

National Action Plan on Mercury and Mercury-containing Wastes Management

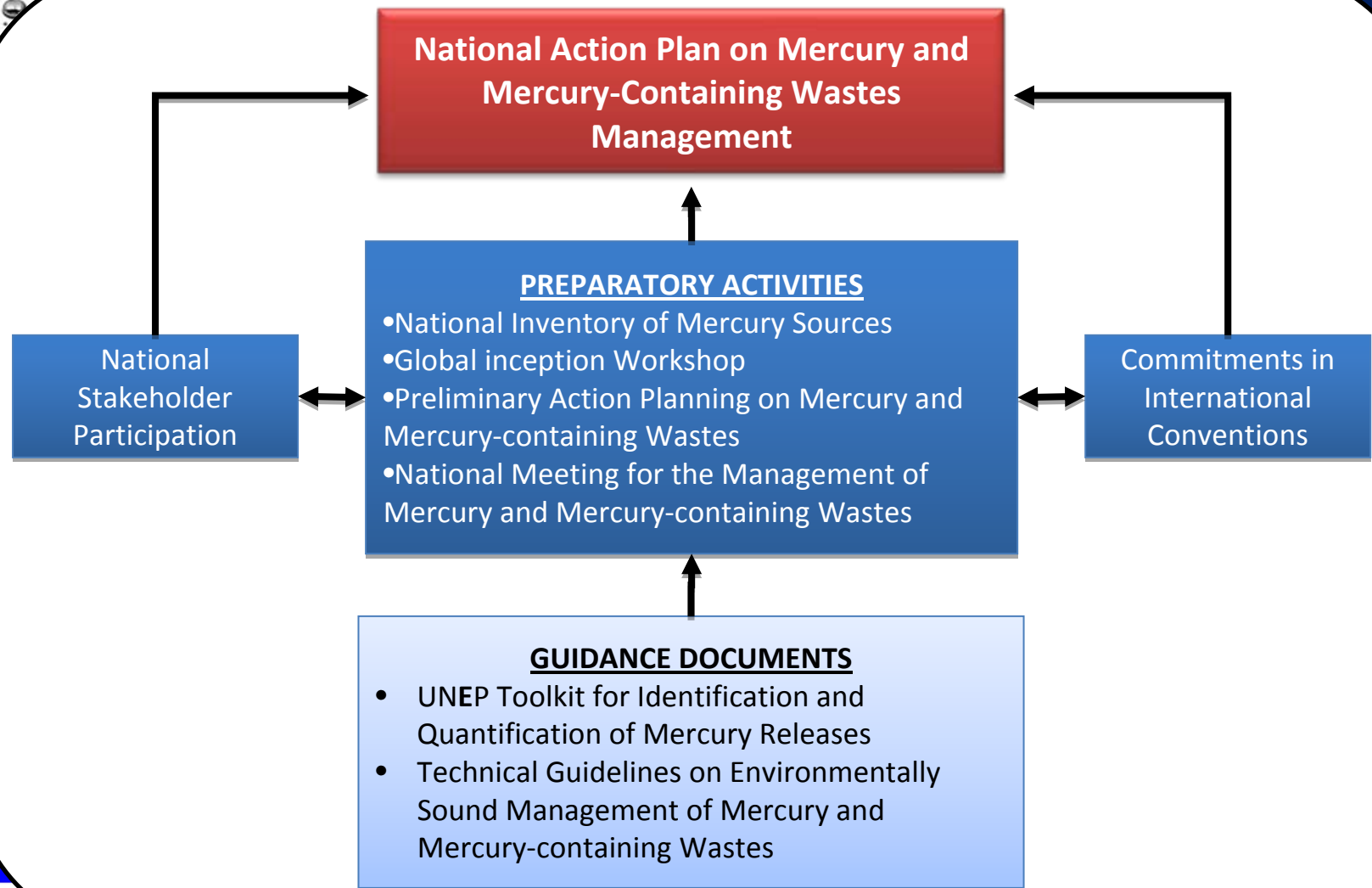


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Environmental Management Bureau
Department of Environmental and Natural Resources
DENR Compound
Diliman, Quezon City

Summary of Preparatory Activities





ASSESSMENT OF EXISTING INVENTORY AND MANAGEMENT PRACTICES FOR MERCURY AND MERCURY-CONTAINING WASTES



Sources and Flow of Mercury and Mercury-containing Waste

SOURCES

- Impurities from the raw material used in power generation, cement and lime production, etc.
- Recovered or recycled mercury
- Chlor-alkali decommissioning, or other large sources
- By-product mercury from the refining or processing of some ferrous and most non-ferrous metals
- Stocks of accumulated mercury
- Import from other places of the world

