

SUMMARY REPORT

WASTE MANAGEMENT IN ASEAN COUNTRIES

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Printed in Thailand

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Abbreviation

ASEAN The Association of Southeast Asian Nations ASCC ASEAN Socio Cultural Community **BAT** Best Available Technologies **BLNG** Brunei Liquefied Natural and Gad **BMC** Brunei Methanol Company **BSP** Brunei Shell Petroleum **CCQMD** Composting, Compost Quality and Market Development **COMPED** Cambodia Education and waste Management Organization **CSARO** Community Sanitation and Recycling Organization **DEPC** Department of Environmental Pollution Control **DEPR** Department of Environment, Park and Recreation **DfE** Design for Environment **ECD** Environment Conservation Department **EEE** Electrical and Electronic Equipment **EPR** Extended Producer Responsibility **ESM** Environmentally Sound Management **ESMS** Environmental and Social Management Systems **GDP** Gross Domestic Product **GHG** Green House Gas **GHS** Global Harmonized System **GWCs** General Waste Collectors **HOAs** Home Owners Association **HR** Human Resources **ISWM** Integrated Solid Waste Management **ITA** Investment Tax Allowance **IWS** Informal Waste Sector **JICA** Japan International Cooperation Agency **KPIs** Key Performance Indicators **KSTP** Keppel Seghers Tuas Plant LGU Local Government Unit MASG Multi-Agency Sub-Group MCDC Mandalay City Development Committee **MDGs** Millennium Development Goals MEPS Minimum Energy Performance Standard **MoE** Ministry of Environment **Mol** Ministry of Industry MONRE Ministry of Natural Resources and Environment **MRF** Material Recycling Facilities

- **MSW** Municipal Solid Waste
 - MT Metric Tons
- **NAMA** Nationally Appropriate Mitigation Actions
 - **NEA** Non-Environmentally Acceptable
 - **NEA** National Environment Agency
- **NELP-GCP** National Eco-Labeling Programme- Green Choice Philippines **NGO** Non Government Organization
 - **NPT DC** Naypyitaw Development Committee

 - **NSWMD** National Solid Waste Management Department
 - **OECD** Organization for Economic Co-operation and Development
 - PADETC Participatory Development Training Center
 - **PCD** Pollution Control Department
 - **PEPP** Philippine Environmental Partnership Programme
 - **PPP** Public Private Partnership
 - **PWCs** Public Waste Collectors
 - **RECP** Resource Efficiency and Cleaner Production
 - **ROHS** Restriction of Hazardous Substances
 - **SDG** Sustainable Development Goals
 - **SIH** Green Industry Standard
 - **SLF** Secured Landfill
 - **SLORC** State Law and Order Restoration Council
 - **SME** Small and Medium Scale Enterprises
 - SNI Indonesian National Standard
 - **SWM** Solid Waste Management
 - **SWOT** Strength, Weakness, Opportunities and Threat
 - **TEST** Transfer of Environmental Sound Technologies
 - **TMTS** Tuas Marine Transfer Station
 - **ULB** Urban Local Bodies
 - **UNCRD** United Nations Centre for Regional Development
- **UNESCAP** United Nations Economic and Social Commission for Asia and the Pacific
 - **UNU** United Nations University
 - **WAB** Waste Agriculture Biomass
 - WACS Waste Analysis and Characterization Study
 - **WHO** World Health Organization
 - **WM** Waste Management
 - **WTE** Waste to Energy
 - **YCDC** Yangon City Development Committee



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Key Highlights

This summary report examines the waste management landscape in 10 Association of Southeast Asian Nations (ASEAN) Member States. This report begins with the statistics on the trends of population growth, urbanization, and economic growth in each of the ASEAN countries, which is then followed by an overview of the waste generation, collection, treatment & recovery, and disposal statistics, and associated environmental, technical, and governance (institutions, policy, regulations) factors in the waste sector. The report also identifies the existing waste management challenges and gaps therein, and sets out recommendations.

Some of the key highlights of the ASEAN waste management landscape are summarized here, while the country specific data are detailed in the main report:

ASEAN is experiencing an increasing trend in population growth and urbanization rate

ASEAN countries have a combined population of approximately 625 million people, which account for 8.8% of the world's population. The population is projected to be increased to 650 million by 2020, more than half of this total population will be living in urban areas.

Waste generation is increasing (both in volume and composition)

The per capita Municipal Solid Waste (MSW) generation in ASEAN is **1.14 kg/capita/day**. In terms of total annual MSW generation, the order is as follows: Indonesia generates the highest quantity of municipal waste with 64 million tonnes/year, followed by Thailand (26.77 million tonnes/year), Viet Nam (22 million tonnes), Philippines (14.66 million tonnes), Malaysia (12.84 million tonnes), Singapore (7.5 million tonnes), Myanmar (0.84 million tonnes), and Lao PDR generating the lowest quantity of MSW at **0.07 million tonnes/year**. Predominantly, organic waste (about or more than 50%) is the highest fraction of MSW in all ASEAN countries, except for Singapore, where organic waste accounts for only 10.5% of the total MSW. Other waste streams such as plastic, paper, and metals are also the common sight in MSW piles. Apart from MSW, Healthcare waste, E-waste, Industrial waste, and Construction and Demolition Waste are the emerging waste streams

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