

## Summary of Plenary 1: The Korean Green Growth Strategy in Ulsan Industrial Areas- The Ulsan Experience

**Mr. Chang Soo Rae, Director General of Creative Economy Executive Office, Ulsan Metropolitan City**

- Explained success and failure in industrialization of Ulsan
- The aim of the Ulsan city is to become to Asia's top city by 2030. The automobile industry began in Ulsan in 1967. Capacity of finished vehicles is 1.53 million annually. Ulsan is in the world's top 5 automobile cities, and in shipbuilding it is one of the largest cities.
- Introduced various efforts of Ulsan city to overcome environmental problems. Ulsan made political decisions to solve environmental issues and reduce pollution, therefore, pushed ahead the "Ecopolis Ulsan Project"
- Through this Ecopolis Ulsan Project, Ulsan improved the air and the water quality, restoring the ecosystem.
- By establishing the eco-industrial park, Ulsan saved annual cost of \$18 million. Benefit of 119 million dollars a year. Reduce carbon dioxide emissions significantly.
- Invested 11 billion for expenditure for environmental restoration project.
- Introduced Ulsan city's vision: Economic hub creative city of the Northeast Asia; prestigious, human and creative city, healthy and eco-friendly city; prestigious cultural city

**Ms. Jeong Mi-hoon, Manager, Green Business Team, Industrial Location and Environment Department, Korea Industrial Complex Corporation**

- Explained the history of industrial park development in Korea. It started in 1960s when export-driven industrial parks were created for light industries in large cities. As chemical and heavy industry developed and rapid urbanization took place, environmental burden increased in 70s through 90s. Eco-industrial parks in 2000s were one of the efforts to combat environmental challenges.
- EIP in Korea refers to environmentally friendly industrial parks whose mission is to maximize resource efficiency and to minimize environmental concern by utilizing by-products from A company for resource/ energy to B company. Example – Koreazinc company and Hankuk paper
- To make EIP program successful, many parties both from public and private sector contributed (MOTIE, Ulsan city and others providing funding and feasibility studies as well as network and necessary policies). For the case of Ulsan, every party is dedicated which is why it became such a success.
- Korea is going through third phase of EIP program which started in 2005. 65% projects are in business and more than 1600 enterprises participated in EIP projects, bringing out positive economic, environmental and social outcomes.

**Mr. Kim Jung-hoon, Manager, Ulsan Eco-Industrial Park Centre, Korea Industrial Complex Corporation**

- Explained challenges and accomplishments towards a sustainable 'Eco-Industrial Park' in Ulsan
- Past 10 years of successes and challenges of industrialization
- Introduced the efforts of Ulsan city to overcoming environmental problem such as 2004 declaration of ecopolis Ulsan, establishment of a master plan to revive Taewha River.
- Activities of EIP project include exploring new networks, feasibility studies, and commercialization. They also include energy optimization which use household and industrial wastes as fuels for industrial complexes and resource optimization which develops substitutes for resources that harm the environment.
- Success story of EIP Project
  - Creating 595 projects plans, completing 303 studies, starting 197 businesses, 12 emission groups and 37 recycling technologies
- Goal is to find as many business models as possible, so these can be disseminated to the companies

**Mr. Woo Hang-soo, Research and Development Centre Manager, New Energy Technology Institute, Ulsan Technopark**

- Explained hydrogen energy for high value-added industry for Ulsan
- Introduced main industries of Ulsan: Petro-chemistry, automobile, marine shipbuilding
- Paradigm shift in energy industry from wood energy to hydrogen energy. Ultimately, human beings will use hydrogen as fuel.
- We need energy sources that use less carbon and energy phase shows we moved from solid to liquid to natural gas (with methane contributing to environmental degradation, requiring us to come up with energy with less carbon).
- The new sustainable industries need hydrogen, and we need to think about production, transfer and storage of such energy source
- How could we create hydrogen? By use of by-product.
- Hyundai, Toyota, Honda have produced cars that all run on fuel cell
- Ulsan is the hub of hydrogen industry, operating the world's largest hydrogen town powered by fuel cells. Fuel cells are being developed domestically, and there is advertising center for fuel cells. Ulsan hopes to have a larger fuel cell demonstration complex.
- Use of the by-product of hydrogen is an exemplary model to use pipeline to link the resource and production.
- Vision of Ulsan: Suggested new delta III project which will involve E-hub projects. It could be replicated in cities and countries with similar conditions