminated crushed products at municipal landfills.</td>
</tr>
<tr>
<td></td>
<td>Risk: Low</td>
<td>Risk: Low</td>
<td>Risk: Low</td>
<td>Private sector enterprises are interested in operating the decontamination facility (and continue to operate the facility after the project comes to an end) following the successful implementation of financial incentives making the operation of the facility financially sustainable (EPR, taxes, polluter-pays, etc).</td>
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<tr>
<td></td>
<td>Risk: Medium</td>
<td></td>
<td></td>
<td>Decontamination, interim storage and long term storage of elemental Mercury is undertaken according to national and international best practices, even after the project has come to an end.</td>
</tr>
</tbody>
</table>

32 Putting in place import restrictions on high-mercury content light sources is likely to result in a 50% reduction of mercury emissions from energy efficient light sources (equivalent to ~ 15 kg/yr based on 2010 import), while import restriction on Hg containing medical devices could result in reducing yearly Hg emissions by a minimum of 57.5 kg/yr (based on 2010 minimum emissions from imported Hg containing thermometers alone). In total adding up to 72.5 kg/yr. In addition the project will improve Hg waste practices at 12-15 project model facilities. Which might result in further reductions of an average 2 kg Hg/yr per facility (based on baseline assessments carried out as part of the UNIDO project).
| Improved adherence to the sound collection, (temp.) storage and treatment of products containing mercury (in particular project partners and model facilities) | Annexes of the BC have been transposed in the Hazardous Waste Law (law 17.220/1999), which refers in specific to hazardous waste streams including waste containing mercury and regulates storage, transportation and disposal of hazardous waste, including Hg containing products. | Guidelines and legal provisions with respect to the sound collection, (temp.) storage and treatment of products containing mercury (and the storage of elemental mercury), will be reviewed based on int. best practices (Basel Convention) and revised/developed if necessary. | Guidelines and legal provisions related to LCM have been published. | All necessary guidelines and legal provisions are in place that allow for the proper LCM of Hg-containing products as undertaken and supported as part of the project. | Risk: Medium |
|---|---|---|---|---|
| Risk: Medium | Risk: Medium | | | |
## Outcome 2
Development of environmentally sound schemes and business models for the collection, treatment and disposal of mercury wastes

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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<tbody>
<tr>
<td>Mercury releases from priority sectors reduced and segregated Hg containing waste streams augmented.</td>
<td>Current &quot;stockpiles&quot; (underestimated) are described in the project’s baseline and on page 8 footnote 92. Some model facilities have Hg management or phase-out plans in place (a few of the HCFs), but most do not. None of the model facilities have Hg management plans or phase-out plans in place, waste is either improperly stored or disposed of. Cost-effective Hg-free alternatives for medical devices and low Hg content CFLs and tubes are available in the country.</td>
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<tr>
<td>Number of private sector operators, model healthcare facilities and PCTP staff capacitated in best practices related to collection, storage, treatment of Hg containing products and long-term safe storage of elemental Mercury, as well as the use of cost-effective Hg-free or low-Mercury content alternatives (if applicable)</td>
<td>Waste management committees operationalized in each model facility. Hg baseline assessments (procurement, use, management, disposal, storage, etc) completed for each model facility. Mercury management and phase-out plans developed and implemented at each model facility. 500 personnel of model facilities trained in LCM of Hg containing wastes and waste products. Study on staff preferences on cost-effective Hg-free alternatives conducted at the model HCFs. Mercury-free alternatives introduced at the project’s model HCFs through adaptation of procurement practices. Collection systems for Hg containing products operational.</td>
</tr>
<tr>
<td>Business models and cost recovery arrangements (CRA) for the collection, transport, temporary storage and treatment of different types of Hg wastes operational and financially sustainable.</td>
<td>Business plan for the collection, transport, temporary storage and treatment of different types of Hg wastes finalized. Assessment of potential Cost-Recovery Mechanisms including recommendations for tax tariffs, tax modalities and channeling of funds, completed (to inform drafting of EPR degree). 30 personnel of private sector entities trained in LCM of Hg containing wastes and waste products. Bidding process for private sector operators completed.</td>
</tr>
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</table>

### Risk: Low
Facilities holding vast "stockpiles" of Hg-containing product waste are willing to cover disposal costs as co-financing contribution to the project.

### Risk: Medium
As co-financing, facilities allocate adequate storage space for interim Hg-waste storage, appoint waste management committee members, and allocate staff time to participate in training on Hg LCM, staff preferences study as well as the use of Hg-free alternatives.

