

## **CONCEPT NOTE**

### **Seventh Regional 3R Forum in Asia and the Pacific**

**2-4 November 2016**

**Adelaide Convention Centre, Adelaide, South Australia, Australia**

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*Theme: Advancing 3R and Resource Efficiency  
for the  
2030 Agenda for Sustainable Development*

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#### **1. BACKGROUND**

The Heads of State and Government and High Level Representatives of 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 UN Sustainable Development Summit held in New York from 25 to 27 September 2015. The Agenda which represents a plan of action for people, the planet and prosperity reflects the commitment of the countries to shift the world on to a sustainable and resilient path. Through adoption of the Agenda, the Member States called for, among others, a world in which consumption and production patterns and use of all natural resources are sustainable<sup>1</sup>.

While concern about assuring affordable, equitable and environmentally sustainable access to natural resources is well founded, global use of natural resources has accelerated during the past decade and emissions and wastes have grown in line with growing extraction and use of resources. Asia and the Pacific has been the most dynamic region globally and most of the growth in resource use has been triggered by the urban–industrial transformation in Asia and the Pacific. The policy community in Asia and the Pacific has recognized the large challenges of resource supply security, increasing waste and pollution, and climate change as impediments to future growth and rising material standards of living in the region<sup>2</sup>.

Future prosperity of economies in Asia and the Pacific and the ability to achieve the ambitious 2030 Agenda for Sustainable Development for the region will rely on more effective and efficient use and management of natural resources, reduction of emission and minimization of waste. There is large potential for increasing resource efficiency and minimizing waste and emissions in the region by devising and implementing better policies and programmes. In order for Asia-Pacific economies to address the unsustainable consumption patterns of the rapidly growing urban consumers, it is necessary to implement a policy and institutional shift from the current focus on pollution and inefficient industrial production to a more resource efficient economic development approach. To this regard the 2030 Agenda for Sustainable Development and SDGs provide an important political and implementation framework to integrate 3R and resource efficiency in the overall policy, planning and development at local, provincial and national levels. There is an expectation among the international

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<sup>1</sup> UN, Resolution Adopted by the General Assembly, 25 September 2015

<sup>2</sup> UNCRD and CSIRO, Background Paper for the 6th regional 3R Forum in Asia and the Pacific, 2015

policy community that the new sustainable development goals will guide international and national efforts to improve human development outcomes and at the same time secure the integrity of the natural resource base and ecosystem functions.

The 2030 Agenda for Sustainable Development and SDGs call for equitable economic growth, among others. 3Rs technologies, policies, programs and infrastructures are basic ingredients for advancing the circular economy and could be one of the means to achieve equitable growth. For instance, the circular economic development approach has been developed in China as a strategy for reducing the demand of its economy upon natural resources as well as the damage it causes to natural environments (Indigo development, 2008). Chinese Circular Economic Law offers a long term plan for transformation that seeks to integrate economic, environmental and social strategies to achieve high resource efficiency as the way of sustaining improvement in quality of life within the natural and economic constraints. The circular economy approach to resource-use efficiency integrates cleaner production and industrial ecology in a broader system encompassing industrial firms, networks or chains of firms, eco-industrial parks, and regional infrastructure to support resource optimization (Sustainable Industrial Design, 2007).

The 2030 Agenda for Sustainable Development and SDGs call to see beyond the industrial revolution-inherited, linear, extractive model of “take, make, dispose”, to achieve resource efficient economies. Moving towards systemic change such as powering the economy with renewable energy, and with the regeneration of natural capital being high on the list of priorities – to reap societal and environmental benefits along with economic ones. For instance, a circular economy can boost gains brought about by the impending technology revolution, and in the case of Europe double that positive impact to generate an annual net benefit of €1.8 trillion by 2030 (Ellen MacArthur Foundation, SUN, McKinsey Centre for Business and Environment, 2015). It is important to gain policy insights to how circular economic development with the active involvement of both public and private sector, including SMEs, can lead to equitable economic growth, thereby providing vital contributions towards the 2030 Agenda for Sustainable Development and SDGs.

