

1. INTRODUCTION

A. BACKGROUND

The rising amount of waste and its management poses a serious challenge for most Southeast Asia countries, especially e-waste, plastic bags and food waste. Different types of wastes are often mixed together leading to unsustainable end-of-pipe management. Landfills remains the primary method to dispose solid waste and there is very little separation or pre-treatment beforehand of the waste collected; however, 3Rs (Reduce, Reuse, Recycle) and waste-to-energy systems are gaining popularity among some countries in the region. In 2012, Southeast Asia produced 202,000 tonnes of municipal solid waste (MSW) per day and this is predicted to double by 2025. The average municipal solid waste generation in 2012 was 1.03 kilogrammes per person, per day, and this is expected to increase to 1.38 kilogrammes per person per day by 2025. Four of the top five countries that contribute 60 per cent of the marine plastic waste are from ASEAN – Indonesia, the Philippines, Thailand and Viet Nam. However, campaign efforts have been made to discourage or penalise use of plastic materials and to encourage and incentivise use of non-plastic substitutes, so far with limited success.

In Southeast Asia, the continued use of pesticides especially in agriculture, some of which are highly toxic and banned elsewhere, is one of the biggest challenges in chemicals management. There is generally a fundamental lack of information on chemical use and distribution in the region and chemicals are often being dumped with little information or awareness of when and how to dispose of them properly. The biggest problem facing Southeast Asia in terms of chemicals management is the intensive use of, along with insufficient control over, pesticides in the agricultural sector. These chemicals are over-used and their residues have affected trade through the rejection of cross-border shipments, causing considerable economic losses to the countries concerned. Some other chemicals, such as asbestos which are carcinogenic, are banned in other regions, but are still being used in some Southeast Asian countries. According to the WHO, asbestos is one of the ten priority chemicals of high concern. The legislative and institutional infrastructure and capacity in some Southeast Asia's developing countries to manage chemicals are still not sufficient.

There are four international conventions addressing chemicals management and related issues. Goal 12 (Responsible Consumption and Production) of the United Nations Sustainable Development Goals, which focuses on ensuring sustainable consumption and production patterns and encourages countries to ratify these conventions for better chemicals management. With the exception of the Minamata¹ Convention, currently, most ASEAN Member States have ratified the remaining three conventions – Basel², Rotterdam³ and Stockholm⁴.

The ASEAN Working Group on Chemicals and Waste (AWGCW) came into existence in 2015 following a decision by the ASEAN Senior Officials on the Environment (ASOEN) to change the name and functions

¹ Minamata Convention is to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. It was adopted on 10 October 2013 and will enter into force on the 16 August 2017.

² Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted on 22 March 1989 and entered into force on 5 May 1992. It is aimed at addressing issues pertaining to the control of the movement and disposal of hazardous waste across national boundaries.

³ Rotterdam Convention was adopted on 10 September 1998 to promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals including pesticides and industrial chemicals and contribute to the environmentally sound use of those hazardous chemicals. It entered into force on 24 February 2004.

⁴ Stockholm convention on Persistent Organic Pollutants was adopted on 22 May 2001 and entered into force on 17 May 2004. It aims to minimise the risks from the agreed list of POPs through measures to reduce and/or eliminate their emissions or discharges.

of the former ASEAN Working Group on Multilateral Environmental Agreements (AWGMEA). The new Working Group's primary purpose is to strengthen regional cooperation on chemicals and waste management including the implementation of chemicals and waste-related multilateral environmental agreements, such as the Basel, Rotterdam, and Stockholm (BRS) Conventions, the Minamata Convention, the Montreal Protocol, as well as other internationally agreed-upon systems, such as the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), the 2020 Goal of Strategic Approach to International Chemicals Management (SAICM) and the UN 2030 Sustainable Development Goals.

ASPEN provides a forward-looking plan to promote cooperation and joint actions across ASEAN countries that would allow for environmentally sound chemicals and wastes management. Efforts under this Strategic Priority will focus on seven programmatic areas: (i) management of hazardous waste and other waste defined under the Basel Convention, (ii) cooperation on transboundary movements of [hazardous] chemical and hazardous waste, (iii) sound chemicals management, (iv) environmentally sound management technologies (est) towards green industries, (v) ASEAN presence in the global community; (vi) chemicals and hazardous wastes accident prevention, preparedness and emergency responses, and (vii) remediation of contaminated sites from chemicals and hazardous wastes.

