HIF announces the support of the German government to its pilot plant to produce eFuel from green hydrogen

Magallanes, 2 December 2020. Highly Innovative Fuels (HIF), the first eFuel project to be developed in Chile, continues to move forward with the partners of the initiative (AME, ENAP, Enel Green Power, Porsche and Siemens Energy,), announcing today the financial support from the German government to its pilot plant through Siemens Energy. The project, the largest of its kind in Latin America and one the first globally, will use renewable energy and carbon dioxide drawn from the atmosphere to produce 350 tons of methanol per year and 130.000 liters of eFuel per year as early as [the end of] 2022. The project contemplates an initial total investment of US$ 38 million. In two further phases, capacity is to be increased to about 55 million liters of eFuels per year by 2024, and around 550 million liters per year of eFuels by 2026.

“We truly think this project will help to change the world by providing a real solution to combat climate change in the short term. With the winds that blow in the Magallanes Region, combined with state-of-the-art technologies, this project presents an opportunity to advance towards decarbonization of the transport sector, moving today’s vehicles with a new, clean fuel and giving Chile the opportunity to export its energy to the world”, highlighted Cesar Norton, President of the project owner and lead developer, AME. “To develop this initiative, we have brought together top-tier partners and suppliers from around the world to contribute with their expertise”.

The team

Porsche has provided a critical impetus and research and development knowhow for the development of the pilot. The German sportscar producer will purchase all of the eFuels produced by the facility. “At Porsche we believe that environmentally friendly eFuels have the potential to be an important element of climate neutral mobility. For our customers eFuels are an opportunity to sustainably drive a Porsche with a combustion engine,” stated Oliver Blume, CEO of Porsche. “70% of all Porsche cars ever built are still on the streets. And for many years to come there will be cars with conventional combustion engines”, he added.

Armin Schnettler, EVP of New Energy Business at Siemens Energy commented: “This international lighthouse project will make an important contribution to decarbonizing the transport sector and to achieving the climate targets in the EU and Germany.” As a co-developer Siemens Energy will realize the system integration from wind energy to the e-fuel production - thereby making the renewable energy potential of the Magallanes region available to the hydrogen economy at an early stage.

Enel Green Power will participate as a partner in wind power generation and hydrogen production elements of the plant. Enel Green Power one of the largest renewable energy producers in Latin America. “Green hydrogen can play a strategic role in energy transition by supporting the decarbonization of hard to abate sectors. Magallanes is a perfect place to implement this technology because of its unique wind conditions that make it possible to have a worldwide competitive cost”, explains James Lee Stancampiano, general manager of Enel Green Power Chile.

Chile's state-run oil company, ENAP, will support the project with operating personnel, maintenance and logistics. ENAP has a strong presence in Magallanes and decades of worldwide experience in the production and processing of hydrocarbons. According to ENAP's general manager, Andrés Roccatagliata, "ENAP is participating very actively in the production of green hydrogen and thanks to the infrastructure and team of professionals and workers that we have in Magallanes, we are convinced that with ENAP's participation, the execution time of this important project will be shortened."

The CEO of the chilean state-run oil company, ENAP, Andrés Roccatagliata, commented that "the company will participate in this strategic project in the areas of logistics and maintenance, thanks to the important infrastructure and team of professionals and workers that we have in Magallanes."

Roccatagliata added that, "our company has a strong presence in Magallanes and decades of worldwide experience in the production and processing of hydrocarbons, this with the unbeatable conditions that Chile has in the production of renewable energies, will undoubtedly make the country a very important actor in the production of the fuels in the future. We are also convinced that with the ENAP´s participation, the execution time of this important project will be accelerate".

HIF plans to draw on the experience of cutting-edge technology providers and suppliers from around the world. Global Thermostat will supply the equipment for the extraction of carbon dioxide directly from the air, via their specialized "direct air capture" technology. The methanol production process will be based on a Johnson Matthey design, while the methanol will be converted to gasoline using methanol-to-gasoline technology to be licensed and supported by ExxonMobil.

Engineering and construction services for the Methanol to gasoline plant will be provided by the Chinese company, Sinopec Engineering (Group) Ltd. Leading Chilean bank BCI will be providing a financing facility in respect of VAT.

The process

The process consists of using renewable energy to obtaining green hydrogen from water via a process called "electrolysis". The hydrogen is then combined with carbon dioxide extracted from the atmosphere via "direct air capture" to produce methanol. In turn, a part of the methanol produced is converted to gasoline.

The use of this gasoline in conventional gasoline based vehicles is one of a number of solutions—including electrification—to reduce carbon emissions from the transport sector.