

**The Workshop 2012 of the Asian Network for  
Prevention of Illegal Transboundary Movement  
of Hazardous Wastes  
20-23 November 2012  
Cebu, Philippines**



**NATIONAL REGULATION AND  
BORDER CONTROL ACTIVITIES  
IN THAILAND**



กรมโรงงานอุตสาหกรรม  
DEPARTMENT OF INDUSTRIAL WORKS



กรมควบคุมมลพิษ  
Pollution Control Department

*Asian Network Workshop 2012 (22-23 Nov), Philippines*

# Presentation Outline

2

1. Basic information
2. General Definition of Hazardous Waste
3. National Legislation
4. Import / export statistic
5. Enforcement / Border Control activities
6. Regulations / Policies on recycling & ESM



# 1. Basel Convention (Basic information)

3

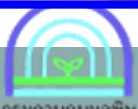
- Thailand is a member of Basel Convention.
- Import and export of hazardous waste is controlled under Basel Convention.
- Importer and exporter must obtain a consent from the government of designation country (i.e., DIW).
- Prohibition of importing and exporting hazardous waste to a non-member country.



## 2. General Definition of Hazardous Waste



### 2.1 Industrial W



# 2. General Definition of Hazardous Waste

## 2.2 Household W

Used Lead Acid Batteries



Used Printer Cartridges



Fluorescent Lamps



Dry Cell Batteries



Painting Spray & Insecticide Containers



## 2. General Definition of Hazardous Waste

1. Large Home Appliances



2. Small Home Appliances



3. IT Equipment



2.2 Household HW (WEEE)

4. Consumer Products



5. Lighting



6. Monitoring & Control Instruments



7. Electrical & Electronic Tools



8. Instruments

9. Electrical & Electronic Instruments

10. Electronic Toys

11. Automatic Tools

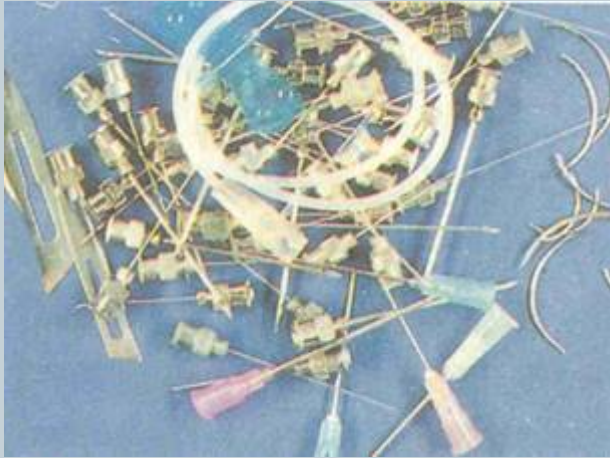
E-O-F Electrical and Electronic Tools



# 2. General Definition of Hazardous Waste

## 2.3 Infectious W

Blade and needle



Infectious waste



# 3. National Legislation

## ○ Currently

### ✦ Factory Act B.E. 2535 (1992)

- Notification of MoI (2005) (**Criteria on classify hazardous waste**)

### ✦ Hazardous Substance Act B.E. 2535 (1992)

- **HW** : Notification of MoI (2003 & 2006) (61 items of list A)
- Notification of MoI (2006) : Dry cell batteries (Hg & Cd) (*banned*)
- **EEE**: DIW Notification on the **Import** of Used EEE & Its Parts/Components (2007)

## ○ Recently amended

### ✦ Hazardous Substance Act B.E. 2535 (1992)

- *5 banned waste lists for Import*  
(PCBs-PCTs-PBBs / Cathode-ray tube – Activated glass / Lead-acid battery / Asbestos / PCDDs-PCDFs)

## ○ Newly establishing

### ✦ Hazardous Substance Act B.E. 2535 (1992) (**Criteria on classify hazardous waste is controlled under Basel Convention**)