APPLICATIONS

- **Process**
 - Artisanal gold mining
- **Products**
 - Batteries
 - Lamps
 - Dental applications
 - Measuring and control devices
 - Chemicals (industrial, laboratory)

WASTES

- Partly recycled
- Large part discharge to water, soil, and air
- **Toxic Wastes**
 - Landfill
 - Storage
 - Thermal treatment
 - Dumpsites
 - Everywhere

Other parts of the world

Assessment

- No centralized database or information network on the types and quantities of mercury and mercury-containing wastes
- Initial inventory gives estimate on the levels of mercury releases BUT not on the amount and type of wastes generated from process, product, or use of such product



Assessment

- Data on other uses of crude oil such as in the polymerization process or in the manufacture of plastic products are not considered
- Data on mercury emissions due to mining of metals are limited only to gold, silver, copper, and lead
- Calculation for the thermometers needs refinement because the initial calculation was based only on the number of hospitals and schools



Assessment

- Data on the importation and production of thermometers in the country is not available
- No data available for the production and importation of mercury to verify the validity of the total consumption of mercury in the country
- Levels for chlor-alkali production are under the assumption that the existing process uses mercury cell technology, which in fact is not the case



Assessment

- Double accounting of mercury emissions in pulp and paper production because its emission source is due to the production of one of its primary raw material – caustic soda, which is already accounted for in the chlor-alkali production
- Estimated levels contributed by lamp wastes are limited only to TFLs. (Policy Study on Lamp Waste Management)



Assessment

- Potential sources of mercury that were not considered:
 - Other coal combustion
 - Extraction, refining, and use of mineral oil
 - Extraction and use of other fossil fuels
 - Biomass fired power and heat production
 - Coal Mining
 - Quarrying of Limestone
 - Other production of chemicals and polymers with mercury compounds as catalysts
 - Batteries containing mercury
 - Biocides and pesticides containing mercury
 - Mercury in paint
 - Pharmaceuticals for human and veterinary uses containing mercury
 - Rituals and folklore medicine
 - Production of recycled mercury (secondary production)
 - Production of recycled ferrous metals (iron and steel)
 - Production of other recycled metals
 - Incineration was not considered in the inventory because of the “incineration ban” but some hospitals were given permit for medical wastes incineration
 - Informal local disposal of industrial production waste
 - Informal dumping of general waste





APPLICABLE LEGAL & REGULATORY REQUIREMENTS ON MERCURY AND MERCURY-CONTAINING WASTES



Legal Requirements Applicable to Mercury and Mercury-containing Waste

SOURCES

APPLICATIONS

WASTES

RA 6969
DENR AO 1992-29
DENR AO 1997-38

RA 6969 | DENR AO 1992-29 | DENR AO 1997-38 | RA 7076 | DENR AO 1997-30

RA 6969 | DENR AO 1992-29
DENR AO 1997-38 | DENR AO 2004-36 | RA 9003 | RA 8749 | RA 9275

RA 6969 | DENR AO 1992-29
DENR AO 1997-38 | RA 7076 | RA 7942 | RA 9184 | EO 301 | RA 7394 | Product Standards | DOH AO 2008-21 | Philippine OSHS

RA 6969
DENR AO 1992-29
DENR AO 2004-36
RA 8749

Other parts of the world

Assessment

- Legal and regulatory instruments (Chemical Control Order & Hazardous Wastes Management Guideline) are available that directly or indirectly govern the management of mercury and mercury containing wastes
- The management of mercury and mercury-containing wastes are contained in several laws and regulations and are therefore managed or enforced by different agencies. This in turn resulted to the lack of cohesiveness in the entire management aspect of these mercury and mercury-containing wastes



Assessment

- The laws and regulations are quite outdated having been promulgated as early as 1990s and they need to be updated in consonance with the international trend in mercury and mercury-wastes management
- The provisions in these laws and regulations are not specific enough to facilitated effective identification and categorization of mercury and mercury-containing wastes



Assessment

- Lack of resources among the implementing agencies resulting to poor compliance as shown by the following:
 - Not all generators of mercury and mercury-containing wastes have registered
 - Not all sources of mercury and mercury-containing wastes are reported
 - Performance standards on handling, storage, and treatment/disposal are generally not followed
- Interfaced among concerned government agencies is weak as their specific management roles and responsibilities are not clearly defined

