

MINUTES of
The 7th Tripartite Roundtable on Environmental Business

Dates: February 15th, 2023

Location: Beijing, China

Method of meeting: Online and Offline Hybrid Meeting

Theme: Synergistic Treatment of Pollution Reduction and Carbon Reduction in Emissions Intensive Industries and Green Sustainable Recovery

Participants: Chinese, Japanese, Korean delegates

OPENING SESSION

Ms. Zhang Xiaolan, Senior Specialist, Foreign Environmental Cooperation Center, Ministry of Ecology and Environment (China), the Chair of Opening Session, started the 7th TREB.

Mr. Zhou Jun, Director, Division of Asian, African and Latin American Affairs, Department of International Cooperation, Ministry of Ecology and Environment (China), made an opening remarks welcoming all delegates from China, Japan and Korea.

Ms. Choi Jina, Secretary General Korea Environmental Industry Association (Korea), gave a brief summary of the 6th TREB meeting.

SESSION 1: Development of green and low-carbon technology in emissions intensive industries

Mr. Masashi Taketani, Deputy Director, Minister's Secretariat, Environment and Economy Division, Ministry of the Environment (Japan), the Chair of Session 1, started the session with an introduction of the topic and presenters for the session.

Dr. Lee Joon Ho, Professor, Korea University, Department of Materials Science and Engineering (Korea), delivered a presentation on "Revisiting Steel for sustainable future". Firstly, He mentioned that in 2024 the UN may reach a legally

binding agreement to end plastic pollution. Iron production in the world continues to rise, but metal products are recyclable, he presented how steel, wood and concrete are disposed of and recycled after a building has been demolished and stressed that scrap steelmaking has great potential. Secondly, he shared the International Energy Agency's Net Zero Emissions Roadmap, by 2050 more than 90% of heavy industrial production is low emissions. He also mentioned three measures, namely artificial trees, the growth of electric vehicles and the use of steel parts. He concluded with a presentation on HyREX technology. This technology uses mainly green hydrogen processes.

Mr. Gu Jun, Dean of Design Institute, International cooperation base of high-end environmental equipment manufacturing (China), delivered a presentation on "The Application of Advanced Ceramic Aeration System in the Field of Municipal Energy Conservation and Emission Reduction". He mentioned five benefits of this technology, they are improve management and control efficiency, reduce operation cost and electricity consumption, improve the rate of water quality compliance and demonstrate social responsibility. He introduced vertical agitator practice, corundum tube aeration application and precise aeration system, it could be Improve effluent quality, save energy, reduce costs by use these systems and technologies. In addition, he pointed to the treatment project of Sewage Treatment water in Matougang as an example, stressing that the total nitrogen, phosphorus and COD in the effluent are decreasing year by year.

Mr. Wang Guangwei, Professor, School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing (China), presented "Utilization technology and practice of solid waste in iron and steel process." He made an introduction from three aspects, respectively are utilization of metallurgical solid waste resources in China, utilization technology of metallurgical solid waste resources and implementation of metallurgical solid waste resource utilization. He points out that the steel industry produces a lot of solid waste, but the overall utilization level is low. Solid waste resource utilization is a challenge that must be overcome for the steel industry to achieve sustainable development. He proposed four paths for the development of metallurgical solid waste resource utilization technology, including classified and centralized control, valuable element recycling, environmentally friendly disposal and green cycle of solid waste base. Finally, he introduced the experience of

metallurgical solid waste resource utilization of Jiangsu Shagang Group from three aspects: rotary hearth furnaces, blast furnace slag and slag.

Dr. Takashi Furukawa, Senior Associate, Environment & Climate Change, Responsible Care Dept., Sumitomo Chemical Co., Ltd. (Japan), presented “Sumitomo Chemical’s Carbon Neutral Grand Design and Low-Carbon Technology.” First he introduced plans for carbon neutrality, many measures have been taken to deal with climate change. Then he detailed the company's carbon neutrality timeline, greenhouse gas reduction targets, energy conversion, investments at carbon neutral, increase the use of renewable energy and achieve carbon neutrality, he said Sumitomo Chemical will expect to invest 200 bn. yen to become carbon neutral. Finally he mentioned that, Sumitomo Chemical could provide products and solutions that contribute to carbon neutrality, and drive the development of technologies that contribute to carbon neutrality and their rapid deployment into society. He also presented a solution to the problem of methane gas by manufacturing clean hydrogen using the greenhouse gas methane as a feedstock.

During discussion session, an active discussion was made.

1) China to Korea: Could Korea both sides please share the technology or experience in biomass ironmaking? Is there any biomass-related work in forestry or agriculture?

