

Air Liquide Korea - LOTTE Chemical

Cooperation on Hydrogen for sustainable mobility

- **Joining forces for establishing an integrated hydrogen supply chain for serving heavy duty mobility in Korea... Co-investing in high pressure hydrogen filling centers in Daesan and Ulsan,**
- **Utilizing LOTTE Chemical hydrogen by-product and infrastructures and Air Liquide hydrogen energy's world class technologies and business knowhow,**
- **Expanding to eco-friendly business such as liquefied hydrogen production and carbon capture, through cooperation between the two companies**

On May 20th, 2021, both companies held a MOU signing ceremony at Jamsil LOTTE World Tower, Seoul, attended by Guillaume Cottet, President of Air Liquide Korea, Hwang Jin Koo, CEO of LOTTE Chemical Basic Material Division, and other officials.

Hydrogen is increasingly seen as a key component in the Energy Transition to fight global climate change. Through this collaboration, the two companies intend to combine their complementary strengths for expanding the eco-friendly hydrogen economy.

Air Liquide Korea and LOTTE Chemical plan to co-invest in new high-pressure hydrogen filling centers and hydrogen refueling stations, utilizing LOTTE Chemical's hydrogen by-product sources for mobility from the metropolitan region to expanding nationwide in the future. In addition, they consider investing in liquid hydrogen production facilities, and collaborating in the fields of carbon dioxide capture & utilization and high-pressure hydrogen tanks by utilizing both companies' advanced technologies.

As a result, the two companies expect the creation of multiple synergies and opportunities in various areas of the hydrogen economy, including blue hydrogen production, carbon dioxide reduction and hydrogen distribution channel expansion.

Air Liquide is well known for its global expertise and best in class technologies related to hydrogen, as well as for its commitment to hydrogen energy. Air Liquide is a worldwide leader in industrial gas, bringing 50 years of expertise in hydrogen, mastering the entire hydrogen supply chain. From production and conditioning, to storage and distribution, Air Liquide is contributing to the widespread use of hydrogen as a clean energy source, for mobility in particular. In addition, Air Liquide has designed and installed more than 120 stations around the world to date.

LOTTE Chemical is producing multiple basic and advanced chemicals and also low carbon by-product hydrogen at three domestic hubs (Yeosu, Daesan, and Ulsan) and are currently developing low-carbon-based petrochemical production technology by establishing facilities that apply CCU (Carbon Capture Utilization) technology at its Yeosu plant.

Guillaume Cottet, President of Air Liquide Korea said: ***"We are very pleased to sign this MOU with LOTTE Chemical, which marks the start of a strong partnership in South Korea to foster the deployment of hydrogen for sustainable mobility. This partnership leverages on the strong complementarities between Air Liquide Group and LOTTE Group, using Air Liquide technology and expertise in hydrogen gaseous and liquid production and supply chain, as well as LOTTE's willingness to utilise its by-product hydrogen and progressively convert retail truck fleets to eco-friendly hydrogen fuel cell trucks. This project is in line with***

Air Liquide as well as LOTTE climate strategies to contribute to the development of a more sustainable future.”

Hwang Jin Koo, CEO of LOTTE Chemical Material Division said: *“With this agreement, we are pleased that LOTTE Chemical and Air Liquide Korea will be able to jointly enter the development of the Korean hydrogen mobility market together. Both companies will continue to expand their business in the growing hydrogen market and play an important role in the hydrogen industry.”*

Air Liquide in Korea

Air Liquide has been present in South Korea since 1996, and employs today more than 400 persons. On top of providing industrial gases and related services to major industries (petrochemical, steel, semiconductors, car manufacturing, etc.), it also has a strong presence in Home Healthcare activities. It is also one of the founders and key contributors to the development of the hydrogen economy in Korea, as shown by its participation in HyNet, a special purpose company created in 2019 to install 100 hydrogen refueling stations by 2022 and in KOHYGEN (Korea Hydrogen Green Energy Network), a special-purpose company established to accelerate fuel cell heavy-duty vehicle deployment in South Korea.

Air Liquide’s commitment to hydrogen energy

In the past 50 years, Air Liquide has developed unique expertise enabling it to master the entire hydrogen supply chain, from production and storage to distribution and the development of applications for end users, thus contributing to the widespread use of hydrogen as a clean energy source, for mobility in particular. Air Liquide has designed and installed more than 120 stations around the world to date. Hydrogen is an alternative to meet the challenge of clean transportation and thus contributes to the improvement of air quality. Used in a fuel cell, hydrogen combines with oxygen in the air to produce electricity, emitting only water. It does not generate any pollution at the point of use: zero greenhouse gases, zero particles and zero noise. Hydrogen provides a concrete response to the challenges posed by sustainable mobility and local pollution in urban areas.

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