Asia-Pacific workshop on regional workshop on the reduction of mercury emission from coal combustion
Summary report

Outline of the Workshop

Mercury emission to air is the major source of global pollution through long-range transport. Coal combustion is the second largest source of global mercury emission. Asia accounts for 75 percent of global coal consumption. Article 8 of the Minamata Convention requests parties to control new emission sources no later than 5 years after the entry into force of the Convention, and existing sources no later than 10 years. To achieve the objective of the Convention to protect the human health and the environment from mercury, it is imperative that these measures be taken in major coal-using countries in Asia.

UNEP and its Global Mercury Partnership have been addressing the mercury emission from coal combustion through the development of technical guidance documents and pilot projects in China, India, Indonesia, Russia, South Africa, Thailand and Viet Nam involving the analysis of mercury content of coal, mercury emission monitoring and training on mercury control technologies. There is an ample opportunity to build on these capacity building activities to further assist major coal-using countries in Asia in implementing the Minamata Convention.

The European Union provided financial support to the Secretariat of the Minamata Convention to support the parties in building capacity for implementing the Convention's provisions regarding trade in mercury and atmospheric emissions of mercury in three UN regions. The capacity-building activity on emissions in Asia started with this workshop focusing on coal combustion, inviting officials from major coal-using countries in Asia – China, India, Indonesia, Thailand and Viet Nam. It liaised with UNEP's project funded by the Chinese Government entitled "Implementing Chemicals and Waste Multilateral Environmental Agreements in Asia through Enhancing Understanding and Building Capacity", by inviting additional participants from China, Mongolia, Sri Lanka and Viet Nam, as well as developing E-learning tools on mercury emission control. The participants in this workshop was also invited to the meeting of the UNEP Global Mercury Partnership – Coal Combustion Area, which was held as part of the 14th meeting of the Multi-pollutant Emissions from Coal Workshop. Members of the Global Mercury Partnership, experts from the host country and experts nominated by UNEP also participated in the workshop.

The objectives of the workshop are:

- To understand the applicability and usefulness of the BAT/BEP guidance document and identify needs for further guidance
- To exchange information on the emission inventories from coal.
- To share experience in introducing control measures on the mercury emission from coal combustion, and identify opportunities for international cooperation.

The workshop was held from 31 October to 1 November 2019. It was hosted by was hosted by the Ha Noi University of Natural Resources and Environment. The meeting of the Global Mercury Partnership was held in Crowne Plaza Hotel Ha Noi on 30 October 2019. Information on that meeting is available from https://www.mec-workshops.org/

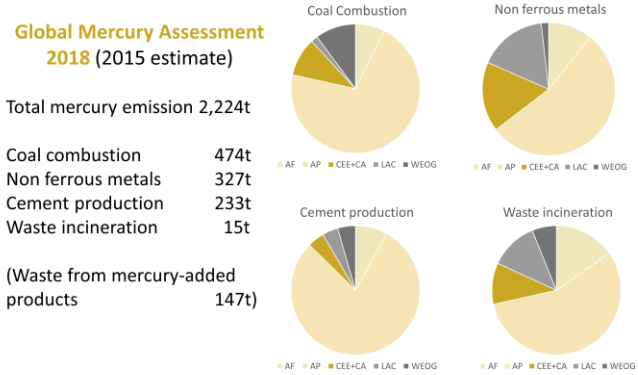
The workshop was opened by Mr. Eisaku Toda from the Secretariat of the Minamata Convention along with Assoc. Prof. Dr. Pham Quy Nhan, vice president of Hanoi University of Natural Resources and Environment. It consisted of the following six sessions:

- Session 1 – Introduction
- Session 2 – Best available technologies and best environmental practices (BAT/BEP)

- Session 3 – Emission inventories
- Session 4 – Regulatory approaches
- Session 5 – E-learning tool
- Session 6 – Summary and future work

Session 1 : Introduction

Mr. Eisaku Toda presented the background and objectives of the Workshop. Coal is the largest point source category of mercury emission. Asia Pacific Region accounts for 75% of the global mercury emission from coal combustion, and also a major part of emission from other sources. COP-1 adopted guidance on best available techniques and best environment practice, which was recently reprinted in a single volume publication.



