

The 15th International Conference on Waste Management and Technology Zero-waste City High Level Forum

08:30 AM-17:30 PM, June 30, 2020 Online Zoom Meeting

Brief Introduction:

Entrusted by the Ministry of Ecology and Environment of the People's Republic of China, this forum invited 6 overseas "Zero-Waste Cities" to conduct in-depth dialogue with "11+5" pilot cities of domestic to share their practice and experience of industrial restructuring, regional coordination, household waste regulation, and "Plastic Smart Action", etc, aiming to discuss the blueprint for the development of an international "Zero-Waste Society". At the same time, in order to summarize and concise the achievements and problems of Chinese domestic pilot work, this forum invited authoritative experts and city representatives in the fields of industrial, living, agricultural and market to provide guidance for the pilot work, as well as boosting the successful completion of the pilot construction of "Zero-Waste Cities" by the end of the year.

Agenda:

Experience exchange at home and abroad in the construction of Zero-waste City (Chinese-English Interpretation)			
Time	Speaker	Topic	Chair
08:30-08:40	The Host Introduces the Guests		Jinhui Li, Executive Director, Basel Convention Regional Centre for Asia and the Pacific
08:40-09:00	Ms. James Roscoe Team Leader Waste Services, City of Melbourne City	Improving Waste and Resource Recovery Achievements in Rapidly Developed Cities	
09:00-09:15	Representative of Beijing Economic-technological Development Area	Introduction of Domestic Case Experience of Zero-waste City Construction	
09:15-09:25	Expert Comment: Boyang Li , Deputy Director, Industrial Energy Conservation and Environmental Protection, CCID Research Institute, Ministry of Industry and Information Technology		
09:25-09:45	Sanono Kenji Chief Expert Japan International Cooperation Agency (JICA)	Introduction of International Case Experience of Zero-waste City Construction (Tokyo Greater Bay Area)	
09:45-10:00	Representative of Shenzhen City	Introduction of Domestic Case Experience of Zero-waste City Construction	
10:00-10:10	Expert comment: Jinhui Li , Professor, Tsinghua University/ Basel Convention Regional Centre for Asia and the Pacific		

10:10-10:30	Prof. Minoru Koga, Minamata Environmental Academia, Minamata City	Recycling System for Domestic Waste of Minamata City, Japan	
10:30-10:45	Representative of Wellington City	TBD	
10:45-11:00	Representative of China-Singapore Tianjin Eco-city Administrative Committee	Introduction of Domestic Case Experience of Zero-waste City Construction	
11:00-11:10	Expert comment: Xin Yao , Associate Dean, Research Institute for Environmental Innovation (Suzhou) Tsinghua		
11:10-11:30	Representative of Amsterdam and Oslo	Introduction of International Case Experiences of the "Plastic Smart City" Initiative	
11:30-11:50	Representative of Sanya City	Introduction of Domestic Case Experiences of the "Plastic Smart City" Initiative	
11:50-12:00	Expert comment: Nana Zhao , Assistant Director, Basel Convention Regional Centre for Asia and the Pacific		
12:00-12:10	Concluding Remarks, Department of Solid Waste and Chemicals, Ministry of Ecology and Environment		
Domestic Practice in Key technical aspects of Zero-waste City Construction (Chinese-English Interpretation)			
Time	Speaker	Topic	Chair
13:30-14:00	Ying Chen Associate Researcher at Solid Waste and Chemical Management Technology Center, MEE	The Storage and Disposal of Industrial Solid Waste tends to Zero Growth	Ying Chen, Director of Solid Waste Department at Solid Waste and Chemical Management Technology Center, MEE
14:00-14:30	Representative of Xuzhou	Full Use of Agricultural Waste	
14:30-15:00	Jianguo Liu Professor, Tsinghua University	Domestic Waste Classification and Original Zero Landfill	
15:00-15:30	Yuyan Song Secretary General at National Economic Development Zone Green Development Alliance	Green Development of the Park under the Construction of Zero-waste City	
15:30-16:00	Representative of Shaoxing	Zero-waste City Information Construction	
16:00-16:30	Tao Xue Executive Dean, E20 Research Institute	Construction of Zero-waste City Market System	
16:30-17:00	All Participants	Communication and Discussion	
17:00-17:30	Summary of the meeting (Solid Division, Solid Waste and Chemicals Department, MEE)		
ICWMT 15 Closing Ceremony (Prof. Jinhui Li, Executive Director, Basel Convention Regional Centre for Asia and the Pacific)			

