



United Nations  
Centre for Regional Development

**Reduce**  
**Reuse**  
**Recycle**

**Promotion of**



**in Asia and the Pacific**

# **REGIONAL 3R FORUM IN ASIA AND THE PACIFIC**

**Tokyo 3R Statement by countries (2009)**

**Ha Noi 3R Declaration by countries (2013-2023)**

**Surabaya 3R Declaration by countries (2014)**

**Malé 3R Declaration by tourist resorts (2015)**

**Adelaide 3R Declaration by countries (2016)**



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### What are 3Rs?

The 3Rs stand for Reduce, Reuse and Recycle.

Reduce calls for waste reduction by using things that you already have until the very end of their life cycle and by avoiding waste generation.

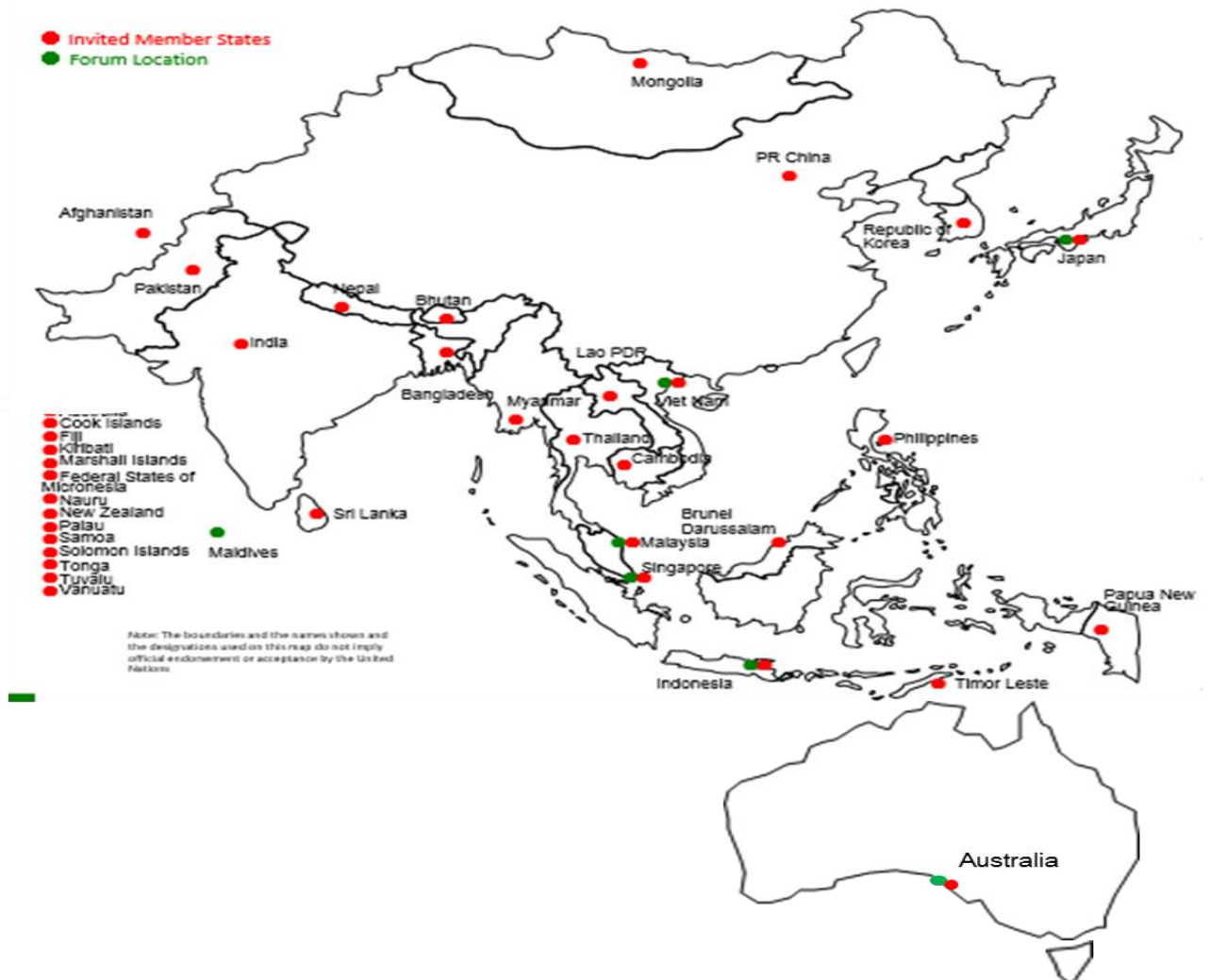
Reuse calls for re-utilization of goods and materials;

Recycle calls for re-utilization of waste as resources.

### The Regional 3R Forum in Asia and the Pacific

UNCRD and the Ministry of the Environment, Japan jointly launched the Regional 3R Forum in Asia in November 2009 in Tokyo, Japan with an objective to provide strategic policy advices to national and local government authorities in mainstreaming 3Rs in the overall policy, planning and development. The “*Regional 3R Forum in Asia the Pacific*” is a high-level policy Forum convened annually.

## UNCRD actively promotes 3Rs (Reduce-Reuse-Recycle) policies and programmes





## Promotion of in Asia and the Pacific

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#### *Regional 3R Forum: Objectives*

- ❖ Facilitate high-level policy dialogues on 3R issues, challenges and opportunities;
- ❖ Facilitate meaningful dialogue and cooperation with international organizations and donor communities for realizing 3R projects at local and national level identifies;
- ❖ Provide a strategic and knowledge platform for sharing experiences and disseminating among Asian countries best practices, tools, technologies, policy instruments on various aspects of the 3Rs;
- ❖ Provide a platform to develop multilayered networks and cooperation of stakeholders such as governments, academia, scientific and research community, private sector, NGOs and communities in implementing 3R projects and measures;
- ❖ Generate international consensus and understanding on the beneficial aspects of the 3Rs in the context of achieving resource efficient economy and climate change mitigation; and
- ❖ Provide a platform for proliferation of national 3R strategies in developing countries.

#### *Regional 3R Forum: Milestones*

The *Inaugural Meeting (Japan, 2009)*: Establishment of the Regional 3R Forum in Asia

Output: The “*Tokyo 3R Statement*” provides the necessary basis and framework for the Regional 3R Forum in Asia and further aims to set the vision and direction of the Forum to promote a sound material cycle and resource-efficient society in the region.



The *Second Forum (Malaysia, 2010)*: theme- “3Rs for Green Economy and Sound Material-Cycle Society”

Output: The Chair’s Summary of this meeting responded to the *major finding of CSD-18 and provided key inputs to CSD-19* in the waste management sector, and also provided regional views relevant to the UNCRD/Rio+20 in terms of how 3Rs could contribute in the context of Green Economy.





The **Third Forum (Singapore, 2011)**: theme- “Technology Transfer for promoting the 3Rs- Adapting implementing, and scaling up appropriate technologies”

Output: The Chair’s Summary and the Annex “**Recommendations of the Singapore Forum on the 3Rs in Achieving a Resource Efficient Society in Asia**” was officially submitted by the Government of Singapore as an input to Rio+20 process.



The **Fourth Forum (Viet Nam, 2013)**: the theme- “3Rs in the Context of Rio+20 Outcomes-The Future We Want”

Output: The “Hanoi 3R Declaration- Sustainable 3R Goals for Asia and Pacific (2013-2023)”: Towards demonstrating a firm commitment towards accelerating 3R policies, programmes and projects in Asia in support of the Rio+20 Outcomes- The Future We Want, Asia-Pacific countries agreed and adopted the “**Ha Noi 3R Declaration- Sustainable 3R Goals for Asia and the Pacific for 2013-2023**”, which aims to provide an important basis and framework for national and local authorities to voluntarily develop and implement 3R policies and programmes, including monitoring mechanisms, towards transitioning to a resource-efficient economy and zero waste society.



The **Fifth Forum (Indonesia, 2014)**: the theme- “Multilayer partnerships and Coalition as the Basis for 3R Promotion in Asia and the Pacific”

Output: The “Forum focused on multi-stakeholder partnerships to achieve a resource efficient and zero waste society in Asia and the Pacific towards implementation the Ha Noi 3R Declaration (2013-2023), and adopted **Surabaya Declaration on Promotion of Multilayer Partnerships and Collaboration for the Expansion of Reduce, Reuse and Recycle (3Rs) in Asia and the Pacific**.”



The **Sixth Forum (Maldives, 2015)**: the theme- “3R as an Economic Industry – Next Generation 3R Solutions for a Resource Efficient Society & Sustainable Tourism Development in Asia and the Pacific”

Output: The Co-Chairs’ Summary of this meeting responded with the Malé 3R Declaration “**Resorts in Maldives for the Promotion of 3Rs and Resource Efficiency Towards Protection of Local Environment and Marine Ecosystem**”.





The *Seventh Forum (Australia, 2016)*: the theme- “Advancing 3R and Resource Efficiency for the 2030 Agenda for Sustainable Development”  
Output: The Co-Chairs’ Summary of this meeting responded with the Adelaide 3R Declaration “*Adelaide 3R Declaration towards the Promotion of Circular Economy in Achieving Resource Efficient Societies in Asia and the Pacific under the 2030 Agenda for Sustainable Development*”.