Ms. Wenjia Fan from UNEP made a presentation on the China Trust Fund Project: Implementing Chemicals and Waste Multilateral Environmental Agreements in Asia through Enhancing Understanding and Building Capacity. She explained about the project aims to strengthen the capacity of stakeholders in Asia in sound chemicals management through better understanding of alternative while meeting requirements of chemicals and waste conventions and the Sustainable Development Goals (SDGs).

Session 2 : Best available technologies and best environmental practices (BAT/BEP)

This session was chaired by Mr. Eisaku Toda and Mr. Pham Quy Nhan. Mr. Ken Davis from UNEP presented the activities of the Global Mercury Partnership. He described the cooperative and complementary roles of the legally-binding Minamata Convention and the voluntary Global Mercury Partnership, which consists of eight partnership areas.

Mr. Peter Nelson from Macquarie University and co-lead of the coal combustion area of the Global Mercury Partnership made a presentation on the BAT/BEP guidance document under the Minamata Convention, of which he was involved in the development as a member of the exert group. He outlined the technologies to control emission of mercury from five point source categories listed in Annex D of the Convention: coal-fired power plants; coal-fired industrial boilers; smelting and roasting processes used in the production of non-ferrous metals (lead, zinc, copper and industrial gold); waste incineration facilities; and cement clinker production facilities.

Ms. Lesley Sloss of IEA Clean Coal Centre demonstrated the process optimization guidance and its interactive tool[1], which allows emission control options appropriate for specific circumstances. She also mentioned a project funded by the US Department of State to build capacity in India and Indonesia to reduce mercury and other pollutant emissions from the coal combustion sector.

Country representatives made presentations on the use of BAT/BEP in their countries. Ms. Shuhui Guo from China presented "Progress of China`s implementation of the Minamata Convention on Mercury and related work on mercury emission control in major coal-fired industries". She provided an overview of the progress of China`s implementation of the Minamata Convention. Regarding the atmospheric emission of mercury, she explained that emission standard for atmospheric pollutants was developed and improved, and mercury was listed as the indicator for management and control. She then explained the situation of coal sector in China. In 2018, the national renewable energy installed capacity exceeded 728 million kW, of which hydropower, wind power and PV power registered 352 million, 184 million and 174 million kW respectively. Clean energy consumption accounted for about 22.1%, an increase of 7.6 percentage points

[1] https://web.unep.org/globalmercurypartnership/interactive-process-optimization-guidance-ipog%E2%84%A2

over 2012. Coal consumption accounted for about 59%, down by 9.5 percentage points from 2012. Non-fossil energy installed capacity accounted for about 40%, and power generation accounted for nearly 30%. The energy consumption per unit of GDP decreased by 23% accumulatively compared with 2012. The coal consumption for power supply by thermal power units of 6,000 kW and above was 308 g tce per kWh, 17 g tce lower than that of 2012. As of 2018, more than 800 million tons of coal production capacity had been decommissioned accumulatively. In recent years, a total of more than 110 million kWs of small thermal power units producing high pollution and energy consumption have been shut down. By the end of 2018, the country had completed 810 million kW of ultra-low emission retrofit to coal-fired power plants, accounting for more than 80% of the capacity of national coal power units through de-capacity and structural adjustment, and basically developed the world's largest clean power generation system. She also explained air pollution control technologies used for coal-fired industrial boilers.