The 2030 Agenda for Sustainable Development and SDGs call for inclusive, safe, resilient and sustainable cities and human settlements. A resilient city is prepared to absorb and recover from any shock or stress while maintaining its essential functions, structures, and identity, adapting and thriving in the face of continual change (ICLEI, 2015). With the depletion of nonrenewable resources, there is an adverse negative effect through continuous rising prices of transportation, energy and fertilizers, and other related industries which rely heavily on the consumption of natural resources. While world cities occupy only 2% of the world's land surface, they use over 75% of the world's all resources. The current challenge is to transform cities into self-regulating sustainable systems. Modern cities are a mobilization of natural resources, peoples, and products. They are tremendous drivers of various opportunities and are responsible for nearly 80% of global GDP (Hoorweg, 2016). As such, the growth of Asia Pacific cities and the future livelihood of its populations, depend on the ability of governments to implement resource efficient policies and technologies while ensuring economic growth and development and improved quality of life. The rising trend of rapid urbanization in Asia-Pacific has resulted in inadequate urban services such as water supply, sanitation, wastewater treatment, drainage and waste management. At the same time, the Asia-Pacific region faces the risk of reduced supply security of strategic natural resources and the threat of fast rising emissions and waste flows, and the economies in the region are highly vulnerable to price increases for natural resources (energy carriers, metals, food and fibre, and timber), which is further accentuated by accelerating climate change and increasing frequency and magnitude of natural disasters.

On the other hand, it is often observed in developing cities that lack of efficient waste management system vis-à-vis 3R infrastructures reduce their degree of resilience during the time of extreme events or natural disasters. For instance, clogging of drainage systems in cities by plastics and other wastes reduce their carrying capacity of urban flood water, thereby affecting the level of resilience. Similarly, cities equipped with better waste management and 3R infrastructure can demonstrate a high level of resilience in terms of quick disposal of wastes or debris generated by natural disasters contributing towards normalcy in city life.

From a science and technology perspective, the Sustainable Development Goals (SDGs) offer major improvements over the Millennium Development Goals (MDGs). Given that Asia-Pacific is the world's fastest growing environmental market and host to significant number of SMEs, the region has a unique opportunity to promote enterprise development with technology promotion. Effective proliferation of 3R science and technologies, including high-end technologies such as green chemistry and nanotechnology, will require concerted efforts by the governments to identify opportunities for international cooperation and joint ventures, technical transfer and transfer of business models and to create green business models or 3R-startups that promote triangular cooperation (between government, scientific and research organizations and private sectors).

A number of promising 3R and resource efficiency areas that could offer sustainable business opportunities in both urban and rural areas with science and technology promotion could include – resource recovery (such as CH<sub>4</sub> and fertilizer from animal manure and sewage sludge with anaerobic or aerobic digestion, refuse-derived-fuel, etc.); energy efficiency related services (energy service companies such as energy audit, energy efficient system design and equipment manufacturing, specialty engineering services, etc.); waste water reuse for agricultural practices (water purification technologies, waste water treatment, ecological engineering, constructed wetlands for pre-treatment of urban run-off water and river water, distributed sewage treatment systems, etc.); water efficiency related services (water saving devices, water distribution efficiency, zero leakage, waste water treatment, rain water harvesting, etc.); sustainable farming support companies (efficient water and nutrient management system, water and nutrient delivery system, biomass energy company, compost industry, energy efficient cultivating, harvesting and hauling equipment, etc.) urban greening, roof top agriculture, etc.; bio-economy (high value processing and conversion such as bio-products, bio-energy, bio-engineering, landscape trimming, etc.); green buildings (engineering, design and construction materials, including reuse of materials from demolished buildings, etc.); and two emerging fields of sustainable business (green chemistry and nano-technology). While green chemistry is a field of chemical research and engineering that encourages design of products and processes that minimize the use and generation of toxic and hazardous substances in manufacturing, nano-technology is a next generation industrial revolution and engineering that manipulates material at a very small scale to achieve source reduction and resource efficiency. Nano-technology makes it possible to allow molecule by molecule assembly of new products, new components, new coatings that are lighter, stronger and durable (ADB, 2007). In most developing countries, hazardous wastes which are notorious for polluting water sources are not properly managed or disposed. For instance, Chromium, is a common pollutant utilized in industrial processes that negatively effects the quality of life either by consumption of contaminated food or water sources. Green chemistry offers a number of solutions for dealing with hazardous wastes, and these methods allow for extraction of hazardous materials from waste with an aim to improve the quality of residue for further utilization rather than landfilling and disposing.

While SDG 12 (Ensure sustainable consumption and production patterns) encourages companies and business entities to adopt sustainable practices, SDG 17 calls for strengthening the means of implementation and effective public, public-private and civil society partnerships to achieve all Sustainable Development Goals in all countries under the 2030 Agenda for Sustainable

Development. In this regard, the 7<sup>th</sup> Regional 3R Forum in Asia and the Pacific also provides a unique opportunity to have a public-private Roundtable Dialogue to advance 3R in the region. This interactive session will uniquely feature public-private dialogues and exchanges in order to explore various partnerships and sustainable business opportunities in 3R areas. While the government representatives will have opportunities to share their specific issues, needs and requirements, including possible investment and PPP opportunities, the private sector representatives will be able to showcase their experience, expertise and technical knowhow in various areas of 3R and waste management.

