



## Repsol and Iberia make the first flight with biofuel produced from waste in Spain

- Repsol and Iberia have completed the Madrid–Bilbao route with sustainable fuel produced from waste at the Petronor Industrial Complex. The flight was operated with an Iberia Airbus A320neo, one of the airline company's most efficient aircrafts.
- This low-carbon footprint flight is a further step towards the decarbonization of the aviation sector thanks to the use of biofuels and improved energy efficiency. It has resulted in a reduction in emissions of 1.4 tons of CO<sub>2</sub>.
- Aena, in line with its role as a promoter and facilitator of the decarbonization of air transport, supports this initiative and is also working on collaborative projects to promote the production of sustainable fuel to encourage its use by airlines.
- This is the first initiative arising from the collaboration agreement towards a more sustainable mobility signed by Repsol and Iberia last July, which includes the development of low-carbon aviation fuels.
- Repsol is a pioneer in the manufacture of sustainable aviation fuels in Spain. With this production at its industrial complexes, the company is anticipating the different measures that the EU is aiming to establish to promote the use of sustainable aviation fuels.
- Iberia is basing its sustainability strategy on three pillars: more efficient operations, a more sustainable travel experience for its customers, and a commitment to research and development of sustainable fuels and other technologies.

Repsol and Iberia have made the first flight using biofuel produced from waste in Spain. The biojet used belongs to the batch produced last August at the Petronor Industrial Complex, which is located near Bilbao and belongs to the Repsol Group. The scheduled flight IB 426 was operated with an Airbus A320neo aircraft of the Spanish airline, with a capacity of 180 passengers and currently one of the most efficient aircrafts in the world. Equipped with Leap-1st CFM engines, Iberia's A320neo aircrafts reduce noise by 50% and are more environmentally friendly, emitting 5,000 tons of CO<sub>2</sub> less per year and 50% less NO<sub>x</sub>. The flight also performed more efficiently through a flight operation that improves fuel efficiency by reaching the optimum altitude level in the climb and descent phases.

In this operation, Iberia and REPSOL have counted with the participation of Aena that works collaboratively with the different agents to promote the global decarbonization of the air transport sector. It supports this initiative by also working on collaborative projects to promote the production of sustainable fuels, with the aim of encouraging its use by airlines.



On the Madrid-Bilbao route, this flight has managed to reduce the emission of 1.4 tons of CO<sub>2</sub>, thanks to the improved fuel efficiency provided by the aircraft, together with the use of the sustainable biofuel. In addition, a zero-emissions electric-powered aviation fuel supply vehicle has been used for refueling. All ground operations (loading and unloading of baggage, assistance to the aircraft, and towing to the runway) have used the most efficient vehicles that Iberia Airport Services has deployed throughout its network of airports in Spain, such as the mototok, an advanced electric vehicle controlled by remote control to perform the push back maneuver to the aircraft. On board, Iberia is also testing different packaging solutions to replace single-use plastics.

The batch of jet biofuel used is the third manufactured by Repsol and the first on the Spanish market produced from waste as raw material. The energy company thus integrates circular economy instruments in the process, transforming waste into high added-value products such as low carbon footprint fuels. Two previous batches were produced from biomass at Repsol's industrial complexes in Puertollano and Tarragona.

This initiative is part of the collaboration agreement towards a more sustainable mobility signed by Repsol and Iberia last July and is in line with the Sustainable Development Goals (SDGs) promoted by the United Nations through the 2030 Agenda. The agreement translates into the development of ambitious joint programs and activities in three areas: the development of low-carbon aviation fuels, the production of electricity and renewable hydrogen to decarbonize Iberia's fleet of vehicles, and the ecological transition to more sustainable facilities through new technologies based on artificial intelligence, among others.