Mr. Jatinder Signh Kamyotra from India presented on environmental compliance by thermal power plants in India. Since he was invited to the meeting at the last minute after the Secretariat realized that it is not likely that the Indian Government will not be able to formally nominate a participant, he could only deliver one presentation for this session, and not for sessions 3 and 4. In 2018, 57.3% of power production capacity is coal. Indian emission norms for thermal power plants addressed particulates but for SOx it only required space for FGD for unit size more than 500MW. New environmental norms were notified in December 2015 as reproduced above. He presented pollution control technology options to meet these norms.

mg/Nm^3	Unit size	Installed before Dec 31st, 2003 *	Installed between 2004 and 2016 *	Installed Jan 1, 2017 onwards
PM	All	100	50	30
SO_2	<500MW	600	--	--
	>=500MW	200	200	100
NO_x	All	600	300	100
Hg	All	0.03 (>500 MW)	0.03	0.03

Ms. Kania Dewi from Indonesia presented on BAT/BEP. Indonesia' total domestic consumption of coal based on data on presentation in 2018 for coal combustion in large power plants is 91.14 million ton, for coal combustion in coal fire industrial boilers is 23.93 million tons and other coal uses 0.01 million tons. Indonesia has planned to expand the electricity in the "35,000 MW program" aiming to add 35 GW of power capacity from 2015 to 2019, mainly from coal-fired by 56% (20 GW) and natural gas 36%. Electricity Supply Service Plan in 2026 Indonesia projects to reducing the reliance on coal in energy mix to 50.4% from 55.6% in 2017. Regarding air pollution control technologies, 47% of coal-fired power plants only used one technology (electrostatic precipitators, cyclones or bag house filters). Flue-gas desulfurization is used in 15% of coal-fired power plants. She also explained the result from a UNEP project "Mercury Emissions for Coal-Fired Power Plants in Indonesia".[2]

Mr. Undarakh Nergui presented BAT/BEP in Mongolia. There are 4 mains source mercury: raw coal usage, metal production, consumer production (import) and waste disposal/landfilling). In order to reduce air pollution, the government of Mongolia cooperated with the World Bank, other international organizations and private sector, which resulted in the reduction of air pollution by 60%. He also presented on project aiming at contributing to the elimination of mercury in the artisanal and small-scale gold mining sector.

Ms. Hasanthie SD Mudiyanselage from Sri Lanka presented on "Best Available Technologies and Best Environmental Practices (BAT/BEP) in Control of Coal Combustion Emissions". She provided an overview of air pollution control technologies used in the primary coal combustion emission sources: coal power generation, coal fired industrial boilers and clinker manufacturing. She identified BAT/BEP for controlling mercury emissions, but none of them was used in Sri Lanka.

Ms. Napaporn Tangtinthai from Thailand, presented on BAT/BEP. Coal and lignite are consumed around 38,457,405 tons, with 64% for electricity, and the rest for industry. Most of domestic lignite (97%) was used in electricity generation, whereas imported coal (60%) was mainly used in industrial processes. The share of coal consumption for electricity generation was significantly increased to 35% in 2016. No specific mercury emission control devices using in coal-fired power plants in Thailand. However, co-benefit is

[2] https://web.unep.org/globalmercurypartnership/mercury-emissions-coal-fired-power-plants-indonesia

expected from the use of air pollution control devices such as wet flue gas desulfurization using lime stone and sea water FDG equipped in Plants with installed capacity >90 MW.

Mr. Do Quang Trung from Viet Nam presented on control of Hg emission from coal combustion by adsorbents. He presented data from the mercury inventory in the Minamata Initial Assessment[3]. He then presented on the result from a UNEP project "Reducing Mercury Emissions from Coal Combustion in the Energy Sector in Vietnam 2017"[4]. In the Minamata Initial Assessment, Hg emissions estimated from coal combustion activities in 2014 was estimated as 5,373.3 kg. Using data from the General Directorate of Energy, total capacity of coal-fired power plants is 10,030 MW, coal consumption is 19,223 tons/year, and Hg emission is estimated to be 2,589 or 4,335 kg/year, using UNEP default emission factor (0.28 mg/kg) and data on Hg content in coal of Quang Ninh Power Plant. The total consumption of coal is projected to increase to 129,000 tons/year in 2030. National Action Plan (NAP) to reduce Hg emissions from coal-fired power plants in Vietnam. A proposed national action plan included in the UNEP project report is organized in three phases. Phase 1 (2017 - 2020) with 10% reduction. Phase 2 (2020-2025) with 30% reduction in Hg emissions. Phase 3 (2025-2030) with 50% Hg emissions reduction. National technical standards for thermal plant emissions (QCVN 22: 2009) includes no regulations for Hg concentrations in the exhaust gas, and no power plants in Vietnam apply technical measures or technological equipment to control Hg. However, All coal-fired power plants in Vietnam use dry ESP, and almost all coal-fired power plants in Vietnam use wet FGD to control SO2 emission. Recently, only Duyen Hai 1 and Vinh Tan 2 plants installed seawater FGD and SCR system with ammonia for SO2 and NOx control.