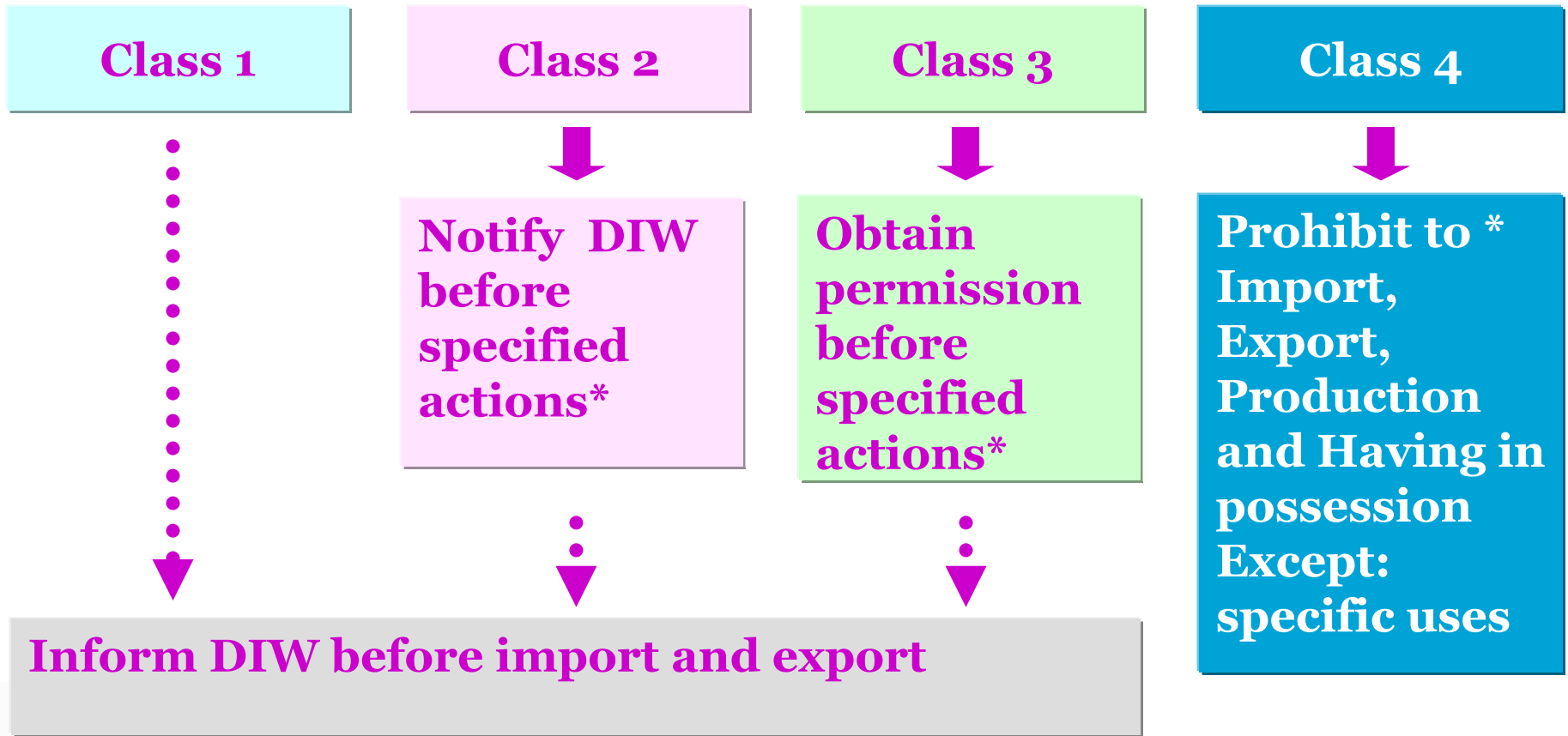
### ✦ Customs Tariff Decree/Acts (**Tariff and Statistic code for hazardous waste under Basel Convention**)





# Hazardous Substance Act A.D. 1992

## Classification of Hazardous Substances



# Hazardous Substance Lists

10

- **Chemical wastes (62 items)**
  - **61 items: Hazardous waste in Annex 8, List A of the Basel Convention (Class 3 Hazardous Substance)**
  - **1 items: Dry cell batteries containing Hg and Cd (Class 4 Hazardous Substance)**
- **Used electronic and electrical equipments/parts U-EEE (2 items)**
  - **Equipments (Class 3 Hazardous Substance)**
  - **Parts (Class 3 Hazardous Substance)**

