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# Mercury Waste Management Plan CHILE

Mercury Waste Project Final Workshop  
June 2010

# Introduction

- In July 2009, CONAMA through UNEP's funds started to implement the project "Waste Management and Mercury content", whose objectives include "Developing a National Plan of Waste Management with Mercury".
- This Plan is part of the "**Mercury Risk Management Plan** " and the "**National Policy for Management of Contaminated Sites**". Those documents were approved by the Directive Council of CONAMA in August 2009.
- In September 2009, was convened a "Coordination Committee" to prepare the National Mercury Waste Management Plan. The committee has met five times after the project workshop started: December 2009 (three times), January and April 2010 (mining sector was more concern)
- The Mining Council (SONAMI) and the Ministry of Mining have been given observations with regularly. Issues of greatest discrepancy: massive waste mining and legislative changes' proposals to regulate it.



# Main activities with potential mercury-containing waste

Regarding with the “National Inventory of Mercury Use, Release and Registry of Prioritized Contaminated Sites” developed by Chile:



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Gold mining is the main source of mercury waste: (i) Mining extractive activity or formal (mining stresses "Mantos de Oro"), (ii) artisanal mining or informal

Consumer products containing mercury: Button batteries, energy efficient light lamps and thermometers. It is considered a voluntary initiative promoting Extended Responsibility of Provider (REP)

# Problems in develop of Plan...



The Mining Ministry has no priority in the address management issues related to artisanal gold mining

The private mining sector does not validate the toolkit as a tool for estimating emissions

# Implementing Process

## Institutions involved

- ✓ Ministry of Health (MINSAL)
- ✓ Ministry of Mining (MINMINERIA)
- ✓ Ministry of Education (MINEDUC)
- ✓ National Customs Service
- ✓ National Service of Geology and Mining (SERNAGEOMIN)
- ✓ Corporation for Production Development (CORFO)
- ✓ Chilean Copper Commission (COCHILCO)
- ✓ National Mining Company (ENAMI)
- ✓ Agricultural and Livestock Service (SAG)
- ✓ National Fisheries Service (SERNAPESCA)
- ✓ National Clean Production Council (CPL)
- ✓ Chilean Association of Municipalities (ACHM)
- ✓ National Mining Society of Chile (SONAMI)
- ✓ Mining Council (CM)
- ✓ Metallurgical Mining Research Center (CIMM)
- ✓ College of Dentists and Dental Schools
- ✓ Confederation of Production and Trade (CPC)
- ✓ Society for Industrial Development (SOFOFA)
- ✓ Chemical Manufacturers Association (ASIQUIM)



# Implementing Process



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- To initiate the project “National Mercury and Waste Management Plan”

Opening Workshop  
2-3 Nov. 2009

- Strengthen national technical capacities for the management of waste containing mercury, applying guidelines in relation to their environmentally sound management

Meetings Working Group  
01 dec, 15 dec, 29dec, 12 jan,  
April

- Awareness and training on the importance of environmentally sound management of Mercury-Containing Waste, in the regulators institutions, policy makers and relevant counterparts

Closing Workshop  
Jun 15, 2010

# OBJECTIVES

## GENERAL OBJECTIVE

Guide the management of waste containing mercury to environmentally sound management of such waste to include variables in their analysis of health risk and / or the environment.

## SPECIFIC OBJECTIVES

- 1. Review and improve the quality of the information contained in the "National Inventory of Uses, Consumption and Mercury releases"*
- 2. To encourage the generation and application of voluntary and mandatory instruments for the environmentally sound management of waste containing mercury*
- 3. To promote studies to identify sites with the presence of waste containing mercury, the risk and environmentally sound management.*
- 4. Raise awareness and build capacity in those involved in the environmentally sound management of waste containing mercury*



# Action Plan

Objective 1: *Review and improve the quality of the information contained in the "National Inventory of Uses, Consumption and Mercury releases"*

- 1.1 Standardize methods for mercury analysis and develop its own methodological guidelines that allows for estimates of mercury emissions under the national reality.
- Complete the survey of national laboratories and their sampling protocols and analysis for different environmental compounds and chemical speciation of mercury.
- Develop standardizations sampling protocols and analysis for national laboratories
- Promote the development of methodological guidelines for purposes of national measurements, simulations or estimates of mercury emissions in the country.



