KEYNOTE

MONTHLY

LECTURES



Food *for* **Brain**

EVERY MONTH…

ONE HOUR LECTURE…

ONE SPECIALIST…

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Lecture #2

13:00 CET

February 2022

Wednesday 23rd

GLOBAL TREND AND MANAGEMENT STRATEGIES ON PLASTIC WASTE : A Case Study In Korea

Plastics have brought a great convenience to our lives due to its high functionality and flexibility. In 2015 the amount of global plastic produced is 407 million tons and it is expected to increase to 1,600 million tons by 2050.

The increasing plastic waste have become urgent environmental issues such as resource and waste problems, marine plastic litter issues and climate change. There are many international movements to overcome these issues. In the Basel Convention on the Transboundary Movement of Wastes plastic wastes are included as annexes to the Convention since 2021. In addition, many countries around the world are implementing circular economy policies such as a ban on use of plastic, a strengthening of the Extended Producer Responsibility (EPR) system and mandatory use of recycled plastic materials. These policies provide a larger recycling market and stimulate the growth of the recycling industry.

However, in the plastic recycling industry, recycling companies face several difficulties such as the absence of innovative technology and the lack of demand for recycled plastics. In order to solve these difficulties and lead the growth of the recycling industry, the concept of a recycling cluster is being introduced to achieve circular economy in Korea (Republic of). In the recycling cluster there is a comprehensive strategy for technical and economic challenges to commercialize the plastic recycling plant. The recycling cluster is a complexing place where all stakeholders, including manufactures, recyclers, expertizes and agencies come together to build networks and innovate plastic recycling technologies.

This lecture aims to examine the global trend of plastic waste management and the driving force of the growth of the recycling industry, and introduce recycling cluster to revitalize the plastic recycling industry.

In order to overcome these barriers, it is necessary to transform into a circular economy by introducing the life cycle from producing to recycling of plastic. Material recycling, a conventional plastic recycling technology makes it difficult to recycle low-grade plastics such as packaging materials and residues. Also, the scale of plastic recyclers is very small in Korea so that it is difficult to develop and commercialize chemical recycling plant. Hence, it is planned to establish a recycling cluster to overcome these barriers and achieve a circular economy of plastics in Korea.



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Professor Rhee, Seung-Whee received his Ph.D. from the Department of Chemical Engineering, Louisiana State University (LSU), USA in 1991.

He has been working in the Department of Environmental Engineering, Kyonggi University since 1994.

He acts as the president of Korea Basel Forum from 2012 to share the knowledge and experiences among international experts in Basel Convention issues.

Since 2015, Prof. Rhee has also been a member of the National Council of Science and Technology, Korea for decision making in the fields of environments and energy and acts as a science expert for the Korean Government.

Prof. Rhee worked as president of Korea Society of Waste Management for 2 years from 2018 to 2019.

Moreover Prof. Rhee served as an Editor in Chief of Journal of Material Cycles and Waste Management published by Springer from 2020 for 2 years.

His major research areas are the recycling of plastic waste and E-waste, technology of hazardous waste treatment and bio-reactor landfill, policy and management of solid waste and hazardous waste.

Prof. Rhee is author of more than 200 papers in academic journals and conferences, and applied for 10 patents.