# Used Electronic and Electrical Equipment/Parts - DIW Notification

11

- **Import of Used EEE is allowed only for objectives**
  - **Reuse**
  - **Repair**
  - **Refurbish** as it original purposes (must be used  $\leq$  5 yrs for photocopier & its parts, except toner cartridge and fuser module; must be used  $\leq$  3 yrs for others)
  - **Disassembly and recycling/recovery (Under the Basel Convention)**



# Import of controlled waste

12

- **Plastic scraps**
  - Prohibit unclean and unsorted plastic scraps
  - Cleaned plastic scraps shall be smaller than 2 cm in size except plastic using as raw material for polyester factories and electronic and electrical factories.
- **Used tires and scraps**
  - Prohibit used tires and scrap
- **Used electronic and electrical equipments/parts**
  - Must be used less than 3 years old
  - Must be in usable or refurbishable or fixable condition
- **Used acid-lead batteries**
  - Prohibit used acid-lead batteries (whole and parts)



# 4. Import / export statistic

## Industrial Waste Management Rate



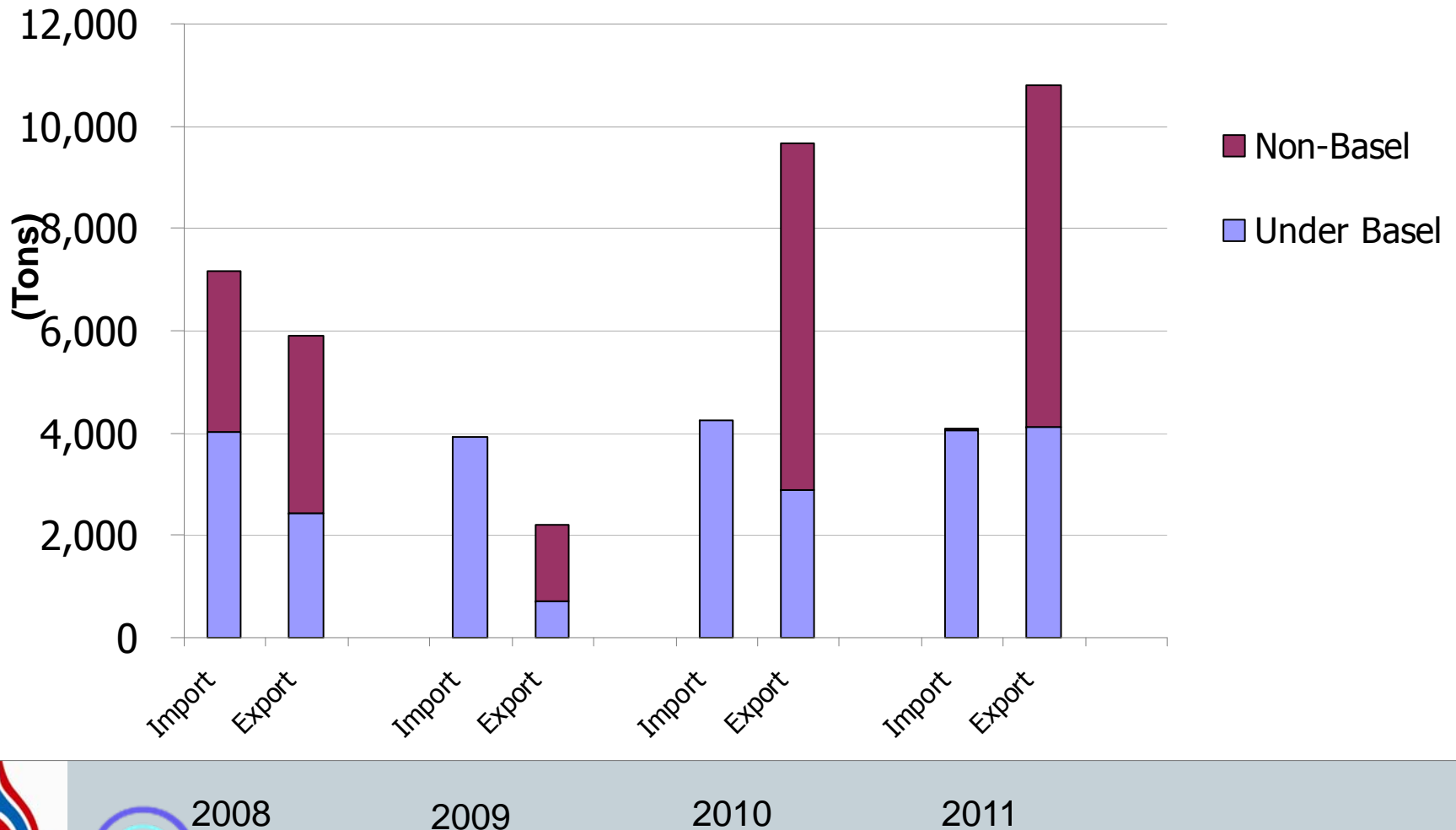
	Non - Hazardous Waste (%)	Hazardous Waste (%)
Reuse	30.91	36.65
Energy Recycling	11.54	26.93
Material Recycling	49.60	13.55