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# Action Plan

*Objective 1: Review and improve the quality of the information contained in the "National Inventory of Uses, Consumption and Mercury releases"*

1.2 Review and generate new information on mercury-containing waste in the country and its management in order to develop reliable information, real and based on national surveys for purposes of updating the National Inventory of Uses, Consumption and Mercury releases

- To establish baseline in the availability of mercury, natural and anthropogenic origin, in wastes that contain it.
- Include measurements of mercury levels in those stages of production and industrial processes generate mercury containing waste
- Review and update the source categories identified for release of mercury waste, regarding to the national reality
- To establish national empirical data for categories of sources identified for release of mercury waste
- To establish a national guideline to estimate mercury releases related to waste



# Action Plan

*Objective 1: Review and improve the quality of the information contained in the "National Inventory of Uses, Consumption and Mercury releases"*

## 1.3 Complete the information recorded on mercury in the PRTR and other systems of public record

- Promote the inclusion of mercury in the annual survey ENIA from National Institute of Statistics
- Improving customs itmes of imported or exported waste, in order to obtain more detailed of income and expense
- Cross customs information with industrial annual reports and with reported information in the PRTR
- Consider options for to report releases of mercury to the soil and transfers off-site treatment or disposal sites

## 1.4 Improve scientific -technology knowledge on the waste containing Mercury and its integrated management

- Develop a study to systematize scientific and technical information and best practices, national and international, on handling, storage, treatment / or disposal
- Encourage the development of studies and research by universities and training colleges



# Action Plan

*Objective 2: To encourage the generation and application of voluntary and mandatory instruments for the environmentally sound management of waste containing mercury*

- 2.1 Encourage the use of alternative technologies to the use of mercury
- 2.2 Encourage voluntary initiatives to strengthen the management of mercury containing waste where there is a risk to health and the environment in public and private sector
- Enhance together with stakeholders, the development of Guidelines for Sustainable Management of Mercury-containing wastes including the development of ad hoc management tools.
- 2.3 Promote the generation of competitive funds and the inclusion to the problems associated with mercury-containing waste
- 2.4 To promote the environmentally sound management of mercury containing waste in the instruments for environmental and health management and new or existing instruments, considering the relevant risk assessments.



# Action Plan

*Objective 3: To promote studies to identify sites with the presence of waste containing mercury, the risk and environmentally sound management.*

•3.1 To establish studies to identify sites with the presence of mercury-containing waste and potentially hazardous to human health or the environment.

- Collect and organize pre-existing studies and raise baselines that contribute to determine the presence and availability of mercury associated with waste
- To study the composition of mercury waste with hazardous characteristics from various economic activities, including temporal and final disposal sites
- Development of preliminary risk assessment (qualitative) in sites with potential presence of mercury associated with waste
- To prioritize potentially contaminated sites with mercury, according to preliminary risk assessment (qualitative)

•3.2 Describe priority sites

- Confirming the presence of mercury associated with priority waste sites
- Develop detailed risk assessment of priority sites
- Prioritize sites associated with the presence of mercury waste, according to the detailed risk assessment (quantitative)



# Action Plan

*Objective 3: To promote studies to identify sites with the presence of waste containing mercury, the risk and environmentally sound management.*

3.3 Evaluate the technical feasibility and economic control measures (mitigation, and / or remediation) in priority sites, after confirmatory research

- Prepare Mitigation and / or remediation Plan (s) in mercury containing waste sites, in order their risks and previous analysis of technical and economic efficiency of the measures chosen.
- Implement Mitigation and / or remediation Plan (s) in mercury containing waste sites.

3.4 To establish and develop a risk communication strategy

- Design and validate the strategy, depending on target population (public sector, owners of sites with confirmed presence of mercury associated with waste, social leaders, exposed population, etc.).
- Apply risk communication strategy.



# Action Plan

*Objective 4: Raise awareness and build capacity to the stakeholder involved in the environmentally sound management of mercury containing waste*



- 4.1 Spreading the list of household products developed within the framework of SAICM and other matters related to mercury-containing waste and its appropriate handling, to the community and academic sector
- 4.2 Design programs to raise awareness and establish lines of training to specific target audiences
- Designing brochures and information sheets for handling issues such as spill mercury containing waste
- Generate information campaigns in schools, hospitals and the general public of hazards associated with mercury-containing waste
- 4.3 Promote and revitalize roundtable discussions with different sectors related to the management of mercury containing waste



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