



October 20th, 2021

The Japan LP Gas Association

Launch of the Institute of The Japan Green LP Gas Promotion (Press Release)

Member companies of our association and major LPG importers and distributors in Japan (Astomos Energy, ENEOS GLOBE, Gyxis, Japan Gas Energy and Iwatani Corporation) have established a new organization, The Institute of Japan Green LP Gas Promotion, to jointly promote the greening of LPG (propane and butane).

In collaboration with the University of Kitakyushu, a new technology (propanation and butanation) will be established to produce LPG in close to 100% yield by synthesizing hydrogen and carbon dioxide (CO₂), followed by a reforming process to methanol etc. While FT (Fischer-Tropsch) and other conventional fuel synthesis technologies require CO₂ to be replaced by carbon monoxide - which is relatively an inefficient process, the new technology allows CO₂ to react directly and efficiently with hydrogen to produce LPG at a high yield. The Institute aims to demonstrate this technology at an early stage by obtaining full research cooperation from Dr. Kaoru Fujimoto, a visiting researcher at the University of Kitakyushu as well as Professor Emeritus of the University of Tokyo, President of HiBD Research Institute and Professor Emeritus of the University of Kitakyushu), who is a world authority in this field.

In parallel with the above research, the Institute will promote joint research and development with a major catalyst manufacturer and researcher institute with an aim of establishing a technology to produce LPG from DME (dimethyl ether), which has similar characteristics to LPG.

After verifying the results of the two demonstration tests in three years, the Institute aims to realize the social implementation of carbon-free LPG ("Green LPG") on the scale of 30,000 tons per year in the first half of 2030's by utilizing the hydrogen and CO₂ obtained, for instance, from bio-raw materials generated from sewage treatment sludge facilities with using the innovated new technology obtained through the two researches.

LPG is used in a wide range of sectors, including for households, commercial, chemical raw material, automobiles, city gas for adjusting the calorific value etc., with domestic demand standing at approximately 13 million tons in the last fiscal year. LPG is expected to remain in significant demand in 2050, according to the government estimate, even as combustion equipment becomes more energy efficient and a decline in population. As there is a limit to the amount of available bio-feedstock, it is hoped that covering all LPG demand by Green LPG will be promoted through the use of green hydrogen in the future.

We, The Japan LP Gas Association (Chairman: Mr. Tsuyoshi Ogasawara, President of Astomos Energy), set up a study group for the development of green LP gas production technology (Chairman: Prof. Yasushi Sekine, Waseda University) last autumn, and compiled a report on the future issues and directions for the greening of LPG in April this year. The establishment of the Institute is intended to lead to the social implementation of Green LPG in line with the course of action shown by the study group, and Mr. Ogasawara, Chairman of our association, will be the first representative director of the Institute.

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