**Ex Data : Department of Industrial Works Database, waste quota granted to be transferred out of factories in 2011**



Treatment	1.57	2.42
Disposal	4.94	15.17

# Hazardous Waste Import & Export



2008

2009

2010

2011

Asian Network Workshop 2012 (22-23 Nov), Philippines

# Hazardous Waste Import and Export under Basel Convention in 2011

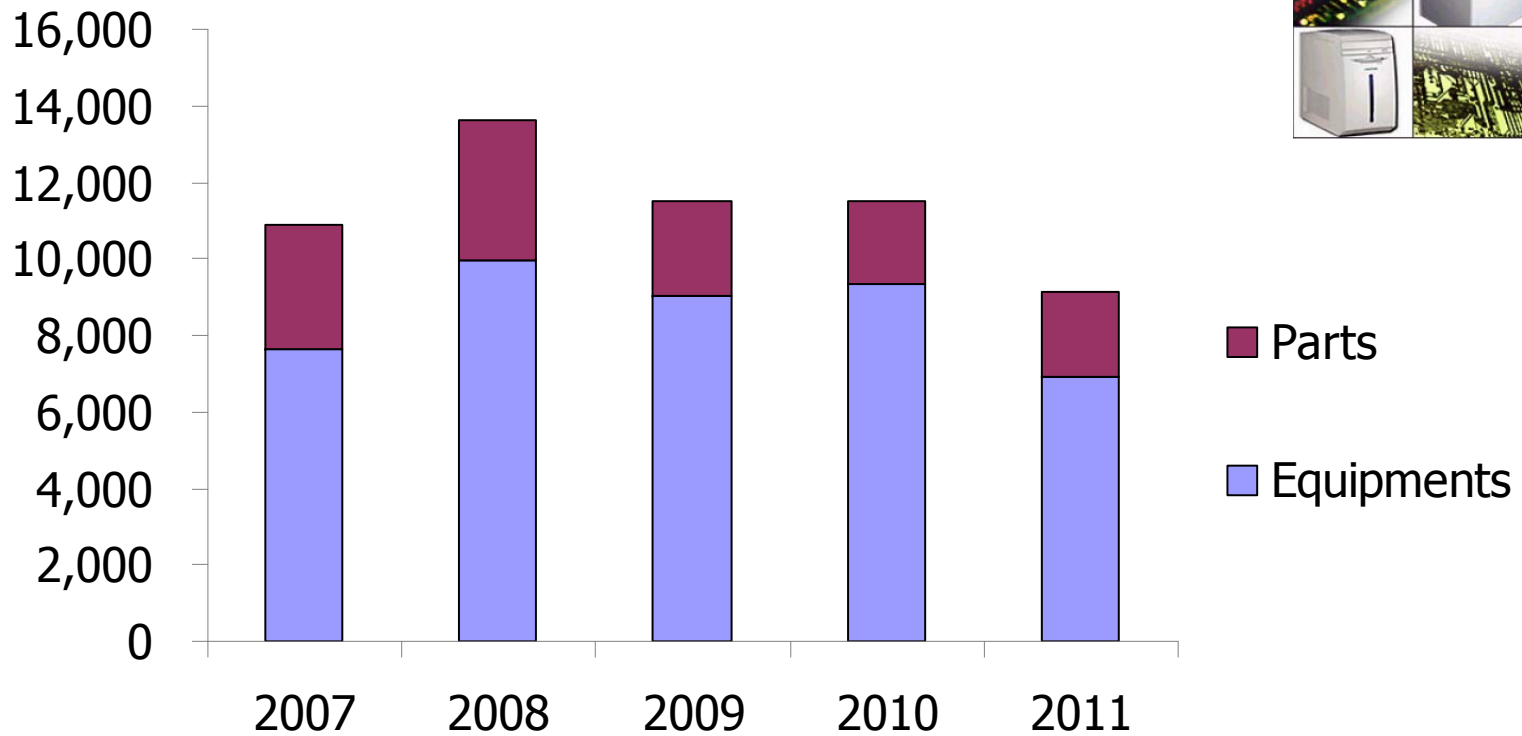
Import	Waste electrical and electronic assemblies or scrap contaminated with Cd, Hg, Pb, PCB (Used Xerox Office Equipments)
	Used Engine Oil
	Waste from the production, formulation and use of inks, pigments, paints, lacquers, vanish (Used Xerox Office Supplies Containing Residual Toner)
Export	Waste having as constituents or contaminants of heavy metal - Solder dross/Tin alloy - Waste sludge (Sn, Pb scrap) - Mercury sludge
	Galvanic sludge (Precious Metal)
	Unsorted batteries
	Waste electrical and electronic assemblies or scrap contaminated with Cd, Hg, Pb, PCB - Printed circuit boards - IC scraps, Metal Lead Frames - Unsorted electronic component
	Catalysts
	Used Ink & Toner Cartridges
	Waste Containing PCB oil



