



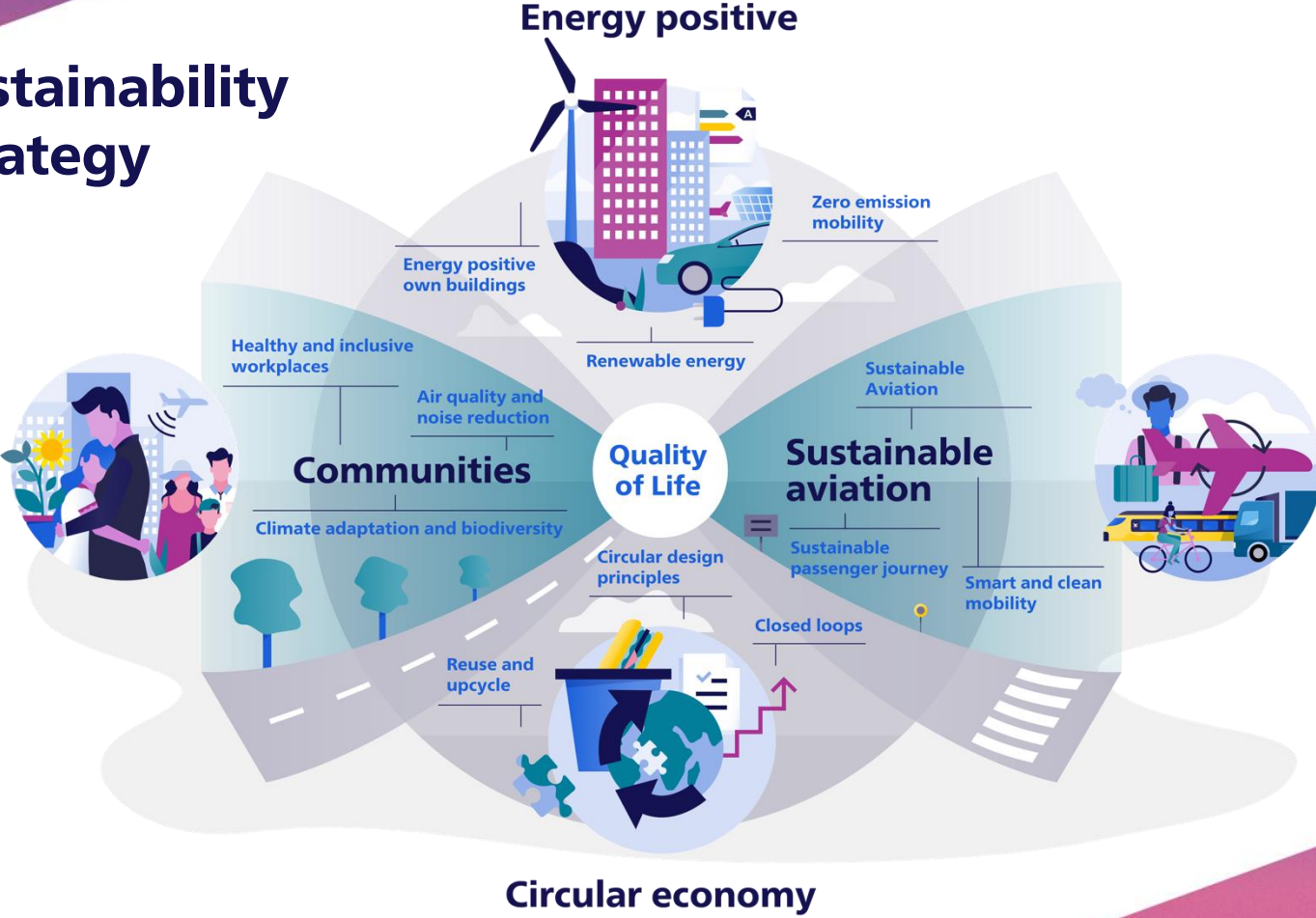
Annual Review 2023

Roadmap most sustainable airports

Review 2023



Sustainability Strategy



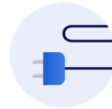


**Energy
positive**

Energy positive (1)



