



## PROVISIONAL PROGRAMME

### Third Meeting of the Regional 3R Forum in Asia 5-7 October 2011, Singapore

#### Theme: “Technology Transfer for promoting the 3Rs – Adapting, implementing, and scaling up appropriate technologies”

##### Organizers:

United Nations Centre for Regional Development (UNCRD)  
National Environment Agency (NEA), Singapore  
Ministry of the Environment, Japan

##### Supporting Organizations:

United Nations Industrial Development Organization (UNIDO)  
German International Cooperation (GIZ)  
Institute for Global Environmental Strategies (IGES)  
Economic Research Institute for ASEAN and East Asia (ERIA)

**Meeting Chair: Andrew Tan, CEO, NEA-Singapore**

### DAY 1: 5 OCTOBER 2011, WEDNESDAY

Time	Programme	
08:00-09:00	<b>Registration (Foyer outside Ballroom 1 &amp; 2, Level 2)</b>	
09:00-09:50	<b>Opening Session (Ballroom 1 &amp; 2, Level 2)</b> <b>1. Opening/Welcoming Remarks</b> <ul style="list-style-type: none"> <li>Satoshi Takayama, Parliamentary Secretary of the Environment, Japan</li> <li>Chikako Takase, Acting Director, UNCRD</li> <li>Andrew Tan, Chief Executive Officer, NEA-Singapore</li> </ul> <b>2. Speech by Guest-of-Honour</b> <ul style="list-style-type: none"> <li>H.E. Dr. Vivian Balakrishnan, Minister, Ministry of the Environment and Water Resources, Government of Singapore</li> </ul> <b>3. Presentation of 3R Packaging Awards to Singapore Packaging Agreement signatories</b> <b>4. Keynote Address</b> <ul style="list-style-type: none"> <li>The 3Rs as the basis for sustainable waste management/moving towards zero waste – by Luis Diaz, Chair, Task Group on Developing Countries, International Waste Working Group</li> </ul>	<u>MC:</u> NEA-Singapore
09:50-10:20	<b>Group Photo Session (Ballroom 1 &amp; 2, Level 2) and Coffee Break (Foyer outside Ballroom 1 &amp; 2, Level 2)</b>	
10:20-12:30	<b>Presentation (Ballroom 1 &amp; 2, Level 2)</b> <ul style="list-style-type: none"> <li>Achievements since the Tokyo 3R Statement - Moving towards Rio+20 and beyond – by CRC Mohanty, Environment Programme Coordinator, UNCRD</li> </ul> <b>Plenary Session 1: Best practices and available technologies in the 3Rs (Ballroom 1 &amp; 2, Level 2)</b> [3R technologies are not always costly, neither they are always highly complex; significant benefits and changes can be achieved, for example, by introducing resource and energy saving technologies in manufacturing processes, by changing raw material input, and introducing resource saving and long-life design of products. Countries can incorporate resource efficiency into their overall development strategies in order to increase competitive advantage that may be gained from investing into the effective and efficient use of resources (raw material, energy, and water) through new technologies, infrastructures and	<u>Session Chair:</u> Dr. Supat Wangwongwatana, Director-General, Pollution Control Department, Ministry of Natural Resources and Environment, Thailand  <u>Facilitator:</u> Hermann Koller, Managing Director, ISWA