# Used Electronic and Electrical Equipments/Parts Import



(Tons)





# 5. Enforcement / Border Control activities

- Manual on import and export hazardous waste under Hazardous Substance Act and Basel Convention
- Developing IT system
- Training course on law and regulation to import and export hazardous waste
- 9<sup>th</sup> Technical training workshop on identification and monitoring of hazardous waste transboundary movement



# Training Course on Law and Regulation to Import and Export Hazardous Waste

- 2 training courses
  - May 15, 2012
  - May 29, 2012
- Target group : 276 Participants
  - Importer/Exporter
  - Waste generators
  - Waste processor
- Subject
  - Industrial waste management law and regulation
    - ✦ Transport waste out of factory
    - ✦ Import and export waste
  - Basel convention



# 9<sup>th</sup> Technical Training Workshop on Identification and Monitoring of Hazardous Waste Transboundary Movement



- Apply from “Basel Convention Training Manual on Illegal Traffic” (2012)
- 1 training courses
  - July 25-27, 2012
- Target group : 70 Participants
  - Customs Dept / Port Authority
  - Importer/Exporter
  - Relevant agencies



# 9<sup>th</sup> Technical Training Workshop on Identification and Monitoring of Hazardous Waste Transboundary Movement



- Objectives
  - ✦ Identification & monitoring of HW/WEEE
  - ✦ Prevention of illegal traffic of HW
- Subject
  - ✦ HW (Definition/Legislation)
  - ✦ Basel Convention Procedure (CA/FP/Customs)
  - ✦ Role of Officers for import/export (Customs, Port, University)
  - ✦ Exercises & Group Discussion / Lesson learned from Customs
  - ✦ Site visits – Recycling facility/ Port



# Ongoing Activities



- ✦ Draft Manuals:
  - Analytical method procedure for HW classification on Basel Convention
  - Take back procedure for Illegal Transboundary Movement
  
- ✦ Interpretation on some imports/exports as List A
  
- ✦ Set up the Tariff statistic code especially for Harmonized Code under Basel Convention
  