Special Session on International Partnership for Expanding Waste Management Services of Local Authorities (IPLA) – a SDG Partnership

09:00 AM-12:00 PM, June 30, 2020 Online Zoom Meeting

Brief Introduction:

This branch session will provide a knowledge sharing platform for disseminating and sharing best practices in 3R areas, including new and emerging issues of concerned in waste management towards the implementation of the 2030 Agenda for Sustainable Development Goals (SDGs). This session is expected to build a world-wide network of waste-related infrastructure and services and promoting circular model, knowledge-sharing and public-private-partnership (PPP) among a wide range of stakeholders.

Agenda:

Time	Speaker	Topic of talk
09:00-09:10	Prof. Jinhui Li , Executive Director of Basel Convention Regional Center for Asia and the Pacific (BCRC), Tsinghua University, Beijing, PR China	Greetings from co-organizers
09:10-09:25	Representative , United Nations Environment Programme (UNEP), Beijing, PR China	Resource efficiency, Circular economy towards the implementation of SDGs
09:25-09:40	Prof. Jianguo Liu , Rachel Carson Chair in Sustainability & University Distinguished Professor Center for Systems Integration and Sustainability, Michigan State University, United States	Systems integration for global sustainability ~ Focused on SDG 15 'Life on Land'
09:40-09:55	Mr. Dong Le , Poverty Reduction and Innovation Officer, Food and Agriculture Organization (FAO), Beijing, PR China	Food loss and waste ~ Linkage to SDG 2 'Zero Hunger' and SDG 12 'Responsible Consumption and Production'
09:55-10:10	Ms. Guoqin Wang , Programme Manager, International Ecosystem Management Partnership, United Nations Environment Programme (UNEP-IEMP), Beijing, PR China	Enhance the role of ecosystem management towards green economy and SDGs

10:10-10:25	Dr. Henning Wilts, Director, Circular Economy, Wuppertal Institut, Wuppertal Institut für Klima, Umwelt, Energieg GmbH, Germany	Environment and economic benefits towards sustainable cities and communities ~ Towards SDG 11 ‘Sustainable Cities and Communities’
10:25-10:40	Ms. Nina Mitiaieva, Technical Advisor, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Beijing, PR China	KPI and MRV system to evaluate the waste management under SDG 11.6 and SDG 13
10:40-10:55	Dr. Kikuko Sakai, Former Resident Representative, OFCF-FSM Office (Overseas Fishery Cooperation Foundation of Japan, Federated State of Micronesia)	Encouraging Cool Choices and Decisions for SDG14 in SIDS – Consideration on technical assistance in Federated States of Micronesia –
10:55-11:10	Mr. Anthony Talouli, Pollution Adviser, Secretariat of the Pacific Regional Environment Programme (SPREP), Apia, Samoa	Prevent and significantly reduce marine pollution in case of SIDS: Towards SDG 14 ‘Life Below Water’
11:10-11:25	Ms. Yu Xianrong, Beijing Fuqun Social Service Center, Beijing, PR China	Challenges of problems of clean water management towards SDG 6 ‘Clean Water and Sanitation
11:25-11:40	Mr. Arnold Wang, China Plastics Program Manager, Ellen MacArthur Foundation, Beijing, PR China	New Plastics Economy-Rethink the Future of Plastics
11:40-11:55	Mr. Roland Weber POPs Environmental Consulting, 73527 Schwäbisch Gmünd, Germany	Hazardous Chemicals as Risk and Challenge for Circular Economy and SDGs
11:55-12:05	Prof. Jinhui Li, Executive Director of Basel Convention Regional Center for Asia and the Pacific (BCRC), Tsinghua University, Beijing, PR China Dr. Anupam Khajuria, Researcher, United Nations Centre for Regional Development (UNCRD), Nagoya, Japan	Closing remarks from co-organizers