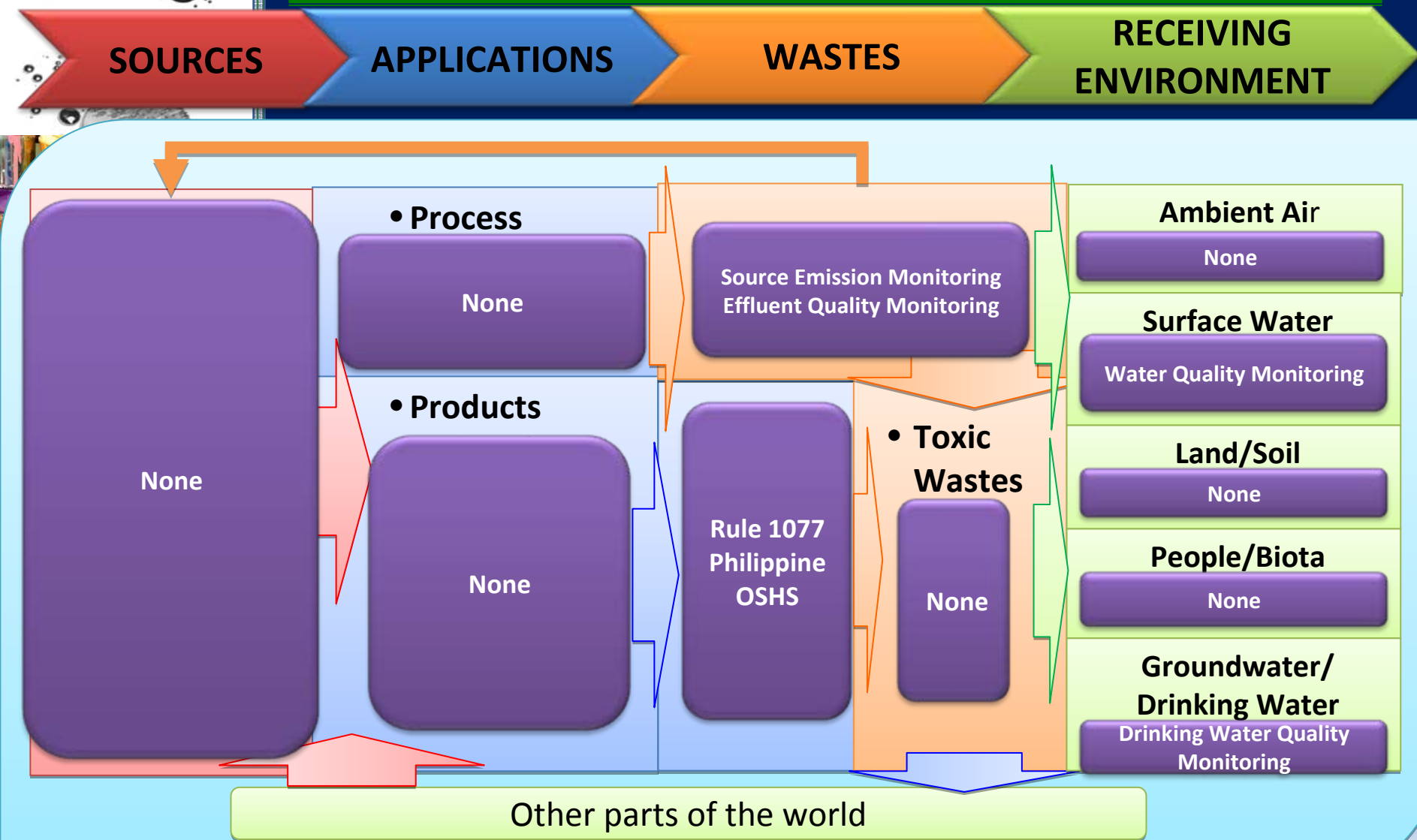




MONITORING PROGRAMS/ ACTIVITIES



Monitoring Programs Applicable to Mercury and Mercury-containing Waste



Assessment

- The existing monitoring programs for mercury are embodied in the environmental laws and regulations, as such infrastructures are therefore complementary only to what is required by these laws and regulations
- Monitoring programs are available only for:
 - Effluent quality as mandated by DAO 1990-35
 - Source emission monitoring as mandated by DAO 2000-81
 - Workers' exposure as mandated by Rule 1077 of the Philippine OSH
 - Surface quality as mandated by DAO 1990-34
 - Drinking water quality as mandated by the 2007 PNSDW



Assessment

There are no monitoring programs for mercury in:

● Products

- Toxic substances in products, including mercury are not regularly tested as this aspect is not integrated in the product standards development process of the Bureau of Products Standards (BPS)
- Currently, the BPS together with the DOE is expanding the product standards for EELs, which include disclosure of mercury content.
- Corollary to this, a regular program for validating the disclosed mercury content in lamps has to be established. Other products containing that may possibly have mercury like cosmetics needs to have the same process of setting product standards.