- ✦ Risk profiling



# Ongoing Project 1

## Analytical method procedure for HW classification



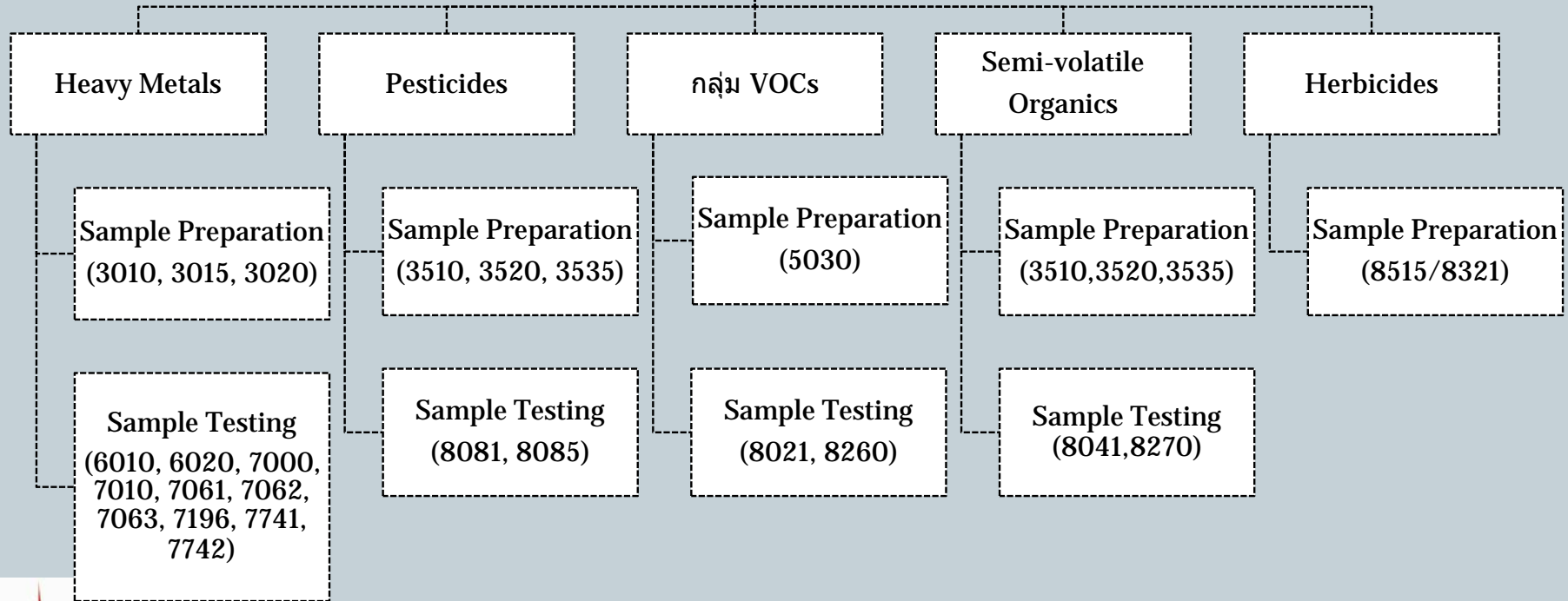
Kind/Type of Contaminant	Comparison of Waste Identification Analysis Method		
	USA	EU	Australia
<b>Metals, including:</b> - antimony - arsenic - barium - beryllium - boron - cadmium - copper - lead - nickel - selenium - silver - zinc	USEPA methods 6010B, 7000 series	DIN EN ISO 5961, 11885, 11969, 14911 DIN 38406-E6 DIN 38406-E7 DIN 38406-E22 DIN-38406-E8-1	NEPM methods 201, 202, 203 USEPA methods 3051A, 3050B, 6010C, 6020A, 200.7, 200.8 APHA methods 3110 to 3125
<b>Metal, mercury</b>	USEPA methods 3051A, 7471B, 6020A	DIN EN1483	NEPM method 203 USEPA methods 3051A, 7471B, 6020A
<b>Metal, Hexavalent chromium</b>	USEPA method 3060A	DIN 38405-D24	USEPA method 3060A



# Ongoing Project 1

## Analytical method procedure for HW classification

Analytical method procedure for HW classification  
(US EPA SW 846 Method)