## **TOKYO 3R STATEMENT**

**-Towards the Establishment of the Regional 3R (Reduce, Reuse, and Recycle)  
Forum in Asia-  
(Inaugural Meeting of the Regional 3R Forum in Asia,  
11-12 November 2009, in Tokyo, Japan)**

The participants, who are representatives of Asian countries (Bangladesh, Brunei Darussalam, Cambodia, People's Republic of China, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, the Philippines, Singapore, Thailand, and Viet Nam), international organizations and aid agencies (Asian Development Bank (ADB), Asian Institute of Technology (AIT), Asia-Pacific Forum for Environment and Development (APFED), Asian Productivity Organization (APO), Basel Convention Regional Coordinating Centre for Asia and the Pacific (BCRC China), Global Environment Facility (GEF), German Agency for Technical Cooperation (GTZ), Institute for Global Environmental Strategies (IGES), International Labour Organization (ILO), Organisation for Economic Co-operation and Development (OECD), Japan International Cooperation Agency (JICA), Secretariat of the Basel Convention (SBC), United Nations Centre for Regional Development (UNCRD), United Nations Department of Economic and Social Affairs (UN DESA), United Nations Environment Programme (UNEP), United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP), and United Nations Industrial Development Organization (UNIDO)), and experts in the area of 3R/waste management, having met in Tokyo, Japan on 11-12 November 2009, for the Inaugural Meeting of the Regional 3R Forum in Asia, to agree on a statement on the establishment of the Forum, for the promotion of the 3Rs in the Asia region,

***Reaffirming and building upon*** the international agendas and processes such as the Agenda 21, the Johannesburg Declaration on Sustainable Development, and the Johannesburg Plan of Implementation (JPOI), in which the need for reorienting production and consumption patterns at all levels towards sustainability have been highlighted, with emphasis on waste management and giving the highest priority to waste prevention and minimization by encouraging the production of reusable consumer goods and biodegradable products and developing the infrastructure required to reduce, reuse, recycle, and dispose in an environmentally sound manner, in line with the goals and objectives of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, in particular capacity building on prevention of illegal transboundary movement of hazardous wastes,



**Reconfirming** the important linkages between the beneficial aspects of the 3Rs and the Millennium Development Goals (MDGs) and the significant contributions that could be made in achieving the MDGs by promoting the 3Rs and sound waste management, while being mindful of, and striving to eliminate, the negative consequences of improper waste management and recycling practices,

**Recognizing** the 3R Initiative launched at the G8 Sea Island Summit in June 2004, and the subsequent processes including the Ministerial Conference on the 3R Initiative held in April 2005, the senior officials meetings held in March 2006 and October 2007, the 1<sup>st</sup> and 2<sup>nd</sup> Asia 3R Conferences held in November 2006 and March 2008, and the Kobe 3R Action Plan agreed at the G8 Environment Ministers Meeting in Kobe, Japan in May 2008,

**Acknowledging** themes of sustainable consumption and production and waste management, among others, that will be addressed at the 18th and 19th sessions of the UN Commission on Sustainable Development (CSD) in 2010-2011, and **noting** that the 3Rs can make significant contribution to shifting Asia towards patterns of sustainable consumption and production by improving resource productivity and efficiency as well as by decoupling economic growth from resource consumption and environmental degradation,

**Reaffirming and building upon** the Decision GC 25/8 of UNEP's Governing Council, which in paragraph 7, specifically recognizes the need for more intensive awareness-raising designed to change the attitude of waste generators, particularly industries, consumers, and the informal sector with regard to the "3Rs" concept, environmentally sound waste management and, where appropriate, the need for final disposal of wastes in the countries in which they are generated,

**Understanding** both the main benefits of the 3Rs and the co-benefits in the forms of improvement of environmental management and competitiveness in the industrial sector, achieving resource and energy efficiency, and climate change mitigation,

**Recognizing** the importance of comprehensive and integrated national 3R strategies and also noting that the development of such strategies can be a positive step towards mainstreaming the 3Rs in overall policy, planning, and development at the local, sub-national, and national levels,



***Underscoring the importance of*** cooperation and partnership with international organizations, and bilateral and multilateral donor communities towards training and capacity development, research;

networking, development and implementation of 3R-related projects, including CDM, and transfer of environmentally sound technologies on various aspects of the 3Rs,

***Recognizing*** that improved awareness in civil society on the social, economic, and environmental benefits of the 3Rs is critical to realizing its effective promotion and implementation towards establishing a sound material-cycle society,

hereby announce the following as their common intention:

1. Unanimously endorse and welcome the inauguration of the *Regional 3R Forum in Asia*, with the overriding objectives to:
  - (a) Facilitate high-level policy dialogues on 3R issues, challenges, and opportunities;
  - (b) Facilitate improved dialogue and cooperation with international organizations and donor communities for materializing and implementing 3R projects, including 3R and waste management-related projects and programmes at the local and national levels identified through national 3R strategies;
  - (c) Provide a strategic and knowledge platform for sharing experiences and disseminating among Asian countries best practices, tools, technologies, and policy instruments on various aspects of the 3Rs;
  - (d) Provide a platform to develop multilayered networks of stakeholders such as national and local governments, academia, scientific and research community, the private sector, media community, NGOs, and the informal sector;
  - (e) Generate regional consensus and understanding on the beneficial aspects of the 3Rs in the context of achieving the MDGs, resource and energy efficiency, resource-efficient economy, and climate change mitigation;
  - (f) Provide a platform for the proliferation of national 3R strategies; and
  - (g) Promote awareness among the general public, including schoolchildren, on the beneficial aspects of the 3Rs.
  
2. Agree on the following long- and short-term priorities of the *Regional 3R Forum in Asia* in consideration of the current situation in Asia (socioeconomic conditions and culture, etc.).





- (a) **Mainstreaming the 3Rs** in the national development agenda, including environmental and economic policies and programmes;
- (b) **Mobilizing financial resources in cooperation with bilateral and multilateral aid agencies** for the **implementation of 3R measures and activities** at both the national and local levels, involving key stakeholders including the **private sector**, in particular, exploring how to promote 3Rs through pilot projects towards achieving more sustainable production and consumption patterns, resource conservation and environmentally friendly society,
- (c) Developing **human resources** to overcome waste management issues, including technical barriers and technological gaps, to achieve **waste prevention, minimization, and reduction** at the source of waste;
- (d) Promoting better understanding on the overall benefits of the 3Rs, including the **co-benefits**, which will lead to better implementation of the 3Rs with the broader scope of **achieving resource efficiency, energy efficiency, and climate change mitigation**;
- (e) **Developing and implementing effective policy mechanisms** such as EPR, which will help provide the incentive to minimize waste and redesign products for easier recycling. **Experience and knowledge accumulated** in the countries implementing such mechanisms **shall be transferred and shared among participating countries**;
- (f) Building adequate **capacity for collection and safe treatment of hazardous waste**, including those from household waste and **e-waste**;
- (g) Developing, where appropriate, **industrial capacity for sound recycling**, including the formation of **eco-industrial zones** and clusters, with support from source segregation activities, efficient collection systems, and upgrading of existing facilities;
- (h) Developing the necessary organizational framework and support to deal with the **informal sector**, which plays an important role in the waste chain, but generally operates without proper health care and labour policies;
- (i) Developing and **transferring environmentally sound technologies**, including cost- effective and feasible technologies that meet the needs of the developing countries, for waste management and the 3Rs;
- (j) **Empowering cities** to build themselves into becoming core clients for financing and investment towards implementation of the 3Rs as well as to enable them to **cope with critical and emerging issues** such as open dumping and burning, hazardous wastes, diversification of waste streams, and climate change; and
- (k) **Information sharing and research networking** focusing on generation of data, technical capacity development, and policy analysis towards achieving **sustainable resource management**.



3. Accept the following as an initial possible set of activities that will be implemented under the umbrella framework of the Regional 3R Forum in Asia, in order to address the priorities agreed to above.
  - (a) *Hold high-level policy dialogue on a regular basis*, to promote participating countries' efforts to achieve the common objectives of the 3Rs by sharing and discussing a wide range of policies and activities on the 3Rs, with a focus on material and solid waste flow as well as on regional cooperation. National government representatives, being the most important constituent of the high-level policy dialogue, will actively participate and play a central role;
  - (b) *Facilitate implementation, replication, and scaling up of 3R-related pilot and demonstration projects and other good practices* in close collaboration with donor agencies. Pilot interventions will be identified and will be supported in collaboration with the existing and newly mobilized financial mechanisms. The forum will provide a platform for consultations among governments and bilateral and multilateral development banks and agencies and enlist their support for the implementation of 3R projects;
  - (c) *Collaborate with the existing 3R information/research networks at both the national and international levels*, so that they will serve as strategic and knowledge platforms for sharing experiences and for disseminating among Asian countries best practices, tools, technologies, and policy instruments on various aspects of the 3Rs. Collaboration will be extended to a wide range of existing information/research networks related to the 3Rs such as, but not limited to, the 3R Knowledge Hub, the Thematic Working Group on Solid and Hazardous Waste (Waste TWG) of the Regional Forum on Environment and Health in Southeast and East Asian countries and similar forums in other parts of Asia, the Basel Convention Regional Coordinating Centres (BCRCs), Society of Solid Waste Management Experts in Asia and Pacific Islands (SWAPI), and Economic Research Institute for ASEAN and East Asia (ERIA) working group on the 3R Policy. Dissemination of scientific knowledge will be regionally promoted through international academic journals and conferences in particular;
  - (d) *Promote 3R business feasibility studies* involving both public and private sector financing and participation, keeping in mind the needs of developing countries, by facilitating mutual and bilateral consultation among countries;
  - (e) *Conduct international collaborative, advanced policy-relevant scientific research on sound material cycles in Asia* on a continuous basis, for better data gathering, which



evaluates the economic and environmental impacts of the 3Rs and the effectiveness of 3R policies, and examines available policy options and their combination for strategic implementation of the 3Rs; and

(f) *Capacity building* through means such as international training programmes focusing on the 3Rs for human resource development, which targets government officials. Such programmes may be initiated as part of the international cooperation activities of relevant donor agencies such as JICA and others.

