Japan's contribution to accelerate the early entry into force of the Minamata Convention

Japan's determination and commitment for the international cooperation

Japan's messages in the Diplomatic Conference, October 2013

Prime Minister Shinzo Abe

Japan experienced a crisis due to mercury and then recovered from it. We therefore have a responsibility to play a leading role in eliminating the suffering caused by mercury worldwide. I believe Japan can do more to share its technologies and experiences with the world, in order to achieve a 'mercury minimum' environment in our generation. I hereby pledge that Japan will implement a total of $2 billion in assistance over the next three years to assist developing countries in tackling environmental pollution.

Minister of the Environment Nobuteru Ishihara

As we aim for a goal, which is eradication of damage from mercury, it is very important to put this convention into effect as early as possible. Japan is resolved to do our best toward this goal.

For a speedy entry into force of the convention, it is necessary to have the participation of as many developing countries as possible. That will soon start mitigating the serious environmental pollution spreading in the developing countries. Japan is more than willing to cooperate.

The high-level special event "The Minamata Convention on Mercury: Towards its early entry into force and effective implementation"

"The Minamata Convention on Mercury: Towards its early entry into force and effective implementation" to promote ratifying and signing the Minamata Convention was held on 24 September 2014 during the sixty-ninth session of the United Nations General Assembly. The event was jointly convened by the Governments of Japan, Switzerland, the United States and Uruguay to promote the early entry into force and the effective implementation of the Minamata Convention. Additional 18 countries signed and additional 5 countries ratified during this session. Participated countries and international organizations confirmed the importance of the early entry into force of the Minamata Convention and the implementation of worldwide mercury management as well as the promotion of our cooperation for that sake.

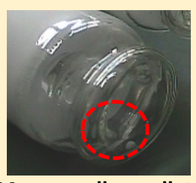
In the first half of 2015, Japan is going to submit a related bill which is necessary for us to ratify the Minamata Convention to the Diet, hoping the early entry into force of the Minamata Convention.

Japan's knowledge and technologies to support developing countries

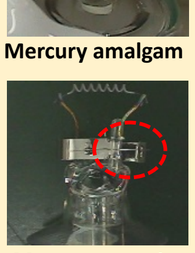
Reduction of mercury use in lamps

The use of a tiny amount of mercury is essential for fluorescent lamps. Lamp manufacturers have tried to develop a technology to reduce the amount of mercury in a lamp while ensuring its full service life. As a result, the average mercury content in a fluorescent lamp was decreased from 50 mg in early 1970s to 6.9 mg in 2010. it was achieved through the continuous development of methodologies to encapsulate an accurate quantity of mercury in each lamp, including the technologies on mercury injection and amalgam of mercury.

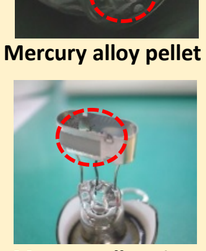
Mercury amalgam



Mercury alloy pellet

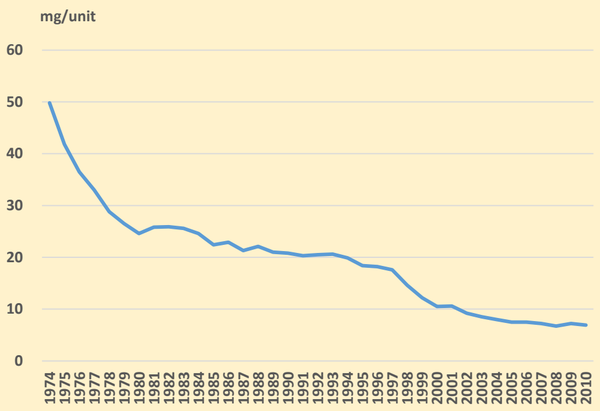


Mercury capsule



Mercury alloy ring

Example of mercury reduction methods injecting an exact amount of mercury in lamps



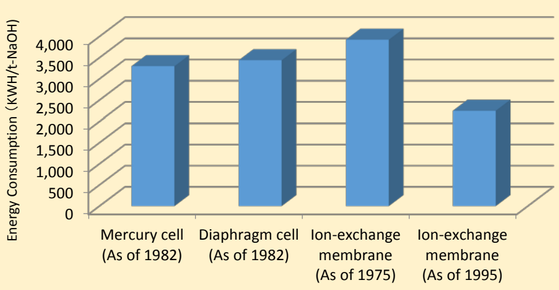
Trend of Average Mercury Content in a Fluorescent Lamp in Japan
Source: Japan Electric Lamp Manufacturer Association