Zero emissions mobility



- The Dutch labor inspection issued a decree that the reduction of fossil fuels emissions on airside needs to be accelerated (AMS)
- Implementation of License to Operate with handlers, developed a zero-emissions airside roadmap together with partners (AMS)
- Thirty additional e-GPUs have been ordered and are being installed (AMS)
- Schiphol Airport Authority has started phasing out fossil fuels vehicles for electric ones (AMS)
- HVO100 became the standard fuel for airside ground operations (AMS, LEY)
- HVO100 has been implemented for Emergency Power Units (EIN)
- 100% electric own vehicles (EIN, LEY)
- New electric vehicles are used by departments of Airport Authority, Airport Operations, Assets & Projects and the Fire Brigade. These electric vehicles replace the former combustion engine vehicles (RTM)
- Fuel consumption decreased 13% due to all electric transport at airside (LEY)

Energy positive (2)



Energy positive own buildings



- 100% green gas at RTM, EIN, LEY; ~10% green gas at AMS (RSG)
- In 2023 our real estate offices have a 22% reduction on energy used per m2 compared to 2019 (AMS)
- Collaboration with network operator Liander to build a new high-voltage substation to increase grid capacity (AMS)

- Cargo building 17 to achieve BREEAM NL Excellent standards, has expended water storage capabilities and supports the max number of solar panels on its roof (AMS)
- Total gas consumption has decreased 3% due to the removal of a gas connection on landside (EIN)

- Total energy consumption is reduced by 3.3% despite the slight increase in passenger numbers (RTM)
- Gas consumption has decreased by 26% due to system optimizations and behavioural changes (RTM)
- Total energy consumption decreased by an average 16% due to system optimization and behavioural changes (LEY)

Energy positive (3)



Energy positive own buildings

- PAX terminal meets the requirements Dutch Green Building Counsel with a Gold label (LEY)



Renewable energy

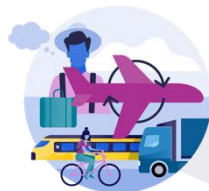
- Installation of extra solar panels leading to a total of 1.900 panels (=640.000 kWh) (EIN)
- Research into expanding PV installation in combination with batteries at parking locations and other future projects regarding electric flying. Network congestion is included in the calculation (LEY)



Sustainable aviation



Sustainable aviation (1)



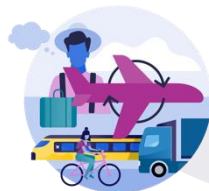
Aviation CO₂
emissions reduced
to 2005 levels
2030

Sustainable aviation



- In 2023 Sustainable Aviation Fuel (SAF) was provided for several airlines which resulted in 40,000 tonnes (~2%) SAF making Schiphol one of the leading SAF hubs in the world (AMS)
- Auxiliary Power Units (APU) action plan to reduce APU usage (AMS)
- Ordered more e-PCAs to ensure that all wide-body stands are equipped with an e-PCA by the summer of 2024. In parallel, we're working on e-PCAs for narrowbody stands as well. Next to that the KLM e-PCAs became the commonly used ones. The AIP has been redefined and an awareness campaign for pilots has started (AMS)
- Information package developed for airlines about the different sustainable initiatives and how airlines can contribute (AMS)
- Commitment to -30% CO₂ reduction of aviation in 2030 compared to 2019. Measures are: No (fossil-fuel) private flights from 2026, Maximum 40.500 flights per year, departure procedure with the least noise, 100% next generation aircrafts, a higher blending requirements for SAF (EIN)

Sustainable aviation (2)



Aviation CO₂
emissions reduced
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2030