4. Welcome other countries and organizations to join the Regional 3R Forum in Asia for greater proliferation of the 3Rs as well as stronger networking in the region.
5. Welcome the establishment of the Subsidiary Expert Group (SEG) under the Regional 3R Forum in Asia. The SEG members will support the high-level policy dialogue by providing substantive technical input, and by sharing opinions, ideas, and information on best practices and effective policy instruments among the participating countries in the area of the 3Rs. The SEG members will provide policy and technical advice to international collaborative research undertaken, as mentioned in 3 (e) above. They will also provide relevant policy and technical advice and practical suggestions to the developing countries during the implementation of various 3R activities.
6. Request UNCRD, in cooperation with other relevant organizations and initiatives, to take the lead role in: (a) facilitating intergovernmental and interagency coordination for the implementation of the Forum; and (b) facilitating an interface or platform between the Governments and the expert group for active policy consultations and dialogues.
7. Welcome Japan's initiative to launch the international collaborative research activity, coordinated by IGES, in line with 3 (e) stated above.
8. Recognize the progress in various 3R-related projects and programmes being undertaken by international organizations and aid agencies participating in this Forum, and request bilateral and multilateral development banks and donor agencies to facilitate the use of their financial and technical assistance programmes, and to consider, as appropriate, the development of new funding mechanisms for 3R-related project implementation and/or investment.



Request UNCRD, in consultation with other relevant organizations, to explore and identify suitable modalities for facilitating multilayered networks of stakeholders such as governments, academia, scientific and research community, private sector, and NGOs, under the umbrella framework of the Regional 3R Forum in Asia (as mentioned in 1 (d)).



## Ha Noi 3R Declaration<sup>[1]</sup>

**- Sustainable 3R Goals for Asia and the Pacific for 2013-2023-  
(Fourth Regional 3R Forum in Asia,  
18-20 March 2013, in Na Hoi, Viet Nam)**

### Preamble

We, the representatives of Asia-Pacific countries (Australia, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, People's Republic of China (hereinafter, China)<sup>2</sup>, Fiji, India, Indonesia, Japan, Kiribati, Republic of Korea, Lao PDR, Malaysia, Maldives, Marshall Islands, Federated States of Micronesia, Mongolia, Myanmar, Palau, Papua New Guinea, the Philippines, Samoa, Singapore, Solomon Islands, Thailand, Timor-Leste, Tonga, Tuvalu, and Viet Nam), international organizations, bilateral and multilateral agencies, research organizations, and professionals in the field of waste management, who have met at the Fourth Regional 3R Forum in Asia, held in Ha Noi, Viet Nam, from 18 to 20 March 2013, to demonstrate our renewed commitment to realizing a promising decade (2013-2023) of sustainable actions and measures for achieving resource efficient society and a green economy in the Asia-Pacific region through the implementation of the 3Rs (reduce, reuse, and recycle),

**Reaffirming**, as noted in the *Johannesburg Plan of Implementation*, the need for consolidated efforts to prevent and minimize waste and to maximize reuse, recycling, and use of environmentally-friendly alternative materials, with the participation of government authorities and all stakeholders, in order to minimize adverse effects on the environment and improve resource efficiency,

**Noting** the key global issues in the waste sector highlighted at the 18th and 19th sessions of the Commission on Sustainable Development held in 2010 and 2011, such as: the need to move towards a zero waste society; the requirement for special attention on particular types of waste, in particular the emerging new waste streams such as electronic waste, plastics in the marine environment, and oil and lubricants; the critical role of partnerships and international cooperation; and the significance of education and public awareness that lead to behavioural change,

**Reaffirming and building upon** the *Tokyo 3R Statement* announced by the participants at the Inaugural Meeting of the Regional 3R Forum in Asia, held in Tokyo, Japan, on 11 and 12 November 2009, which endorsed the establishment of the Forum and set the regional priorities in the area of the 3Rs, and subsequently on the outcome of the Second

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<sup>1</sup> The *Ha Noi 3R Declaration* is a legally non-binding and voluntary document.

<sup>2</sup> China will confirm the government clearance and report back to the Secretariat in due course.



Regional 3R Forum held in Kuala Lumpur, Malaysia from 4 to 6 October 2010, which addressed the 3Rs for Green Economy and Sound Material-Cycle Society,

**Building on** the *Recommendations of the Singapore Forum on the 3Rs in Achieving a Resource Efficient Society in Asia*, annexed to the Chair's Summary of the Third Regional 3R Forum held in Singapore from 5 to 7 October 2011 and submitted by the Government of Singapore to the Rio+20 process as an official input, which listed a comprehensive set of recommendations covering a wide range of sectors based on the fundamental understanding that the 3Rs are intrinsically linked with resource efficiency in a wide range of sectors such as agriculture, industry, and energy, among others, towards transitioning to a resource-efficient and green economy,

**Underscoring** the critical importance of improving water use, central to all the other dimensions of sustainable development, and the fact that a third of the world's population is affected by water scarcity, which is further compounded by widespread discharge of wastes and untreated industrial effluents into rivers, water bodies, and valuable wetlands in many parts of the world, and thereby **noting** the important nexus between protection of freshwater resources and integrated waste management,

**Noting** the growing urbanization along with the diversification of waste streams worldwide as well as the growing presence of chemicals and hazardous and toxic elements in the general waste stream, which require a more extensive collaboration and partnerships among the different stakeholders – governments, civil society, private sector, local communities, international organizations, and the UN system, to deal with such complex and daunting nature of waste management challenges faced by local authorities and municipalities, and thereby further **noting** the objectives of IPLA<sup>3</sup>,

**Reaffirming** the importance of technical cooperation among developing countries (TCDC) as recognized in the *Buenos Aires Plan of Action* and as endorsed by the United Nations General Assembly (UNGA) in 1978<sup>4</sup>, that calls for strengthening overall cooperation among developing countries as well as increasing their collective and individual capacity for absorption and adaptation of technology and skills to meet their specific developmental needs,

**Welcoming** the United Nations Environment Programme (UNEP)/Governing Council decision 27/12 to continue facilitating ongoing international cooperation and coordination focusing on waste prevention, minimization, and management, including the progress in establishing the Global Partnership on Waste Management hosted by the UNEP/International Environmental Technology Centre,

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<sup>3</sup> International Partnership for Expanding Waste Management Services of Local Authorities (IPLA), a UN-registered partnership launched at CSD-19, New York, on 12 May 2011.

<sup>4</sup> UNGA resolution 33/134



**Acknowledging** the unique and effective roles the 3Rs can play by offering a complementary and integrated package of measures and tools to harness recyclable resources, energy, and economic benefits from waste,

**Recognizing** that the 3R approach, which is fundamentally an approach that requires efficient use of resources from the point of extraction up to their final disposal, could make a significant contribution in reducing greenhouse gas (GHG) emissions from the entire life-cycle of resources and products,

**Noting** the rapid growth of resource use in the Asia-Pacific region in the last three decades and the huge potential for future growth, and also **noting** the rapid growth of energy use in the region, now accounting for over 35 per cent of the world's energy consumption and expected to grow further under the "business as usual" scenario<sup>5</sup>, thereby **recognizing** the need to increase resource and energy efficiency for sustainable development in Asia and the Pacific,

**Affirming** the recommendation made by the United Nations Secretary-General's High-Level Panel on Global Sustainability, in its report titled "Resilient people, resilient planet: A future worth choosing," that Governments should adopt whole-of-government approaches to sustainable development issues, under the leadership of the Head of State or Government and involving all relevant ministries for addressing such issues across sectors (Recommendation 42),

**Recognizing** the issues and challenges faced by Small Island Developing States (SIDS) in achieving sustainable development in view of their unique and particular vulnerabilities, including their small size, remoteness, narrow resource and import base, and exposure to global environmental challenges and external economic shocks, including a large range of impacts from climate change and potentially more frequent and intense natural disasters,

**Noting** the importance of adopting a life-cycle approach and of further development and implementation of policies for resource efficiency and environmentally-sound waste management as contained in the Outcomes Document of the *Rio+20—the UNCSD—"The Future We Want"*, and wherein, the Heads of States and Governments adopted the 10-year framework of programmes on sustainable consumption and production and committed to further reduce, reuse, and recycle waste (3Rs) and to increase energy recovery from waste, with a view to managing the majority of global waste, including e-waste and plastics that pose particular challenges, in an environmentally-sound manner and, where possible, as a resource,

**Noting** further the call of the Heads of States and Governments at Rio+20 for the development and enforcement of comprehensive national and local waste management

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<sup>5</sup> UNEP, 2011. *Resource Efficiency: Economics and Outlook for Asia and the Pacific*. Nairobi, UNEP.



policies, strategies, laws and regulations, and new and innovative public-private partnerships among industry, governments, academia, and other non-governmental stakeholders aiming to enhance capacity and technology for environmentally-sound chemicals and waste management, including waste prevention,

Express our resolve to voluntarily develop, introduce, and implement policy options, programmes, and projects towards realizing the following sustainable 3R goals in the region, with an ultimate goal of achieving a resource-efficient and resilient society and transitioning to green economy:

## **Sustainable 3R Goals (3RGs) for Asia and the Pacific for 2013-2023**

### **I. 3R Goals in Urban/Industrial Areas**

#### **a) 3Rs in municipal solid waste**

Goal 1: Significant **reduction** in the quantity of **municipal solid waste** generated, by instituting policies, programmes, and projects at national and local levels, encouraging both producers and consumers to reduce the waste through greening production, greening lifestyle, and sustainable consumption.

Goal 2: Full-scale utilization of the **organic component of municipal waste, including food waste**, as a valuable resource, thereby achieving multiple benefits such as the reduction of waste flows to final disposal sites, reduction of GHG emission, improvement in resource efficiency, energy recovery, and employment creation.

Goal 3: Achieve significant **increase in recycling rate** of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.

