



PORSCHE



Porsche Panamera eFuels Experience Patagonia

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Contents

eFuels

eFuel for thought 3

eFuels pilot plant in Chile officially opened 6

Background and Environment

The Background Story 8

The Fauna 11

The Stations 13

Press release from 14/02/2023

eFuel for thought

Behind the scenes at the opening of the Haru Oni eFuels pilot plant.

It only took five seconds ...

The culmination of the ceremony to mark the opening of the new Haru Oni eFuels plant in Punta Arenas, Chile, saw a Gentian Blue Porsche 911 being filled with the extraordinary nearly carbon-neutral new fuel by no less than Barbara Frenkel, Member of the Executive Board for Procurement of Porsche AG.

And five seconds later, the 911 was in a little drift ...

At its wheel was Michael Steiner, the member of Porsche's executive board responsible for research and development who had travelled to Chile for the event.

His brief was to do a lap or two of the base of the massive wind turbine for the waiting news crews and photographers. But, as anyone who has had the good fortune to spend a bit of time in his company will attest, Steiner is a car enthusiast. There were no crowds round the back of the turbine. A Porsche 911 is a Porsche 911. And, despite this particular hydrocarbon being created using the power of the wind from little more than water and CO₂, it can propel Zuffenhausen's finest with no modifications to the car whatsoever.

So, within a few seconds of setting off, Steiner did what came naturally and gave the 911 a little gas, executing a neat drift round the back of the turbine. The revs of the engine rose, a little dust was kicked up and a bit more history had been made – the first drift had been performed using Haru Oni's new eFuel.

This little moment sums up what is going on down on the shores of the Straits of Magellan, in windy Patagonia. Porsche has invested heavily in HIF (Highly Innovative Fuels), which has built this industrial eFuel plant – one of the first in the world – in order to produce gasoline from scratch.

With pioneering spirit embedded deep in its DNA, Porsche began its search for a synthetic fuel that would allow combustion engines to be operated in an almost CO₂-neutral manner some years ago. Echoing the words of Ferry Porsche himself, who said that he could not find the sports car that he dreamed of, so decided to build it himself, the sportscar manufacturer could not find the eFuel that it wanted, so invested more than 100 million US dollars and brought its project management skills and huge knowledge of high-performance engines to bear in order to back HIF in its efforts to bring eFuels to bear.

Situated just outside Punta Arenas, in a spot where wind turbines run at peak efficiency up to four times as frequently as they do in the windiest spots in Germany, the plant makes eFuel by splitting water into its constituent components of hydrogen and oxygen in the first step. It releases the latter into the atmosphere, in the words of one of the engineers in Chile, “like a synthetic tree” and then combines the hydrogen with CO₂ that would otherwise be in the atmosphere to methanol. A final process then turns that methanol into gasoline.

Even if the finished product were to be shipped all the way back to Europe at the industrial scale that is expected, the transport creates very little CO₂, especially compared to the amount that the making of the fuel removes from the atmosphere.

While Porsche is still very much committed to electromobility, and to selling more than 80 per cent of its cars with an all-electric drivetrain in 2030, it has always made cars of the highest quality and desirability, with the result that a great many of the Porsche cars produced over the years are still on the road. The type of fuel that this pilot plant is producing will enable those cars' engines to run long into the future without the need to burn fossil fuels in them.

More significantly, in the words of Steiner, it's "not just at Porsche. Today there are around 1.3 billion vehicles with combustion engines on the road worldwide. And, according to the forecasts, this number is not going to fall significantly in the next 15 years – despite the ramp-up of electromobility." Beyond cars, there was much talk at the opening ceremony about the need for this regenerative fuel in the aviation and shipping industries.

But, to start with, all 130,000 litres a year that are produced at Haru Oni will be used in the Porsche Mobil 1 Supercup and worldwide in other lighthouse projects such as in Porsche Experience Centres. By 2026, it is expected that 55 million litres of fuel will be produced at Haru Oni and, just two years later, 10 times that amount.

Haru Oni is a symbol of hope in the fight against climate change, for a more sustainable future – and one that might also feature the music of a Porsche engine.

Press release from 20/12/2022

eFuels pilot plant in Chile officially opened

Porsche and international partners working with the Chilean operating company Highly Innovative Fuels (HIF) have started the industrial production of synthetic fuels.