### Risk: High
CRA will be put into place early on in the project to ensure financial sustainability for the collection, interim storage, decontamination and disposal of Hg-containing lamps costs.
| **Component 3:** Strengthening technical capacity and infrastructure for the treatment and storage (medium – and long- term) of Mercury containing wastes. | Business operations launched (collection, transportation, interim storage and treatment). | Logbooks of the model facilities and the decontamination facility. | Technologies that meet the technical specifications are available for the level of funding available under the project component.  
**Risk:** High  
At least three technology providers have submitted technical proposals in response to the int. request for proposals that meet the technical specifications for the decontamination facility.  
**Risk:** High  
Intermediate Hg storage options established and long-term storage options identified.  
In the whole of Uruguay there are no safe options for the sound interim storage of Mercury containing products/wastes or the long-term storage of elemental Mercury.  
Assessment for short-term, interim and long-term storage and disposal options completed.  
Operational procedures developed and implemented for the management of storage facilities/spaces.  
Safe interim storage spaces for Mercury containing products available/established at model facilities and PCTP and staff trained in the safe management of storage spaces.  
Safe long-term storage of recovered elemental Mercury established (in-line with BC guidelines and in compliance with national regulations)\(^33\).  
Report on the assessment on storage and disposal options has been published.  
Photos and video materials of all storage facilities (at PCTP, model facilities, etc.) available.  
Air, water/leachate and soil monitoring as well as bio-monitoring of staff in close contact with Hg storage spaces indicates Hg levels that are below MAC.  
Storage facility and landfill (for decontaminated waste) logbooks.  
Municipalities will allow disposal of decontaminated crushed products at municipal landfills.  
**Risk:** Low  
Interim storage of Hg containing wastes and long-term storage of elemental Mercury is undertaken according to national and international best practices, even after the project has come to an end.  
**Risk:** Medium |

| Technology to treat collected Hg containing product waste operational. | Technical specifications for the treatment facility, (in-line with Basel Convention guidelines and in compliance with national regulations), developed.  
International procurement process for technology successfully completed.  
Operational procedures for the treatment technology developed and implemented.  
2 - 3 private sector operators and 30 PCTP staff trained in the safe operation of the treatment facility/technology.  
Operation of decontamination facility officially launched. | EIA concluded and approved.  
Construction and operation permits in place.  
International bidding documentation available.  
Operational procedures for the treatment technology available.  
Photos and videos of the established treatment facility in operation.  
Certificates of training completion and attendance sheets of training sessions. | \(^33\) This aspect is optional and depends on the type of treatment technology selected. If a decontamination facility is opted for, a solution for the storage or use of recovered elemental Hg needs to be identified, however if the project opts for a Hg immobilization technology/process, this project aspect will not be necessary. |

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\(^{33}\) This aspect is optional and depends on the type of treatment technology selected. If a decontamination facility is opted for, a solution for the storage or use of recovered elemental Hg needs to be identified, however if the project opts for a Hg immobilization technology/process, this project aspect will not be necessary.
### Component 4: Strengthening national and regional awareness on the Sound Life-Cycle Management of Mercury containing products as well as associated health hazards resulting from mismanagement

<table>
<thead>
<tr>
<th>National capacity to monitor Mercury levels in populations strengthened.</th>
<th>As part of a CIAT/USAID pilot project (2006) bio-monitoring of Mercury levels in healthcare staff was undertaken by CIAT’s poison control center at a model facility. PCTP is currently capable of monitoring Hg in environmental media, and have at their disposal a Jerome analyzer for air monitoring. The country has no continuous/frequent monitoring system in place for Hg levels. The country has no capacity for analyzing Hg levels in biological samples.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical specifications for PCTP/CIAT bio-monitoring laboratory equipment prepared. International procurement process successfully completed. Protocol for sampling and analysis of Hg in water, soils, air and biological samples developed and CIAT/PCTP personnel/staff trained in sampling and conducting analysis. “Population-at-risk” study completed (samples analyzed and results interpreted by CIAT/PCTP) and results published. Continuous environmental and bio-monitoring programme developed for project model facilities (treatment facility, storage facilities and maintenance/storage staff) to analyze Hg levels in air, soil, water as well as in biological samples frequently and beyond project duration.</td>
<td>International bidding documentation and photos of the installed laboratory equipment available. Sampling/analysis protocol available and approved by int. expert. Results of population study published (preferably in a scientific journal). Environmental and bio-monitoring programme launched for model facilities. Model facilities are willing to have staff tested as part of the bio-monitoring study -who might be at a high risk of Mercury exposure.</td>
</tr>
</tbody>
</table>

### Awareness on LCM of Mercury containing products increased among project stakeholders, the general public and countries at regional and global level.

| BCCC LAC has a website which it uses for information dissemination. BCCC LAC also leads a network of national Basel Convention Centers through which information on hazardous waste management can be disseminated. Website and Facebook page developed and regularly updated (English and Spanish). Project related documentation (legislation, guidelines, national plans, model facility plans, operational and testing protocols, Hg monitoring studies, etc.) all published on the project website and disseminated among regional and int. partners. Side event organized at a chemicals-related COP (Basel, Minamata) to present project results and lessons-learned. Video on the LCM of Mercury management produced at the end of project implementation to share lessons-learned. | Project related documentation, photos and videos posted on the project’s website and Facebook page. BCCC LAC is able to develop a website and Facebook page in both English and Spanish which has a significant outreach. |

### Component 5: Monitoring, adaptive

| Number of high quality monitoring and evaluation | No documents in baseline situation. 4 Quarterly Operational Reports submitted to UNDP each year | Reports submitted to UNDP It is assumed that the project manager will prepare all the reports that are |
| Feedback, outreach and evaluation. | Documents prepared during project implementation | 1 annual APR/PIR submitted to UNDP each year.  
1 Mid-term project review.  
1 Final evaluation.  
MTE and FE must include a lessons learned section and a strategy for dissemination of project results. | Required by the GEF and UNDP.  
**Risk**: Low |