Goal 4: Build **sustainable cities /green cities** by encouraging “**zero waste**” through sound policies, strategies, institutional mechanisms, and multi-stakeholder partnerships (giving specific importance to private sector involvement) with a primary goal of **waste minimization**





## b) 3Rs in industrial waste

- Goal 5: Encourage the **private sector**, including small- and medium-sized enterprises (SMEs) to implement measures to increase **resource efficiency and productivity**, creation of decent work and to improve environmentally-friendly practices through applying environmental standards, clean technologies, and cleaner production.
- Goal 6: Promote the **greening of the value chain** by encouraging industries and associated suppliers and vendors in socially responsible and inclusive ways.
- Goal 7: Promote **industrial symbiosis** (i.e., recycling of waste from one industry as a resource for another), by providing relevant incentives and support.
- Goal 8: Build **local capacity** of both current and future practitioners, to enable the private sector (including SMEs) to obtain the necessary knowledge and technical skills to foster green industry and create decent, productive work.
- Goal 9: Develop proper **classification and inventory of hazardous waste** as a prerequisite towards sound management of such waste.

## II. 3R Goals in Rural Areas

- Goal 10: **Reduce losses in the overall food supply chain** (production, post harvesting and storage, processing and packaging, distribution), leading to reduction of waste while increasing the quantity and improving the quality of products reaching consumers.
- Goal 11: Promote full scale **use of agricultural biomass waste and livestock waste** through reuse and/or recycle measures as appropriate, to achieve a number of co-benefits including GHG emission reduction, energy security, sustainable livelihoods in rural areas and poverty reduction, among others.

## III. 3R Goals for New and Emerging Wastes

- Goal 12: Strengthen regional, national, and local efforts to address the issue of **waste, in particular plastics** in the marine and coastal environment.
- Goal 13: Ensure **environmentally-sound management of e-waste** at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal with appropriate consideration for working conditions, including **health and safety aspects** of those involved.



- Goal 14: Effective enforcement of established mechanisms for preventing illegal and inappropriate export and import of waste, including transit trade, especially of hazardous waste and e-waste.
- Goal 15: Progressive implementation of “**extended producer responsibility (EPR)**” by encouraging producers, importers, and retailers and other relevant stakeholders to fulfill their responsibilities for collecting, recycling, and disposal of new and emerging waste streams, in particular e-waste.
- Goal 16: **Promote the 3R concept** in health-care waste management.

#### IV. 3R Goals for Cross-cutting Issues

- Goal 17: Improve **resource efficiency and resource productivity** by greening jobs nation-wide in all economic and development sectors.
- Goal 18: Maximize co-benefits from waste management technologies for local air, water, oceans, and soil pollution and global climate change.
- Goal 19: Enhance **national and local knowledge base and research network on the 3Rs and resource efficiency**, through facilitating effective and dynamic linkages among all stakeholders, including governments, municipalities, the private sector, and scientific communities.
- Goal 20: Strengthen multi-stakeholder partnerships among governments, civil society, and the private sector in raising public awareness and advancing the 3Rs, sustainable consumption and production, and resource efficiency, leading to the behavioural change of the citizens and change in production patterns.
- Goal 21: **Integrate the 3Rs** in formal education at primary, secondary, and tertiary levels as well as non-formal education such as community learning and development, in accordance with Education for Sustainable Development.
- Goal 22: **Integrate the 3R concept** in relevant policies and programmes, of key ministries and agencies such as Ministry of Environment, Ministry of Agriculture, Forestry and Fisheries, Ministry of Industry, Ministry of Trade and Commerce, Ministry of Energy, Ministry of Water Resources, Ministry of Transport, Ministry of Health, Ministry of Construction, Ministry of Finance, Ministry of Labour, Ministry of Land and Urban Development, Ministry of Education, and other relevant ministries towards transitioning to a resource-efficient and zero waste society.



- Goal 23: Promote **green and socially responsible procurement** at all levels, thereby creating and expanding 3R industries and markets for environmentally-friendly goods and products.
- Goal 24: **Phase out harmful subsidies that favour unsustainable use of resources (raw materials and water) and energy**, and channel the freed funds in support of implementing the 3Rs and efforts to improve resource/energy efficiency.
- Goal 25: **Protect public health and ecosystems, including freshwater and marine resources** by **eliminating illegal** activities of open dumping, including dumping in the oceans, and controlling open burning in both urban and rural areas.
- Goal 26: Facilitate the international circulation of re-usable and recyclable resources as well as remanufactured products as mutually agreed by countries and in accordance with international and national laws, especially the *Basel Convention*, which contributes to the reduction of negative environmental impacts and the effective management of resources.
- Goal 27: Promote data collection, compilation and sharing, public announcement and application of statistics on wastes and the 3Rs, to understand the state of waste management and resource efficiency.
- Goal 28: Promote heat recovery (waste-to-energy), in case wastes are not re-usable or recyclable and proper and sustainable management is secured.
- Goal 29: Promote overall regional cooperation and multi-stakeholder partnerships based on different levels of linkages such as government-to-government, municipality-to-municipality, industry-to-industry, (research) institute-to-institute, and NGO-to-NGO. Encourage technology transfer and technical and financial supports for 3Rs from developed countries to less developed countries.
- Goal 30: Pay special attention to issues and challenges faced by developing countries including SIDS in achieving sustainable development.
- Goal 31: Promote 3R + “Return” concept which stands for Reduce, Reuse, Recycle and “Return” where recycling is difficult due to the absence of available recycling industries and limited scale of markets in SIDS, especially in the Pacific Region.
- Goal 32: Complete elimination of illegal engagement of children in the **informal waste sector** and gradually **improve** the working conditions and livelihood security, including **mandatory provision of health insurance**, for all workers.
- Goal 33: Promote 3Rs taking into account gender considerations.



## **Annex 1:**

### **Reference Set of 3R Indicators for monitoring the progress made by countries**

This annex outlines a reference list of indicators that the countries may use for monitoring specific progress made on 3Rs and resource efficiency. The *Ha Noi 3R Declaration* is a legally non-binding and voluntary document, and thus countries may opt for developing a number of additional / alternative indicators and measures to monitor progress in their respective countries.

The objective of such a comprehensive list of indicators is to provide guidelines for objective measurement and monitoring of the implementation of 3Rs to achieve the desired goals.

The countries may wish to develop their own sets of indicators in order to determine **specific, quantifiable targets within a timeframe** using the recommended set of indicators below, against which progress can be monitored and recorded in a systematic manner.

<b>GOALS</b>	<b>MONITORING INDICATORS</b>
<b>I. 3R Goals in Urban/Industrial Areas</b>	
a) 3Rs in municipal solid waste (MSW)	
1) Significant <b>reduction</b> in the quantity of <b>municipal solid waste</b> generated, by instituting policies, programmes and projects at national and local levels, encouraging both producers and consumers to reduce waste through greening production, greening lifestyle, and sustainable consumption.	<ul style="list-style-type: none"> <li>- Total generation of MSW per capita.</li> <li>- Total amount of MSW going to landfill.</li> <li>- Number of Integrated Solid Waste Management/3Rs or other relevant policies and programmes introduced at local levels.</li> <li>- Specific policies and mechanisms that lead to reduction of disposable plastic bags, packaging, and other single-use consumer products.</li> <li>- Annual government expenditure per capita on consumer awareness-raising.</li> <li>- Total waste disposed per capita.</li> </ul>
2) Full-scale utilization of the <b>organic component of municipal waste, including food waste</b> , as a valuable resource, thereby achieving multiple benefits such as the reduction of waste flows to final disposal site, reduction of GHG emission, improvement in resource efficiency, energy recovery, and employment creation.	<ul style="list-style-type: none"> <li>- Organic waste landfilled per capita, or per amount landfilled.</li> <li>- Amount of organic component of MSW composted.</li> <li>- Amount of organic waste component of MSW treated by anaerobic digestion.</li> <li>- Number of cities that have introduced successful source separation programmes.</li> <li>- Number of jobs in organic waste management (formal/informal).</li> <li>- Amount of organic waste component of</li> </ul>

	MSW treated by waste-to-energy.
3) Achieve significant <b>increase in recycling rate</b> of recyclables (e.g., plastic, paper, metal, etc.), by introducing policies and measures, and by setting up financial mechanisms and institutional frameworks involving relevant stakeholders (e.g., producers, consumers, recycling industry, users of recycled materials, etc.) and development of modern recycling industry.	<ul style="list-style-type: none"> <li>- Overall Recycling Rate (%).</li> <li>- Recycling rate (%) of paper.</li> <li>- Recycling rate (%) of plastic.</li> <li>- Market size of recyclables.</li> <li>- New policy/programme/system/measure introduced, or existing policy/programme/measure/system strengthened.</li> <li>- Number of state-of-art recycling facilities for key recyclables.</li> <li>- Employment in recycling industries.</li> <li>- Number of cities that have introduced successful source separation programmes.</li> </ul>
4) Build <b>sustainable cities /green cities</b> by encouraging “ <b>zero waste</b> ” through sound policies, strategies, institutional mechanism, and multi-stakeholder partnerships (giving specific importance to private sector involvement) with primary goal of <b>waste minimization</b> .	<ul style="list-style-type: none"> <li>- Number of cities adopting zero waste strategies.</li> <li>- National policies and programmes introduced/strengthened to support local authorities in implementing zero-waste programmes.</li> <li>- Number of public-private-partnerships in waste management.</li> <li>- Amount of private sector investment in waste management sector.</li> <li>- Number of registered private sector firms with track record of providing waste management services.</li> <li>- Number of cities that implement inclusive and integrated waste management systems that address the environmental, social, and labour (meaningful work) issues of waste, and include informal workers and organizations in their systems.</li> </ul>
<b>b) 3Rs in Industrial sector (including SMEs)</b>	
5) Encourage <b>private sector</b> , including small- and medium-sized enterprises ( <b>SMEs</b> ) to implement measures to increase <b>resource efficiency and productivity</b> , creation of decent work and to improve environmentally-friendly practices through applying environmental standards, clean technologies, and cleaner production.	<ul style="list-style-type: none"> <li>- Policy instrument(s) that support resource efficiency and productivity are introduced or strengthened at national and local levels.</li> <li>- Policy instruments are introduced aiming at improving labour conditions and eliminating substandard employment contracts.</li> <li>- Number of SMEs receiving expert advice, training, and other support from the Centre of Excellence for resource efficiency (e.g., Cleaner Production Centre).</li> <li>- Annual government expenditure on cleaner production programmes as a per cent of</li> </ul>