B. ACCOMPLISHMENTS

ASEAN continues to be actively engaged in addressing global environmental issues in accordance with the principle of common but differentiated responsibilities. ASEAN Member States have made commitments on global environmental issues by ratifying major multilateral environmental agreements (MEAs) related to chemicals and waste management, such as, the BRS (Basel, Rotterdam and Stockholm) conventions, as well as the Montreal Protocol. As a result, all ASEAN Member States have significantly reduced the use of ozone depleting chlorofluorocarbons to less than 1,000 tonnes per year since 2006 from as high as 9,000 tonnes in 1995. Many ASEAN Member States are also several years ahead of internationally agreed deadlines to end the production and consumption of ozone-depleting substances. The status of ratification and relevant national reports of Parties can be accessed through the Convention websites^{5,6}.

Regional cooperation among ASEAN Member States in promoting capacity building, sharing experiences and best practices, and acting collectively to implement the MEAs have helped countries to build confidence and synergise their efforts to contribute effectively to addressing global environmental issues. These activities are carried out under the purview of the previous AWGMEA.

Key accomplishments under the AWGCV have included 1) sharing information and experience among ASEAN Member States, and promoting ratification and capacity building on relevant chemicals and waste MEAs, 2) promoting and developing joint ASEAN declaration and position papers at international negotiation meetings of relevant MEAs, 3) sharing information on national-level implementation of chemicals and waste MEAs, and updates on the discussion and progress of relevant international process, and 4) implementing ASEAN cooperative projects, such as, the ASEAN-UNEP International Environment Technology (IETC), which conducted joint regional studies on Waste Management, completed in 2016, with outcome reports on the management of general waste, electronic waste, and mercury waste. Studies on Waste Management and Mercury Waste inventory were implemented by Asian Institute of Technology (AIT), while the E-Waste study was conducted by Basel Convention Resource Centre-Southeast Asia (BCRC-SEA). The results and recommendations of the studies served as inputs for ASEAN in policy decision making.

An ASEAN Joint Declaration on Hazardous Chemicals and Wastes Management was adopted by the ASEAN Ministers on Environment on 26 April 2017 and presented at the joint Basel-Rotterdam-Stockholm conventions (BRS) Conference of Parties in Geneva, Switzerland, during 24 April to 5 May

⁵ Basel, Rotterdam and Stockholm (BRS) Conventions website (<http://www.brsmeas.org>)

⁶ Montreal Protocol website (<http://ozone.unep.org>)

2017. The Joint Declaration urgently highlighted the need to implement environmentally sound management of hazardous chemicals and wastes, particularly the recycling, recovery, and treatment of hazardous wastes, more effectively through governance, capacity building and exchange of information. It called upon ASEAN Member States to continue working closely, strengthen cooperation, and further mobilise capacity building and exchange of relevant information, including transfer of technology. It also highlighted the need to explore new additional financial resources towards the establishment of environmentally sound hazardous substances and waste management, and achieving the 2020 Goal of Strategic Approach to International Chemicals Management (SAICM) and the United Nations Sustainable Development Goals. The Joint Declaration also encouraged ASEAN Member States to continue its efforts, in accordance with agreed international frameworks and agreements, to significantly minimise the adverse impacts on human health and the environment caused by the release of hazardous chemicals and wastes to air, water and soil in the ASEAN region.

C. OBJECTIVES

Over the next 10 years, the main objectives of the AWGCW Action Plan are:

- 1) To further strengthen regional coordination and cooperation in addressing wastes and chemicals-related issues including controlling transboundary movement of hazardous waste under relevant multilateral environmental agreements, such as Basel, Rotterdam, Stockholm, and Minamata conventions, and Montreal Protocol as well as internationally agreed-upon systems such as the Globally Harmonised System of Classification and Labelling of Chemicals (GHS).
- 2) To achieve the environmentally sound management of hazardous chemicals and wastes throughout their life cycle, in accordance with agreed international frameworks.
- 3) To reduce the growing threats of hazardous chemicals and wastes to human health and environment through, among others, enhancing the regional cooperation in preventing the illegal traffic of transboundary movement of hazardous chemicals and waste, and capacity building related to good management practice in handling hazardous chemicals and wastes.

D. MEANS OF IMPLEMENTATION

ASEAN Working Group on Chemicals and Waste (AWGCW) will be the main responsible body for the implementation of the programmes and activities of this Strategic Priority Area. Other relevant sectoral bodies and/or partners will be consulted and coordinated for cross-sectoral and cross-pillar activities.

The AWGCW will oversee the planning, technical and implementation issues under this Strategic Priority Area, while the ASEAN Environment Ministers and the ASEAN Senior Officials on Environment will provide policy and strategic guidance for its work. Lead countries of each programmes/activity under the strategic priority are expected to develop proposal of detailed implementation workplan, implement the activity in coordination with AMS and ASEC, and provide regular progress updates to AWGCW.