Reduction of mercury use in caustic soda production

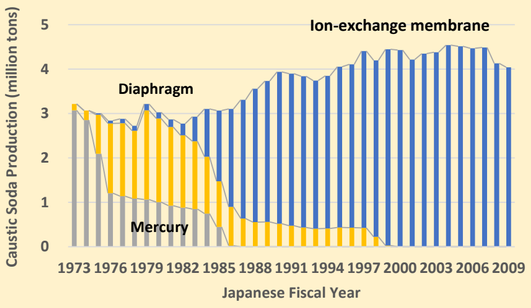
Caustic soda (NaOH) is a typical strong alkaline substance. It is widely used as a basic material for dissolving and refinement of metal, removal of impurities, bleaching, neutralization and softening. It's further use for the production of chemical fibres and as a raw material for soap and detergent signifies its status as an essential substance for our daily life.

During the post-war economic growth period in Japan, caustic soda was primarily produced by the mercury process. The national government decided to promote the conversion of the process using diaphragm at the caustic soda plants, and to restrict the use of closed system only if using the mercury process. As a result of the efforts by the Japan Soda Industry Association, the mercury consumption per one ton of caustic soda produced fell from 113.9 g in 1973 to 2.3 g in 1979. By 1986, the mercury process was completely abandoned for the production of caustic soda in Japan. However, the alternative process with diaphragm consumed more energy and it's quality was lower than that of mercury, which made the diaphragm process less competitive in the international market. It lead the industry further decision to proceed with the technical development of ion-exchange membrane process which was still a pioneering process at the time.

As a result of investment of more than 300 billion JPY in technology development by caustic soda industry in Japan, the ion-exchange membrane process became an excellent technology originated from Japan.



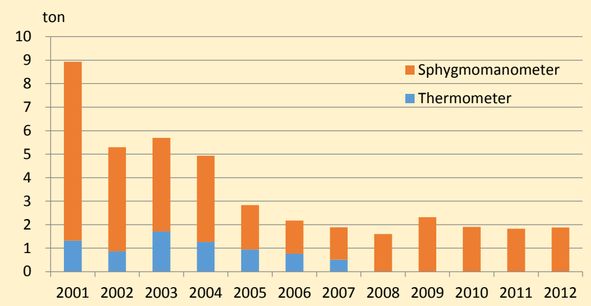
Energy Consumption by Caustic Soda Production process
Source: Hiroshi Ohama. "The Improvement of Asahi Chemical's IM Process for Twenty Years", SODA & CHLORINE, Vol. 48, 1997.



Trend of caustic soda production by process
Source: Ministry of the Environment Japan

Reduction of mercury use in medical devices

In the medical field, mercury has been widely used in thermometers and sphygmomanometers. Although mercury thermometers and mercury sphygmomanometers are still used today in some places of medical care, the use of electronic alternatives are becoming more common. Accordingly, the production volume of medical devices containing mercury is declining.



Trend of Mercury Use in Medical Equipment in Japan
Source: Ministry of the Environment Japan

Mercury recovery, and environmentally sound treatment and recycling of mercury-added products at a place of mining business in Japan

In Japan, used mercury-added products, which are collected through the voluntary collection by manufacturers or the separate waste collection operation by local governments, are recycled or treated and disposed of in an environmentally sound manner.