Special Session on Plastics and Microplastics

09:00 AM-12:30 PM, June 30, 2020 Online Zoom Meeting

Brief Introduction:

Global production of plastics has exceeded 400 million tons. Packaging sector consumed 30% of this generation and these are mainly single-use materials. The largest producers of plastic waste are China and USA. Mismanaged plastic is a serious problem in developing countries. About 70-86% of the plastics produced end up in landfills or dumpsites and recycling accounts for 14% (effectively it is 2% only). The discarded plastic would eventually end-up in surface water or ground water or as marine debris or even microplastics. Additionally, USD 80-120 billion worth of material value is lost annually because of low recycling rate of plastic.

Agenda:

Time	Speaker	Topic of talk
09:20-09:30	Prof. Jinhui Li , Executive Director of Basel Convention Regional Center for Asia and the Pacific (BCRC), Tsinghua University,	Opening Comments
09:30-10:00	Prof Agamuthu Pariatamby University of Sunway	Plastics/Plastic Waste Management-An Overview
10:00-10:30	Prof Seung-Whee Rhee Kyonggi University	Current Status and Future Plan of Plastic Waste Management in Korea
10:30-11:00	Assoc Prof. Dr Fauziah S.H. University Malaya	Microplastic abundance and distribution in sandy beaches of Malaysian Islands
11:00-11:30	Prof. Yong-Chul Jang Chungnam National University	Recycling and management of PET bottles in South Korea
11:30-12:00	Prof Sadhan Kumar Ghosh Jadavpur University	Plastic Economy and Waste Management in India
12:00-12:30	Agilent Representative Agilent Technologies.Co., Ltd	Full-automatic testing scheme of micro-plastics for laser infrared Quantum level imaging

Special Session Theme: Eco-industrial development support zero-waste cities: a global perspective

09:00 AM-12:00 PM, June 29, 2020 Online Zoom Meeting

Brief Introduction:

Eco-industrial development (EID), which eco-industrial parks (EIPs) and urban industrial symbiosis as typical practices, offers an innovative, preventative and regenerative pathway to address the increasing pressures from rising environmental impacts and costs, together with the need for increased resource efficiency and recovery in industrial development. EID offers systematic solution and system design for zero-waste cities, while industrial ecology toolbox (LCA, MFA, IOA and their integration) provides decision making support tools for evaluation and optimization. With this circumstance, this special session aims to not only provide a forum for sharing up-to-date information on EID development (industrial symbiosis, eco-industrial park, smart industrial parks, smart cities, eco-cities, and many more), its impacts and lessons and directions for future sustainable industrial-societal development to make transition to resource efficient, low-carbon, healthy and smart societies, how EID can support to forward zero-cities in the globe, but also will provide a valuable networking opportunity for those involved in EID research and development throughout the world.

Agenda:

Time	Speaker	Presentation title
9:00-9:10	Dr. Liang DONG City University of Hong Kong	Introduction to this section and speakers
9:10-9:30	Prof. Minoru FUJII National Institute for Environmental Studies, Japan	Smart energy sharing toward de-carbonized eco-industrial park
9:30-9:50	Dr. Shauhrat Chopra City University of Hong Kong	Life Cycle Sustainability Assessment (LCSA) based on the Capitals Approach to Evaluate Prospective Industrial Symbiosis Synergies
9:50-10:10	Prof. Satoshi Ohnishi Tokyo University of Science and Technology	Co-design with stakeholders to zero waste city by evolving waste management infrastructure

10:10-10:30	Prof. Ling HAN Peking University	Materials Flow and Distance-dependent Negative Externalities: An Economic Partial Equilibrium Analysis
10:30-10:50	Dr. Yi DOU University of Tokyo	Concept and practice of eco-industrial development and urban-industrial symbiosis in Japan
10:50-11:10	Dr. Benjamin Steuer Hong Kong University of Science and Technology	A New Approach to Measuring Effective Linkage Formation in China' s Industrial Symbiosis Parks
11:10-11:30	Dr. Lu SUN National Institute for Environmental Studies, Japan	Towards a Zero Waste city, analysis from the perspective of energy recovery and landfill reduction-a case of Beijing
11:30-11:50	Dr. Gideon Nkam Taka University of Ulsan, Korea	Monitoring Eco-Industrial Park Performances by Static and Dynamic Approaches: A case on Ulsan eco-industrial park, Korea
11:50-12:00	Dr. Liang DONG City University of Hong Kong	A new Sino-Dutch cooperation on inclusive zero-waste cities