	Gross domestic product
6) Promote the <b>greening of the value chain</b> by encouraging industries and associated suppliers and vendors in socially responsible and inclusive ways.	<ul style="list-style-type: none"> <li>- Number of companies that have introduced green supply chain management.</li> <li>- Number of companies that have introduced green accounting/voluntary environmental performance evaluation (The International Organization for Standardization, 14000).</li> <li>- Number of companies that have introduced social accounting (SA 8000) in consultation with workers (and through Social Dialogue in the workplace).</li> <li>- Vocational training activities/ programmes on skills for green jobs in the waste management value chain incorporated in local/national Technical and Vocational Education and Training policies and programmes.</li> </ul>
7) Promote <b>industrial symbiosis</b> (i.e., recycling of waste from one industry as a resource for another), by providing relevant incentives and support.	<ul style="list-style-type: none"> <li>- Number of eco-industrial parks and the like.</li> <li>- Policy instrument(s) introduced or strengthened to incentivize industrial symbiosis.</li> <li>- Recycling rate (%) of industrial waste from selected sectors.</li> </ul>
8) Build <b>local capacity</b> of both current and future practitioners, to enable private sector (including SMEs) to obtain the necessary knowledge and technical skills to foster green industry and create decent, productive work.	<ul style="list-style-type: none"> <li>- Number of qualified technical advisors on resource/energy efficiency. Specific curricula developed and/or introduced for universities, business schools, employers organizations, worker's organizations, and vocational schools aiming at increased productivity including through improved working conditions and decent labour contracts.</li> <li>- Annual government expenditure on building capacity of SMEs in promoting environmentally- friendly technologies and practices.</li> </ul>
9) Develop proper <b>classification and inventory of hazardous waste</b> as a prerequisite towards sound management of hazardous waste.	<ul style="list-style-type: none"> <li>- Proper classification and inventory of hazardous waste developed.</li> </ul>
<b>II. 3R Goals in Rural Areas</b>	

<p>10) <b>Reduce losses in the overall food supply chain</b> (production, post harvesting and storage, processing and packaging, distribution), leading to reduction of waste while increasing the quantity and improving the quality of products reaching the consumers.</p>	<ul style="list-style-type: none"> <li>- Percentage of food loss at each stage of food supply chain.</li> </ul>
<p>11) Promote full-scale <b>use of agricultural biomass waste and livestock waste</b> through reuse and/or recycling measures as appropriate, to achieve a number of co-benefits including GHG emission reduction, energy security, sustainable livelihoods in rural areas, and poverty reduction, among others.</p>	<ul style="list-style-type: none"> <li>- Amount of agricultural biomass waste and livestock waste recycled.</li> <li>- Number of new projects initiated that use agricultural biomass waste and livestock waste as material inputs.</li> </ul>
<p><b>III. 3R Goals for New and Emerging Wastes</b></p>	
<p>12) Strengthen regional, national and local efforts to address the issue of <b>waste, in particular plastics</b> in the marine and coastal environment.</p>	<ul style="list-style-type: none"> <li>- Number of coastal cities with complete ban on use of plastics packaging materials.</li> <li>- Issues of plastic waste considered as part of integrated coastal zone management (ICZM) plans.</li> <li>- National policies concerning plastic waste developed or strengthened, taking into consideration the impacts of plastic waste in marine and coastal environment.</li> <li>- Regional initiatives initiated/ strengthened to address the issue of plastic waste in the marine and coastal environment.</li> </ul>
<p>13) Ensure <b>environmentally-sound management of e-waste</b> at all stages, including collection, storage, transportation, recovery, recycling, treatment, and disposal, with appropriate considerations on working conditions, including <b>health and safety aspects</b> of those involved.</p>	<ul style="list-style-type: none"> <li>- Formal standards, certification system, and licensing procedures established and enforced.</li> <li>- 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.</li> <li>- Presence of, and access to, appropriate health-care services for informal sector workers.</li> <li>- Number of state-of-the-art recycling facilities for e-waste (such as mobile phones at their end-of-life).</li> <li>- Guidelines on environmentally-sound management of e-waste at all stages, including Occupational safety and health standards, appropriate work spaces, and infrastructure, and protective working</li> </ul>

	equipment developed and incorporated into local regulatory frameworks.
14) Effective enforcement of established mechanisms for preventing illegal and inappropriate export and import of waste, including transit trade, especially hazardous waste and e-waste.	<ul style="list-style-type: none"> <li>- Reduction in the number of incidents of illegal export/import of e-waste against a measured baseline in a specific year.</li> <li>- Number of well-trained customs officials tracking illegal export/import.</li> </ul>
15) Progressive implementation of “ <b>extended producer responsibility (EPR)</b> ” by encouraging producers, importers, and retailers and other relevant stakeholders to fulfill their responsibilities for collecting, recycling, and disposal of new and emerging waste streams, in particular e-waste.	<ul style="list-style-type: none"> <li>- New EPR policies enacted, or existing policies strengthened.</li> <li>- List of (or number of) products and/or product groups targeted by EPR nationally.</li> </ul>
16) <b>Promote 3R concept</b> in health-care waste management.	
<b>IV. 3R Goals for Cross-cutting Issues</b>	
17) Improve <b>resource efficiency and resource productivity</b> by greening jobs nation-wide in all economic and development sectors.	<ul style="list-style-type: none"> <li>- Economy-wide Material Flow Accounting indicators, such as Total Material Requirement, Direct Material Input, and Domestic Material Consumption.</li> <li>- Energy efficiency schemes.</li> <li>- Product standards.</li> <li>- Guidelines on greening, including waste management businesses and jobs.</li> <li>- Number of green jobs, taking into consideration nationally-defined indicators.</li> <li>- Number of decent jobs, particularly in the areas of waste reduction and recycling, green product design and other green sectors.</li> </ul>
18) Maximize co-benefits from waste management technologies for local air, water, oceans, and soil pollution and global climate change.	



<p>19) Enhance <b>national and local knowledge base and research network on the 3Rs and resource efficiency</b>, through facilitating an effective and dynamic linkage among all stakeholders, including governments, municipalities, the private sector and scientific communities.</p>	<ul style="list-style-type: none"> <li>- Policies introduced/strengthened, encouraging interaction between universities and private sector.</li> <li>- Number of collaborative projects, joint conferences and seminars by universities, government, and private sector.</li> <li>- Annual government expenditure in support of research and development on the 3Rs.</li> </ul>
<p>20) Strengthen multi-stakeholder partnerships among governments, civil society, and the private sector in raising public awareness and advancing the 3Rs, sustainable consumption and production, and resource efficiency, leading to the behavioural change of citizens and change in production patterns.</p>	<ul style="list-style-type: none"> <li>- Number of NGOs actively engaged in 3R promotion (e.g., waste reduction, recycling, composting, and green purchasing).</li> <li>- Annual government expenditure on public extension programmes.</li> <li>- Existence of national association of waste management and recycling professionals.</li> <li>- Charge for garbage collection.</li> <li>- Existence of ad-hoc multi-stakeholder committee to promote the 3Rs.</li> </ul>
<p>21) <b>Integrate the 3Rs</b> in formal education at primary, secondary, and tertiary levels as well as non-formal education such as community learning and development, in accordance with Education for Sustainable Development.</p>	<ul style="list-style-type: none"> <li>- Number of universities offering courses on the 3Rs and waste management at undergraduate or post graduate levels that include technical procedures, and environmental and social/labour impacts and opportunities.</li> <li>- Waste management, as a social and environmental challenge and the 3Rs and waste issues integrated into school curriculum.</li> <li>- Existence of community-based 3R activities.</li> </ul>
<p>22) <b>Integrate the 3R concept</b> in relevant policies and programmes, of key ministries and agencies such as Ministry of Environment, Ministry of Agriculture, Forestry and Fisheries, Ministry of Industry, Ministry of Trade and Commerce, Ministry of Energy, Ministry of Water Resources, Ministry of Transport, Ministry of Health, Ministry of Construction, Ministry of Finance, Ministry of Labour, Ministry of Land and Urban Development, Ministry of Education, and other relevant ministries towards transitioning to a resource efficient and zero waste society.</p>	<ul style="list-style-type: none"> <li>- Existence of a national 3R task force.</li> <li>- Number of sectoral policies and programmes that have integrated 3R concepts.</li> <li>- Number of cities introducing state-of-the-art 3R technologies in various sectors.</li> </ul>
<p>23) Promote <b>green and socially-responsible procurement</b> at all levels, thereby creating and expanding 3R industries and markets for</p>	<ul style="list-style-type: none"> <li>- Number of government ministries that have adopted green procurement policy.</li> <li>- Eco-labels / eco-labeling schemes.</li> </ul>