● Solid/Hazardous Wastes

- Solid hazardous wastes including sludge require no regular monitoring. The conduct of TCLP is a one-time process to establish the mobility of toxic substance in the solid material. This is not a required regular activity



Assessment

There are no monitoring programs for mercury in (cont'd):

● **Ambient Air, Soil, Groundwater**

- No monitoring programs for mercury in ambient air, soil, and groundwater due lack of criteria or guideline values.
- Infrastructure to support these activities are not yet established in the country

● **People**

- No established program to monitor people that are potentially at risk from exposure of mercury due to handling of mercury and mercury-containing wastes
- Although there are laboratories that can handle this process, the activity is no regulatory-driven and as such is being done only in response to an incident.

● **Biota**

- Mercury monitoring in fish and other biota is being conducted not on a regular basis but mostly as a result of incident, complaints, or investigative studies.





SUMMARY ISSUES ON MERCURY AND MERCURY-CONTAINING WASTES MANAGEMENT



Summary Issues

- ***Lack of cohesive legal instruments for the management of mercury and mercury-containing wastes in the Philippines***
 - Regulatory instruments lack the cohesiveness aspect considering the life cycle of mercury and mercury-containing wastes. Further, legal instruments on the management practices on handling mercury wastes have been focused on interim measures, with little emphasis on terminal or permanent storage of mercury waste.
- ***Ineffective implementation of mercury waste management in the local level***
 - Aside from the insufficient coverage of the existing legal instruments in the Philippines on the management of mercury and mercury-containing wastes, one of the major issues identified is the implementation of these regulations in the local level. This issue needs to be addressed considering that a significant percentage of mercury wastes come from residential sources, which are currently not regulated and controlled.



Summary Issues

- ***Lack of national information on the types and quantities of mercury-and mercury containing wastes***
 - The initial inventory conducted in the country using the UNEP Toolkit does not provide information on the types and quantities of mercury and mercury-containing wastes generated by the sectors of concerns
 - The current information contained by the regulatory agencies (EMB Central and Regional Offices) is limited to mercury-containing busted lamps and spent laboratory chemicals
 - Although, there is an on-going effort to inventory mercury and mercury-containing wastes from the health care facilities and institutions, it is still limited to facilities owned/managed by the Department of Health (DOH) and only to the Luzon area



Summary Issues

● *Lack of institutional controls and infrastructure to manage the end-of-life (EOL) of products containing wastes*

- Due to lack of inventory and national information for other sources of mercury and mercury-containing wastes, the necessary institutional controls and infrastructure to manage these wastes are still lacking
- The existing registered treatment, storage, and disposal (TSD) facilities have capabilities limited only to addressing spent mercury solutions and providing pre-treatment to mercury-containing busted lamps
- There are no existing authorized facilities to handle wastes that contain elemental mercury



Summary Issues

● *No program for assessing levels of mercury in products*

- Mercury-containing products that enter into the country are not monitored and consequently mercury content for these products is not established
- The existing product standards are focus on product quality and limited only to certain products (i.e. lamps).

● *Lack of monitoring program for releases from mercury and mercury-containing wastes*

- There are required monitoring programs for water discharges and air emissions, but inclusion of mercury in the program is very limited (if none at all)
- No monitoring program for releases in soil as there are no standards/guidelines for mercury in soil



Summary Issues

● *Lack in public participation and IEC*

- Insufficient efforts for public education and awareness
- Effective implementation of management programs to address mercury and mercury-containing wastes in the country depends on the pro-active stance that the people from the smallest unit take