Ms. Alexandra Sipershteyn Neyman from Ohio Lumex, presented "Current Regulations on Mercury Emissions from Coal Combustion and Other Point Sources in the USA: User Experiences with Mercury Monitoring". She explained the regulations in USA including Mercury Air Toxics Standard (MATS) for utility boilers and Maximum Achievable Control Technologies for Portland cement and boilers. MATS for existing coal units using non-low rank coal, which is applicable to most of the plants, is 1.2 lb/TBtu, which is approximately 1 ug/m3. She also explained mercury emission monitoring methods[5].

It was concluded that all the participating countries use co-benefit of air pollution control systems described in the BAT/BEP guidance, and no participating countries require mercury-specific control such as activated carbon injection or additives.

Session 3 : Emission Inventories

This session was chaired by Mr. Eisaku Toda and Mr. Vu Thanh Ca (HUNRE). Mr. Eisaku Toda presented an overview of global mercury from coal. In his presentation, he clarified that GMA 2018 - Update on global Hg pools and cycles where majority of emissions occur in Asia (49%; primarily East and South- east Asia) followed by South America (18%) and Sub-Saharan Africa (16%). The predominant source sector is artisanal and small-scale gold mining (about 38%). It is followed by stationary combustion of coal (about 21%), non-ferrous metal production (about 15%) and cement production (about 11%). He also explained about GMA estimation of emission from coal combustion in the participating countries, and the challenges in comparing the GMA estimation with other estimates such as mercury inventory in MIA and inventory under the Convention on Long-Range Transboundary Air Pollution.

Country presentations started with Ms. Shuhui Guo from China on "Overall situation in Minamata Convention Initial Assessment in People Republic of China". The MIA project, funded by the GEF, started on 25 June 2015 with UNIDO as implementing agency and the Foreign Environmental Cooperation Center, Ministry of Ecology and Environment, as the domestic executing agency. Nearly 100 mercury-related policies and regulations have been analyzed and evaluated. They completed the investigation on present situation of the major mercury industries, including the following 6 areas: primary mercury mining; mercury added products; mercury using process; mercury wastes; mercury emission & release; and contaminated sites containing mercury.

[3] http://www.mercuryconvention.org/Countries/Parties/MinamataInitialAssessments/tabid/6166/language/en-US/Default.aspx
[4] https://web.unep.org/globalmercurypartnership/reducing-mercury-emissions-coal-combustion-energy-sector-vietnam
[5] https://web.unep.org/globalmercurypartnership/method-determination-hg-concentration-stack-gas-using-carbon-traps

Ms. Kania Dewi from Indonesia presented "Mercury Emission Inventories from Coal Combustion". In the aforementioned UNEP project, Indonesia took sampling from 47 CFPPs for mercury concentration and other trace elements in coal. She compared the emission factors used in Interactive Process Optimization Guidance (IPOG) and UNEP inventory toolkit. The graph presented here is based on the coal consumption projection data from Ministry of Energy and Mineral Resources Decree No. 1415 K/20/MEM/2017.

Ms. Enkhtuul Surenjav from Mongolia presented "National inventory of mercury release in Mongolia". The presentation started with explanation of MIA project in Mongolia, and followed by the methodology they used for the inventory - UNEP toolkit. She presented the estimation of mercury releases to air, water, land and waste broken down by sectors. The largest emission source to air is primary metal production with 3,167 kg, followed by extraction and use of fuels with 1,323 kg.