E. POTENTIAL PARTNERS & STAKEHOLDERS

The activities under this Strategic Priority could be implemented through partnerships and regional collaborations with organisations working on chemicals and wastes management. Potential partners or platforms include the Regional Chemical Management Forum supported by the Swedish Chemical Agency (KemI), the Regional Forum on Environment and Health coordinated by UN Environment and WHO, United Nations Environment Programme – International Environment Technology Centre (IETC) and the Regional 3R Forum in Asia.

Activities could also be implemented through cooperation and support from Dialogue/Development partners, for example, Japan and Republic of Korea. Both these countries are currently providing technical and financial assistance to countries in ASEAN to build capacity on chemicals and waste

management, such as, POPs, as well as in implementing chemicals and waste-related conventions. There are civil society organisation (CSO) groups working on chemicals and waste issues in the region, for example, under the GEF network or Regional Chemical Management Forum (e.g. Ban Toxics and Pesticide Action Network), that can be invited to participate in relevant consultative or review workshops or to provide inputs and support during the planning, development and implementation process of the various cooperation activities.

2. PROGRAMMES AND ACTIVITIES⁷

Outputs	Indicators	Activities	Lead Country
Programme 1: Hazardous Waste Management and Other Waste Defined Under the Basel Convention			
Promote cross sectoral cooperation towards good management practices of hazardous waste	<ul style="list-style-type: none"> A regional forum on HIW for industry and trade sectors conducted 	1. Conduct a regional forum on hazardous industrial waste participated by industry, trade and environment sector.	Indonesia
	A regional forum on the impacts of hazardous medical waste for health sector conducted	2. Conduct a regional forum on the impact of hazardous medical waste participated by participants from the health sector.	
	A capacity building workshop on the management of hazardous waste conducted.	3. Conduct capacity building on the management of hazardous waste, such as the sampling methods on hazardous characteristic and toxicity test, illegal dumping of hazardous waste, study visits, and exchange of good practices and information among ASEAN Member States and between ASEAN and Partner countries.	
Establish ASEAN Guidelines Hazardous Waste Management	<ul style="list-style-type: none"> A series of workshop conducted. Guidelines on hazardous waste management developed. 	4. Conduct a series of workshop to develop the guidelines on hazardous waste management.	
Reduced generation of hazardous waste	A number of activities related to 3R in each AMS organised.	5. Organise activities related to 3R (Reduce, Reuse, Recycle) such as community awareness, capacity building, etc.	
Programme 2: Transboundary Movements of [Hazardous] Chemical and Hazardous Waste			
ASEAN Guidelines on Preventing Illegal Trafficking of Hazardous Waste from Within and Outside ASEAN	Analysis on AMS national regulations related to movements of hazardous waste produced.	1. Conduct a study on the national regulations related to movements of hazardous waste of ASEAN Member States.	Malaysia
	<ul style="list-style-type: none"> A series of workshop conducted. 	2. Conduct a series of workshop for developing the Guidelines on Preventing Illegal	

⁷The outputs and proposed activities here will be further confirmed by the AWGCW to accommodate future changes and are provided in detail in ANNEX 2f.

	<ul style="list-style-type: none"> Guidelines on hazardous waste management developed. 	Trafficking of Hazardous Waste from Within and Outside ASEAN.	
Clearing House Mechanism on Illegal Trafficking of hazardous waste in cooperation with the BCRC-SEA	A capacity building workshop on combatting illegal trafficking of hazardous waste for relevant officers conducted.	3. Conduct capacity building for relevant officers, such as customs and border control officers.	
	<ul style="list-style-type: none"> A workshop on developing CHM conducted. CHM on illegal trafficking of Hazardous waste developed. 	4. Organise a ASEAN and BCRC-SEA workshop to develop the Clearing House Mechanism.	
Programme 3: Sound Chemicals Management			
ASEAN Chemical Outlook	A study on sound chemicals management in ASEAN conducted.	1. Conduct a study related to sound chemicals management.	Cambodia
	ASEAN chemical outlook developed.	2. Development of ASEAN chemical outlook.	
Enhanced institutional and human capacity to strengthen the implementation of chemical-related conventions (Rotterdam, Stockholm and Minamata conventions, Montreal Protocol)	<ul style="list-style-type: none"> A forum on sound chemical management in ASEAN conducted. A capacity building workshop on sound chemical management conducted. 	3. Conduct ASEAN forum and capacity building on sound chemicals management.	
Enhanced institutional and human capacity to address emerging issues defined by the Strategic Approach to International Chemicals Management (SAICM), such as, nanotechnology, endocrine disruptors, environmentally persistent pharmaceutical pollutants, chemicals in products and marine debris.	A series of forums/workshops on emerging issues conducted.	4. Conduct forums or workshops on emerging issues, such as, nanotechnology, endocrine disruptors, environmentally persistent pharmaceutical pollutants, chemicals in products and marine debris.	
Programme 4: Environmentally Sound Management Technologies (EST) towards Green Industries			