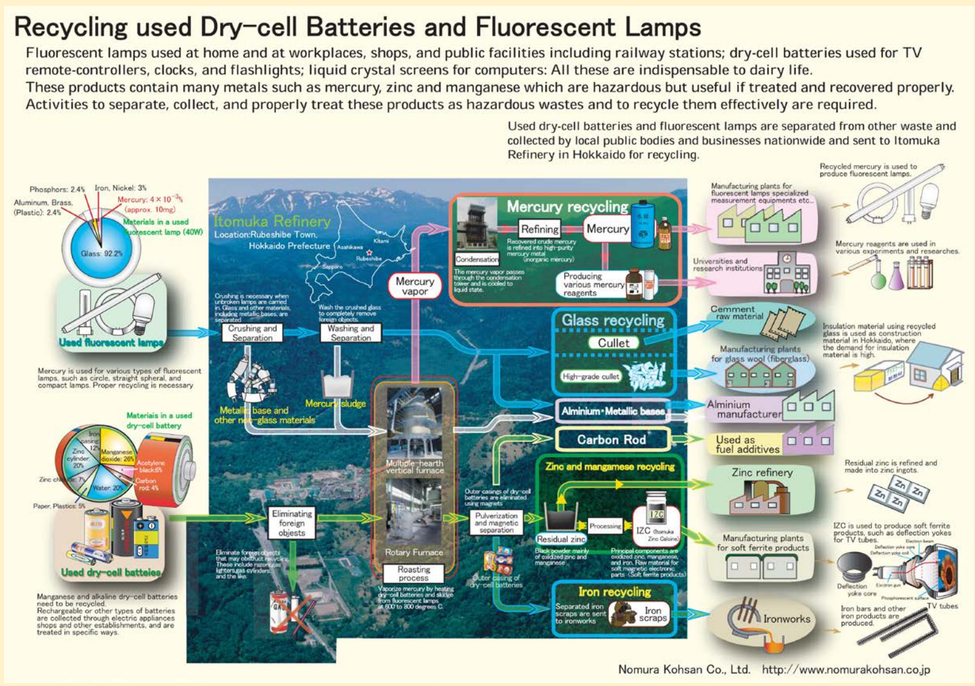
Used products

Transport to treatment facilities

Treatment of used products

Refined mercury

Used dry cells sent to the facility of a mining business in Japan undergo the roasting process for the recovery of mercury. After roasting, the outer capsules are recycled to iron products and zinc sludge to soil improver or zinc ingots. The used fluorescent lamps are firstly crushed and washed. The glass is then recycled as a raw material for the heat insulation of housings or new fluorescent lamps, while the aluminium end caps are recycled as raw aluminium. Mercury is also recovered from the wastewater from washing process. This facility recycles mercury and other substances from other mercury-added products, such as button cells.



International events relevant to the Minamata Convention on Mercury

The Diplomatic Conference for the Minamata Convention on Mercury

Message from Minister of the Environment, Japan

Dear all participants to the Intergovernmental Negotiation Committee

I would like to express my heartfelt appreciation for all the representatives and the United Nations Environment Programme (UNEP) as the interim secretariat of the Convention for all their dedication in promoting the Minamata Convention on Mercury.

At the Conference of Plenipotentiaries on the Minamata Convention on Mercury held in Kumamoto and Minamata in October 2013, the Convention was adopted unanimously and signatures were obtained from many countries. In Minamata, mercury pollution resulted in serious harm to the health, damage to the environment, and suffering of many people by friction amongst local residents. Restoring local ties and regenerating the community in Minamata have been patient and prolonged processes. Therefore, I felt it especially meaningful that the convention was adopted in Minamata. We appreciate the great support of those who participated in the Conference.

For the first anniversary of the Convention, a high-level special event, "The Minamata Convention on Mercury: Towards its early entry into force and effective implementation", was held as a side event of the United Nations General Assembly, which successfully raised global momentum to boost the Convention. In Minamata, “The First Anniversary Forum of the Minamata Convention” was also held. In this forum, the local students born and raised in Minamata gave us encouraging messages, which are displayed in this venue.

Beyond the borders and across generations, we have to unify our strength and work together toward our common goal, to eradicate damage from mercury all over the world. Japan is willing to provide technical and personal supports and capacity building.

We expect that the success of this Committee will promote the progress and efforts of all nations.

望月義夫

Yoshio MOCHIDUKI
Minister of the Environment, Japan

Experiences of the participants during the Diplomatic Conference

In the Ceremonial Opening of the Diplomatic Conference, the participants from all over the world visited Minamata City to learn about the history of Minamata Disease and the current condition of the city which is known as the Model Environment City in Japan. The tour included the visit to Minamata Disease Municipal Museum and Minamata Disease Memorial Monument where they interacted with local citizens including victims of Minamata Disease.

The participants paid floral tribute and observed silent prayer at Minamata Disease Memorial Monument. Storytellers of Minamata Disease also gave speeches on their experiences, which touched participants’ hearts and convinced them that the tragedy must not be repeated.