PROPOSED ACTION PLANS



Action Plan for Mercury and Mercury Containing Wastes

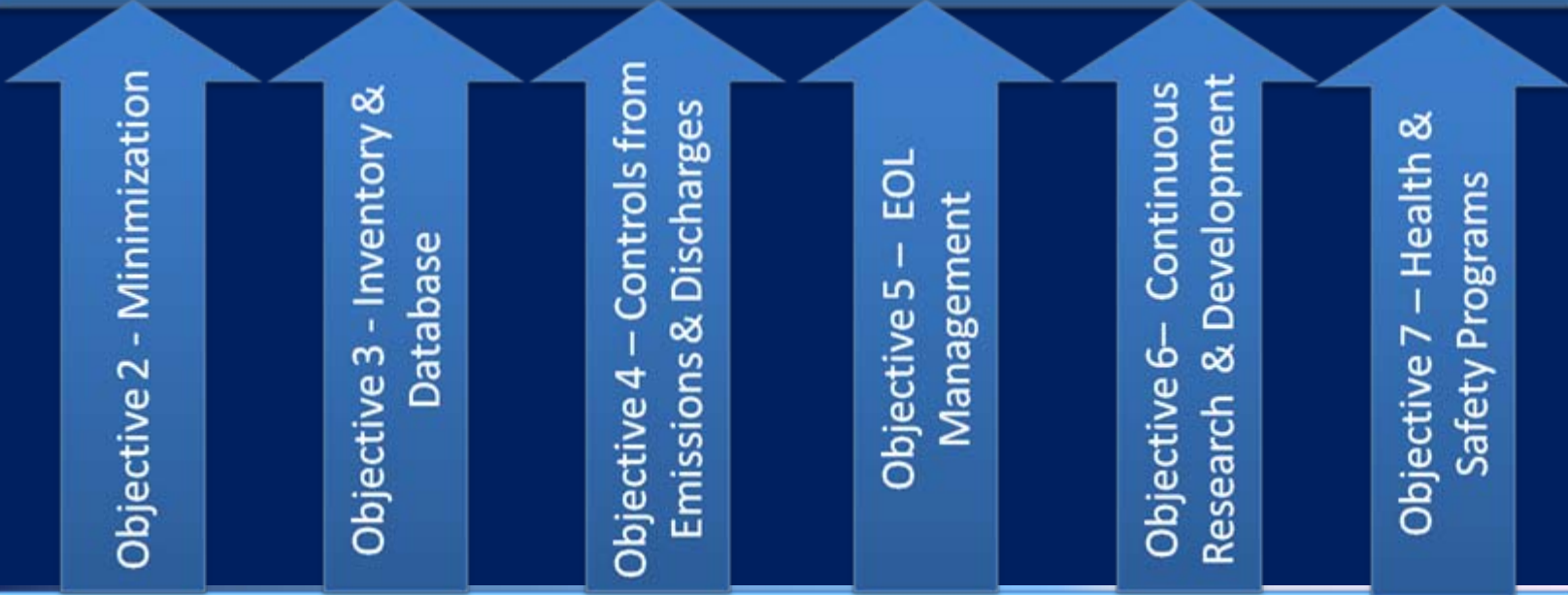
Goal and Objectives



Minimize and, where feasible, eliminate mercury releases to air, water, and land from mercury wastes by adopting Environmentally Sound Management (ESM) of these wastes (following a lifecycle management approach)



Objective 8 – Public Awareness and Participation/Social Mobilization



Objective 1 – Legal & Regulatory Strengthening



Preliminary Activities

- Set-up Steering Committee patterned after the Inter-agency Technical Advisory Council (IATAC) established under RA 6969
- Establish Technical Working Group (TWG) to:
 - Secure commitment/approval from corresponding agencies/organization
 - Implement the action plans
 - Monitor and review progress of implementation
 - Address gaps when needed
 - Provide feedback to stakeholders



Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Facilitate the amendment of RA 6969 or the approval/signing of the proposed Bill on Hazardous and Nuclear Wastes Management</p>	<p>EMB-DENR</p>	<p>Work with the Committee on Ecology for the review/approval of the pending Bill</p> <p>Ensure that the ESM requirements are embodied in the proposed Bill</p>
<p>Finalize, approve, and implement the revised Hazardous Waste Management Guideline, amending DAO 2004-36 (with incorporation of the HW Manifest System Database)</p>	<p>EMB-DENR</p>	<p>Work with DENR Policy and Planning for the final review and approval of the revised DAO by the Secretary</p> <p>Conduct re-orientation to the EMB ROs for the implementation of the revised DAO</p> <p>Inform the public and the regulated community about the revised DAO</p>

Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Revise/amend the CCO on Mercury to incorporate the ESM requirements of mercury wastes and strengthen its linkage with the Hazardous Wastes Management Guideline (DAO 2004-36 or its amended version); also include the gradual phase-out / banning of mercury containing consumer products</p>	<p>EMB-DENR</p>	<p>Work with other government agencies in identifying current products, assessing product life cycle for appropriate timing of gradual phase-out / banning</p> <p>Work with DENR Policy and Planning for the final review and approval of the revised CCO by the Secretary</p> <p>Conduct re-orientation to the EMB ROs for the implementation of the revised CCO</p> <p>Inform the public and the regulated community about the revised CCO</p>

Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Revise/amend the CCO on Mercury to incorporate the ESM requirements of mercury wastes and strengthen its linkage with the Hazardous Wastes Management Guideline (DAO 2004-36 or its amended version); also include the gradual phase-out / banning of mercury containing consumer products</p>	<p>DTI/DOH/DOE</p>	<p>Identify industry sectors/subsectors that are using mercury or have products/supplies containing mercury and develop scheme for gradual phase-out / banning</p>
<p>Develop and implement local legislations (municipal/city ordinances) on mercury and mercury wastes management to address the domestic sources of these wastes</p>	<p>NSWMC EMB</p>	<p>Facilitate the development/approval of MOA among LMP, LCP, LPP, LG, DILG for the nationwide implementation</p> <p>Prepare/draft guide ordinance for domestic sources of mercury and mercury containing wastes</p>

Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Develop and implement local legislations (municipal/city ordinances) on mercury and mercury wastes management to address the domestic sources of these wastes</p>	<p>DILG LGU</p>	<p>Adopt and implement city/municipal/provincial ordinance on domestic sources of mercury and mercury-containing wastes</p>

Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
Develop and implement soil standards and cleanup guidelines	EMB	<p>Conduct study for the development of standards and guidelines</p> <p>Coordinate with various agencies</p> <p>Work with DENR Policy and Planning for the final review and approval of the standards and guidelines by the Secretary</p> <p>Conduct orientation to the EMB ROs for the implementation of the standards and guidelines</p> <p>Inform the public and the regulated community about the standards and guidelines</p>

Objective 1 - Strengthen legal and regulatory instruments pertaining to mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Review other related regulations such as RA 7394 - Consumers Act of the Phils., EO 301 Government Green Procurement Act and assess how they can be enhanced to complement other regulations on mercury and mercury wastes management</p>	<p>DTI</p>	<p>Assess how these regulations can be anchored on to make the CONSUMER STANDARD for manufacturers, distributors, and importers extend up to EOL of the product as it affects the consumers</p>
	<p>DTI/DOE</p>	<p>Include in the Philippine National Standards for Lighting Products the requirement on mercury content</p> <p>Determine how the same process can be applied to other products containing mercury.</p>



Objective 2 - Minimize if not prevent the use of mercury in products and processes



Tasks	Implementing Agencies	Specific Activities
<p>Establish a management program where source reduction (using alternative materials or alternative process not requiring mercury), waste minimization (efficient use of mercury in the process), and/or emission reduction/treatment are the critical components</p>	<p>EMB RDD</p>	<p>Work with private laboratories to search for alternative methods for COD analysis; instead of using COD vials that contain mercuric thiocyanate or mercuric sulfate</p>
	<p>DOH</p>	<p>Work with the manufacturers/distributors of non-mercury-containing health care instruments to have a better competitive price for the general consumers benefits</p>
	<p>DOH/EMB</p>	<p>Implement to all health care facilities and institutions nationwide, private and public, the DOH AO 08-21 Gradual Phase-out of Mercury in all Philippine Health Care Facilities and Institutions</p>

Objective 2 - Minimize if not prevent the use of mercury in products and processes



Tasks	Implementing Agencies	Specific Activities
<p>Establish a management program where source reduction (using alternative materials or alternative process not requiring mercury), waste minimization (efficient use of mercury in the process), and/or emission reduction/treatment are the critical components</p>	<p>FDA-DOH</p>	<p>Work with suppliers of vaccines to find alternative for thimerosal (sodium ethylmercuric thiosalicylate) as preservative</p>
<p>Develop mechanisms whereby manufacturers/distributors will make the following available in the Phil market:</p> <ul style="list-style-type: none"> - Products that have less mercury content - Products that have longer life - Products that are made of sturdy material to prevent unintended releases (breakdown, spill, or leak) 	<p>DOE</p>	<p>Work with the lighting products industry for the ongoing development of lamps that contain less mercury or have longer product life and have these products available in the market</p>
	<p>DTI</p>	<p>Establish product standards for other mercury-containing products, which include disclosure of mercury content</p>

Objective 2 - Minimize if not prevent the use of mercury in products and processes



Tasks	Implementing Agencies	Specific Activities
<p>Ensure that alternative products, processes, or input materials do not pose greater risk than mercury considering the overall life cycle of the materials, products, or processes</p>	ITDI-DOST	Prepare the required ETE/ETV studies
	DTI	Check/review substitute materials, products, or processes if these have the appropriate ETE/ETV before introducing in the Philippine market
<p>Set-up system/network for the national database on mercury and mercury-containing wastes (can be linked with the Hazardous Wastes Manifest System Database once operational)</p>	EMB	Procure services for the development and establishment of the national database (online)



Objective 3 - Establish a national inventory and database of mercury and mercury containing wastes (including mercury-contaminated sites)