<p>environmentally-friendly goods and products.</p>	<ul style="list-style-type: none"> <li>- Labour standards, in particular safety of workers, embedded in waste management contracts.</li> <li>- Incentives in place for large-scale contractors to employ and train informal waste workers as needed.</li> <li>- Number of cities that have adopted green procurement policy.</li> </ul>
<p>24) <b>Phase out harmful subsidies that favour unsustainable use of resources (raw materials and water) and energy</b>, and channel the freed funds in support of implementing the 3Rs and efforts to improve resource/energy efficiency.</p>	<ul style="list-style-type: none"> <li>- Subsidies that favour unsustainable use of resources and energy are phased out.</li> <li>- Policy instrument(s) and programmes are in place in support of 3Rs and resource/ energy efficiency.</li> </ul>
<p>25) <b>Protect public health and ecosystem, including freshwater and marine resources by eliminating illegal activities of open dumping, including dumping into the oceans, and controlling open burning in both urban and rural areas.</b></p>	<ul style="list-style-type: none"> <li>- Number of cities with open dumping/open burning.</li> <li>- Number of major rivers with open dumping and direct discharge of untreated domestic waste and industrial effluents.</li> <li>- Biological Oxygen Demand of major rivers, lakes, etc.</li> </ul>
<p>26) Facilitate the international circulation of re-usable and recyclable resources as well as remanufactured products as mutually agreed by countries and in accordance with international and national laws, especially the <i>Basel Convention</i>, which contributes to the reduction of negative environmental impacts and the effective management of resources.</p>	<ul style="list-style-type: none"> <li>- Existence of framework for bilateral and multilateral cooperative activities toward efficient, legal, and appropriate trade of circulative resources.</li> <li>- Number of facilities certified by authorized bodies for environmental standard certification.</li> <li>- Market size of waste management and recycling industry.</li> <li>- Number of eco-industrial parks.</li> </ul>
<p>27) Promote data collection, compilation, and sharing, public announcements and application of statistics on waste and the 3Rs, to understand the state of waste management and resource efficiency.</p>	<ul style="list-style-type: none"> <li>- Existence of basic data on wastes and the 3Rs (such as material flow, resource productivity, cyclical use rate, amount of final disposal, and amount of exports and imports of wastes and recycled materials) required for 3R policy-making, planning, implementation, and monitoring.</li> <li>- Number of access to websites providing information on wastes and the 3Rs.</li> </ul>
<p>28) Promote heat recovery (waste-to-energy), in case wastes are not re-usable or recyclable and proper and sustainable management is secured.</p>	<ul style="list-style-type: none"> <li>- Existence of incentives to promote heat recovery.</li> <li>- Number of facilities equipped with heat recovery system.</li> </ul>

29) Promote overall regional cooperation and multi-stakeholder partnerships based on different levels of linkages such as government-to-government, municipality-to-municipality, industry-to-industry, (research) institute-to-institute, and NGO-to-NGO. Encourage technology transfer and technical and financial supports for 3Rs from developed countries to less developed countries.	
30) Pay special attention to issues and challenges faced by developing countries including SIDS for achieving sustainable development.	<ul style="list-style-type: none"> <li>- Number of 3R related projects implemented.</li> <li>- Number of 3R related projects linked to Climate Change, Biodiversity, Disaster Management, Tourism, and Industry.</li> </ul>
31) Promote 3R + “Return” concept which stands for Reduce, Reuse, Recycle and “Return” where recycling is difficult due to the absence of available recycling industries and limited scale of market in SIDS, especially in the Pacific Region.	<ul style="list-style-type: none"> <li>- Number of countries that have developed the 3R (+ “Return”) strategy.</li> <li>- Number of countries that have developed and implemented economic instruments such as the container deposit programme, etc.</li> <li>- Number of recycling companies/organizations that have been trained on basic technique for recycling (preliminary processing).</li> <li>- Implementation of periodical review on “Return” collaboration between the Asia-Pacific countries through 3R Forum in Asia.</li> </ul>
32) Complete elimination of illegal engagement of children in the <b>informal waste sector</b> and gradually <b>improve</b> working conditions and livelihood security, including <b>mandatory provision of health insurance</b> for all workers.	<ul style="list-style-type: none"> <li>- Number of children in hazardous child labour (ILO definition) in waste sector (target set for 0).</li> <li>- Clear policy framework for informal waste sector integration in place.</li> <li>- Effective policy framework for integrating informal waste activities into integrated waste management schemes.</li> <li>- Waste pickers provided with contributory social security.</li> <li>- Landfill sites accessible only to registered waste pickers.</li> <li>- Number of workers in informal and formal sector with access to social security and/or health care services.</li> <li>- Number of labour inspections in waste sector.</li> </ul>

33) Promote 3Rs taking into account gender considerations.	



## Surabaya Declaration<sup>6</sup>

### **On Promotion of Multilayer Partnerships and Collaboration for the Expansion of Reduce, Reuse, and Recycle (3Rs) in Asia and the Pacific (Fifth Regional 3R Forum in Asia and the Pacific, 25-27 February 2014, in Surabaya, Indonesia)**

We, the representatives of Asia-Pacific countries<sup>7</sup>, city government representatives, international organizations, bilateral and multilateral agencies, scientific and research organizations, non-governmental organizations, private sector and industry groups, and professionals in the field of 3Rs and waste management, having met at the Fifth Regional 3R Forum in Asia and the Pacific, held in Surabaya, Indonesia, from 25 to 27 February 2014,

**Reiterating** the importance of renewing commitments towards effective implementation of 3Rs (reduce, reuse, and recycle) through various forms of partnerships and collaboration in achieving a resource efficient society and a green economy,

**Recognizing** the critical challenges (institutional capacity, financing and technology needs) the Asia-Pacific region is faced with in integrating resource efficiency and 3Rs in overall policy, planning and development, given the fact that many countries have become net importers of raw materials (fossil fuel, metals, timber, and other natural resources) with rapidly increasing volume and changing characteristics of urban and industrial waste, rising population and rapid urbanization along with increasing consumption and per capita waste generation that pose serious challenges for the people and the sustainability of the region,

**Noting** the recommendations in the Rio+20 Outcomes Document – The Future We Want, thereby the call of the Heads of States and Governments at Rio+20 for the

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<sup>6</sup> Surabaya 3R Declaration is a voluntary and legally non-binding Declaration

<sup>7</sup> Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Cook Islands, People's Republic of China (hereinafter, China), Fiji, India, Indonesia, Japan, Kiribati, Republic of Korea, Lao PDR, Malaysia, Maldives, Marshall Islands, Mongolia, Myanmar, Nauru, Nepal, Pakistan, Palau, the Philippines, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand<sup>8</sup>, Timor-Leste, Tuvalu, Vanuatu, and Viet Nam

<sup>8</sup> Thailand reserves the right to join the Declaration at a later date



development and enforcement of comprehensive national and local waste management policies, strategies, laws and regulations, and new and innovative public-private partnerships among industry, governments, academia and other non-governmental stakeholders, aiming to enhance capacity and technology for environmentally sound chemicals and waste management, including waste prevention,

**Recalling** the objectives and goal of a 10-year framework of programmes on sustainable consumption and production patterns which the 10-year framework should affirm a common vision that promotes a whole of life cycle approach including resource efficiency and sustainable use of resources, as well as science-based and traditional knowledge-based approaches, cradle to grave, extended producer responsibility and the 3R concept and other related methodologies, as appropriate,

**Reaffirming** the recommendation made by United Nations Conference on Sustainable Development (Rio+20) in June 2012, where countries agreed to adopt the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP),

**Reaffirming** resource recirculation in accordance with mutual respect to environmental concerns of each country,

**Taking into account** the outcome of the Fourth Regional 3R Forum in Asia held in Ha Noi, Viet Nam in 2013 and the Ha Noi 3R Declaration – Sustainable 3R Goals for Asia and the Pacific (2013–2023) that provides an important basis and framework for Asia-Pacific countries to urgently voluntarily develop and implement 3R policies and programmes,

**Recognizing** the issues and challenges faced by and specific capacity needs of small island developing states (SIDS) in implementing 3Rs especially emphasizing the importance of the “Return” concept in terms of the process for “Recycling” in achieving sustainable development in view of their unique and particular vulnerabilities, including their small size, remoteness, narrow resource and import base, and exposure to global environmental challenges and external economic shocks, including a large range of impacts from climate change and potentially more frequent and intense natural disasters, and the increasing impacts of tourism activities, and thereby the need for increasing international and regional cooperation among Pacific Island Countries (PICs) and between PICs and other countries,



**Recognizing** the complex and daunting nature of waste management challenges faced by local authorities and municipalities in today's world in view of the diversification of waste streams region-wide, the growing presence of chemicals and hazardous and toxic elements, including e-wastes, in the general waste stream, the increasing presence of waste, in particular plastics and disaster waste in coastal and marine environment that increasingly demand science-based decision-making and solutions within multilayer partnerships and collaboration,

**Recognizing** the specific challenges and needs of mountainous countries with regard to environmentally sound management of waste generated from the tourism sector,

**Underscoring** the fact that moving towards a resource efficient and sound material cycle based society will require considerable and sustainable investment and resource mobilization, including technological interventions, institutional capacity-building, and development of 3R infrastructures, programmes and projects (eco-industrial zones, science parks, eco-cities, waste recovery facilities, waste-to-energy schemes, greening small and medium enterprise (SME) operations, green products and eco-labelling schemes, biomass to composts and energy in rural areas, etc.), which is inherently a multi-stakeholder process calling for multilayer partnerships and collaboration within and between communities, businesses, industries, all levels of government, scientific and research institutions, international organizations, development banks, academia and the United Nations system,

**Recognizing** the significance of resource efficiency and 3Rs in the post-2015 development era, and thereby the important role private, industry and business sectors can play in providing 3R and green business based solutions, as Corporate Social Responsibility (CSR) and Extended Producer Responsibility (EPR), to many sustainability challenges,

**Reaffirming** that enhancing connectivity among Asia-Pacific countries would benefit all Asia-Pacific countries through promotion of multilayer collaborative efforts, and the need to strengthen cooperation towards effective implementation of 3Rs (reduce, reuse, and recycle) through various forms of partnerships and collaboration in achieving a resource efficient society, including the following, but not limited to:



- (i) **country-country cooperation** in exchanging valuable experiences and ideas, transferring knowledge and technologies, including development of collaborative projects on 3R infrastructure development, such as eco-industrial zones, science parks, eco-towns, waste-to-energy schemes, waste recovery and recycling schemes, composting schemes in rural areas, etc;
- (ii) **south-south cooperation** to strengthen exchange and collaboration between countries, and increase the flow of information, resource, expertise, and knowledge among Asia-Pacific countries;
- (iii) **city-city and inter-municipal cooperation**, both at national and international levels, in exchanging practical experiences and ideas in realizing sustainable and liveable cities with efficient waste management system through public-private partnership (PPP) and sister city cooperation;
- (iv) multi-sector partnerships and collaboration in policymaking and promotion of **sustainable business models**, involving the public, private and business sectors, and Scientific and Research Institutions; including exchange of information on sustainable financing models for 3Rs;
- (v) **industry-industry cooperation**, both at national and international level, with an objective to create local and regional markets towards regional development and employment creation;
- (vi) **government-NGO/CSO cooperation** with an objective to reduce waste management costs and increase municipal cost savings to divert for other essential socioeconomic priorities such as – access to safe drinking water and improved sanitation, better health care and education facilities, and improved public transportation facilities, etc.;
- (vii) a **regional cooperative framework among SIDS/PICs** to develop self sustaining 3R activities and easily adaptable technologies, including a pool of well-trained 3R practitioners, to collectively address issues of common concern and develop viable business models through multilayer partnerships for local employment creation; and
- (viii) a **multilayer partnership** in the area of disaster waste management among countries, businesses, academia, local authorities, international organizations and NGOs in order to provide capacity-building for disaster response and strengthen community resilience,

express our resolve to promote multilayer partnerships and collaboration for the expansion of Reduce, Reuse, Recycle in Asia and the Pacific by adopting 3R practices.





