



The challenges and implementing measures to Minamata Convention in Vietnam

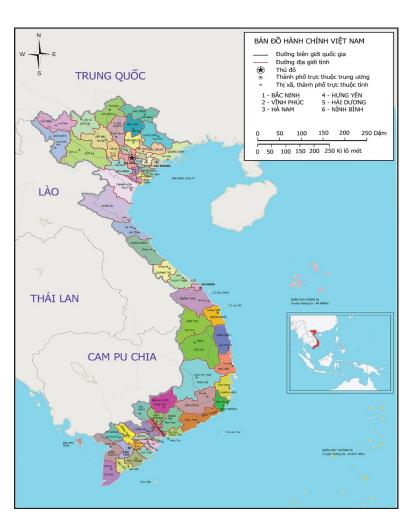
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Introduction of Vietnam



Capital <u>Hanoi</u>

Official language

Ethnic groups

Religion

Government

Area

- Total
- Water (%)

Population

• 2016 estimate

Density

GDP (PPP)

- Total
- Per capita

Currency

Time zone

Vietnamese

•85.7% Vietnamese[b]

•53 minorities[show]

•73.2% Folk or Irreligious

•12.2% Buddhism

•8.3% Christianity

Marxist-Leninist one-party socialist republic

331,230.8^[4] km²(127,888.9 sq mi) (65th)

 $6.4^{[5]}$

94,569,072⁶ (14th)

276.03/km²(714.9/sq mi) (46th)

2018 estimate

\$705.774 billion (35th)

\$7,463^[7] (128th)

<u>đồng</u> (₫) (<u>VND</u>)

(<u>UTC</u>+7)

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National situation

Institutional Framework for mercury management by life-circle

| No | Issue | MOIT | MONRE | MOH | MARD | MOST | MOLISA | MOT |
|----|--|------|-------|-----|------|------|--------|-----|
| 1 | Mercury supply sources and trade | Х | | 0 | 0 | | | 0 |
| 2 | Mercury added products | X | | Х | X | | | |
| 3 | Manufacturing processes in which mercury or mercury compounds are used | X | | 0 | 0 | 0 | | |
| 4 | Artisanal and small-scale gold mining | X | 0 | 0 | | | | |
| 5 | Emissions | 0 | Χ | | | 0 | | |
| 6 | Releases | 0 | Χ | | | 0 | | |
| 7 | Environmentally sound interim storage of mercury | 0 | X | 0 | 0 | | | 0 |
| 8 | Mercury wastes | 0 | Χ | | | | | 0 |
| 9 | Contaminated sites | 0 | Χ | | | | | |
| 10 | Health aspects | 0 | | X | | | X | |

X: Responsible

O: Involve

Legal Framework for mercury management by life-circle

| Minamata Convention | | | Compliance of Legal framework in Vietnam | | | | |
|---------------------|--|-------|--|-----------|----------------------|--|--|
| Article | Obligation | Fully | Fully Not Not Referring | | | | |
| | | | completed | regulated | legislation | | |
| 3 | Mercury supply sources and trade | | X | | 113/2017/ND-CP | | |
| 4 | Mercury added products | | X | | 30/2011/TT-BCT | | |
| 5 | Manufacturing processes in which mercury or | | | X | | | |
| | mercury compounds are used | | | | | | |
| 7 | Artisanal and small-scale gold mining | | | X | | | |
| 8 | Emissions | | X | | QCVN: 02,22,23,30,41 | | |
| 9 | Releases | | X | | QCVN: 40,43,50,52 | | |
| 10 | Environmentally sound interim storage of mercury | | X | | TCVN 5007:2002 | | |
| 11 | Mercury wastes | | X | | 16/2015/QĐ-TTg | | |
| 12 | Contaminated sites | | | X | | | |
| 16 | Health aspects | | X | | QCVN: MOH, MARD, | | |
| | | | | | MONRE | | |