The Circular Economy Internationally and in China: Reflections, Practices and Challenges

14:00 PM-17:00 PM, June 29, 2020 Online Zoom Meeting

Brief Introduction:

This panel addresses the topic of the Circular Economy (CE) from the perspective of waste management and will touch upon practices, challenges and reflections internationally and in China. The session will kick-off by reflecting on institutional factors that facilitate and sustain CE related performances in waste management. Subsequent presentations will touch upon the challenges related to the transition towards the CE in the international domain, such as packaging waste recycling and the financing of waste management infrastructures. In final instance, the topic focus will shift to the PR China, with presentations addressing the most recent household waste separation campaign and what it implies for establishing a CE on the mainland.

Agenda:

Time	Speaker	Topic of talk
14:00-14:30	Assistant Prof. Benjamin Steuer Hong Kong University of Science and Technology; Division of Environment and Sustainability	Introductory presentation on the significance of institutions for (China's) Circular Economy
14:30-15:00	Dr. Chen Liwen Zero Waste Villages	Waste separation and the build-up of a circle system
15:00-15:30	Dr. Liang Dong City University of Hong Kong, Department of Public Policy	Towards inclusive zero-waste cities: a life cycle sustainability analytical perspective
15:30-16:00	Roland Ramusch European Bank for Reconstruction and Development (EBRD)	Transition to the Circular Economy - Financing waste management infrastructure in low-income countries
16:00-16:30	Stefan Salhofer University of Natural Resources and Life Sciences Vienna, Department of Waste management	The role of education and training for plastic recycling in South East Asia
16:30-17:00	Peter Beigl Senior researcher, University of Natural Resources and Life Sciences Vienna	Towards a more circular economy using the example of plastics beverage packaging recycling in Austria

Toward “Zero waste”: LCA and MFA studies and their application

9:00 AM-18:00 PM, June30, 2020 Online Zoom Meeting

Brief Introduction:

"Zero-Waste City" aims to promote the source of solid waste and resource utilization with a new development concept of innovation, coordination, green, development, and sharing, and achieve waste reduction, recycling, and harmlessness at an overall level. Among them, the treatment of plastic waste, domestic waste and construction waste as the focus of the construction of "Zero-Waste Cities", not only need to

improve the level of solid waste management from a technical level, but also need to understand the source and destination of solid waste from a theoretical level . As important comprehensive assessment tools, LCA and MFA can quantify the flow of materials and environmental impact from the perspective of the entire life cycle, and can effectively support corporate management departments and government departments to formulate relevant policies and standards.

Agenda:

Time	Speaker	Topic
Part I: Buildings and energy (Moderator: Wei-Qiang Chen)		
09:00-09:30	Lixiao Zhang , Professor Beijing Normal University	The material flow and life cycle analysis of wind power system in China
09:30-10:00	Peter Berrill , Phd Yale University	Estimation of demolition and new construction of housing in US counties until 2060, and implications for building material reuse potential
10:00-10:30	Beijia Huang , Associate Professor University of Shanghai for Science and Technology	Characterization the generation and management of construction and demolition waste
10:30-11:00	Qingbin Song , Assistant professor Macau University of Science and Technology	Exploring the GHG emissions of urban energy consumption in Macau from a life cycle assessment perspective
11:00-11:30	Xiaofeng Gao , Phd University of Tokyo	Urban buildings subject MFA: a case study of Shanghai city
Part II: Plastics waste (Moderator: Yan Zhao)		
13:00-13:30	Toshiaki Yoshioka , Professor Tohoku University, Japan	Integration of the arterial and venous industries for plastic recycling
13:30-14:00	Peng Wang , Assistant professor Institute of Urban Environment, Chinese Academy of Sciences	Material flow analysis of five common plastics in China and implications for sustainable plastics management
14:00-14:30	Yonggang Wang , Deputy Secretary	Construction of Green recycled plastic supply chain system in China

