

As of 30 June 2021



United Nations Centre for  
Regional Development



Ministry of the Environment  
Japan

Ministry of the Environment,  
Government of Japan

## **Provisional Programme of Experts' Workshop for the Second State of the 3Rs and Circular Economy in Asia and the Pacific**

**Date of Workshop II:** 30 June 2021 (Wednesday)

**Format:** WeBex (Online Platform)

**Theme:** Electronic Waste

**Co-organizers:**

Ministry of the Environment, Japan (MOEJ)

United Nations Centre for Regional Development (UNCRD) of  
Division for Sustainable Development Goals (DSDG) / UN DESA

\*Duration of Webinars: Approximately 90 minutes

## PROGRAMME OF WORKSHOP

**Date: 30 June 2021 (Wednesday)**

**Bangkok Time: 12:30 PM-14:00 PM**  
**Japan Time: 14:30-16:00 PM**  
**London Time: 5:30 AM-7:00 AM**  
**New York Time: 01:30 AM-03:00 AM**  
**India Time (IST): 11:00 AM-12:30 PM**

**Theme: Electronic Waste**

### Short Introduction

This workshop is on the sub-section “3.2.2. Electronic Waste” of the report of “Second State of 3R and Circular Economy in Asia and the Pacific”. This workshop aims to describe challenges in E-waste management and recycling opportunities in Asia and the Pacific.

*Reference 1: Table of Content of report “Second State of 3R and Circular Economy in Asia and the Pacific”*

*Reference 2: Table of Content of chapter “Electronic Waste”.*

### Discussion Points

#### Discussion Points

- Any major issues including new emerging issues that needs to be highlighted in this section.
- Any potential source of data, information, reports which could be useful for developing this chapter.
- Any specific box, graph and chart that could be included in this chapter. (For example, any new policy initiative that is very effectively working in a country should be add in box)

**Chair: Dr. Trung Thang Nguyen,**  
*Deputy Director General,  
Department of Environment and Sustainable Development,  
Institute of Strategy and Policy on Natural Resources and Environment*

<p><b><u>Experts</u></b></p> <ul style="list-style-type: none"> <li>• <b>Ms. Thi Phuong Anh Duong</b>, Deputy Head, Department of Environment and Sustainable Development, Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE), Vietnam</li> <li>• <b>Mr. K.D. Bhardwaj</b>, Regional Director (Environment and Energy) and Head (International Services), National Productivity Council, India</li> <li>• <b>Ms. Kullacha Tanakwang</b>, Environmentalist, Senior Professional Level, Pollution Control Department, Ministry of Natural Resources and Environment, Thailand</li> <li>• <b>Mr. Cherdchai Worakaensai</b>, Environmentalist, Senior Professional Level, Pollution Control Department, Ministry of Natural Resources and Environment, Thailand</li> <li>• <b>Dr Sandip Chatterjee</b>, Director, Ministry of Electronics and Information Technology, India</li> <li>• <b>Mr. Qingyin Dong</b>, Programme Officer, Basel Convention Regional Centre for Asia and the Pacific (BCRC China), Tsinghua University, PR China</li> <li>• <b>Dr. Siriporn Borrirukwisitsak</b>, Lecturer, Center of Excellence on Hazardous Substance Management, Chulalongkorn University, Thailand</li> <li>• <b>Mr. Michikazu Kojima</b>, Chief Senior Researcher, Institute of Developing Economies-JETRO, Japan and Research Fellow, Economic Research Institute for ASEAN and East Asia, Indonesia</li> <li>• <b>Dr. Atsushi Terazono</b>, Senior Principal Researcher, Material Cycles Division, National Institute for Environmental Studies (NIES), Japan</li> <li>• <b>Dr. Deepali Sinha Khetriwal</b>, Managing Director, Sofies Sustainability Leaders Pvt. Ltd, India</li> </ul>	<p>(ISPONRE), Vietnam</p> <p><b><u>Facilitator / Moderator:</u></b>  <b>Mr. Choudhury Rudra Charan Mohanty</b>, Environment Programme Coordinator, United Nations Centre for Regional Development (UNCRD)-DSDG/UN DESA, Japan</p> <p><b><u>Rapporteur:</u></b>  <b>Dr. Sunil Herat</b>, Griffith School of Engineering Griffith University, Brisbane, Australia and  <b>Dr. Anupam Khajuria</b>, Researcher, United Nations Centre for Regional Development (UNCRD)-DSDG/UN DESA, Japan</p>
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<ul style="list-style-type: none"> <li>• <i>Mr. Ajoy Raychaudhuri, Director, Battery and Recycling Foundation International, India</i></li> <li>• <i>Mr. Daniel Ternald, Associate Expert, United Nations Environment Programme International Environmental Technology Centre (UNEP-IETC), Japan</i></li> <li>• <i>Mr. Amit Jain, Managing Director, IRG Systems South Asia Pvt. Ltd, India</i></li> <li>• <i>Mr. Koji Maeshima, Deputy Director, Office for Promotion of Sound Material-Cycle Society, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment, Japan</i></li> <li>• <i>Mr. Takayuki Shigematsu, Deputy Director, Office for Promotion of Sound Material-Cycle Society, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment, Japan</i></li> <li>• <i>Mr. Takaaki Ito, Director, Office for Promotion of Sound Material-Cycle Society, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment, Japan</i></li> <li>• <i>Mr. Yasuki Yamamoto, Senior Environment Engineer, Office for Promotion of Sound Material-Cycle Society, Environmental Regeneration and Material Cycles Bureau, Ministry of the Environment, Japan</i></li> </ul>	
<p><b>End of Workshop</b></p>	