Tasks	Implementing Agencies	Specific Activities
<p>Using the results of the initial inventory, expand further by requiring all establishments governed by existing regulations to submit in detail the types and quantities of mercury and mercury-containing materials/products that they use and/or generate; and the existing waste management practice</p>	<p>EMB-CO</p>	<p>Develop user-friendly with internet interface survey/inventory form for mercury and mercury-containing wastes</p> <p>Collate and input into the database</p>
	<p>EMB-RO, NSWC, MGB, DOE, DOH, DA, DepEd, CHED, DILG</p>	<p>Distribute and collect all survey forms from the regulated communities</p>

Objective 3 - Establish a national inventory and database of mercury and mercury containing wastes (including mercury-contaminated sites)



Tasks	Implementing Agencies	Specific Activities
<p>Strengthen the monitoring requirements for mercury in wastewater/effluents and source emissions for those establishments that have the potential to generate mercury in their waste streams. This should be part of the permit renewal/ application.</p>	<p>EMB-RO</p>	<p>Issue memo (RD) to all regulated communities to include and submit in their SMR monitoring results for mercury</p> <p>Submit summary results to EMB CO for entry into the database</p>
<p>Gather/collect sampling and analysis data of mercury from existing and abandoned sites</p>	<p>EMB, MGB DA-FPA, DOH</p>	<p>Identify sites that use or have used mercury in their process, conduct sampling and analysis, and submit results to EMB CO for consolidation in the database</p>



Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
<p>Strictly enforce the guideline for mercury wastes management as stipulated in the CCO and the Hazardous Wastes Management Guideline (and their amended versions)</p>	<p>EMB RO</p>	<p>Review the submitted SMRs, conduct regular inspection, and subject the violators to fines and penalties</p> <p>Note: No PAB case related to Hazardous Wastes Management? No admin penalties imposed due to mismanagement of hazardous wastes (no labeling, segregation, etc.)</p>

Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
<p>Strictly enforce the guideline for mercury wastes management as stipulated in the CCO and the Hazardous Wastes Management Guideline (and their amended versions)</p>	<p>DOH</p>	<p>Conduct regular inspection to all DOH-owned hospitals</p> <p>Require other hospitals to submit latest copy of SMR with EMB receipt as part of the renewal process of hospital permits.</p> <p>Impose penalties to Health Care Facilities violating the joint EMB-DOH AO and the DOH AO on Mercury Wastes Management</p>

Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
<p>Encourage the treatment of wastes from combustion and industrial processes and pollution-control operations to recover, stabilize, or retire mercury in the waste where there is a risk of mercury being released to the environment through any subsequent waste storage, transfer, or disposal operation</p>	EMB RO	Include in the review/assessment of the permitting process the assessment of the controls implemented to reduce/control emissions of mercury
	EMB-EIA	Ensure that these requirements are integrated into the EIA process as part of the environmental mitigation plan of the proponent

Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
<p>Develop pollution-prevention policies and programs aimed at reducing the amount of mercury entering wastewater treatment facilities</p>	<p>EMB</p>	<p>Establish protocols for identifying, analyzing, and reducing these sources of mercury to wastewater treatment facilities</p> <p>Encourage the development of appropriate management techniques to reduce the release of mercury from biosolids or effluents from wastewater treatment facilities</p>
	<p>EMB-EIA</p>	<p>Ensure that these requirements are integrated into the EIA process as part of the environmental mitigation plan of the proponent</p>

Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
Strict evaluation and monitoring of TSDs for mercury and mercury containing wastes	EMB	Use of standardized inspection protocols and checklists Conduct regular inspection Ensure that all manifests are complete Ensure that the COTs, manifests, and the information submitted in the SMRs are aligned Strictly implement the submission of COT to EMB

Objective 4 - Establish effective controls for mercury removal from waste streams (air, water, sludge, soil)



Tasks	Implementing Agencies	Specific Activities
Strict evaluation and monitoring of TSDs for mercury and mercury containing wastes	EMB	Use of standardized inspection protocols and checklists Conduct regular inspection Ensure that all manifests are complete Ensure that the COTs, manifests, and the information submitted in the SMRs are aligned Strictly implement the submission of COT to EMB

Objective 5 - Develop and implement EOL management of mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
<p>Developing and enforce legal commitments among producers/importers/distributors of mercury-containing products to take responsibility for EOL Management of these products</p>	<p>EMB</p>	<p>Assess the feasibility of enforcing EPR to applicable mercury-containing products</p>
	<p>EMB DOE</p>	<p>Conduct study on the implementation of EPR for lighting products including the appropriate collection system and financial mechanisms</p>
<p>Prepare and implement short and long term EOL storage/disposal plans for the phased-out mercury-containing products considering the life cycle of these products</p>	<p>EMB DOH/DOE</p>	<p>Conduct feasibility study on the appropriate EOL management options: 1) long term storage; 2) interim storage and off country disposal; 3) combination of interim storage with initial mercury recovery for internal consumption; 4) combination of interim storage with initial mercury recovery, and off country disposal</p>