	Plastic Recycling Association of CRRA	
14:30-15:00	Jacob Rognhaug Head of Circular Economy Asia	Plastic circular economy
15:00-15:30	Huabo Duan , Associate Professor Shenzhen University	Waste flows of express delivery packaging waste in China
Part III: Municipal and Organic waste (Moderator: Xiaoyu Yan)		
15:30-16:00	Thomas H. Christensen , Professor Technical University of Denmark	The role of LCA in the development of sustainable cities
16:00-16:30	Huan Li , Associate Professor Graduate School at Shenzhen, Tsinghua University	Moderate separation of household kitchen waste treatment towards global optimization of municipal solid waste management
16:30-17:00	Yan Zhao , Associate Professor Beijing Normal University	Sustainability quantification of biotechnological conversion of agricultural residues from a statistical perspective
17:00-17:30	Gang Liu , Professor University of Southern Denmark	Food loss and food waste in China: Scale, drivers, and impact
17:30-18:00	Huabo Duan	Summary

Special Session on Young Scientist Forum-ICWMT 2020

14:00 PM-17:00 PM Time June 30, 2020 Zoom Meeting

Brief Introduction:

The Young Scientists/Young Scholar Forum special session was created in 2005 to engage young researchers in the work of the Waste management & Technology. The young scholars are a community of extraordinary researchers from various academic & scientific disciplines and geographies. They are committed to integrating scientific knowledge into society for the community good. The objectives are to: provide platform to develop skills and a understanding of global, regional and national situation of waste management; established a diverse global community of next-generation scientist and researchers, dedicated to engaging in collaborations associated to collectively identified waste management issues

The diversity of young speaker at the 2020 ICWMT-Young Scientist is amazing. The ICWMT-Young researchers coming together for the solving global issue of waste management. This forum is one of the best-young scholar scientific event organize every year, this time for the 15th time. While the event itself started within the China, it has now extended globally, now, the ICWMT-Young scientist forum just gets bigger and best. This year, there are 10 speakers participating from different countries in manner of wonderful science & technology and assessment work for waste management & technology research.

Agenda:

Time	Speaker	Topic of talk
14:00-14:10	Prof. Jinhui Li , Executive Director of Basel Convention Regional Center for Asia and the Pacific (BCRC), Tsinghua University, China	<u>Opening Remark</u>
14:10-14:15	Abhishek Kumar Awasthi , School of Environment, Tsinghua University, Beijing China	Introduction of Speakers to Audience
14:15-14:30	Eleni Iacovidou Environmental Management Institute of Environment, Health and Societies, College of Health and Life Sciences, Brunel University London, Kingston Ln, London, UK	“A systems perspective on addressing the net zero waste challenge in urban centres”
14:30-14:45	T. Reed Miller Environmental Engineering, Center for Industrial Ecology Yale University, USA	“Reducing waste by extending product lifespans”
14:45-15:00	Idiano D’Adamo , Department of Computer, Control and Management Engineering, Sapienza-University of Rome, Italy	“Assessing waste management in Europe: A new reuse & recycling index”
15:00-15:15	Md. Rafizul Islam	“Assessment of the Potential Human