Sustainable aviation



- First Wizzair Airbus A321neo flight with 37% SAF blend (EIN)
- Introduction destinations by bus transport (EIN)
- Project sustainable taxiing and project to reduce APU usage (EIN)
- Sustainable Landing and Take-off charge per 1-4-2023 (EIN)
- A long-term agreement has been signed with Shell to accelerate the uptake of SAF to meet the Dutch industry target of 14% SAF in 2030 (RTM)

- The first charging point for electric aircraft has been installed at the local flight club (RTM)
- Partners of Rotterdam The Hague Innovation Airport (RHIA) have signed a renewed collaboration to work together on sustainable aviation solutions and launched the Dutch2 Aviation Hub (RTM)

- RTM and RHIA have signed an MoU with Hamburg Airport to develop a hydrogen route and develop industry standards for hydrogen infrastructure at airports (RTM)
- An environmental permit for a liquid hydrogen storage facility on airside as part of the TULIPS project has been requested. The storage facility has been designed and will be built in 2024 upon permit grant (RTM)

Sustainable aviation (3)



Aviation CO₂
emissions reduced
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2030

Sustainable aviation



- Participation in the ALBATROS project, which is focused on the safe introduction of electric and hydrogen aviation. RTM has a leading role in performing state of the art demonstrations on handling emergency situations of electric and hydrogen aircraft (RTM)
- Partnership with Conscious Aerospace to facilitate the development of a hydrogen aircraft propulsion and storage system (RTM)

- LOI with FLHY with hydrogen innovation clusters in Norway, Germany and France to collaboratively develop a hydrogen infrastructure at airport and regional mobility platform (LEY)

Smart and Clean mobility



- Schiphol Airport has introduced a bike sharing program to reduce the use of cars in around the Schiphol area (AMS)
- 100% of the taxi rides that depart from the taxi stand at Schiphol Airport are zero-emission (AMS)

Sustainable aviation (4)



Aviation CO₂
emissions reduced
to 2005 levels
2030

Sustainable passenger journey



- In 2023 Schiphol has introduced the 'Future Case' to inform passengers about sustainability initiatives at the airport and sustainable aviation (AMS)
- New PRM (People with Reduced Mobility) initiatives such as the 27 upgraded outside phones to contact assistance for passengers with reduced mobility have been introduced to offer better services to all passengers (AMS)
- Defining Food and Beverage, and retail strategy including impact measurement (AMS)



Circular economy

Circular economy (1)



Zero-waste
2030

Circular design principles



- Testing the Building Circularity Index (BCI) score and the BCI Buildings has continued (AMS)
- Construction of Checkpoint 90 started. It aims to get a BCI of 68% and become fully demountable and bio-based (AMS)
- During maintenance, The Zwanenburg Runway was remade from 60% reused asphalt in 2023 (AMS)

Closed loops



- A strategy was explored to produce more high-quality concrete at our own concrete hub to use in projects (AMS)

Circular economy (2)



Reuse and upcycle



- Airports started a material flow management strategy to handle residual streams. AMS and RTM are working with Renewi/Seenons and EIN with Remondis. This innovative approach treats residuals as valuable resources, emphasizing circularity (RSG)

- In 2023 Schiphol has started using a real time material flow data management dashboard to track its residual streams and improve the performance of the circularity KPIs. In 2023, 46.5% of the operational waste streams was separated (AMS)
- Improving separation rate of cabin waste with airlines and waste handler. IATA statement signed to improve reuse and recycling of cabin waste (RSG)

- Pilot plastic road (airside) is discontinued (AMS)
- Building started for a new environmental area on airside. Main goal is to improve separation of residual flows (EIN)
- 56% of the operational waste is recycled (EIN)
- A reverse vending machine which passengers can use to dispose of their PET bottles and cans has been taken into use. All money raised is being donated to the Jarige Job foundation in Rotterdam (RTM)

Zero-waste
2030

Communities



Communities (1)