## Malé 3R Declaration

**“Resorts in Maldives for the Promotion of 3Rs and Resource Efficiency Towards Protection of Local Environment and Marine Ecosystem”  
(Sixth Regional 3R Forum in Asia and the Pacific,  
16-19 August 2015, in Malé, Maldives)**

We, the representatives of tourist resorts of the Republic of Maldives, having met in Malé on 16 August 2015 at the Maldives National 3R Day being organized as an integral part of the Sixth Regional 3R Forum in Asia and the Pacific held in Malé from 17 to 19 August 2015,

**Recognizing** the importance of protecting the biodiversity, freshwater resources, and sustainable use of seas and ocean and their resources as fundamental to the sustainable development of the island communities,

**Recognizing** the role of pristine marine and coastal environment as indispensable means and resources for sustainable tourism development, thereby economic security of Small Island Developing States,

**Taking into account** the large range of impacts from climate change and potentially more frequent and intense natural disasters, and the increasing impacts of tourism activities to the fragile ecosystem and ecological assets (marine species, fish stock, coral reefs, mangroves, sea-grass bed, estuaries, coastal lagoons, and wetlands, among others) of Small Island Developing States,

**Noting** the critical challenges the small island countries face in terms of high population density, relative isolation, limited availability of land space, and lack of human, technical and financial resources that limit a range of options for climate mitigation, disaster reduction and environmentally sound management of emerging waste streams,

**Underscoring** the fact that plastic litter has become a critical concern in coastal and marine environment of small islands, and plastics in the marine environment progressively break down into micro-plastics (diameter < 5 mm) causing a range of impacts in the marine environment, including bio-accumulation of hydrophobic persistent organic pollutants (POPs) like PCBs, DDTs, HCHs and others from the plastics through ingestion or food-chain (fish to fish and fish to people),



**Recognizing** the multiple benefits of 3R (reduce, reuse, recycle) through savings of resource, water, energy and cost, thereby contributing towards new circular economic opportunities and green jobs with more environmentally sustainable tourism,

**Noting** the recommendations outlined in the *Declaration of Barbados and the Programme of Action for the Sustainable Development of Small Island Developing States*, the *Mauritius Declaration and the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States*, the Rio+20 Outcomes Document – *The Future We Want*; Outcome of the SIDS Conference (Apia, 2014) – *S.A.M.O.A. Pathway*; and the *Hanoi 3R Declaration (2013–2023)* adopted at the Fourth Regional 3R Forum in Asia and the Pacific,

**Noting** further the calls made by the Heads of State and Government and high-level representatives at both Rio+20 and 2014 SIDS Conference for a 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP) affirming a common vision that promotes a whole of life cycle approach including resource efficiency and sustainable use of resources, extended producer responsibility (EPR) and the 3R concept in a number of key areas, including tourism industry,

**Recognizing** the significance of 3Rs and resource efficiency in post-2015 development agenda, and to that regard, the important role the private, business and industry sectors can play in mainstreaming 3R in their business operations and solutions, as Corporate Social Responsibility (CSR) and Extended Producer Responsibility (EPR), to many sustainability challenges faced by the Small Island Developing States,

express our good-will intention to progressively practice and implement following 3R and resource efficiency measures, but not limited to, in all aspects of our tourism and related business operations to protect the precious marine environment and ecosystem towards the better health, economy and social well-being of the people of the Republic of Maldives.

1. develop and strengthen internal management system and policies towards efficient use of resources, water and energy, and promote usage of all forms of renewable energy, including waste to energy, in order to achieve waste prevention and minimization;
2. in conformity with pertinent regulations and standards governing environmental quality, health and safety, protection of sensitive areas, protection of costal and marine environment and endangered



species, siting, and land-use control, develop efficient and environmentally friendly waste collection, segregation and transportation to recycling facilities and disposal sites;

3. discourage use of any form of plastics in the resorts as a first priority; explore ways to utilize end-of-life plastics as a valuable resource and as an integral part of the waste reduction strategy contributing to circular economy;

4. consider investments for installing state-of-the-art sewage collection and treatment facilities to protect the coastal and marine environment and to prevent contamination of groundwater resources, which will in turn be of attraction to international tourists resulting in increased revenue generation;

5. promote use of compact detergents to reduce the nutrient level (BOD load) in wastewater as a by-product; promote wastewater reuse and recycling to achieve water efficiency and security;

6. take every preventive measure to protect coral reefs and other ecological assets from physical damage and pollution from toxic chemicals and hazardous substances;

7. work towards arresting all forms of soil erosion from the dynamic beaches with adequate soil conservation and vegetation measures; promote large scale composting from all organic and food wastes and use them for required vegetation measures, which will ultimately increase the resiliency and adaptability of the small islands against waves and natural disasters; and

8. explore every opportunity to tap various expertise, knowledge, technical know-how and best practices available in sustainable tourism sector by accessing various national and international sources or clearing house mechanisms such as the Global Sustainable Tourism Council, the Global Observatories on Sustainable Tourism of the World Tourism Organization, the Global Partnership for Sustainable Tourism, SCP Clearing House of the 10-Year Framework of Programmes on Sustainable Consumption and Production (10YFP), Regional 3R Forum in Asia and the Pacific, and the other United Nations bodies.



**Adelaide 3R Declaration<sup>8</sup>**  
**towards**  
**the Promotion of Circular Economy in Achieving Resource Efficient**  
**Societies in Asia and the Pacific**  
**under**  
**the 2030 Agenda for Sustainable Development**  
**(Seventh Regional 3R Forum in Asia and the Pacific,**  
**2-4 November 2016, in Adelaide, SA, Australia)**

***Preamble***

Asia and the Pacific is the most rapidly urbanizing and industrializing region in the world. The unprecedented scale and speed of the urban industrial transformation coupled with increased production and consumption has lifted millions of people out of poverty. However, this presents challenges for Asia-Pacific countries in the sustainable environmental management of their natural and ecological resources. At the same time, the growing volume and diversification of various waste streams has compounded these challenges. Waste management in many Asia-Pacific countries has to deal with increasingly complex waste streams including industrial waste, electronic waste, plastics in coastal and marine environments, construction and demolition waste, and chemicals that add critical dimensions to the region's sustainability. The sustainability and resilience of the region's cities, rural communities, natural environment and ecological assets has become a top priority of many policies. Future economic growth and human well-being need to be more resilient and regenerative, to phase out negative environmental, economic and social externalities towards natural resource shortages, increasing waste problems, pollution, natural disasters and the increasing frequency and magnitude of climate change impacts such as typhoons, cyclones, wild fires, heat waves, floods, landslides, and droughts, flash floods in mountainous and hilly regions, Glacier Lake Outburst Flood (GLOF), and natural fires due to thunderstorms, lightning, etc.

The Heads of State and Government and High Level Representatives of the 193 Member States of the United Nations adopted the post-2015 development agenda – *Transforming our world: the 2030 Agenda for Sustainable Development*, with 17 Sustainable Development Goals (SDGs) at its core, at the United Nations Sustainable Development Summit held in New York from 25 to 27 September 2015. The post-2015 development agenda represents a plan of action for people, the planet and prosperity and reflects the commitment of all countries to guide the world economy to a socially just and environmentally sustainable and resilient path. Through the adoption of the Agenda, the Member States call for a world in which consumption and production patterns and the use of all natural resources are sustainable. The 2030 Agenda for Sustainable Development, together with the SDGs and the Paris Agreement on Climate Change, provides an important political platform to integrate 3R and resource efficiency plans, programmes and policies into overall policy, planning and development practices at local, provincial and national levels. It is

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<sup>8</sup> *Adelaide 3R Declaration is a good-will, voluntary and legally non-binding declaration.*

noteworthy that resource efficiency, waste minimization and low-carbon societies are becoming important drivers of economic success in a world where natural resources and landfill capacity are scarce and finite. There is an opportunity to help drive the next economic growth cycle by taking advantage of new industries, business opportunities and innovation in resource efficiency, waste minimization and preserving the value of materials circulating in the economy.

The policy, scientific and business communities in Asia and the Pacific are increasingly recognizing the large challenges of resource supply security, increasing waste and pollution, and climate change which may become impediments to future growth, prosperity and rising material standards of living in the region. There is a growing commitment, reflected in the Paris Agreement on Climate Change, that the region needs to embark on an alternative model of economic growth that is decoupled from increasing resource use, waste and emissions. This will not happen spontaneously but requires well-designed policies, multi-stakeholder collaboration, and well-functioning institutions and governance mechanisms that enable technological, social and design innovations towards sustainable use of natural resources and the prevention of the unsustainable generation of waste and pollution.