	Department of Civil Engineering, Khulna University of Engineering & Technology, Khulna Bangladesh	Health Risk of a Waste Disposal Site in Khulna, Bangladesh”
15:15-15:30	Keshav Parajuly, United Nations University (UNU) Sustainable Cycles Programme (SCYCLE), Bonn Germany	“Behavioral change for the circular economy”
15:30-15:40		Coffee/Tea Break
15:40-15:55	Alexej Parchomenko, TU Wien, Institute for Water Quality and Resource Management, Vienna, Austria/ VITO (Flemish Institute for Technological Research), Boeretang, Mol, Belgium	“Preserving functionality and reducing waste – a systematic evaluation through Statistical Entropy Analysis”
15:55-16:10	Michael Johnson, Electronics & Environmental Engineering, University of Limerick, Ireland	“Zero Waste City Research - An Irish Perspective”
16:10-16:25	Venkata R.S. Cheela, Indian Institute of Technology Kharagpur (India) and Curtin University, Australia	“Application of Life cycle assessment for development of integrated waste management systems for Smart Cities -An Indian Case study”
16:25-16:40	Min Zhao, Electronic Waste Research Center of Shanghai Second Polytechnic University Shanghai, China	“Application Research of Microwave Technology in Environmental Protection”
16:40-16:55	Loganath Radhakrishnan, Sustainable Urban Development–Smart Cities (SUD-SC) project GOPA Infra GMBH, India	“Current Challenges and Status of Municipal Wastewater Treatment System”
16:55-17:10	Discussion and Q&A	All Speakers

The 15th International Conference on Waste Management

and Technology Regional Chemicals Forum

14:00 PM-17:00 PM Time June 30, 2020 Zoom Meeting

Agenda:

Time	Topic	Speaker
14:00-14:10	Opening Remarks	Prof. Jinhui Li, Executive Director, BCRC China
14:10-14:25	Workplan of SCRC/BCRC China	Dr. Yuan Chen, Chief of Regional Chemicals Management Branch, BCRC China
14:25-14:55	PFAS in fire-fighting foams: profile characterization and reductive destruction by hydrated electron	Associated Prof. Jun Huang, School of Environment, Tsinghua University
14:55-15:25	PFOS, PFOA and other PFAS: Research vs. Regulation	Prof. Heidelore Fiedler, School of Science and Technology Örebro University, Sweden
15:25-15:55	Formation mechanism and control of multiple unintentional POPs during cement kilns co-processing solid wastes.	Prof. Guorui Liu, Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences
15:55-16:25	Risk of POPs & Hazardous Chemical for Material Cycles and Circular Economy	Dr. Roland Weber, POPs Environmental Consulting, Germany
16:25-16:55	Challenges and Strategies for Environmentally Sound Chemicals Management in China Beyond 2020	Associated Prof. Jianguo Liu, College of Environmental Science and Engineering, Peking University
16:55-17:25	Synergies of Multilateral Environmental Agreements (MEAs) on Wastes & Chemicals and SAICM	Mr. Qingyin Dong, Chief of Regional Waste Management Branch, BCRC China
17:25-17:30	Summary	Dr. Yuan Chen, Chief of Regional Chemicals Management Branch, BCRC China

United Nations Environment-Tsinghua University Students'

Forum : “To Build a Zero-Waste City Systematically”

14:00 PM-17:00 PM Time June 30, 2020 Zoom Meeting

Agenda:

Time	Speaker	Topic	Chair
13:50-14:00	Sign in		
14:00-14:20	Yunsong Liu Peking University	Immobilization technology and ecological risk assessment of heavy metals	Dr. Shunichi Honda, Program me Officer, UN Environm ent
14:20-14:40	Chenxi Jin Tongji University	Anaerobic digestion is a proper way to treating kitchen waste in China	
14:40-15:00	Jiqin Wang Southwest University of Science and Technology	Ammonia leaching solution of waste Lithium ion batteries cathode and anode mixture recovery by electro-deposition	
15:00-15:20	Dejun He Southwest University of Science and Technology	Current status and future prospects of electrolytic manganese residue Reuse as Building Materials	
15:20-15:30	Coffee Break		
15:30-15:50	Qudsia Kanwal Tsinghua University	Drivers, pressure, state, impact and the response of hazardous waste management in China	Dr. Shunichi Honda, Program me Officer, UN Environm ent
15:50-16:10	Junqing Xu Tongji University	A wet compounding technology by using carbon black from waste tire pyrolysis	
16:10-16:30	Xinfei Li North University of China	Extraction of humic acid from sewage sludge for reutilization	
16:30-16:50	Jiaqi Lu Tohoku University	Ex-ante LCA of an Cl recovery process for advanced PVC wastes recycling based on up-scale experiments	
16:50-17:00	Certificate Ceremony		