Korea to China: The technology that is now using biomax in Korea is one called Hyundai Steel (a steel company in Korea), which dries cow dung and uses the carbon matter inside. Like blast furnace pulverized coal injection (PCI) Pulverised Coal Injection injects coal into it, and a part of the coal that goes in raises the furnace temperature to get good thermal efficiency. Other similar technologies are still being tested by Korean steel companies. Korea is a relatively small country compared to China and Japan, so Korea is not as rich in wood production as Japan and China, so these technologies can be used to produce raw materials directly, or applied to steel production technology.

2) Japan to China: How universities and companies are working together on ironmaking?

China to Japan : School of Metallurgical and Ecological Engineering, University of Science and Technology Beijing cooperates with Shagang company in converter and slag, and received basic research support from the National Natural Science Foundation of China in 2014. The applied research is mainly to promote the construction of production lines, technology development and demonstration projects together with Shagang company..

SESSION 2: Various Types of Practices in green and sustainable recovery

Mr. Choi Jina, Secretary General, Korea Environmental Industry Association (Korea), Chair of Session 2, started the session with an introduction of the topics and presenters for the session.

Dr. Satoshi Kojima, Programme Director, Kansai Research Centre (KRC), Institute for Global Environmental Strategies (IGES) (Japan), delivered a presentation on “Promoting decarbonized, circular and decentralized society through green recovery packages in Japan.” He outlined Japan's green recovery plan with a declining population and population aging problems. He mentioned that a choice between “Urban Centralised future” or “Local Decentralised future” needs to be made around the latter half of the 2020s to achieve environmental and economic sustainability. The core of green recovery packages is the regional decarbonization roadmap adopted in June 2021. This roadmap provides specific measures to advance the transition towards decarbonized, circular and decentralized society. Enabling conditions of the roadmap are identified in the Green Growth Strategy through Achieving Carbon Neutrality in 2050 (GG2050). To fully exploit the benefits of decentralization in terms of local revitalization as well as better resilience in many facets including pandemic and natural disaster, further coordinated efforts among stakeholders are crucial.

.Mr. Han Seunggil, CEO, ECOMASS Co., Ltd. (Korea), presented “Sustainable product & production”. He began by describing the Ecomass and its development process from 2008-2022, with the launch of a forest carbon offset project in 2022. Product types of Ecomass include compounding resin, kitchenware and household and sugarcane paper. He pointed Lifecycle, he shared recycling process case of mask

PP, development on scrap selection technology, NAT sugarcane paper. Focused on sharing the circular development process of sugarcane paper, including sugarcane collection, sugar extraction, bagasse collection and processing, bagasse paper making, and composting of the used paper for soil benefit. Finally, he introduced the effort for carbon reduction in Ecomass production, carbon reduction sources included solar power on factory roof, energy and carbon monitoring system and energy saving machine, here he highlighted forest carbon offset project, it can absorb the emission amount of carbon in Ecomass production theoretically.

Ms. Ma Yajing, Programme officer, Foreign Environmental Cooperation Center, Ministry of Ecology and Environment (China), delivered “Implementation path of China's pursuit of green recovery”. She first introduced the overall state of China's environment by sharing data graphs, pointing out that China's AQI six major pollutants have been on a decreasing trend in the past eight years, the proportion of 1-3 water quality sections has been gradually increasing, and the treatment and disposal capacity of waste plastics has been growing. She also pointed out the overall policy framework of peak CO₂ emissions and carbon neutrality "1+N", under which different departments have developed carbon neutral implementation plans in relevant areas. He also introduced the policy documents related to high pollution and high emission industries. Finally she showed the first batch national parks established in China and gave a brief introduction to the carbon trading market.

Discussion session: The three parties agree to communicate by e-mail if they have any questions.

CLOSING SESSION

The closing session was made by the chair of the closing session, **Mr. Fei Weiliang Deputy office director, Foreign Environmental Cooperation Center, Ministry of Ecology and Environment (China)**.

Ms. Aki Miyahara, Senior Coordinator for Financial Markets Planning, Minister's Secretariat Environment and Economy Division, Ministry of the Environment (Japan) gave an introduction to the 8th TREB.

Ms. Zhang Xiaolan, Senior Specialist, Foreign Environmental Cooperation Center, Ministry of Ecology and Environment (China) made a closing address. She expressed his gratitude to all participants. And wish Japan a smooth holding of the 8th TREB.

Ms. Aki Miyahara, Senior Coordinator for Financial Markets Planning, Minister's Secretariat Environment and Economy Division Ministry of the Environment (Japan) made a closing address. She thanked participants for having a great roundtable.

Mr. Jang Lee Jae, Director, Green Transition Policy Bureau, Green International Project TF, Ministry of Environment (Korea) made a closing address. He expressed his thanks to China for preparing the 7th TREB and thanked all the participants.

Commemorative photographs were taken during the photo session.