Ms. Hasanthie SD Mudiyanselage from Sri Lanka presented "Mercury emission inventory". Sri Lanka submitted level 1 inventory to the Biodiversity Research Institute on 20 March 2018. The MIA report was completed and the review is in progress. Regarding coal power generation, Sri Lanka has only one coal-fired power plant of 900 MW in North Western Province. outlined their progress in MIA project. She also explained about industrial boilers and cement clinker production, and presented emission estimates from these sources.

Ms. Teeraporn Wiriwutikorn from Thailand presented "Emission inventories from coal-fired power plants in Thailand". She explained the preliminary level 1 inventory developed in 2010, another inventory developed using local emission factors in the UNEP project "Reducing Hg emission from coal combustion in the energy sector in Thailand"[6], and plan for an MIA project. She explained two approaches for deriving emission factors: direct measurement and estimation of uncaptured mercury from mass balance.

Mr. Dong Nguyen Van from Vietnam presented "Mercury pollution in Ho Chi Minh City - current status and analytical aspects". He provided an overview of the occurrence of mercury in environment: source, speciation, transportation; method and instrumentation for mercury analysis; and Mercury in Ho Chi Minh City – water, sediments, seafoods, beehive briquette and ambient air.

MIA inventory was available from Mongolia, Sri Lanka (draft) and Viet Nam. Indonesia, Thailand and Viet Nam had more in-depth inventory developed under UNEP projects. These estimations are comparable with the GMA estimates, as shown in the table here. It will be useful if stack monitoring data are available.

	GMA estimation	MIA inventory	Other estimates
China	182,217		
India	108,772		
Indonesia	10,271		9,000
Mongolia	798	1,073	
Sri Lanka	225	174	
Thailand	3,508		3,508
Viet Nam	5,501	6,541	2,589-4,335

Session 4: Regulatory approaches

This session was chaired by Mr. Jeff Seadon, UNEP consultant and Mr. Pham Hung Viet, Center for Environmental Technology and Sustainable Development, Vietnam National University. Ms. Haddy Gisse of UNEP provided opening presentation on how the overview of current national situation in fulfilling the multilateral environment agreements is being conducted. Mr. Jeff Seadon explained that the discussion will focus on identifying legal framework, standards and institutional capacities to address each life cycle stage of chemicals, classifying the implementation of each of the above as effective, partially effective and ineffective, and identifying the gaps to be filled.

[6] https://web.unep.org/globalmercurypartnership/reducing-mercury-emission-coal-combustion-energy-sector-thailand

Country presentations started with Ms. Shuhui Guo from China who presented “Emission limits, BAT requirements, multi-pollutant regulations and other regulatory approaches of China". She provided an overview on the development of air pollution regulations, and explained the major measure on controlling the emission of mercury. The measures include pollutant discharge license system; emission limits (emission standard of air pollutants for thermal power plants (2011) – Hg 30 ug/m3; and emission standard of air pollutants for thermal boilers (2014) – Hg 50 ug/m3); monitoring requirement (quarterly Hg monitoring for coal-fired boilers of 20t/h and above, monthly Hg monitoring below 20t/h); reduction of coal consumption (the proportion of coal consumption in China's total energy consumption will be reduced to less than 58%) and industry guidance. In 2015, full-scale ultra-low emissions and energy-saving renovation of coal-fired power plants has been implemented. By the end of 2018, 810 million KWS of ultra-low emission retrofit of coal-fired power plants have been completed, accounting for more than 80% of the capacity of national coal-fired power units, and basically developed the world's largest clean power generation system. The average mercury removal efficiency of flue gas purification facilities in coal-fired power plants has increased from about 70% to more than 90% since the implementation of ultra-low emission renovation. China also has “Guides for Pollution Control Best Available Techniques for Coal-fired Power Plants" and technical specifications for coal-using facilities. China will continue to strengthen efforts in promoting the implementation of existing air pollution prevention and control policies and standards in the future. Meanwhile, based on data from MIA project and guided by atmospheric national strategies and action plans, China will identify key areas for management and control, and promote the control of atmospheric mercury emission in key industries such as coal-fired power plants according to the requirements of the convention.