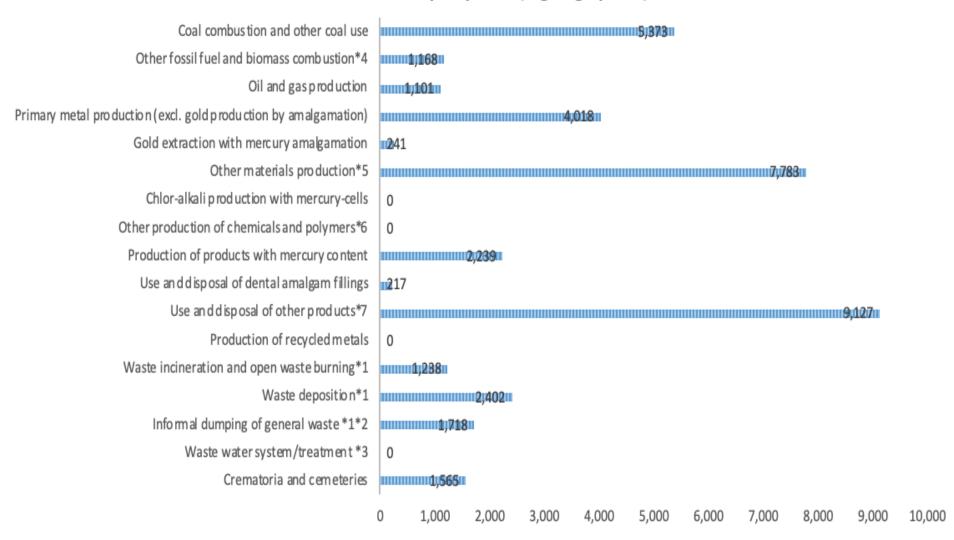
Mercury emission and release threshold

| Area | Unit | Value |
|---|--------|--------------|
| Waste burning facilities | mg/Nm3 | 0.2 – 0.5 |
| Industrial waste water | mg/l | 0.005 - 0.01 |
| Sediment quality | mg/l | 0.5 – 0.7 |
| Sludge from water treatment processes | ppm | 4 |
| The hazardous threshold for mercury waste | ppm | 4 |