<p>ASEAN Guidelines for Environmentally Sound Technologies (EST) and cleaner production towards Green Industries.</p>	<ul style="list-style-type: none"> • A series of workshops on developing guidelines on EST and cleaner production for ASEAN conducted. • An ASEAN guideline for EST and cleaner production towards Green Industries developed 	<p>1. Conduct series of workshops to develop the Guidelines on the Environmentally Sound Technologies (EST) and cleaner production towards Green Industries.</p>	<p>Myanmar</p>	
<p>ASEAN Work Plan/Roadmap on promoting the Environmentally Sound Technologies (EST) and Industries, and cleaner production.</p> <p>EST are applied in the selected industries, particularly small and medium enterprises.</p> <p>Demonstration site of EST applied in industries.</p>	<p>A workshop on promotion of EAST/cleaner production and needs assessment on EST in ASEAN conducted.</p> <ul style="list-style-type: none"> • A series of workshop on developing work plan on ESTI and cleaner production conducted. • A work plan pn ESTI and cleaner production developed. <p>EST in selected industries in selected AMS applied.</p> <p>A workshop on Green Industry Monitoring conducted.</p>	<p>2. Conduct a workshop to promote ASEAN EST/cleaner production and needs assessment on EST.</p> <p>3. Conduct a series of workshop to develop Work Plan the Environmentally Sound Technologies (EST) and Industries, and cleaner production.</p> <p>4. Apply the EST in selected industries in selected ASEAN Member States.</p> <p>5. Conduct workshop on Green Industry Monitoring.</p>		
<p>Promotion on the concept of green chemistry in chemical production.</p>	<p>A workshop on green chemistry concept in chemical production conducted.</p>	<p>6. Conduct Workshop on green chemistry concept in chemical production and design to develop safer alternatives.</p>		
<p>Programme 5: ASEAN Presence in the Global Community</p>				
<p>ASEAN Joint Statement at the relevant international negotiation processes related to hazardous waste.</p>		<p>1. Develop ASEAN Joint Statement when necessary.</p>		<p>a. Indonesia (Basel Convention)</p> <p>b. Thailand (Rotterdam Convention)</p> <p>c. Viet Nam (Stockholm Convention)</p>
<p>Joint ASEAN statements at relevant international negotiation processes related to chemicals.</p>		<p>2. Develop ASEAN Joint Statement when necessary.</p>		
<p>Programme 6: Chemicals and Hazardous Wastes Accident Prevention, Preparedness and Emergency Responses</p>				

Capacity building on accident prevention, preparedness and emergency responses.	<ul style="list-style-type: none"> • A seminar on accident prevention, preparedness and emergency responses for policy makers conducted. • A regional training on accident prevention, preparedness and emergency responses for operators, law enforcement officers and responders conducted. 	1. Conduct regional training, workshops and seminars for policy makers, operators, law enforcement officers, etc.	Thailand
	Information on AMS guidelines on chemicals and hazardous wastes accident prevention, preparedness and emergency responses disseminated.	2. Disseminate information on guidelines related to chemicals and hazardous wastes applied by ASEAN Member States.	
	A workshop on sharing of best practices on accident prevention, preparedness and emergency responses conducted.	3. Share the best practices from each ASEAN Member States.	
	A communication platform for emergency responses developed.	4. Develop communication platform for emergency responses.	
Programme 7: Remediation of Contaminated Sites from Chemicals and Hazardous Wastes			
Capacity building and information exchange on best technology and practices.	<ul style="list-style-type: none"> • A seminar on remediation of contaminated sites for policy makers conducted. • A regional training on remediation of contaminated sites for operators, law enforcement officers and responders conducted. 	1. Organise regional training workshops and seminars for policy makers, operators, law enforcement officers, etc.	Viet Nam (tbc)
	Information on AMS guidelines on remediation of contaminated sites disseminated.	2. Disseminate information on guidelines related to chemicals and hazardous wastes applied by ASEAN Member States.	
	A workshop on sharing of best practices on remediation of contaminated sites conducted.	3. Share the best practices from each ASEAN Member States.	

