

**Airport Name:** Belo Horizonte International Airport (BH Airport)

**Responsible:** Evandro Amato Reis, Environmental Analyst

**Project's Name:** 400Hz+ PCA Project - Supply of electric power and air conditioning for aircraft on the ground.

## Resumen Ejecutivo

BH Airport implemented, between August 2022 and May 2023, the installation of equipment called 400 Hz + PCA (Pre Condition Air) coupled to the boarding and landing bridges of terminals 1 and 2. Old equipment was replaced, which was activated by 15 diesel generators, for new equipment, powered by electricity, 100% renewable.

Therefore, the supply of energy and air conditioning for aircraft on the ground does not use fossil fuels, reducing the emissions of this service offered by BH Airport and also being an engagement project for the airport's partners, as it also reduces the companies' Scope 3 emissions airlines.

With the installation of the 400Hz + PCA structure, all Diesel generators destined to support aircraft on the ground were deactivated, representing approximately 202 thousand liters of diesel oil per year that will no longer be burned and 563 tons of CO<sub>2</sub>e at least in the atmosphere.

With this project, it is estimated a 73% reduction in the consumption of diesel oil at the airport for the year 2023. The conversion of this project to electric could impact scope 2 of BH Airport, however, since 2021 the airport certifies 100% of energy used as a renewable source with an emission factor equal to zero (0) through the REC certificate.

Project 400HZ + PCA is efficient for all parties as it is financially efficient, electrical energy is more economical for airlines than aviation fuel or diesel oil that could be used in the previous process, resulting in savings in operating costs .

It is also noise efficient as the electrical equipment is silent, providing a more pleasant environment for passengers and staff. In addition, it is efficient in terms of greenhouse gas (GHG) emissions, as diesel oil was removed from the process and the electricity used is certified as a renewable source, significantly reducing GHG emissions at BH Airport.

This project, implemented at the Belo Horizonte International Airport, meets the UN Sustainable Development Goals (SDGs), related to infrastructure and industry innovation

(9) and the fight against climate change (13), with the preservation of the environment and of natural resources.

## Projects results and benefits

Traditionally, the airlines' 400 Hz equipment runs on diesel oil. By replacing this equipment with electricity-powered equipment, there is a significant reduction in CO2 emissions at the airport, adding quality and efficiency to airport operations. It is worth noting that 100% of the electricity consumed at BHAirport comes from a renewable source, with REC certification.

The 400Hz + PCA Project is an innovative initiative that transformed BH Airport into a carbon emissions reduction model. The electrification of our ground operations is promoting a positive impact on the climate and the environment with a significant reduction in direct emissions from BH Airport and indirect emissions from airlines and handling companies.

Among the airports in Brazil, only two have this electric technology to support aircraft on the ground, BH Airport being one of them, thus showing an innovation in airport operations, seeking low-carbon operations and also generating revenue for the airport.



All 15 diesel generators destined to support aircraft on the ground were deactivated, a reduction of 202 thousand liters that will no longer be consumed per year (consumption data for 2022) and 563 tons of CO2e less in the atmosphere (process-related emissions of generators in 2022). This value represents 40% of the direct emissions of BH Airport in 2022, which will be reduced in 2023. The project also generated a 6% reduction in noise pollution levels, in addition to a 29% reduction in operating costs for airlines in relation to ground service.

These numbers and results provided by the 400Hz +PCA project contributed to BH Airport being elected the most sustainable airport in Brazil in 2022 by the Sustainable Airports Program of the National Civil Aviation Agency (ANAC) and to seeking certification of level 3+ of the program ACA (Airports Carbon Accreditation), being the first carbon neutral airport in the country.

Link:

<https://www.youtube.com/watch?v=hx3vGYbv058&list=PLrAAkpUMHLLQ1tt977390Fr5yvnNuea-S&index=11>



Description of achievements	Before	After	Saving	Reduction
Total consumption of diesel oil for generators to support aircraft on the ground (Liters)	202.267	0	100%	202.267 (Liters/ year)
Total direct emissions from BH Airport (Ton.Co2e)	1409	846	40%	563 (Ton.Co2e/ year)
Operating cost of airlines for ground activities (R\$)	R\$ 13.302.640	R\$ 9.501.927	29%	R\$ 3.800.712 (by year)
Noise pollution (decibels)	87,10	81,70	6%	5,40 (decibels)
Equipment	Before PCA (Pre Condition Air) (Diesel Oil)		After PCA (Pre Condition Air) Electricity	
				
Equipment	Before GPU (Ground Power Unit) (Diesel Oil)		After GPU (Ground Power Unit) Electricity	
	