Mr. Reno Arif from Indonesia presented on “Regulatory Approaches for Mercury Emission Reduction". The Minister of Environmental and Forestry decree No. 15/2019 regarding Standard of Thermal Power Plant Emission introduced a new emission standard of 0.03 mg/m3 for thermal power plants, as well as strengthened standards for SO2, NOx and PM. Mercury must be measured using Continuous Emission Monitoring System (CEMS). He also explained about the Implementation Strategy of Presidential Decree No. 21/2019, which aimed at reducing mercury emission from manufacture sector by 50% by 2030; energy sector by 33,2% by 2030; ASGM sector by100% by 2025; and health sector by100 % by 2020.

Mr. Undarakh Nergui presented regulatory approaches on mercury in Mongolia. Under Mongolian government's 97th bylaw, mercury is included in the named list of “Hazardous Chemicals“ in 2007. Environment and Safety Ministry's 135th resolution banned the usage of mercury in mining and processing of mineral resources in 2008. In 2011, Mongolian medical institutions were prohibited to purchase new mercury-containing thermometer, mercury pressure gauges and dental amalgams. Mongolia has standards for water discharge and water/soil quality for mercury, but no regulation on mercury emission to air.

Mr. Senarath Mahinda Werahera from Sri Lanka presented existing and planned regulatory approaches. He explained about the ban on pesticides with mercury compounds as the active ingredient, maximum permissible Hg concentration in skin creams, etc. National Environmental (Protection & Quality) Regulations No. 01 of 2008 prescribes that industry shall obtain Environmental Protection License (EPL) for thermal power plants, cement manufacturing, metal smelting plants, waste treatment plants, etc. National Environmental (Stationary Sources Emission Control) Regulation No. 01 of 2019 limits emission of mercury or its compounds for any process to 0.01 mg/Nm3 as Hg, incinerators < 1 Metric Ton/Hour to 0.01 mg/Nm3, incinerators > 1 Metric Ton/Hour to 0.001 mg/Nm3, and infected waste incinerators to 0.001 mg/Nm3.

Ms. Teeraporn Wiriwutikorn presented regulatory approaches for coal-fired power plants in Thailand. More stringent emission standards shall be applied for new power plants only for SO2, NO2 and Particulate Matter control, but not for mercury emission control specifically. According to the Notification of Ministry of Industry on Industrial Emission Standard B.E. 2548 (2005), the mercury emission standard of 3 and 2.4 mg/m3 will be applied for the general industries without and with fuel combustion units, respectively. BAT/BEP requirements in regulations is not applicable yet in Thailand, but it is under consideration. The emission standard for other pollutants (SOx, NOx and PM) in coal combustion plants can contribute for the mercury emission control.

Mr. Vu Thanh Ca from Vietnam presented "Coal in Vietnam: status quo, challenges, and environmental concerns". Coal as primary energy to serve the demand side. More than 70% coal consumption go to industries and 10% coal consumption go to residential. He summarized environmental concerns from coal-fired power plants. Viet Nam has 36 units using domestic coal (total 11 GW), subcritical pulverized (PC) technology; 11 units using domestic coal (total 1.5 GW), circulating fluidized bed (CFB) technology; and 13 units using imported coal (total 6.1 GW).

In the discussion session, each country was assigned a couple of A0 sheets, they should highlight maximum 3 issues in their country and present briefly in 1 minute. The most notable matters are as below.
- Vietnam: the main gap in Vietnam was in using recycled products (lack of rules to use recycle products).
- Thailand: has a management system to control hazardous matters.
- Sri Lanka: has an effective life cycle assessment approaches. Gaps: (i) it is hard to control illegal import, (ii) lack of human resources
- Mongolia: law and regulations are partly effective, therefore they are still improving and developing standards for all hazardous matters, not only mercury. Gaps: (i) hazardous waste management is lacking, (ii) they are developing monitoring system (now at the stage of sample collection), (iii) developing policy for mercury emission to air in building construction and mining.
- Indonesia: Largest archipelago country lead to difficulties in managing the traffic of the mercury.
- China: has a chemical catalogue which provides standards of different matters in different levels (national, provisional, local, etc.). Also, China has a comprehensive law/policy system especially waste system. Gaps: responsibilities of companies in following the rules.