In the presence of Chilean Energy Minister Diego Pardow, the 'Haru Oni' pilot plant in Punta Arenas (Chile) was officially opened today. Porsche Executive Board members Barbara Frenkel and Michael Steiner performed the ceremonial fuelling of a Porsche 911 with the first synthetic fuel produced at the site. eFuels made from water and carbon dioxide using wind energy enable the nearly CO₂-neutral operation of petrol engines.

"Porsche is committed to a double-e path: e-mobility and eFuels as a complementary technology. Using eFuels reduces CO₂ emissions. Looking at the entire traffic sector, the industrial production of synthetic fuels should keep being pushed forward worldwide. With the eFuels pilot plant, Porsche is playing a leading role in this development," says Barbara Frenkel, Member of the Executive Board for Procurement at Porsche AG.

"The potential of eFuels is huge. There are currently more than 1.3 billion vehicles with combustion engines worldwide. Many of these will be on the roads for decades to come, and eFuels offer the owners of existing cars a nearly carbon-neutral alternative. As the manufacturer of high-performance, efficient engines, Porsche has a wide range of know-how in the field of fuels," adds Michael Steiner, Member of the Executive Board for Development and Research at Porsche AG.

In the pilot phase, eFuel production of around 130,000 litres per year is planned. Initially the fuel is to be used in lighthouse projects such as the Porsche Mobil 1 Supercup and at Porsche Experience Centers. After the pilot phase, the first scaling will take the project in Chile up to a projected 55 million litres per year by the middle of the decade. Around two years later the capacity is expected to be 550 million litres.

The south of Chile offers ideal conditions for the production of eFuels, with the wind blowing for around 270 days a year and enabling the wind turbines to operate at full capacity. Punta Arenas is also located close to the Strait of Magellan. From the port of Cabo Negro, the synthetic eFuel can be transported just like traditional fuels all over the world, and be distributed using the existing infrastructure.

Porsche is working towards a CO₂-neutral balance sheet across the entire value chain by 2030. This also includes a CO₂-neutral usage phase for future all-electric models. Synthetic fuels supplement electromobility and are part of the sports car manufacturer's sustainability strategy. Porsche has already invested over 100 million USD in the development and production of eFuels. For example, the sports car manufacturer invested 75 million USD in HIF Global LLC in April 2022. This company plans, builds and operates eFuel plants in Chile, USA and Australia.

Background and Environment

The Background Story

An automotive pioneer for 75 years and counting, it's safe to say that Porsche is no stranger to innovation. But 2023 marks another major historical milestone with the arrival of eFuel, a pivotal part of the brand's onward journey towards a carbon-neutral future. This unprecedented and unforgettable road trip has been created to allow you to experience synthetic fuel at first hand, exploring both its remarkable origins and impressive potential against a backdrop of the stunning topography that has helped bring it to being.

Background

Named after the Patagones, a mythical race of indigenous giants, the one million km² region of Patagonia comprises the southernmost tip of South America, bordered east and west by Pacific and Atlantic oceans and from the Colorado river in the north to Cape Horn in the south.

Over the centuries this vast area's mountains, steppes, deserts and shorelines have provided settlers with rich seams of subsistence and industry, from sheep farming and arable agriculture to whaling and mining, with the discovery of oil heralding an economic boom in the early 20th Century. For several centuries prior to the construction of the Panama Canal, the Strait of Magellan provided the only navigable passage between the Pacific and Atlantic, introducing diverse cultural influences that would shape the region's identity for generations.

Since the second half of the 20th Century, Patagonia has become a destination for international tourism and adventure as well as a gateway to Antarctica for scientific research. Today, the native Mapuche communities have become a focal point of social and political discourse, their history celebrated and their traditional crafts and textiles sought after by visitors from around the world.

Punta Arenas

The capital of the Magallanes, Punta Arenas has for well over 100 years been a vital staging post for explorers and scientists bound for Antarctica. One of the most southerly ports in the world, Punta Arenas was originally established by the Chilean government in the mid-19th Century as a penal colony, principally to assert Chile's sovereignty over the Strait of Magellan. A subsequent gold rush and sheep farming boom attracted migrants from across Eurasia, bringing with them a melting pot of cultures and cuisines.

