GRONINGEN
AIRPORT EELDE

# Sustainability Roadmap

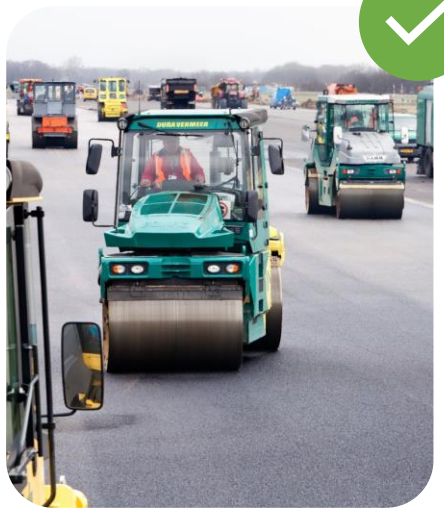
2024

# About Groningen Airport Eelde

Groningen Airport Eelde, located in the northern Netherlands, is a regional airport that plays a crucial role in the connectivity and economic development of the region.

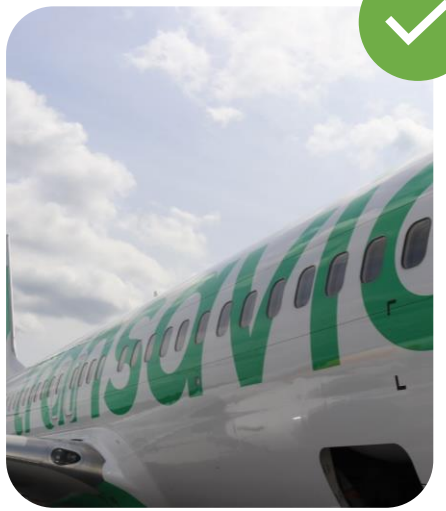
For over 90 years, the airport has been an indispensable part of the Northern infrastructure, playing a crucial societal role. As aviation transitions to a sustainable future, Groningen Airport Eelde aims to lead this change. Groningen Airport Eelde's strategy aims to add societal value, provide valuable connections, and maintain its relevance in the Dutch airport system.

# Our decarbonisation journey so far



## Sustainable runway extension

In 2012, bottom ash, a residual product of waste incineration, was used as a foundation for the runway extension. A total of 24% CO2 reduction has been achieved compared to similar projects, along with a saving of 61,302 tonnes in raw material use.



## Continuous Decent Approach

In 2012  Groningen Airport Eelde has developed a CDA procedure together with Air Traffic Control the Netherlands, NLR-Netherlands Aerospace Centre and Transavia.

## 21.9 MW solar park

With more than 63,000 solar panels in the middle of the runway system, Groningen Airport Eelde is the first active airport in the world with a solar park of this size. The park, which covers 20 hectares, supplies enough green energy for no fewer than 6,200 households.


## Aircraft charging

In 2020, Groningen Airport Eelde installed the first electric charging station for aircraft in the Netherlands, powered by energy from its own solar park.

# Our decarbonisation journey so far

## Hydrogen ground power unit

A Ground Power Unit (GPU) provides aircraft with electrical energy when they are on the ground. Together with our partners and resources from the European Interreg program HyTrEc2, we are working on the development of a hydrogen GPU.

## Electrical luggage tugs

Groningen Airport Eelde is increasingly using electrical ground support equipment for aircraft handling. For example, all the luggage carts and airplane stairs at the airport are already electric.


## Aircraft charging

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# Our goals

1. Be a net zero airport across our operations by 2030.

2. Collaborate with partners to reduce indirect emissions and accelerate the development of zero emissions flights.

3. Be an energy hub.

4. Be a hub for innovation, and education.

# Net zero airport across our operations by 2030

| Scope | Activity | 2019 | 2023 |
|---|---|---|---|
| 1 | Vehicles | 94.9 | 63.8 |
| 1 | Buildings | 165.1 | 157.7 |
| 1 | Emergency generator | 13.9 | 0.8 |
| 1 | Refrigerants | 0.5 | 0.5 |
| 1 | De-icing chemicals | 9.6 | 6.2 |
| 2 | Energy purchased | 239.1 | 216.6 |
| **Total** | | **523.0** t/CO2e | **445.6** t/CO2e |

## Our targets

1. Zero emission ground support equipment by 2030.
2. Implement energy efficiency measures to reduce overall energy consumption.
3. All new buildings and expansions will be designed and insulated to be as energy-efficient as possible.
4. Achieve 100% procurement of energy from Renewable Energy Guarantees of Origin (REGO) by 2030.
5. HVO for heavy vehicles, where possible and alternatives are not readily available at the market

# Collaborate with partners to reduce indirect emissions and accelerate the development of zero emissions flights


## Hydrogen airport infrastructure

Groningen Airport Eelde has initiated a project to develop a green hydrogen infrastructure at GRQ, collaborating to create an efficient and sustainable hydrogen network for storage, transport, and supply to airlines.


## Hydrogen Refueling Station

TotalEnergies will establish a hydrogen refueling station at the airport, serving both landside and airside vehicles, as part of the planned hydrogen ecosystem at GAE.

## Our targets

1. Develop infrastructure for charging electric vehicles and refueling hydrogen vehicles.
2. Improve public transport connections to the airport.
3. Implement sustainable airport charges to incentivize the use of eco-friendly aircraft.
4. Lead the development of airport hydrogen infrastructure to enable commercial hydrogen flights by 2035.
5. Serve as an airport testing ground for innovations.

# Be an energy hub

## Solar Carports

Groningen Airport Eelde plans to install solar panels on the passenger parking aera's P1 and P3. The project includes solar carports combined with charging stations.

## Our targets

1. Install battery energy storage system to enhance energy storage and grid reliability.

2. Expand solar energy generation by installing solar panels on car parking areas and terminal roofs.

# Be a hub for innovation, and education

## NXT Airport Campus

The airport campus fosters collaboration between educational institutions and the business community, driving sustainability and innovation projects in a dynamic airport environment.

## Our targets

1. Create educational programs and partnerships with vocational education institutions and universities to provide training and workforce development in aviation sector.

2. Develop collaborative projects with industry leaders to test and implement new technologies at the airport.