	<p>service delivery. This session will focus on 3R technologies, including source reduction in production processes as well as technologies in waste management/recycling. The session will also seek to address available technologies, their economic benefits, co-benefits, as well as their adaptability in different socio-economic context. ]</p> <p><b>Presentation:</b> Best practices and available technologies in the 3Rs – Achieving economic growth while improving resource efficiency (Background Paper) – by United Nations Industrial Development Organization (UNIDO) (20 min)</p> <p><b>Panel Discussion/Intervention:</b></p> <p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>- K D Bhardwaj, Industry Department, Asian Productivity Organization</li> <li>- Jerome Stucki, Environmental Management Branch, UNIDO</li> <li>- Ijaz Hossain, Professor, Bangladesh University of Engineering and Technology</li> <li>- Thomas Schmid-Unterseh, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany</li> <li>- Yasumitsu Kondo, Kitakyushu City Government, Japan</li> <li>- Song Bin, Director, Sustainable Manufacturing Centre, Singapore Institute of Manufacturing Technology</li> </ul> <p><b>Open Discussion (30 min)</b></p>	<p><b>Rapporteur:</b> Lilliana Abarca</p>
12:30-13:30	<b>NETWORKING LUNCH (Ballroom 3 &amp; 4, Level 2)</b>	
13:30-15:30	<p><b>Plenary Session 2: Policy and institutional framework for promoting transfer of 3R technologies (Ballroom 1 &amp; 2, Level 2)</b></p> <p>[Governments' role is very important in creating a conducive environment for the transfer, utilisation, and scaling up of 3R technologies. Governments have a wide choice of different instruments (regulatory approaches, economic instruments, information based measures, etc.) to build sound policy and institutional framework towards resource efficiency. This session will address policies and institutional frameworks for promoting transfer of 3R technologies, and introduce the wide range of benefits Asian countries could realize in terms of greening its economy, creating new green jobs, improving environmental quality (air, water, and land), among other.]</p> <p><b>Presentation:</b></p> <ul style="list-style-type: none"> <li>- Effective policies and institutional framework as the driver for technology transfer in the 3Rs – by Chettiyappan Visvanathan, Asian Institute for Technology (20 min)</li> <li>- Policy and institutional framework for disseminating 3R technologies: The case of the Home Appliances Recycling Law in Japan– by Masanobu Kimura, Deputy Director, Office of Sound Material-cycle Society, Waste Management and Recycling Department, Ministry of the Environment, Japan</li> </ul> <p><b>Panel Discussion/Intervention:</b></p> <p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>- Hermann Koller, Managing Director, International Solid Waste Association (ISWA)</li> <li>- Lilliana Abarca, WASTE -Advisers on Urban Environment and Development</li> <li>- Prasad Modak, Executive President, Environmental Management Centre-India</li> <li>- Nadzri Yahaya, Director General, Department of National Solid Waste Management, Ministry of Housing and Local Government, Malaysia</li> <li>- Ong Seng Eng, Director, Waste and Resource Management Department, NEA-Singapore</li> <li>- Yoko Maki, Senior Director, Global Environment Knowledge Centre, Environment Bureau, Kawasaki City Government, Japan</li> </ul> <p><b>Open discussion (30 min)</b></p>	<p><b>Session Chair:</b> K. K. Sinha, Industrial Adviser, Ministry of Commerce and Industry, India (tbc)</p> <p><b>Facilitator:</b> Magnus Bengtsson</p> <p><b>Rapporteur:</b> Yasuhiko Hotta</p>
15:30-16:00	<b>Coffee Break (Foyer outside Ballroom 1 &amp; 2, Level 2)</b>	

16:00-17:30	<p><b>Plenary Session 3: Market demand as driving force for 3R technology transfer and the role of private sector (Ballroom 1 &amp; 2, Level 2)</b></p> <p>[Business-to-business technology transfer is a major driving force for technology transfer in the 3Rs. Consumers' preference towards more environmentally conscious green products could give strong signals through the market by encouraging wider use of 3R technologies, and governments could play an instrumental role in catalyzing such markets. This session will focus on how international flow of 3R-related technologies can be further facilitated, how 3R technologies can be more widely diffused within a country, and governments' role in facilitating such business-to-business technology transfer.]</p> <p><b>Presentation: Market demand as driving force for 3R technology transfer and the role of private sector (Background Paper)</b> – by Alban Casimir, Bionersis (20 min)</p> <p><b>Panel Discussion/Intervention:</b>  <b>Panellists</b></p> <ul style="list-style-type: none"> <li>- Luis Diaz, Chair, Task Group on Developing Countries, International Waste Working Group</li> <li>- Mahesh Babu, Managing Director, IL&amp;FS Waste Management &amp; Urban Services Ltd., India</li> <li>- Maqsood Sinha, Executive Director, Waste Concern</li> <li>- Ingrid Christensen, Senior Occupational Health Specialist, ILO Bangkok</li> <li>- Shirley Lee, Manager, Canon Singapore Pte Ltd.</li> <li>- Guah Eng Hock, Chairman, Waste Management and Recycling Association of Singapore</li> </ul> <p><b>Open discussion (30 min)</b></p>	<p><u>Session Chair:</u> Ms. Merly M. Cruz, Undersecretary, Department of Trade and Industry, Philippines</p> <p><u>Facilitator:</u> Prasad Modak</p> <p><u>Rapporteur:</u> Vella Atienza</p>
19:00-21:00	<b>Welcome Reception Hosted by National Environmental Agency, Government of Singapore (Ballroom 1 &amp; 2, Level 2)</b>	