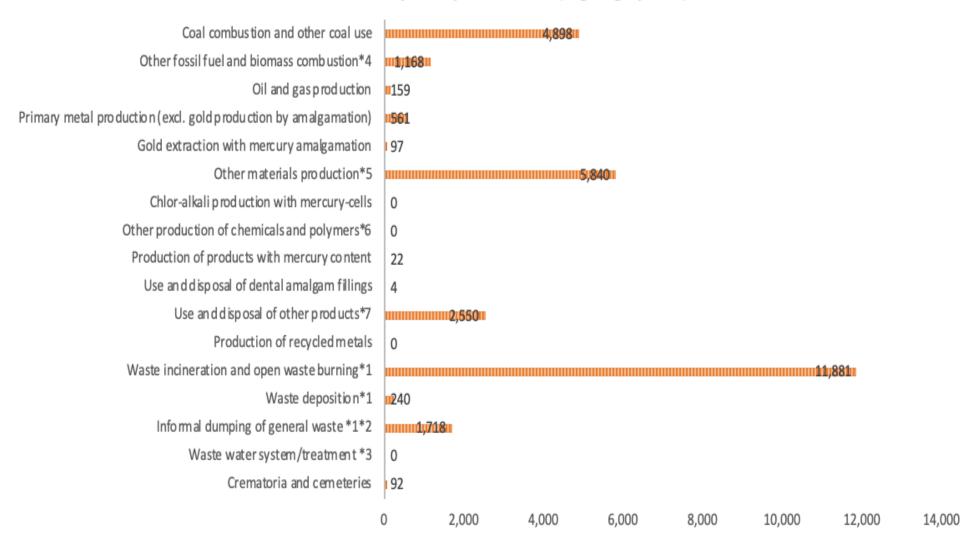
Maximum allowable value of mercury

| Area | Unit |
|----------------------|---|
| Mercury exposure | Water: 0.001 mg/l; Surface water used for protection of aquatic life: 0.001 mg/l; Groundwater: 0.001 mg/l; Irrigation water: 0.001 mg/l; Off-shore sea water: 0.16 µg/l; Ambient air: 0.3 µg/m3 in 24 hours; Weekly food: 0.005 mg Hg/kg weight; |
| Food | 1.0 mg Hg/kg for fish; 0.5 mg Hg/kg (other sea food products); 0.1 mg Hg/kg (salt); 0.05 mg Hg/kg (dairy products, tea, coffee, cocoa, honey, spices) |
| Drinking water | 0.001 mg Hg |
| Mercury in workspace | 0.005 mg/m3 in an average of 8h for ethane mixture of mercury (II) chloride and Lindan; 0.01 mg / m3 in an average of 8h for organic mercury; and 0.03 mg/m3 maximum each time, 0.02mg/m3, in an average of 8 h for inorganic mercury and mercury compounds; and 0,04mg/m3 maximum each time. |

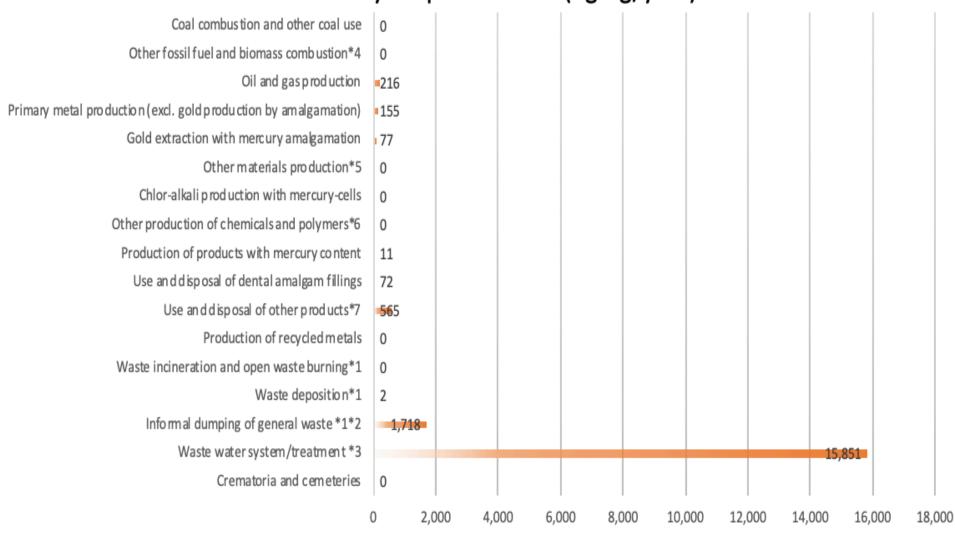
Estimation of mercury inputs (Kg Hg/year) in 2015



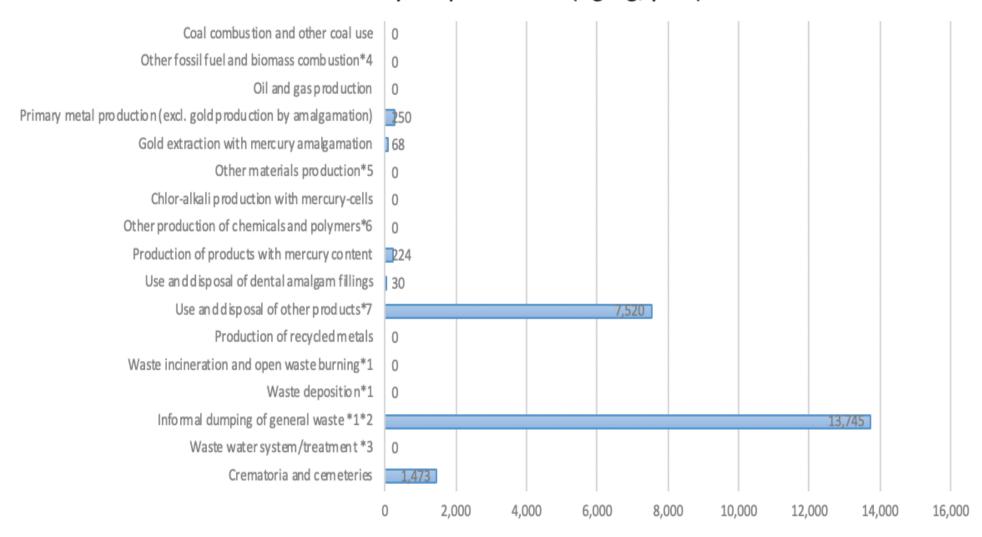
Estimation of mercury output to air (Kg Hg/year) in 2015