It is a first milestone in the roadmap of the agreement, which envisages future flights using biofuels with a low carbon footprint to achieve a more sustainable and efficient mobility in the aviation sector. Electrification is not viable at the moment and renewable hydrogen still requires a technological breakthrough in aircraft, so biofuels will be the fastest and most efficient option for reducing emissions in air transport over the next few years.

## Decarbonization of aviation sector

The aviation sector is moving decisively towards decarbonization through the use of biofuels. The International Air Transport Association (IATA) has set itself the target of zero carbon emissions growth from 2020, for which it is developing various initiatives. Among these, the use of different sustainable fuels, such as biofuels and advanced biofuels produced from waste, stands out for its high contribution to the reduction of CO<sub>2</sub> emissions.

On July 14, the European Commission presented the Fit for 55 package, which includes the RefuelEU Aviation initiative. Its aim is to boost the supply and demand of sustainable aviation fuels in the European Union, reaching a use of 2% in 2025, 5% in 2030, and 63% in 2050. In this way, the environmental footprint of aviation will be reduced, while contributing to the achievement of the European Union's climate targets.

Repsol is a pioneer in the manufacture of sustainable aviation fuels (SAF) in Spain. With the production of these fuels in its industrial complexes it is anticipating the different measures that EU institutions are establishing to promote the use of sustainable aviation fuels. In this sense, both SAF obtained from biomass and advanced biofuels from waste are included in the list of sustainable fuels in the European Renewable Energy Directive.



## Net zero emissions target by 2050

Repsol aims to lead the energy transition, in line with the Paris Agreement, and thus limit the increase in global temperature to well below 2°C. The drive for sustainable fuels is in addition to the projects that Repsol has already deployed in energy efficiency, low-emission electricity generation, renewable hydrogen, circular economy, synthetic fuels, and carbon capture, use, and storage, and is one of the company's main strategic drivers to achieve its goal of becoming a net zero emissions company by 2050.

The company has a circular economy strategy in place since 2018. It is embodied in more than 230 initiatives and the ambition to annually use three million tons of waste as raw material for its products by 2030. In October 2020, it announced the construction of Spain's first advanced biofuels plant, which will be commissioned in 2023. It will be located in Cartagena and will have a capacity per year of 250,000 tons of biofuels produced from waste and valid for cars, trucks, and airplanes. In the port of Bilbao, in the vicinity of the Petronor Industrial Complex, Repsol is planning one of the world's largest synthetic fuel plants, using renewable hydrogen and CO<sub>2</sub> as the only raw materials. The plant will be commissioned in 2024 and will have a capacity of more than 2,100 tons per year.

In addition, technological progress and the deployment of current and future projects has enabled the company to increase its ambition in the carbon intensity reduction targets set out in its 2021-2025 Strategic Plan. The new decarbonization path to achieve carbon neutrality by 2050 establishes a reduction in the Carbon Intensity Indicator of 15% in 2025, 28% in 2030, and 55% in 2040, compared to the previous targets of 12%, 25%, and 50%, respectively.

For its part, Iberia is part of IAG, which was the first airline group to commit to achieving zero net emissions by 2050. In addition, by 2030, IAG airlines will operate a minimum of 10% of their flights with sustainably sourced fuels. The Group will purchase one million tons of sustainable aviation fuel per year, enabling it to reduce carbon emissions by two million tons by 2030, roughly the equivalent to the CO<sub>2</sub> absorption of a forest the size of 400,000 soccer fields. In addition, IAG will become the first airline group in the world to extend its commitment to net zero CO<sub>2</sub> emissions through its supply chain.

Iberia is basing its environmental strategy on three pillars: more efficient operations - including all fleet renewal initiatives, fuel consumption reductions, and vehicle electrification, among others; a more sustainable travel experience for its customers - through the digitalization of services, the progressive elimination of plastics on board, the development of its waste management system, and carbon footprint offsetting; and its commitment to the ecological transition of aviation, especially through its collaboration in the research and development of sustainably sourced fuels.

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