## DAY 2: 6 OCTOBER 2011, THURSDAY

Time	Programme	
9:30-11:00	<p><b>Plenary Session 4: International cooperation in promoting transfer of 3R technologies (Ballroom 1 &amp; 2, Level 2)</b></p> <p>[International cooperation could play a vital role in promoting technology transfer in the 3Rs. This session will address the existing and potential supporting mechanisms and programmes through which developing countries in Asia could benefit.]</p> <p><u>Panel Discussion/Intervention by Donor/International/UN agency representatives:</u></p> <ul style="list-style-type: none"> <li>- Asian Development Bank (ADB) - Vijay Joshi</li> <li>- German International Cooperation (GIZ) - Sofia Garcia-cortes</li> <li>- Japan International Cooperation Agency (JICA) - Kazuya Suzuki</li> <li>- Secretariat of the Basel Convention - Ibrahim Shafii</li> <li>- United Nations Environment Programme (UNEP RRC.AP) - Jonathan Shaw</li> </ul> <p><b>Open discussion/Q&amp;A (15 min)</b></p>	<p><u>Session Chair:</u> Mr. Luis Diaz, International Waste Working Group</p> <p><u>Facilitator:</u> Ingrid Christensen, ILO</p> <p><u>Rapporteur:</u> K D Bhardwaj, Asian Productivity Organization</p>
11:00-13:00	<b>NETWORKING LUNCH (Ballroom 3 and Foyer outside Ballroom 1 &amp; 2, Level 2)</b>	

