

## HIF (Highly Innovative Fuels) Global and its partners start production of carbon-neutral eFuel in Chile

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Aerial view of Haru Oni site under construction.

Good news! First quantities of synthetic fuels produced at the Haru Oni plant in Chile, by HIF (Highly Innovative Fuels) Global and its partners...

HIF tells us:

• Chile Minister of Energy and Baden-Württemberg Ministry of Transport attend ceremony



marking the beginning of a new era: Carbon-neutral eFuels to accelerate decarbonisation now.

HIF Global's Haru Oni Demonstration Plant features a world-class team including Porsche, Enel Green Power, ENAP, Siemens Energy, Gasco, and ExxonMobil.Punta Arenas de Chile, December 20, 2022. HIF Global, the world's leading eFuels company, together with its partners, authorities, and community representatives, celebrates the production of the first liters of synthetic gasoline at the Haru Oni Demonstration Plant in southern Chile.Chile's Minister of Energy, Diego Pardow, headed the ceremony where a Porsche 911 was loaded with synthetic fuel, starting a new era for the transport sector, in which fuel made with renewable power, green hydrogen, and recycled CO2 could displace conventional fossil fuels without modifications to engines and infrastructure required.

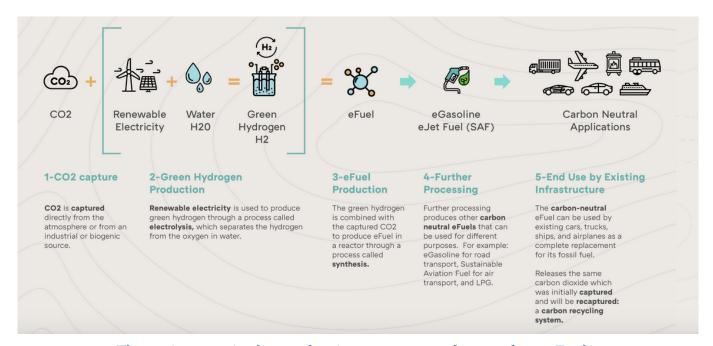
- "It is key that the new green hydrogen industry favors the creation of employment and improves people's quality of life. This way, we will be providing certainty for a much more sustainable future. And HIF's Haru Oni plant has that symbolic value. One that allows us to look to a future where other forms of energy are possible. We need these moments of optimism at a time when so many forces are holding us back on our climate goals", said Ministry Pardow.
- César Norton, President, and CEO of HIF Global said, "First synthetic fuels at Haru Oni is a milestone in the fight against climate change, not only for Chile but for the entire world. A little over a year ago we had the groundbreaking of this dream that today becomes a reality: to produce eFuels with the power of the Patagonian wind. It is a concrete solution, here and now, to the main challenge of humanity. We are proud to take this first step here in Punta Arenas because we know it will be decisive for the future of the next generations".
- Norton thanked the support of authorities, partners, and local communities for the
  development of this demonstration facility. "We are facing a global challenge which is why
  Haru Oni gathers the unparalleled experience of German, Italian, American, Chinese and,
  Chilean companies in the service of a better future. Our commitment is to scale this industry
  and build large-scale commercial eFuels facilities all over the world in a sustainable way,"
  Norton added.
- The Minister of Transport of the State of Baden-Württemberg in southwest Germany,



Winfried Hermann, pointed out: "We are very interested in importing climate-friendly hydrogen derivatives and fuels. The demand is enormous – especially in the fields of aviation and shipping, but also to decarbonize existing vehicle fleets. The Chilean-German energy partnership launched in 2019 offers great potential to cooperate on climate protection and the indispensable transformation of the fuel industry. We firmly support this groundbreaking project."

## The eFuels production process

Haru Oni will produce green hydrogen via a process called electrolysis using renewable energy from the wind. The facility will also capture CO2 from the atmosphere and use a process of synthesis to combine the CO2 and hydrogen to produce eFuels, including carbonneutral methanol (eMethanol), carbon-neutral gasoline (eGasoline) and carbon-neutral Liquefied Gas (eLG). The eFuel creates a way for existing infrastructure to become carbon neutral by continuously reusing and recycling the CO2.



