

Aeroporto Internacional de Belo Horizonte

PRONTO PARA O MUNDO



Airport Name: Belo Horizonte International Airport (BH Airport)

Responsible: Evandro Amato Reis, Environmental Analyst

Project's Name: ETAC,s - Grey water treatment plants

Resumen Ejecutivo

During the construction of passenger terminal 2 (TPS2) and renovation of passenger terminal 1 (TPS1) that took place between 2021 and 2022, BH Airport introduced actions to develop sustainable projects, with the aim of improving resources and reducing the consumption of natural resources. One of these actions was the implementation of Gray Water Treatment Plants (ETAC,s) to generate reused water.

Gray water refers to the water that comes from the airport's sinks and lavatories and is different from black water, which is the water generated in toilets and is transformed into sewage.

Prior to the implementation of the ETAC,s, both gray water and black water were sent directly to the Final Effluent Treatment Plant (ETE), which is treated through stabilization ponds and generates greenhouse gas emissions.

With the construction of the ETAC, there was a separation between grey water and black water, through a set of collection and storage systems. Grey water is collected by the segregated network system, which directs the effluent to an elevated station and subsequently undergoes treatment using bacterial cultures. After treatment, grey water becomes reused water, being reused in the airport system, used in toilets and in the privacy of green areas in the gardens.

In total, since the implementation of the project, approximately 26 million liters of reused water have been reused. This system represents approximately 10% of all water consumed in the terminals annually, representing, in addition to the circular economy, financial savings related to the purchase of water and sewage treatment, and also contributing to the reduction of emissions from the Final Effluent Treatment Station (ETE), since less effluent is sent to the site. Since the implementation of the ETAC,s, emissions from the ETE have reduced by 38%.

The implementation of ETACs, together with other sustainable structures, allows for greater efficiency in the use of resources at the terminal, and is in line with BH Airport's sustainability and emissions reduction policy, aligned with the UN Sustainable Development Goals (ODSs), related to Clean Water and Sanitation (6), Industry, Innovation and Infrastructure (9) and Action against global climate change (13).

Projects results and benefits

The implementation of two Greywater Treatment Plants (ETACs) at BH Airport has enabled a large portion of the greywater generated at the airport to be segregated and reused in the system again, preventing this greywater from being sent to the Final Effluent Treatment Plant (ETE).

In this way, the ETAC,s function as a diversion of the effluent, where the treatment is carried out and this volume of water is reused again in the toilet systems of the bathrooms and for the irrigation of green areas.

Since their implementation, a total of approximately 26 million liters of water have been reused in the two greywater treatment plants. Currently, the volume reused monthly in the two plants represents approximately 10% of all water consumption in the terminal. The circular economy related to reused water directly reflects in the cost savings related to the purchase of water and sewage treatment, saving approximately R\$465k per year.

In addition to generating a circular water economy, the implementation of the ETACs also served as a project to reduce the Airport's CO2e emissions, since less effluent is sent to the Final Treatment Station (ETE), which consequently emits fewer pollutants into the atmosphere. After the implementation of the two gray water treatment plants, CO2e emissions related to final effluents fell from 103.0 tons of CO2e in 2021 to 64.83 tons of CO2e in 2023, a 38% reduction in CO2e emissions related to the effluent treatment process that occurs within the airport site.

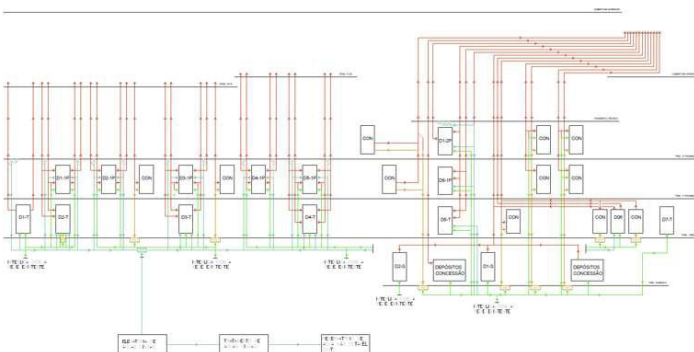
All these environmental benefits contributed to BH Airport being recognized for two consecutive years as the most sustainable airport in Brazil and as the only Brazilian airport certified with level 3+ (neutrality) by the Airport Carbon Accreditation (ACA) program.

INFRASTRUCTURE TERMINALS

Greywater Reuse:

A system for collecting, storing and reusing greywater, collected by the segregated network system, directing the effluent to a pumping station and then to the ETAC.

This water is reused to supply sanitary facilities and irrigate green areas.



Greywater Reuse

Segregation of domestic sewage, with separation of grey water and black water, directing the effluent to a grey water treatment plant and subsequent reuse in the building's sanitary facilities. This water is reused to supply sanitary facilities and irrigate gardens.

OBJETIVOS DE DESENVOLVIMENTO SUSTENTÁVEL