13:00-15:30	<p><b>Parallel Round Table Discussions (2.5 hours)</b></p> <p>[The Parallel Round Table Discussions will address policy and institutional requirements, available technologies and adaptability issues, research and development to promote the 3Rs, capacity development (especially for SMEs), etc., in the context of the following sub-themes.</p> <p><u>Round Table 1: 3R technologies in production processes</u></p> <ul style="list-style-type: none"> <li>- How can we mainstream 3R technologies to achieve resource efficiency (raw materials, water), energy efficiency, and waste minimization in the production processes, for both large scale operations and SMEs.</li> </ul> <p><u>Round Table 2: 3R technologies in municipal waste management</u></p> <ul style="list-style-type: none"> <li>- How can we promote the use of 3R technologies in managing municipal waste (including all operational aspects of municipal waste management).</li> </ul> <p><u>Round Table 3: 3R technologies relate to new and emerging waste</u></p> <ul style="list-style-type: none"> <li>- How can 3R technologies be best addressed for the emerging issues (e.g., e-waste) and their potential markets through efficient recovery of precious metals (e.g., Au, Pt, Ir, Pd, and others), in order to contribute to local economy, resource efficiency, and sound material-cycle society.</li> </ul> <table border="1" data-bbox="288 629 1466 1361"> <thead> <tr> <th data-bbox="288 629 683 725"><b>RT1: 3R technologies in production processes (Ballroom 4, Level 2)</b></th> <th data-bbox="683 629 1077 725"><b>RT2: 3R technologies in municipal waste management (Topaz/Opal Room, Level 2)</b></th> <th data-bbox="1077 629 1466 725"><b>RT3: 3R technologies related to new and emerging waste (Amber Room, Level 2)</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="288 725 683 831"><u>Chair:</u> Joseph Hui, Deputy Chief Executive Officer, NEA Singapore</td> <td data-bbox="683 725 1077 831"><u>Chair:</u> Nadzri Yahaya, Director General, Ministry of Housing and Local Government, Malaysia</td> <td data-bbox="1077 725 1466 831"><u>Chair:</u> Mr. Fagaaivalu Kenrick Samu, Associate Minister, Ministry of Natural Resources and Environment, Samoa (tbc)</td> </tr> <tr> <td data-bbox="288 831 683 936"><u>Facilitator:</u> Jerome Stucki, UNIDO</td> <td data-bbox="683 831 1077 936"><u>Facilitator:</u> Thomas Schmid-Unterseh</td> <td data-bbox="1077 831 1466 936"><u>Facilitator:</u> Ibrahim Shafii</td> </tr> <tr> <td data-bbox="288 936 683 1041"><u>Rapporteur:</u> Ijaz Hossain</td> <td data-bbox="683 936 1077 1041"><u>Rapporteur:</u> Enri Damanhuri</td> <td data-bbox="1077 936 1466 1041"><u>Rapporteur:</u> Sunil Herat</td> </tr> <tr> <td data-bbox="288 1041 683 1361"> <u>Countries:</u>            Indonesia            India            Myanmar            Republic of Korea            Philippines            Singapore            Thailand         </td> <td data-bbox="683 1041 1077 1361"> <u>Countries:</u>            Bhutan            Cambodia            Fiji            Kiribati            Lao PDR            Malaysia            Maldives            Solomon Islands            Timor-Leste         </td> <td data-bbox="1077 1041 1466 1361"> <u>Countries:</u>            Bangladesh            Brunei Darussalam            China            Japan            Mongolia            Palau            Samoa            Viet Nam         </td> </tr> </tbody> </table>			<b>RT1: 3R technologies in production processes (Ballroom 4, Level 2)</b>	<b>RT2: 3R technologies in municipal waste management (Topaz/Opal Room, Level 2)</b>	<b>RT3: 3R technologies related to new and emerging waste (Amber Room, Level 2)</b>	<u>Chair:</u> Joseph Hui, Deputy Chief Executive Officer, NEA Singapore	<u>Chair:</u> Nadzri Yahaya, Director General, Ministry of Housing and Local Government, Malaysia	<u>Chair:</u> Mr. Fagaaivalu Kenrick Samu, Associate Minister, Ministry of Natural Resources and Environment, Samoa (tbc)	<u>Facilitator:</u> Jerome Stucki, UNIDO	<u>Facilitator:</u> Thomas Schmid-Unterseh	<u>Facilitator:</u> Ibrahim Shafii	<u>Rapporteur:</u> Ijaz Hossain	<u>Rapporteur:</u> Enri Damanhuri	<u>Rapporteur:</u> Sunil Herat	<u>Countries:</u> Indonesia India Myanmar Republic of Korea Philippines Singapore Thailand	<u>Countries:</u> Bhutan Cambodia Fiji Kiribati Lao PDR Malaysia Maldives Solomon Islands Timor-Leste	<u>Countries:</u> Bangladesh Brunei Darussalam China Japan Mongolia Palau Samoa Viet Nam
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15:30-16:00	<b>Coffee Break (Foyer outside Ballroom 1 &amp; 2, Level 2)</b>																	
16:00-18:00	<p><b>Plenary Session 5: Importance of the 3Rs in a green economy (Ballroom 1 &amp; 2, Level 2)</b></p> <p><b>From national perspective – Case of China:</b>  <b>3R policy and technology developments in China for Circular Economy</b>        – by Guo Qimin, Director, Circular Economy Development Division, NDRC China, and Li Jinhui, Professor, School of Environment, Tsinghua University, China/Executive Secretary, Basel Convention Coordinating Centre for Asia and the Pacific (15min)</p> <p><b>From NGO's perspective: Reporting of the outcome of the NGO side event (10 min)</b></p> <p><b>Discussion on “Recommendations of Singapore Forum on the 3Rs in Achieving a Resource Efficient Society in Asia” as a message for Rio+20 (95min)</b></p> <p>[Discussion on the draft Recommendations will focus on how the 3Rs and resource efficiency measures could contribute in offsetting the negative impact of the increase in the size of the global economy through resource efficiency, pollution control and through providing alternatives to conventional production and consumption patterns that put significant pressure on natural resource stocks and ecosystems.]</p>		<p><u>Session Chair:</u>        Ms. Masnellyarti Hilman, Deputy Minister, Ministry of Environment, Indonesia</p> <p><u>Facilitator:</u>        CRC Mohanty (UNCRD)</p> <p><u>Rapporteur:</u>        Magnus Bengtsson</p>															