Estimation of mercury output to water (Kg Hg/year) in 2015



Estimation of mercury output to land (Kg Hg/year) in 2015

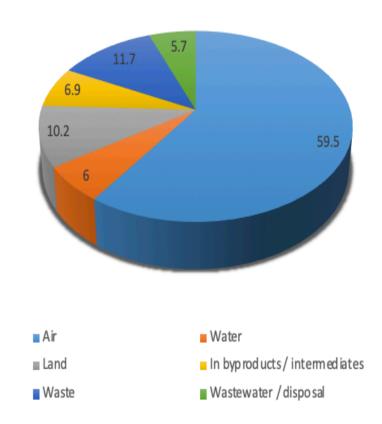


National Inventory of Mercury in Vietnam in 2015

Summary of mercury emissions by sector (%)

Rate (%) Cremation and burial Waste burying and wastewater treatment 11.1 Waste incineration 25.2 Use and disposal of products containing mercury 19.6 Production of products containing mercury Other material productions Crude metal production 8.7 Fuel production Energy consumption 13.3 10 15 20 25 30

Allocation of mercury emissions into the environment (%)



Challenges in estimating emissions and releases from industrial sources

- Data: Not available
- Input: Emission Factor is very variants for coals (UNEP 0.15 ppm; test in 2017 0.287ppm)
- Output: Depend on treatment technology (UNEP: 12%; test in 2017 – 43%)

What were the institutional and capacity needs identified for industrial sources of mercury?

- Institutional: for the new industrial sources BAP and BEP need to be applied
- Capacity: Support and encourage the current industrial sources applying BAP, BEP



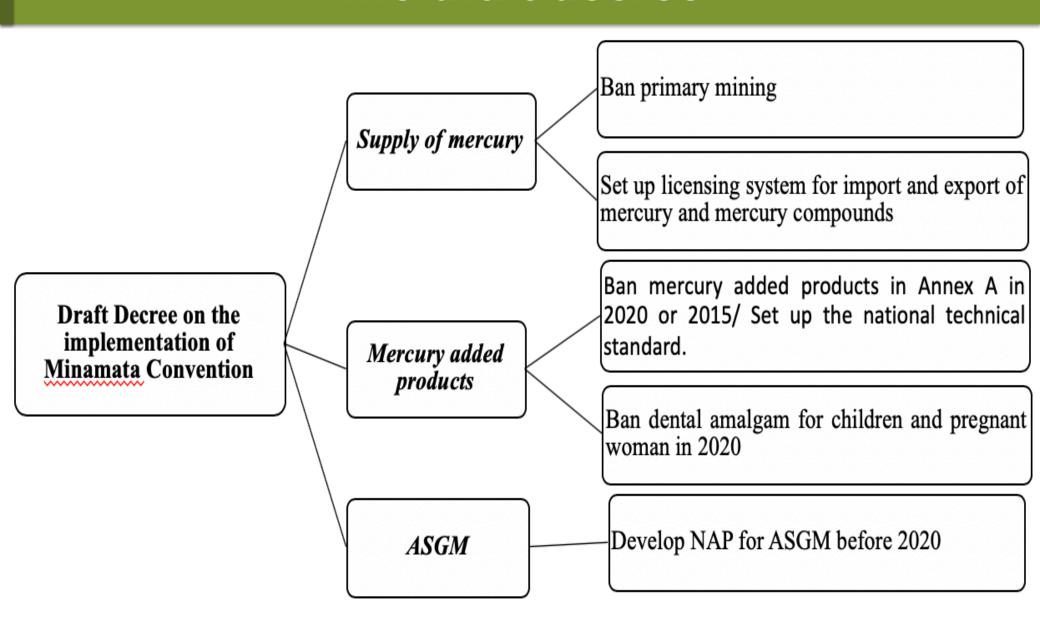
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2 The draft decree

