

Osaka Gas USA invests in US start-up Starfire Energy Inc., to develop a “Green Ammonia” synthesis system and technology for cracking ammonia to hydrogen

OGUSA has invested in Starfire Energy Inc., located in Denver, Colorado, which is developing systems to economically produce the carbon-free, storable fuel known as “Green Ammonia” from renewable energy, air and water, and systems to crack ammonia to hydrogen leveraging ammonia’s use as a safe and cost effective transport mechanism for hydrogen. Other investors include AP Ventures, Chevron, New Energy Technology Pty Ltd, and Mitsubishi Heavy Industries America, Inc.

As efforts to decarbonize accelerate around the world, CO₂-free fuels derived from renewable energy sources are attracting attention. Green Ammonia, in particular, is expected to be commercialized at an early stage by leveraging proven existing technology for ammonia transportation and storage infrastructure, with growing expectations for the commercialization of supply and demand. Some applications for Green Ammonia are as a thermal power generation fuel, marine fuel, and fertilizer raw materials. The main challenges faced by Green Ammonia so far have been relatively higher production costs, and limitations from renewable electricity sources that are intermittent or do not exist in sufficient capacity.

Starfire Energy Inc. was founded in 2007 to develop renewable energy solutions, which later evolved into a focus on small-scale distributed ammonia production modules and technology for cracking ammonia into hydrogen to generate electricity. Starfire is currently developing ammonia synthesis technology using its own proprietary catalysts, which are characterized by the ability to synthesize ammonia at lower pressures than conventional processes, with a focus on highly flexible operations for more efficient integration with renewable electricity sources. Starfire aims to continue to scale up this system in the future.

Osaka Gas USA, under the “Carbon Neutral Vision” announced by its parent company, Osaka Gas Co., Ltd. on January 25, 2021, has an ongoing initiative to identify and develop new technologies that are key to decarbonization, and believes that Green Ammonia is one of several promising options. Starfire’s technology is expected to bring critical solutions with regard to the production of Green Ammonia. This investment exemplifies our desire to cooperate to accelerate the production of Green Ammonia to support carbon neutrality goals.

Osaka Gas USA will continue to commit to efforts for decarbonization as a member of Daigas Group[※].

※ On March 8, 2018, Osaka Gas Co., Ltd. launched a new group brand “Daigas Group.”