Improved balance
between communities
and airports
2030

Air quality and noise reduction



- In 2023, the Ministry of Agriculture, Nature and Food quality has granted Amsterdam Airport Schiphol a Nature conservation permit (Natuurvergunning) (AMS)
- In 2023 several airlines and their representative organization took Schiphol and the government to court for its intended reduction in flights per year. Schiphol and the government won, but the plans were paused until a new government is in place.
- Schiphol Airport has introduced the "8 punten plan" to improve air quality and reduce noise disturbance in the area (AMS)
- For 2023, Schiphol met all government air quality requirements based on EU directive 2008/50/EG (AMS)
- The "Living Lab" experiment started on airside, in which we continuously monitor the air quality and UFP levels (AMS).
- In 2023 Schiphol Airport interacted with our neighbors from surrounding communities during "Neighbor day" to show how an airport operates (AMS)
- Eindhoven Airport introduced a "5-punten plan" with the goal of reducing both CO2 emissions and noise disturbance by 30 % in 2030 compared to 2019 (EIN)
- An UFP exposure study has been performed, results are expected in Q1 2024 (EIN)

Communities (2)



Improved balance
between communities
and airports
2030

Air quality and noise reduction



- The Foundation Regional Information Centre with the aim of acting as a (proactive) information point for the region around Eindhoven Airport (Eindhoven Air Base & Eindhoven Airport) has started (EIN)
- Eindhoven Airport Impact Foundation has supported 11 regional projects to bring people closer together (EIN)
- Numerous neighbor events have been organized to interact with communities around the airport (RTM)
- In collaboration with the Ministry of I&W, Municipality of Lelystad and the province of Flevoland (via Luchthavenfonds) funds were made available for insulation measures for the people living near the training circuit (LEY)

Communities (3)



Improved balance
between communities
and airports
2030

Healthy and inclusive workplaces



- The Labor inspection concluded that the work in the baggage halls was too physically demanding, to which Schiphol purchased 30 collaborative robots (COBOTS) to place at each lifting stations (AMS)
- In 2023 Schiphol Airport drew up the "New Social Contract" to improve the quality of work at Schiphol (AMS)

- Several initiatives on diversity and inclusion, including Iftar, Keti Koti gathering, mentor program Emma @work and diversity day (AMS)
- Doctors Without Borders new partner for the coming 3 years (AMS)

Climate adaptation and biodiversity



- Biodiversity policy is developed (RSG)
- TULIPS Biochar experiment has started near the Polderbaan (AMS)
- Risk analysis on the impact of changed and more extreme climate on and around the airport (EIN)
- In the "Luchthavenfonds", funds were made available for biodiversity in the area surrounding the airport (LEY)



Embedding sustainability

Embedding sustainability (1)



- Schiphol Airport, Eindhoven Airport and Rotterdam The Hague Airport have all been accredited the ACI ACA level 5 accreditation meaning they reduced their Scope 1 and 2 emissions with at least 90% compared to 2010 and have compensated the remaining 10% with Carbon Removals (RSG)

- Schiphol Airport has achieved its SBTi validation (AMS)
- In 2023 the TULIPS consortium partners met in Larnaca to re-align the course of the different WPs and to learn from each others best practices (RSG)

- To have a swift transition towards the new CSRD regulation, a gap analysis has been preformed and the 2023 annual report already has chapters in line with the new CSRD guidelines (RSG)
- The TPI sustainability was -65%, exceeding the target of 62% (RSG)
- Implementation started of GSES tool into our procurement process to make sustainability analyses for products Schiphol purchases and the suppliers it works with (AMS)

Colophon

For further details please visit the following websites:

- [Royal Schiphol Group](#)
- [Eindhoven Airport](#)
- [Rotterdam The Hague Airport](#)
- [Lelystad Airport](#)

If you have questions or feedback, please visit [schiphol.nl/nl/contact-schiphol](https://www.schiphol.nl/nl/contact-schiphol)

Royal Schiphol Group, March 2024

Abbreviations

- RSG:** Royal Schiphol Group
- AMS:** Amsterdam Airport Schiphol
- EIN:** Eindhoven Airport
- RTM:** Rotterdam The Hague Airport
- LEY:** Lelystad Airport