***Reference 1: Table of Contents of the report “Second State of the 3Rs in Asia and the Pacific”***

1. Background and Scope of Work

1.1. About the State of 3Rs in Asia and the Pacific Project

1.2. Regional 3R and Circular Economy Forum in Asia and the Pacific, Ha Noi 3R Declaration, and 3R Monitoring Performance Indicators

1.3. Structure of this Report

2. Urgent Needs and Multiple Benefits of Implementing 3Rs and Circular Economy Approach in Asia and the Pacific

2.1. 3R and Resource Efficiency as the Heart of Circular Economy

2.2. Key Factors for Promoting Circular Economy in Asia and the Pacific

2.2.1. Circular Economy towards Sufficiency Economy

2.2.2. Sound Material Flow and Accounting towards Sufficiency Economy

2.2.3. Technology as a Driver for Clean Energy and Green Industry towards Sufficiency Economy

2.2.4. The Importance of Public-Private-Partnership (PPP) for Advancing Circular Economy

2.2.5. 3Rs and Circular Economy under COVID-19 Pandemic

3. Trends of 3R and Circular Economy in Asia and the Pacific

3.1. Trends in 3Rs and Waste Management Policies and Responses

3.1.1. Reduction in the Quantity of Municipal Solid Waste Generated (Goal 1)

3.1.2. Increasing Recycling Rate of Recyclables (e.g., plastic, paper, metal, etc.) (Goal3)

3.1.3. Inventory of Hazardous Waste (Goal 9)

3.1.4. Agricultural Biomass Waste Management (Goal 11)

3.1.5. Eliminating Marine Plastics (Goal 12)

3.1.6. E-Waste Management (Goal 13)

3.1.7. Implementation of Extended Producer Responsibility (EPR) (Goal 15)

3.1.8. Improving Resource Efficiency and Resource Productivity (Goal 17)

3.1.9. Co-benefits for Local Air, Water, Oceans, and Soil Pollution and Global Climate Change (Goal 18)

3.2. Growing Volume and Diversification of Waste Streams with Presence of New Emerging Waste Streams

3.2.1. Plastic Waste

3.2.2. E-waste

3.2.3. Chemical and Hazardous Waste

3.2.4. Construction and Demolition Waste (including Disaster waste)

3.2.5. Agricultural Biomass Waste

3.2.6. Food Waste

3.2.7. Medical and Healthcare Waste

3.2.8. Wastewater Treatment

3.2.9. Data Issues on new emerging waste streams

3.3. Conventional and Frontier Technologies in Advancing 3Rs and Circular Economy in Asia-Pacific

3.3.1. Waste-to-Energy

3.3.2. Biobased Plastics and Biodegradable Plastics

3.3.3. Used Tire for Roads Construction

3.3.4. Plastics as Alternative Timber (for example-Case of Australia)

3.3.5. Application of Smart Technology

3.3.6. End of Life Batteries

3.3.7. Carbon Neutralization Technology

3.4. Progress towards Implementation of the Ha Noi 3R Declaration (2013-2023)

3.4.1. 3R Policy Implementation in Asia and the Pacific

3.4.2. Nationally Implemented 3R-Related Programmes, Projects, and Master Plans

***Reference 2: Table of Content of the Chapter “Electronic Waste”***

3.2.2. Electronic waste (E-waste)

3.2.2.1. Regional Overview on E-waste in Asia and the Pacific

- i. Definition of E-waste and its sources (electric equipment production, trade and consumption)
- ii. Types of E-waste and its generation (2020-2030) in the region (by countries)
- iii. Transboundary movement of discarded E-waste in the region

3.2.2.2. National Regulations, Standards, and Guidelines on E-Waste Management (HNG13 Indicators)

- i. Formal standards, certification system, and licensing procedures established and enforced (HNG13-1).
- ii. Guidelines on environmentally-sound management of e-waste at all stages, including occupational safety and health standards, appropriate workspaces, and infrastructure, and protective working equipment developed and incorporated into local regulatory frameworks (HNG13-5).

3.2.2.3. E-Waste Management

(This 3.2.2.3. should include the trends and developments in Asia and the Pacific on the Ha Noi 3R Goal 13 (HNG13). While developing this section, graphs and charts on relevant indicators under HNG13 should be included).

- i. Technical support services made available to informal sector and SMEs involved in e-waste management, that have raised awareness of workers and employers on the hazards of e-waste management and recycling at all stages (HNG13-2).
- ii. Presence of, and access to, appropriate health-care services for informal sector workers (HNG13-2).

3.2.2.4. Opportunities for Circular Economy

(This 3.2.2.4. should be developed in consideration of following indicators under HNG13).

- i. Number of state-of-the-art recycling facilities for E-waste (HNG13-4).
- ii. E-waste flows from their end of life to final disposals through the recycling facilities.

3.2.2.5. Conclusion and Way Forward