Governments, businesses and households in Asia and the Pacific have a significant potential for increasing resource efficiency and minimizing waste and emissions by devising and implementing 3R policies and programmes as well as strengthening institutions and investing in green infrastructure. The opportunities for decoupling of economic growth and resource use in the region are very large. In the short term there are many cost-effective opportunities for greater resource efficiency and waste minimization that will provide substantial net materials and energy saving opportunities. In the medium to long term, decoupling will generate higher economic growth than would occur under current trends of inefficient resource use, environmental destruction and climate change. The future prosperity of economies in Asia and the Pacific and the ability to achieve the ambitious 2030 Agenda for Sustainable Development will rely on more effective and efficient use and management of natural resources, reduction of emissions and the minimization of waste, in other words, achieving the principles of 3R.

The concepts of circular economy and resource efficiency are gaining momentum worldwide because of the large benefits that can be achieved. Studies show that up to 80% savings in materials, energy use and emissions could be achievable in the energy, building, transport and food sectors as well as in heavy industry and manufacturing<sup>9</sup>. Governments also recognize that their development targets would be hard to achieve unless alternative models of economic development are identified and implemented, noting that commitments on this issue such as the Toyama Framework on Material Cycles have been declared. At the heart of the circular economic development approach is a systemic shift that integrates economic, environmental and social strategies to achieve high resource efficiency, increased employment opportunities, quality of life, economic competitiveness of products, increased use of renewable energy and materials, lower carbon emissions, lower production costs, innovation favouring regenerative industrial processes and business models that maximize asset utilization. Recognizing the importance of entrepreneurship, circular economy strategies include supporting mechanisms for SMEs.

In a 3R (reduce, reuse, recycle) context, the circular economic principles encourage countries to pursue a whole-of-value-chain approach, and upstream strategies to move away from strictly consumptive resource use and rising waste, and to aim for a higher level of circularity at the business and whole economy level. By reducing dependence on finite resources, businesses and economies can capture an added benefit of lower costs and enhance their social licence. Governments and businesses in Asia and the Pacific are encouraged to take note of the relevant international experience, knowledge and technical know-how in

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<sup>9</sup> Von Weizsäcker, E, K Hargroves, MH Smith, C Desha and P Stasinopoulos (2009). *Factor 5. Transforming the Global Economy through 80% Improvements in Resource Productivity*. Earthscan, London.

areas of circular economy, extended producer responsibility (EPR), environmentally friendly design and eco-products, eco-industrial parks, and green energy, which will be beneficial for creating sustainable business opportunities for both domestic and foreign enterprises.

### ***Declaration***

We, the representatives of Asia-Pacific countries (Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, the People's Republic of China, India, Indonesia, Japan, Kazakhstan, Kiribati, Kyrgyzstan, the Republic of Korea, Lao People's Democratic Republic, Malaysia, Maldives, Marshall Islands, Mongolia, Myanmar, Nepal, Niue, Pakistan, Palau, the Russian Federation, Samoa, Singapore, Solomon Island, Sri Lanka, Thailand, the Philippines, Timor-Leste, Tonga, Tuvalu, Vanuatu and Viet Nam), city government representatives, international organizations, non-government organizations, private sector and industry groups, and professionals in the field of 3Rs and waste management and other stakeholders, having met at the Seventh Regional 3R Forum in Asia and the Pacific, held in Adelaide, South Australia, Australia, from 2 to 4 November 2016,

***Reaffirming*** the importance of careful planning and coordinated execution of various 3R policies and programme instruments (such as regulatory, economic and financial, information-based, voluntary initiatives, partnerships and technology transfer) to achieve the Sustainable 3R Goals of the Ha Noi 3R Declaration (2013–2023) adopted at the Fourth Regional 3R Forum in Asia and the Pacific, held in Ha Noi, Viet Nam from 18 to 20 March 2013,

***Noting*** the fact that the Asia and the Pacific region has become a net importer of primary materials and natural resources, and that there is a need to explore sustainable business opportunities based on 3R principles to reduce import dependency and pursue sustainable development; sustainable business opportunities exist, among others, in resource recovery, remanufacturing using waste as a resource, green buildings and infrastructure, green chemistry, sustainable transportation, energy and water efficiency, sustainable farming, bio-economy (bio-products, bio-energy, bio-engineering), and wastewater reuse for urban green spaces and urban agriculture,

***Recognizing*** the importance of multi-sector partnerships such as public-private-people partnerships and triangular cooperation as critical to realizing sustainable business opportunities which enable countries, cities and businesses to move from a linear throughput economy to a resource-efficient, closed-loop and circular economy in which economic benefits can take various forms such as savings in waste disposal costs, revenue from the reuse, recycling and energy recovery of previously wasted materials, saving foreign currency by reducing imports of materials, job and livelihood creation, and creating opportunities for carbon credits,

***Reaffirming*** our commitments to the 2030 Agenda for Sustainable Development and the underlying Sustainable Development Goals (SDGs), and thereby ***recognizing*** the important complementary benefits of 3R policy implementation in achieving the SDGs, in particular SDG 11, SDG 12 and SDG 8 and related targets,

***Building*** on the success of the Paris Agreement on Climate Change and further ***recognizing*** the need to limit global warming to less than 2 degrees Celsius and transition our economies to net zero emissions, as well as the potential contribution the improved resource efficiency will play in achieving sustainable economic growth, meeting intended nationally determined contributions (INDCs) and decoupling growth and emissions,

***Recognizing*** the important role of the Technology Facilitation Mechanism (TFM), established by the Addis Ababa Action Agenda and subsequently launched at the United Nations Sustainable Development Summit held in New York in 2015, as facilitating access to information, knowledge, experience, best practices and lessons learned as well as in

promoting science, technology and innovation cooperation around areas important to the implementation of the SDGs, and thereby *underscoring* its relevance in the areas of 3R science, technology and innovation in support of circular economic development,

*Noting* the outcome of the Maldives 3R Forum that 3R as an economic industry offers competitive solutions to many urban environment and development issues, provided 3Rs and resource efficiency are integrated into macroeconomic and development policies,

Express our commitments to:

1. *Strengthen* coordination among countries and within countries to progressively adopt and implement circular economy plans, a whole-of-value chain approach, strategies and tools to reduce, reuse, and recycle natural resources in production, consumption and other life cycle stages, enabled by extended producer responsibility (EPR), environmentally friendly design, low emissions technology, ecological budgeting, financial incentives and investments, taking into account the prevailing economic conditions;
2. *Promote* policies, programmes and institutions that will help integrate and forge collaboration among industrial firms, including SMEs, eco-industrial parks and regional infrastructure to support resource optimization and efficiency;
3. *Promote* sustainable urban planning and practices which can lead to highly profitable and employment generating business opportunities; create enabling policies, institutions, multi-stakeholder partnerships and an investment atmosphere to expand markets for environmental goods (equipment, technologies, eco-products, green energy, rainwater harvesting, green city development, green construction materials etc.) and services;
4. *Discourage* all forms of end-of-pipe waste disposal which is a sunk cost with no financial return; encourage diversion of waste from landfill to recycling and recovery facilities; encourage energy recovery and sound management when such diversion is impossible with the current technology available and situation;
5. *Support* science and evidence-based policymaking to improve economic prosperity and human well-being enabled by resource efficiency, waste minimization and sustainable natural resource management; promote networks of innovation and national innovation centres for resource efficiency, waste and emission minimization in order to drive a science, innovation and technology based culture in overall policy-setting and development agendas;
6. *Take* full benefit of the Technology Facilitation Mechanism (TFM)<sup>10</sup> led by the United Nations system to tap relevant information, knowledge, experience and best practices in the areas of 3R science, technology and innovation in support of circular economic development;
7. *Develop* institutional capacity as well as promoting government and international collaborative research projects in the areas of strengthening basic statistics, material flow and waste accounting and analysis, and material and waste footprint analysis and resource productivity analysis with a broad objective to reduce wastage of natural resources, promote optimal use of resources, to preserve natural capital and encourage renewable resource flows towards circular economic development, and disseminate results of such projects widely;

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<sup>10</sup> The TFM is an initiative to widen access to science, technology and innovation to advance progress towards the Sustainable Development Goals (SDGs), and comprises:

- i) a UN inter-agency task team on science, technology and innovation (STI) for the SDGs;
- ii) a collaborative annual multi-stakeholder forum on STI for the SDGs; and
- iii) an online platform as a gateway for information on existing STI initiatives, mechanisms and programmes.

8. *Promote* research and development (R&D) oriented industrial structures to address resource efficiency related problems in the industry sector as the basis for scaling up new and innovative business models and circular economy activities and opportunities, including low emissions technology and renewable energy;
9. *Promote* 3Rs-related science, technology and infrastructure, industry-industry cooperation (so that by-products circulate fully in local production systems), encourage green products and green consumerism, renewable energy programmes, including residual waste-to-energy, and enabling conditions for multi-stakeholder partnerships to enhance resilience of industrial systems, cities and the overall economy in support of the 2030 Agenda for Sustainable Development and its SDGs;
10. *Promote* inter-municipal or city-city cooperation to integrate different production and consumption systems in the region so that resources or by-products circulate among the industries and urban systems within the same region creating circular economic opportunities, entrepreneurial spirit and new employment opportunities, ultimately contributing to the well-being of local communities;
11. *Facilitate* environmentally sound management of disaster waste in order to better respond to the increasing frequency and magnitude of natural disasters and the resulting large amounts of disaster waste through setting up appropriate treatment facilities, reuse of demolished waste materials from earthquake-devastated areas, and putting recycling programmes and infrastructure in place;
12. Call upon multilateral development banks, bilateral and multilateral donors, development agencies and partners and United Nations organizations to provide necessary capacity-building and support (human resource development, financing, knowledge and technical know-how) for instituting circular economic development approaches in overall policy, planning and development to achieve significant benefits for the 2030 Agenda for Sustainable Development; and also note the commitment of G7 Environmental Ministers in assisting developing countries to build the capacity needed for effective resource efficiency and resource circulation policies.