The 7<sup>th</sup> Regional 3R Forum in Asia and the Pacific will be organized under the overall theme “*Advancing 3R and Resource Efficiency for the 2030 Agenda for Sustainable Development*” to gain policy and scientific insights to how resource efficiency and 3R could be advanced in achieving SDGs, including discussions on the role of 3R and resource efficiency in realizing smart, resilient, inclusive and liveable cities. The Forum also seeks to actively engage the private and business sectors not only to demonstrate their expertise, technical knowhow and range of services through the exhibitions, but also to explore various collaborative models and partnership options towards effective implementation of the Hanoi 3R Declaration (2013-2023) as well as advancing 3Rs as an economic industry in Asia and the Pacific.

### **Key message from Maldives 3R Forum ~ 3R as an Economic Industry (2015)**

- *Need to facilitate a public conversation and foster debate about the need to align environment and development outcomes and to highlight that, in fact, especially in the medium and long term, there is no contradiction between sustainable natural resource management, waste minimization, climate mitigation and economic growth;*
- *Need to promote regional transformative policies such as creation of regional cap and trade system for carbon emissions or efforts towards a more comprehensive ecological budget;*
- *The governments should consider establishing a regional advisory panel of eminent scientists and community leaders to support the policy community by providing evidence-based trusted advice for policymakers on how to improve economic prosperity and human well-being in the region through resource efficiency, waste minimization and sustainable natural resource management;*
- *A network of regional innovation centres for resource efficiency, waste and emission minimization could be established to drive the innovation culture in economies in Asia and the Pacific and provide practical examples and technologies that help countries to achieve their policy objectives in the domain of decoupling wealth from resource use and waste;*
- *Need to facilitate a public conversation and foster debate about the need to align environment and development outcomes and to highlight that, in fact, especially in the medium and long term, there is no contradiction between sustainable natural resource management, waste minimization, climate mitigation and economic growth;*

- *Need to promote regional transformative policies such as creation of regional cap and trade system for carbon emissions or efforts towards a more comprehensive ecological budget;*
- *The governments should consider establishing a regional advisory panel of eminent scientists and community leaders to support the policy community by providing evidence-based trusted advice for policymakers on how to improve economic prosperity and human well-being in the region through resource efficiency, waste minimization and sustainable natural resource management;*
- *Countries should take into account the contribution of 3R in achieving the sustainable development goals (SDGs) in the post-2015 development agenda – “Transforming Our World: The 2030 Agenda for Sustainable Development”.*

## **2. OBJECTIVES**

The objectives of the Seventh Regional 3R Forum in Asia and the Pacific are to:

- provide policy and scientific insights to the contribution of 3R and resource efficiency in achieving Sustainable Development Goals (SDGs) under the 2030 Agenda for Sustainable Development;
- discuss the role of 3R and resource efficiency in realizing smart, resilient, inclusive and livable cities and societies;
- discuss the potential contribution of 3R towards rural resource and waste management for sustainable regional development;
- discuss the evolution of 3R technologies and practices and private sector initiatives;
- discuss various policy options, institutional measures, partnership mechanisms and technological interventions on greening SMEs towards resource efficiency;
- discuss and address inter-municipal network and cooperation for recycling, remanufacturing and industrial symbiosis; and
- address potential contribution of green chemistry to minimize toxic chemicals and hazardous wastes:

## **3. EXPECTED OUTCOME**

The Seventh Regional 3R Forum in Asia and the Pacific will provide innovative and smart solutions in terms of policy, institution, technology, infrastructure, financing and partnerships towards effective implementation of Ha Noi 3R Declaration (2013-2023) as well as to gain policy and scientific insights to achieve SDGs under 2030 Sustainable Development Agenda.

#### **4. CO-ORGANIZERS**

The Seventh Regional 3R Forum in Asia and the Pacific will be co-organized by the Australian Government, the Office of Green Industries South Australia on behalf of the Government of South Australia, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Ministry of the Environment of the Government of Japan (MOEJ), and the United Nations Centre for Regional Development (UNCRD) with supports from various international organizations, partner institutions and donor agencies.