**DAY 3: 7 OCTOBER 2011, FRIDAY**

Time	Programme	
10:00-11:30	<b>Plenary Session 6: Adoption of Chair Summary (Ballroom 1 &amp; 2, Level 2)</b>	
11:30-11:45	<b>Closing Remarks (Ballroom 1 &amp; 2, Level 2)</b> <ul style="list-style-type: none"> <li>• Yutaka Nakao, Head of Office of Sound Material-cycle Society, Waste Management and Recycling Department, Ministry of the Environment, Government of Japan</li> <li>• Chikako Takase, Acting Director, UNCRD</li> <li>• Andrew Tan, CEO, NEA-Singapore</li> </ul>	<b>Chair:</b> Andrew Tan, Chief Executive Officer, NEA-Singapore
11:45-13:00	<b>NETWORKING LUNCH (Ballroom 3 &amp; 4, Level 2)</b>	
13:30-	<b>Field Trips</b> Group A: Semakau Off-shore Landfill Group B: Tuas South Incineration Plant and TES-AMM (Singapore) Pte Ltd Group C: NEWater Visitor Centre  <b>NOTE: Participants are requested to choose one field trip out of the three options at the time of registration in Singapore. See below for details.</b>	<b>Round table discussion of the “International Partnership for Expanding Waste Management Services of Local Authorities (IPLA)” (Amber Room, Level 2)</b>  [This meeting is intended to involve all existing IPLA members among the Forum participants and the prospective partners interested in joining IPLA. The objectives, scope and activities of IPLA will be shared. ]

**[Field Trip Information]**

**Field Trip Group A: Semakau Off-shore Landfill**

**Semakau Landfill** began operations after the last landfill on the main island of Singapore was closed in 1999. It is a man-made offshore landfill created entirely from sea space. Covering an area of 350 hectares, it has a capacity of 63 million cubic metres and is currently estimated to have a lifespan of 35-45 years. The landfill receives about 2,200 tonnes of incineration ash and non-incinerable wastes daily. Its mangrove, grassland and shoreline habitats are home to various ecosystems, and the western section is open to the public for recreational activities such as sport fishing, bird watching, stargazing and intertidal walks.

**Field Trip Group B: Tuas South Incineration Plant and TES-AMM (Singapore) Pte Ltd**

**Tuas South Incineration Plant** is the largest of the 4 waste-to-energy (WTE) plants in Singapore. Built at a cost of S\$890 million, it was completed in the year 2000 and has an incineration capacity of 3,000 tonnes of refuse per day. The plant is fully automated and is equipped with advanced technologies to ensure a high level of efficiency and reliability. Heat produced in the incineration process is used to generate electricity for internal consumption and export into the national grid. The incineration of waste reduces its volume by 90%. As land is scarce in Singapore, all incinerable waste that cannot be recycled is thus sent to WTE plants to conserve landfill space

**TES-AMM** group was formed in 2005 to provide tailored recycling solutions for Waste Electrical and Electronic Equipment (WEEE). Its core activities include providing reuse solutions and end recovery of precious metals from electronic wastes. Headquartered in Singapore and supported by a global network of facilities stretching throughout the regions of Asia, Oceania, Europe and Africa (EMEA), TES-AMM offers recycling services on a global scale. In partnership with Recupyl S.A, TES-AMM operates Asia’s only lithium-ion battery recycling plant in Singapore.

**Field Trip Group C: NEWater Visitor Centre**

NEWater is high-grade reclaimed water purified from treated waste-water using advanced membrane technologies. It is ultra-clean and safe to drink. NEWater now meets 30% of Singapore’s total water demand. Water imported from Malaysia, local catchments and desalinated sea water form the rest of the water supply. The NEWater Visitor Centre is the focal point of PUB’s public education on NEWater. It is set up in an exciting and visitor friendly environment to explain the use of advances in membrane and water purification technologies for the production of NEWater via multi-media displays and interactive and experienced entertaining guides.

*Also please check on:*

## ***EXHIBITION ON 3R TECHNOLOGIES***

5 – 6 October 2011 (All day) and  
7 October 2011 (Morning Only)  
FOYER (Ballroom 1 & 2), Level 2

## ***ASSOCIATED SIDE EVENT***

### **NGO Forum: Citizens' Partnership toward Zero Waste Society**

Venue: Turquoise/Onyx Room, Level 3  
Date: 6 October 2011 (Day 2 of the Forum)  
Time: 09:00 – 13:00  
Participants: NGOs from Singapore and Japan