Mr. Eisaku Toda stated that he was impressed to learn that many countries have already taken measures to control the emission of mercury from point sources, although the obligation under the Convention on this starts five years after the entry into force. The current regulations are summarized below.

- China – 0.03mg/m3 (coal PP). Pollution permits. Technical specifications.
- India – 0.03mg/m3 (coal PP)
- Indonesia – 0.03mg/m3. Action plan developed.
- Mongolia – no limit
- Sri Lanka – 0.01mg/m3 (any process), 0.001-0.01mg/m3 for incinerators
- Thailand – no limit for coal. General limit 3mg/m3
- Viet Nam – No limit for coal. 0.5/0.2 mg/m3 for waste incineration.

Session 5 – E-learning tool

This session was chaired by Ms. Nana Zhao from BCRC China and Mr. Pham Quy Nhan. Ms. Nana Zhao from BCRC China outlined the E-learning platform and what topics are in the platform (such as good practice on legislation development, chemicals in products, plastic waste management, and new POPs). She explained what types of the courses available, and then she showed a video about how e-learning for each types of the courses.

This session was chaired by Ms. Nana Zhao from BCRC China and Mr. Pham Quy Nhan. Ms. Nana Zhao from BCRC China briefly reviewed the previous discussions that were had over the course of the inception workshop of the project, including the possible modalities of the E-learning platform and what topics have been identified for the online courses (such as good practice on legislation development, chemicals in products, plastic waste management, and new POPs).

In addition, she also facilitated a discussion on ideal/positive characteristic features of the online courses through MENTI. It has been identified that the online courses should be: 1) easier access (without a complicated sign up process and without the need to install any programming), English subtitles, brand-new updated content using the most recent data available, using animation to replace the traditional way of being taught.

Furthermore, a lively discussion took place amongst the participants and it was agreed that a new topic – Mercury in Products - would be included in the online courses. Within the course, some specific products containing Mercury would be selected, such as Dental Amalga and cosmetics, and the existing standards

and labelling systems would be identified for each selected product, as well as the impacts that they have on human health and the environment will be illustrated. Also, the target audience should be the general public. On top of this, in order to help more people benefit from the online courses, a local language version should be considered.

Session 6 – Summary and future work

This session was chaired by Mr. Eisaku Toda and Mr. Pham Quy Nhan. Before summarizing the outcome of the workshop, HUNRE made a presentation on their activities.

Mr. Eisaku Toda provided a brief summary of the discussion at the workshop, and presented the following points for further discussion:

- Any updates on BAT/BEP or inventory guidance? Consider Hg releases to water from seawater FGD in UNEP toolkit? (And iPOG?)
- Collection and dissemination of the use of BAT/BEP guidance – information exchange through Convention website (and Global Mercury Partnership)
- Workshop on mercury inventories after the completion of MIA reports?

No other particular issues were raised for updating the BAT/BEP and inventory guidance. Opportunities for sharing information to support countries to fulfill their obligations under the Minamata Convention related to emissions of mercury and coal combustion were appreciated. The Secretariat will make the workshop summary and presentations available on the web, and further consider ideas for follow-up country projects, in cooperation with the Partnership.

Mr. Pham Quy Nhan congratulated on the 2 day workshop held in Hanoi with about 80 delegates from UN, China, India, Indonesia, Mongolia, Sri Lanka, Thailand, Vietnam and other countries, NGOs and Regional centers. He appreciated the fruitful discussions on: Solutions for reduction of emissions (BAT/BEP); emission inventories; and regulatory approaches. He expressed his special thanks to: Mr. Eisaku Toda- Secretariat of the Minamata Convention; Mr. Anton Purnomo- Director Basel and Stockholm Conventions Regional Centre for South-East Asia; Faculty of Environment- HUNRE.