#### **5. SUPPORTING ORGANIZATIONS**

The Seventh Regional 3R Forum in Asia and the Pacific Forum is expected to be supported by various international organizations and donor agencies such as - United Nations Environment Programme (UNEP-IETC), United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP), Secretariat of the Pacific Regional Environment Programme (SPREP), Institute of Global Environment Strategies (IGES), Japanese Technical Cooperation Project for Promotion of Regional Initiative on Solid Waste Management in Pacific Island Countries (JICA).

#### **6. GEOGRAPHIC COVERAGE**

The geographic coverage of the Forum has gradually expanded to encompass more than thirty-five Asia-Pacific countries (Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, the People's Republic of China, Commonwealth of the Northern Mariana Islands, India, Indonesia, Japan, Kazakhstan, Kiribati, Kyrgyz Republic, the Republic of Korea, Lao People's Democratic Republic, Malaysia, Maldives, Marshall Islands, Mauritius, Mongolia, Myanmar, Nepal, Niue, Pakistan, Palau, the Russian Federation, Samoa, Singapore, Solomon Island, Sri Lanka, Tajikistan, Thailand, the Philippines, Timor-Leste, Tonga, Tuvalu, Vanuatu and Viet Nam).

#### **7. PARTICIPANTS**

Participation in the Forum is by invitation only. It is expected that approximately 500 participants, including high-level government representatives from Asian-Pacific countries, City Mayors, international experts, research institutes and resource persons, and others as listed below will attend the Forum:

- High level government representatives and policy makers from relevant Ministries such as Ministry of Environment, Ministry of Local Government, Ministry of Urban Development, Ministry of Industry etc.;
- City Mayors/Local Government representatives;
- Experts and international resource persons, including representatives of scientific and Research and Development (R&D) institutions in the areas of 3R/resource efficiency/waste management/life cycle assessment and management;

- Representatives of UN and international organizations, including international financial institutions, multi-lateral development banks and donor agencies;
- Representatives of the private and business sector and NGOs etc.

Participation in the Forum is free of charge. A limited number of travel supports will be available on a priority basis for nominated government representatives from the developing countries and invited experts/international resource persons. Unless otherwise stated in the official invitation, the participants are requested to kindly cover their own travel and accommodation costs through their organizations or external sponsorships.

## **8. OFFICIAL PRE-AND PARALLEL EVENTS**

The 7<sup>th</sup> Regional 3R Forum in Asia and the Pacific will have several pre and parallel events as follows:

### **Pre-Event: State of 3Rs in Asia and the Pacific committee meeting**

**Co-organizers:** United Nations Centre for Regional Development (UNCRD) and Institute for Global Environmental Strategies (IGES)

**Supported by:** Ministry of the Environment, Japan (MOEJ)

**Date:** 01 November 2016

**Time:** 09:00-16:30 (Registration will start at 8:30)

**Room:** L-2 (Ground Level)

**Purpose and Objectives:** The 5<sup>th</sup> drafting committee meeting of the state of 3Rs in Asia and the Pacific is organized to discuss the synthesis chapter development with the executive committee members. The objectives of the meeting are below:

- To discuss the draft synthesis chapter for further improvement among the executive
- To make common understanding on the schedule toward 8<sup>th</sup> Regional 3R Forum in 2017.

**Background:** State of the 3Rs in Asia and the Pacific Project was formulated as a joint initiative by Ministry of the Environment of Japan (MOEJ), United Nations Centre for Regional Development as a secretariat of Regional 3R Forum in Asia and the Pacific, and Institute for Global Environmental Strategies (IGES) to respond to the needs to assess the progress of 3R-related efforts in the region based on a bottom-up process of policy-relevant data gathering on waste and resource management. This project was established to contribute to the only regional forum on waste management and the 3R policy participated by 12 countries in Asia and the Pacific region. It is intended to provide base-line information on what we know about waste and 3R-related data in each country by top-experts in the region. By doing so, this project is to develop a regional assessment report on 3R policy implementation in a regular manner for Regional 3R Forum in Asia and the Pacific. The first publication will be provided as inputs to Regional 3R Forum in Asia and the Pacific to be held in 2017-2018.

State of the 3Rs in Asia and the Pacific will be composed of two parts, a synthesis chapter as a main report and country chapters as an individual annex report. The synthesis part of State of the 3Rs in Asia and the Pacific will firstly discuss needs for improving waste management and resource efficiency by briefly describing issues and challenges on waste management and

resource efficiency in the region and also show the major trends of 3R policy implementation in this region by covering the 3R related policy and legislation and major treatment 3R related technologies. Secondly, the synthesis report will focus on describing the current waste management practices by using the 3R indicators such as 1. Total MSW generated and disposed MSW, and MSW generation per capita (by weight), 2. Overall recycling rate and target (%), and recycling rate of individual components of MSW, 3. Amount of hazardous waste generated and disposed in environmentally sound manner, 4. Indicators based on macro-level material flows, 5. Amount of agricultural biomass used, 6. Marine and coastal plastic waste quantity, 7. Amount of E-waste generation, disposal and recycling. Existence of policies and guidelines for E-waste management, 8. Existence of policies, guidelines and regulations based on the principle of EPR, and 9. Greenhouse Gas (GHG) emissions from waste sector. Finally, this chapter will provide some conclusion and recommendations based on analysis of policies, technologies and possible direction for regional cooperation.