Objective 5 - Develop and implement EOL management of mercury and mercury-containing wastes



Tasks	Implementing Agencies	Specific Activities
Prepare and implement short and long term EOL storage/disposal plans for the phased-out mercury-containing products considering the life cycle of these products	EMB DOH/DOE	Implement the best management options per type of products for mercury-containing wastes
Develop short and long term strategy for sites contaminated with mercury	EMB LGU of concerned	Implement immediate site control to prevent exposure while looking at long term site remediation or rehabilitation
Promote the development of research into new reduction technologies	ITDI-DOST	Conduct studies on the available and emerging technologies, processes, and products that can or can potentially reduce mercury and mercury-containing wastes

Objective 6 - Conduct continual studies on mercury and mercury wastes reduction measures



Tasks	Implementing Agencies	Specific Activities
Promote the development of research into new reduction technologies	DOST	Include in the short and long term S&T plans and programs the support for alternative solutions to processes/products that use mercury
Promote incentives to encourage adoption of emerging technologies for reduction of mercury releases	DTI/BOI	Include in the IPP the alternative process, technology for mercury-containing product
	DTI/DOF	Provide fiscal and other incentives for the adoption of new technology
Promote research on remediation of mercury-contaminated sites	EMB	



Objective 7 - Establish Health and Safety Program for Handling Mercury and Mercury-containing Wastes in Workplaces



Tasks	Implementing Agencies	Specific Activities
<p>Promote employee awareness on the Health and Safety Programs for handling mercury and mercury-containing wastes in the workplace</p>	<p>DOLE-OSHC DENR-EMB</p>	<p>Develop a standard Health and Safety Program training manual for handling mercury and mercury-containing wastes in the workplace</p>
	<p>DOLE-OSHC</p>	<p>Develop training programs to effectively implement mercury waste processing and ensure safety against mercury exposure when processing mercury wastes</p>
	<p>DOLE-BWC</p>	<p>Strengthen implementation of personal protective equipment requirements</p>



Objective 7 - Establish Health and Safety Program for Handling Mercury and Mercury-containing Wastes in Workplaces



Tasks	Implementing Agencies	Specific Activities
<p>Establish an Emergency Response Program on dealing with accidental release of mercury in the workplace area</p>	<p>DOLE-OSHC DENR-EMB</p>	<p>Develop guidelines in responding to mercury spills/releases in the workplace and in the environment</p>
	<p>DOLE-BWC</p>	<p>Enforce the requirements on developing emergency preparedness and response programs and conducting drills to all establishments</p>

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
<p>Develop and implement program to increase awareness and understanding of the health and environmental risks of mercury and mercury-containing wastes</p>	<p>DENR-EMB</p>	<p>Set-up databank/library on mercury as source of information for continuous public dissemination</p>
	<p>DENR-EMB DOH, DOE, LGU, NGOs</p>	<p>Produce and disseminate IEC materials based on documented testimonials and popularized technical reports and risk studies</p>

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
<p>Develop and implement program to increase awareness and understanding of the health and environmental risks of mercury and mercury-containing wastes</p>	<p>DENR-EMB DOH, DOE, LGU, NGOs</p>	<p>Conduct series of seminars and lectures to various organizations both formal and non-formal organizations</p>
	<p>DENR-EMB</p>	<p>Initiate media coverage through:</p> <ul style="list-style-type: none"> * Writing and placement of regular news releases * Conduct of regular press conference * Radio-television guestings by government officials * Use of existing radio and television government programs * Tapping of public affairs programs

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
Create and implement educational programs in all levels	DENR-EMB DepED/CHED	Coordinate with DepED and CHED to integrate awareness on mercury and its health and environmental impacts
	DepED/CHED	Conduct National Orientation seminar and training of potential trainers among teachers and student leaders from different schools nationwide

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
Create and implement educational programs in all levels	DepED/CHED	Require schools to have as one of its Outreach Program, the conduct of orientation seminars of the environmental and health effects of mercury and mercury-containing wastes in their respective communities

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
Build and sustain network information exchange and communication	DENR-EMB	Survey partner stakeholders to establish common interest and preferred communication mechanisms
		Maintain regular coordinative meetings, including reporting on updates and the activities with partners (government agencies, NGOs, private sectors) and other stakeholders

Objective 8 - Strengthen Public Participation and IEC on Mercury and Mercury-containing Wastes



Tasks	Implementing Agencies	Specific Activities
Build and sustain network information exchange and communication	DENR-EMB	Participate in local, national, and international forums on mercury and mercury-containing wastes management
		Present during regular meetings of business associations