It was Punta Arenas that served as the launching point for Ernest Shackleton's ill-fated Imperial Trans-Antarctic Expedition in 1914. Today, the city's Nao Victoria Museum displays a full-size replica of the 'James Caird', the seven-metre-long lifeboat in which Shackleton and his five crew members navigated 1,300 kilometres through the Southern Ocean to the safety of South Georgia.

Wind

The single greatest determinant in bringing Porsche to Patagonia is wind. The extreme south of the continent bears the brunt of westerly weather patterns that travel unheeded by other land masses, across the Southern Ocean and over vast tracts of low-lying deserts and grasslands.

Meteorologists attribute these reliable and potent weather systems to the Coriolis Effect, where warm air rises near the Equator and flows toward the poles. As it cools and descends, it begins to return, creating consistently circulating patterns of air masses known as the trade winds.

During the more temperate winter months, wind speed in Patagonia is a steady 15-20 km/h, but in the summer it is not uncommon to see consistent speeds of 120 km/h. These 'vientos fuertes' (strong winds) are common enough to be signposted on exposed roads and passes and are a feature of day-to-day life across the region.

Ruta del Fin del Mundo

Translating as The End of the World Road, Ruta del Fin del Mundo has a mildly ominous air, but this remote, dramatic and unspoiled route has become a popular destination for the more intrepid tourists visiting southern Chile. Officially designated Route 9, the Ruta del Fin del Mundo runs some 320 km between the Torres del Paine National Park to the north and Punta Arenas in the south before petering out a few kilometres after Fuerte Bulnes on the Brunswick Peninsular. While it performs a similar role to Argentina's Pan-American Highway, Route 9 is thwarted by the towering snow-capped mountains of the Cordillera Del Paine and the ice fields and forests of the vast and inaccessible Bernardo O'Higgins National Park, forcing Chilean travellers to cross the border with their neighbour to continue northwards to Santiago.

The Fauna

Guanaco

A close relative of the more familiar and domesticated llama, the guanaco is one of just two wild species of camelid that is native to South America. One of the largest mammals on the continent, guanacos can reach up to 1.3 metres at the shoulder and can live for close to 30 years. Although predominantly now a protected species, the guanaco's thick hide was traditionally used to make the soles of shoes, its soft undercoat a highly prized alternative to cashmere.

Rhea

A large flightless bird similar to the ostrich and emu, the rhea is native to much of the South American continent. Darwin's Rhea, however, is unique to Patagonia, where this smaller species thrives amid the wide-open shrub and grasslands. A popular source of protein for centuries, the plume of the rhea was also used to make feather dusters.

Despite being a long way from home, a wild population of migrant rheas is currently flourishing in Germany following a series of escapes from an exotic meat farm in the 1990s. Local government has since undertaken an urgent and not entirely successful programme of population control.

Flamingo

One of the larger of six known species of flamingo found around the world, the Chilean Flamingo is distinguished by its grey legs with pink joints and a predominantly black bill. These bills are equipped with a comb-like membrane that allows the birds to filter food such as plankton and algae from the estuaries and salt lakes it inhabits. Both male and female flamingos can produce milk from their crop to feed their young. Due to their diet, this milk is crimson in colour.

Puma

Also referred to as the Andean Mountain Lion and the South American Cougar, pumas are native to great swathes of Argentina and Chile. They have a varied diet depending on location, with birds and primates swapped further south for guanaco and its related vicuña. Even domestic animals such as goats, alpacas and llamas are frequently on the menu.

Of great cultural significance to Patagonia's indigenous peoples, the puma is both worshipped and feared, regarded as a snatcher of souls and also a protector of ancient tribes. While not common sights, do keep an eye out for these special creatures.

Black-necked swan

Found across Chile and Argentina and as far afield as the Falkland Islands, the black-necked swan is the largest waterfowl in South America and the only member of the swan family that breeds here. This breeding takes place almost exclusively in Patagonia during its more temperate winter, when fresh-water marshes and lagoons ring out to a 'whee-whee-whee' sound designed to warn off intruders.

Condor

The largest flying bird in the world, the Andean Condor has a maximum wingspan of 3.3 metres and can weigh upwards of 15 kilograms. Easily distinguished by its ruff of white neck feathers on an otherwise black body, the condor nests at elevations of up to 5,000 m and can live for more than 50 years. Favouring larger carrion as its prey, condors can be sighted over Patagonia's large meadows, looking for deer or even cattle. The national bird of Chile, the condor is considered a symbol of power and health and is a regular fixture on banknotes and stamps.