In addition to this synthesis report, this project has generated, 12 county reports, a data source book, and executive summary. All of these reports will be downloadable. Furthermore, these reports are planned to be updated in a periodical manner in the future.

**Parallel Event 1- Asia 3R Citizens Network event**

**Co-organizers:** KESAB and the Asia 3R Citizen Network

**Date:** 02 November 2016

**Time:** 13:30-16:30

**Room:** L-2 (Ground Level)

**Purpose:** This closed event will take place as a side event of 7<sup>th</sup> Regional 3R Forum in Asia and the Pacific. The purpose of the event is to:

- (1) Share good and sustainable practices to solve environmental issues at international level and community level.
- (2) Discuss the roles of NGOs and CSOs to implement SDGs in partnership with public and business sectors.
- (3) Discuss how we can create and strengthen citizens' network and make use of the network to achieve the goals.
- (4) Discuss and address specific objectives we can work together and collaborate to achieve.

**Background:** As a result of rapid economic growth in Asia over recent years, wasteful lifestyles built upon “mass production, mass consumption and mass disposal” have become common. This had led to critical problems, including the global depletion of natural resources, the spread of environmental pollution, and global warming. We are all facing similar environmental problems in Asia and the Pacific.

Improving the well-being of present and future generations through the promotion of sustainable development, we, citizens living in Asia and the Pacific have to work together to achieve a sustainable society in cooperation with national governments, municipalities, businesses and CSO as well.

The Asia 3R Citizens Network was formally established in 2010 as the successful outcome of the First Asia 3R Citizens Forum in order to form a partnership with NGOs in Asia and the Pacific. Since then, we've been sharing ideas and good practices with each other. We have solved waste problems step by step by applying methods and technical skills shared to each specific case in each country or community.

In the past three years, we have carried out training programs for NGO staff from Asia and the Pacific to create a sustainable community focusing on practical methods of composting and agriculture, environmental education and action to promote 3Rs.

**Parallel Event 2-2016 Adelaide Workshop on Multilayer 3R Partnerships and Cooperation among Asia-Pacific Cities**

**Co-organizers:** MOEJ

**Date:** 03 November 2016

**Time:** 09:00-12:30

**Room:** L-2 (Ground Level)

**Purpose:** This closed workshop aims at promoting multilayer partnerships and cooperation on 3R among Asia-Pacific cities. Especially, Adelaide workshop focuses on how to advance 3R and resource efficiency towards building low carbon and sustainable cities and communities. As a side-event of the 7<sup>th</sup> Regional 3R forum in Asia and the Pacific, it reiterates the importance of multilayer partnerships for the 3R promotion and provides an opportunity for further discussion among invited cities and other stakeholders towards building resource efficient Asian cities by identifying the roles of Japanese cities and communities, which will give useful input to the 7<sup>th</sup> Regional 3R Forum in Asia and the Pacific.

**Background:** In many cities in the Asia-Pacific region, it is an urgent issue to build low carbon and sustainable society through promoting 3R of municipal wastes.

For that purpose, establishment of multilayer 3R partnerships among local government, private sectors, and NGOs are important.

One of the approaches to promote such multilayer 3R partnerships in the region is to exchange experiences, lessons and challenges among different cities. This workshop has a two-year history and the 1<sup>st</sup> workshop was in 2014.

**Networking Lunch Session- Extended Producer Responsibility- Updated OECD Guidance**

**Date:** 03 November 2016

**Time:** 12:30-14:00

**Room:** International Trade Exhibition Hall

## **9. International 3R Exhibition**

**Dates:** 2-4 November 2016

**Venue:** Hall L (Ground Level)

Companies wishing to promote technologies related to 3R and the recycling and resource recovery industry are invited to participate in the international exhibition. Representatives from environment departments and organizations are also invited to showcase their activities. Participating in the exhibition will provide opportunities for business development and build new relationships on a local, national and global level. Specific guidelines for exhibitors are in preparation and will be provided by the Office of Green Industries SA.

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## **10. CONTACT**

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