The main steps in the production process used to produce eFuels.

In this first stage, Porsche will use the eFuel for its Porsche Experience Centers and the Porsche Mobil 1 Super Cup. Haru Oni will produce 350 tons per year of eMethanol and



130,000 liters per year of eGasoline. The facility expects to start commercial operations in March 2023.

## The Team

HIF Global is the owner and lead developer of Haru Oni and has been conducting studies to develop eFuels projects in Magallanes for eight years.

Porsche, the world's largest sports car manufacturer contributed with research and an offtake agreement to purchase Haru Oni eGasoline for lighthouse projects such the Porsche Mobil 1 Supercup and the Porsche Experience Centers.

Michael Steiner, Member of the Executive Board for Development & Research at Porsche AG, says...

"The potential of eFuels is huge. There are more than 1.3 billion vehicles with combustion engines in the world today. Many of them will still be on the road for decades. We must also offer the owners of existing vehicles a perspective. As a manufacturer of high-performance and efficient engines, Porsche has extensive know-how in the field of fuels. We can thus exert a significant influence on the development of synthetic fuels."

Enel Green Power (EGP), a world leader in clean energy developing and operating renewable energy plants worldwide, is a partner in the wind power generation and green hydrogen production.

Fabrizio Barderi, CEO Enel Chile, comments...

"Green hydrogen is a great ally to decarbonize certain sectors such as aviation and shipping, the chemical industry and industrial sectors for which electrification does not yet offer a competitive alternative to abate their CO2 emissions and help curb global warming and its tragic consequences on the climate."



ENAP, the Chilean state-owned energy company, supports with infrastructure and logistics.

Siemens Energy, one of the world's leading energy technology companies, is responsible for the plant design, technology integration, and supplies its electrolyzer and the wind turbine from Siemens Gamesa.

André Clark, Senior Vice President for Siemens Energy Latin America, explains...

"Together with our partners, we have built the world's first integrated production plant for carbon-neutral fuel from wind energy here in Patagonia.

It took just two years for one of the most exciting future projects in the energy industry to become reality. Now, production is starting thanks to a collaborative effort towards the creation of a global green economy. Today we are setting a milestone for the decarbonization of the transport sector, with a business model that can potentially become an opportunity for other industries."

Empresas Gasco, a leader in the development of projects in the gas distribution energy market, provides research and development for the production of synthetic gas.

Matias Pérez C, president Empresas Gasco, says...

"At Empresas GASCO we are proud to be part of this great project in the Magallanes Region that seeks to contribute to the decarbonization of the planet and positions Chile as a leader in the production of sustainable energy, such as green hydrogen and eFuels. The significant contribution committed as a company, through the subscription of an agreement with HIF Global for Research and Development in obtaining carbon-neutral eLG for GASCO, will not only allow us to optimize the operation of the Haru Oni facility, but also constitutes a relevant fact since it will allow us to include it within our offer of sustainable solutions for future commercial projects in Chile and the world."

ExxonMobil, one of the world's largest publicly traded energy providers and chemical manufacturer, provides the plant with methanol-to-gasoline (MtG) technology.



Michael Better, Vice President, ExxonMobil Catalysts and Licensing LLC

"It's great to see the use of ExxonMobil's methanol to gasoline technology at this HIF facility. We're excited to work with Porsche to blend this production into a finished gasoline product planned for use in the Porsche Mobil 1 Super Cup and other opportunities."

FURTHER INFORMATION: Please visit www.hifglobal.com

Wheels-Alive comments: "The production of eFuels could be very helpful to achieve 'net zero' more quickly if used alongside the development of electromobility. The carbon-neutral liquid eFuels can be delivered using the same infrastructure, tankers and personnel as fossil-based fuels, and can take the place of these for use in aviation, shipping and motor vehicles (new and existing), without the need for modifications to the vehicles. If production is scaled up, costs per litre will be lowered to make these new fuels more affordable too."