The Stations

Myllodon

The myllodon was first described in 1840 by Victorian explorer Richard Owen using fossil samples recovered by Charles Darwin. The myllodon was a ground sloth measuring between three and four metres in length, presumed to have lived in the Upper Pleistocene period around 12,000 years ago. Found across Patagonia, it had a thick coat of long, coarse fur, adapted for the glacial conditions of the period.

The Cueva del Milodón Natural Monument, at the foot of the Cerro Benitez mountain, is a 200-metre-long cave in which, in 1895, German explorer Hermann Eberhard discovered the apparently fresh skin of what was later determined to be a myllodon.

Estancia Río Penitente

Estancia Río Penitente was established in 1891 with the arrival of Alexander Morrison and his wife Hellen McCall. The Scottish couple were among the many Europeans who migrated to the Magallanes region to begin sheep farming on its huge, open plains.

The estancia, or ranch, has since been passed down through five generations with many of its original buildings still perfectly preserved, including the manor house and shearing shed. One of the first ranches in Patagonia, the main house now offers accommodation for travellers keen to experience an authentic taste of 19th Century Patagonia.

Puerto Natales

Puerto Natales sprung up in the province of Ultima Esperanza, or Last Hope, so named by the 16th Century sailor Juan Ladrillero who was trying, and failing, to find the opening to the Strait of Magellan.

Situated on the Señoret Channel, the city of Puerto Natales was first settled in the late 19th Century by German and British migrants but grew rapidly over the next two decades with a large influx of Chilean workers. A bustling port for the sheep farming industry, it was formally recognised by the government in 1922 and today is the gateway to the Torres del Paine National Park.

The Singular Hotel

The Singular Patagonia was built originally as a slaughterhouse for the sheep farming industry so predominant in the Magallanes region throughout the late 19th and 20th centuries. Abandoned in the 1990s, it was bought by a descendant of one of the founders and declared a national monument in 1996. Converted into a luxury hotel shortly afterwards, The Singular's remarkable heritage and enviable location on the water's edge near Puerto Natales make it the perfect refuge for adventurers accessing the nearby Torres del Paine National Park and anyone looking for a unique refuge on the edge of the world.

Torres del Paine National Park

One of the most famous and frequented parts of Patagonia, the Torres del Paine is an 1,800 km² national park situated between Chile's subpolar forests and the desert steppes of neighbouring Argentina. It takes its name from the three distinctive granite peaks that form part of the Paine Massif, reaching 2,500 m above sea level. But within the park's boundaries, a quarter of a million visitors each year also experience glaciers, rich river valleys and lakes vividly coloured by rock flour. Glacial melt has recently revealed the perfectly preserved skeletons of some 46 ichthyosaurs – dolphin-like mammals that lived between the Triassic and Cretaceous periods and became extinct 90 million years ago.

Carrera Panamericana

Porsche enjoys a long history of intrepid road-tripping on central and southern America's long and remote road network. One of the very first international races in which the marque enjoyed success was the Carrera Panamericana, from which the Panamera takes its name.

Amid the popularity of the Mille Miglia and Targa Florio closer to home, the desire to prove itself worldwide took Porsche to the 3,000 km distance and inherent dangers of the 1952 Carrera Panamericana, which was beginning to attract European sports car manufacturers keen to earn a foothold in the Americas. A privately fielded Porsche scored a class victory in 1953, while 1954 saw Hans Herrmann guide the 550 Spyder to a class victory and third place overall.

Gaicho garb

Itinerate horsemen, often wild and unruly but highly skilled in the saddle, Patagonia's legendary gaicho have become part of South American folklore. Their distinctive costume featured baggy trousers called bombachas, ideal for long days in the saddle and reputedly in generous supply as surplus from the Napoleonic wars. Over these were worn brightly coloured woollen ponchos or chiripás, an invaluable foil against the region's relentless winds that could also double up as a saddle pad or sleeping bag. Protecting the head was either a stiff-rimmed bolero or softer, woven beret-like boinas. Gaichos were seldom without a lariat, or lasso, and their trusty bolas, three leather-bound rocks wound together and used to bring down animals on the run.