Reference: <http://www.epa.gov/waste/hazard/testmethods/sw846/online/>



# Ongoing Project 2

## Comparison of Limitation for Hazardous Waste for Thailand New Limitation



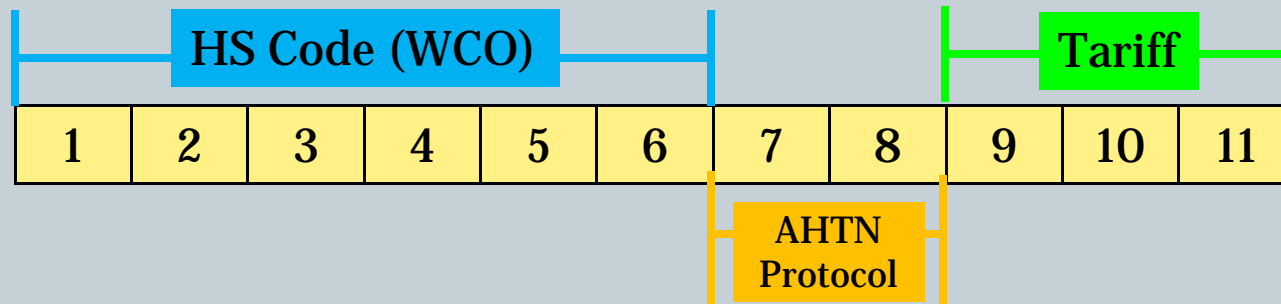
Types of Contaminants	Comparison of Limitation									
	USA	USA/Thailand		EU * H13 (mg/l)	Australia					New Zealand
	TCLP (mg/l)	STLC (mg/l)	TTLIC (mg/kg)		Vitoria			New South Wale		
				Industrial waste	Class C	Class B	TCLP2 (mg/l)	SCC2 (mg/kg)	TC (mg/kg)	
				TC (mg/kg)	TC (mg/kg)	TC (mg/kg)				
Antimony	-	15	500	> 0.07	75	75	300	-	-	50
Arsenic	5.0	5.0	500	> 0.2	500	500	2,000	20	2,000	50
Cadmium	1.0	1.0	100	> 0.1	100	100	400	4	400	50
Chromium / Cr <sup>3+</sup>	5	5	2500	> 1	500	500	2,000	-	-	5,000
Cobalt	-	80	8000	-	-	-	-	-	-	5,000





## Ongoing Project 3

# Set up the Tariff statistic code especially for Harmonized Code under Basel Convention



### Example

Chapter	Sub-Chapter	Tariff	Description
26.20			Slag, ash and residues (other than from the manufacture of iron or steel), containing metals, arsenic or their compounds.
	2620.19.00	000/KGM	-- Others
		899/KGM	-- Especially under Basel Convention

# Challenge activities

- E-waste segregation facilities as hub, no ESM facility on precious metal recovery
- Free Trade Agreement, lack of National Legislation for control the quality of import products with ESM of their wastes
- Classification on ESM of HW and other waste for each industrial size
- Review interpretation List A and determine the TLC to identify hazardous waste on List A
- Difficulty to interpret some imports/exports as List A, set up the Harmonized Code (tariff and statistic code), and risk profiling



# 6. Regulations / Policies on recycling & ESM

27

- National WEEE Management Strategic Plan (Phase II)
- ◎ **WEEE Management Law**
  - ◎ Draft Act on Economic Instruments for Environmental Management
- ◎ **EPR (HHW: FL / Dry cell batteries)g**
- ◎ Set up recycling facility for Electric Arc Furnace Dust
- ◎ ESM of E-waste Project (SBC/UNEP) (Present - July, 2013)
- ◎ Certified WP



# Certified Waste Processors



Gold Medal



Silver Medal



Bronze Medal





กรมโรงงานอุตสาหกรรม  
DEPARTMENT OF INDUSTRIAL WORKS

**International Waste Management Division  
Industrial Waste Management Bureau  
Department of Industrial Works  
Ministry of Industry, THAILAND**

**Web site: <http://www.diw.go.th/iwmb>**

**Tel: +66 2202 4168 Fax: +66 2202 4167**



กรมควบคุมมลพิษ  
Pollution Control Department

**Hazardous Waste Division  
Wastes and Hazardous Substances Management Bureau  
Pollution Control Department  
Ministry of Natural Resources and Environment, THAILAND**

**Web site: <http://www.pcd.go.th>**

**Tel: +66 2298 2433-35 Fax: +66 2298 2438**



กรมโรงงานอุตสาหกรรม  
DEPARTMENT OF INDUSTRIAL WORKS



กรมควบคุมมลพิษ  
Pollution Control Department