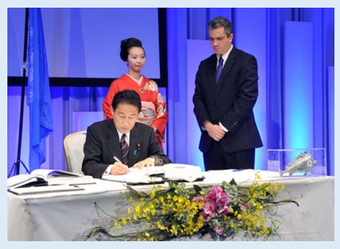
Storyteller of Minamata Disease

Floral tribute for victims of Minamata Disease

NIMD Forum 2014

The National Institute for Minamata Disease (NIMD) and the Ministry of the Environment, Japan, annually organizes the NIMD Forum. The theme of the NIMD Forum 2014 was “Evaluation of methyl mercury exposure and health effects in human”.

Overview of the Diplomatic Conference



The Minister for Foreign Affairs, Mr. Kishida

The Diplomatic Conference and its Ceremonial Opening was held in Kumamoto City and Minamata City in October 2013. More than 60 Heads of State and Ministers participated in the Conference and as many as 92 countries including Japan signed the Minamata Convention (128 signatories as of October 9, 2014), showing the strong commitment on mercury control of the international community.

More than 60 Heads of State and Ministers participated

The First Anniversary Forum of the Minamata Convention

Overview of the First Anniversary Forum of the Minamata Convention

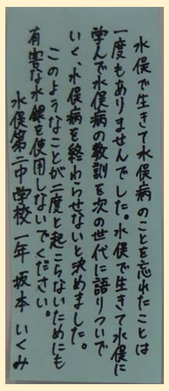
Minister of the Environment and junior high school students are holding the ‘Wish Globe’

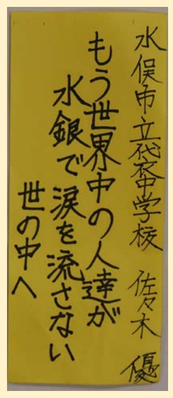
Hoping the early entry into force of the Minamata Convention, the Ministry of the Environment, Japan and the National Institute for Minamata Disease (NIMD) held “the First Anniversary Forum of the Minamata Convention” with the support of Kumamoto Prefecture and Minamata City on October 18, 2014. Minister of the Environment of Japan, a representative of UNEP, Governor of Kumamoto Prefecture, Mayor of Minamata City, 235 junior high school students in Minamata City gathered and discussed the challenges of global mercury pollution. The special lectures to the students and discussions with the researchers provided a lot of idea about the mercury impacts to our health and environment. Then the students wrote messages wishing the elimination of global mercury pollution, and put the cards into a globe-shape message box. The ‘Wish Globe’ was then handed to the Minister of the Environment, and he was asked to pass their messages to people in the world.

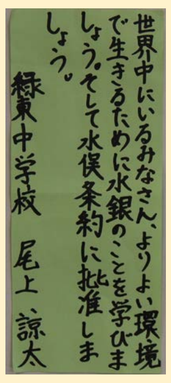
Massages from students in Minamata City

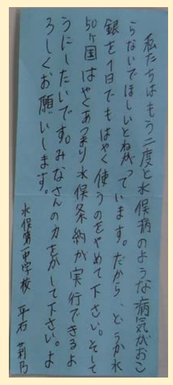
Junior high school students are discussing mercury pollution

These messages call for not repeating similar tragedy as Minamata Disease through the transfer of mercury management technologies from Japan to other countries, the development of mercury-free techniques and the cooperation among the countries for the early entry into force of the Minamata Convention, etc. A few messages are shown below:









Messages written on the cards (from the left)

(Upper Left) I have never forgotten about Minamata Disease in my life while growing up in Minamata City. I have decided to live in Minamata for the rest of my life, learn about Minamata Disease and pass the lessons to the next generations so that Minamata Disease will not be forgotten. Please do not use mercury anymore so that similar tragedy as Minamata Disease will never happen again.

(Upper right) I wish no one in the world will shed tears because of mercury.

(Lower left) Everyone in the world, let’s learn about mercury to live in a better environment and ratify the Minamata Convention.

(Lower right) We are hoping that the tragedy of Minamate Disease should never be repeated. Please stop using mercury as soon as possible. We wish early entry into force of the Convention by the ratification of 50 countries. Give us your hands, thank you!