The draft decree



The draft decree

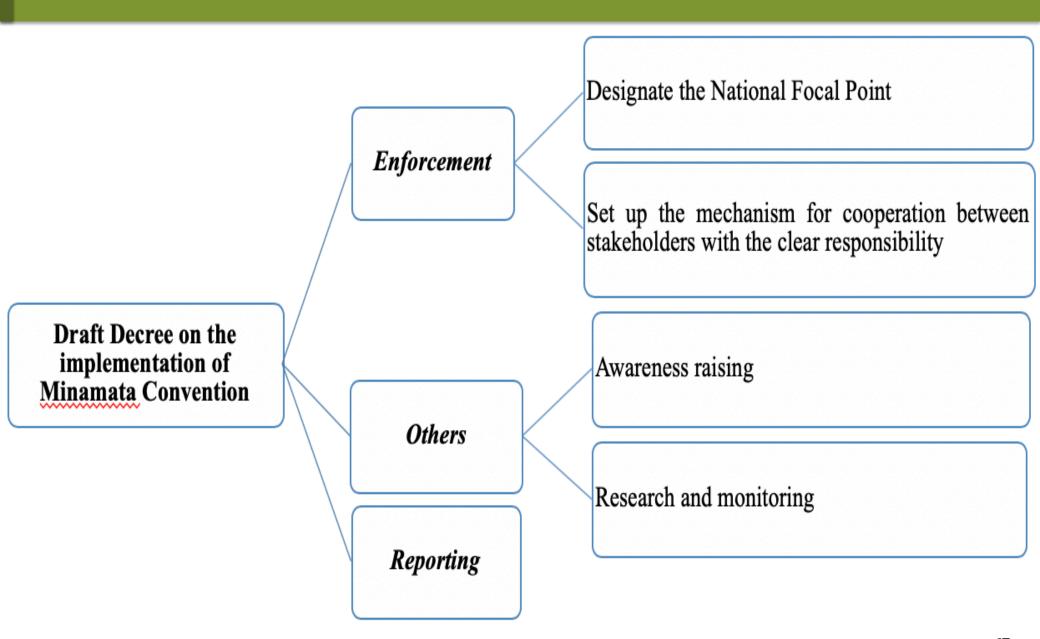
Emission and Release

National technical standards on emission and release limit value of mercury from the sources

Draft Decree on the implementation of Minamata Convention Require the application of Best Available Techniques (BAPs) and the Best Environmental Practices (BEPs) to ensure that the level of mercury emitted by sources meeting the national technical standards

Mercury waste Mercury-containing wastes are stored and managed in accordance with the Basel Convention on the Control of Tran-boundary Movements of Hazardous Wastes and their Disposal

The draft decree







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Challenges Experiences

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Challenges and Experiences

Challenges

- Lack of specific regulations on mercury management by life circle
- Limitation on human and financial resources

Experiences

- Review of institutional and legal framework is very important to know gaps and barriers.
- An inventory is essential to identify the prioritized sectors.
- Clear responsibility and cooperation mechanism are the keys for enforcement.
- Public awareness plays an important role for the successful implementation.





THANK YOU