

2025

ENVIRONMENTAL STATEMENT

INCLUDING FACTS AND PERFORMANCE
DATA FROM 2019 TO 2024

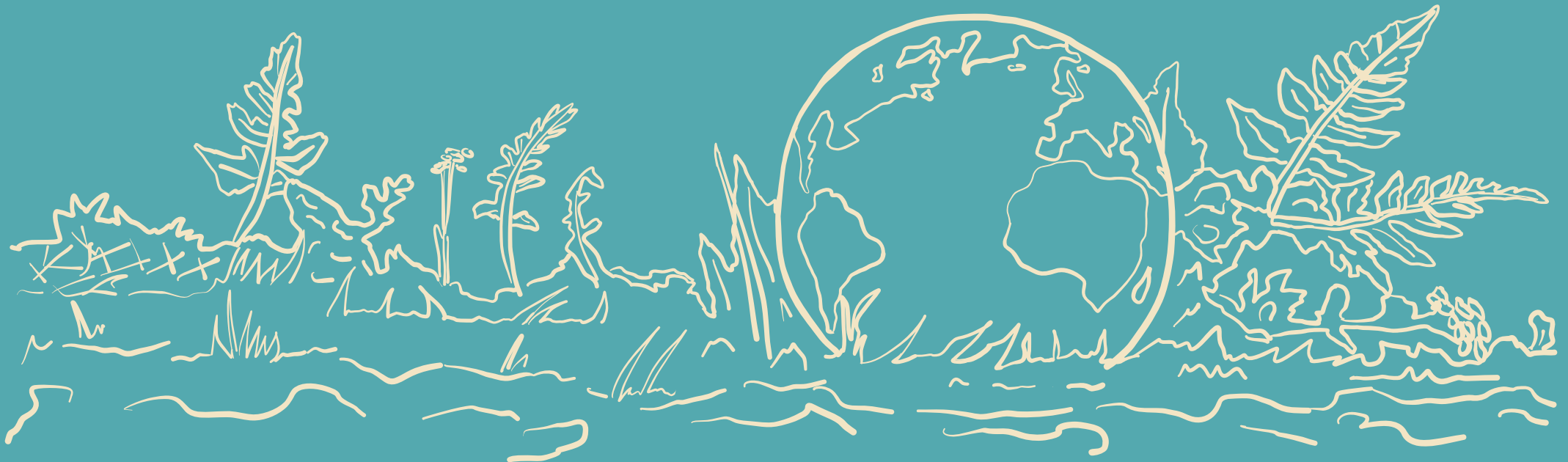


ANA

Administration de la
navigation aérienne



EMAS
LU - 000008



DOCUMENT APPROVAL

AUTHORITY	NAME	DATE	SIGNATURE
ANA	Andrea Drescher Director ANA	06.11.2025	

DOCUMENT CHANGE CONTROL

EDITION NUMBER	EDITION DATE	REASON FOR CHANGE	PAGES AFFECTED
Edition 1.0	November 2025	Released Version	All

DOCUMENT STATUS & TYPE

STATUS	CATEGORY	INTENDED FOR
Released	Environmental statement	Public

CONTENT

ANA ENVIRONMENTAL STATEMENT 2025

01	Introductions _____	4
	Introduction of the new director of ANA	
	Introduction of the new CSO	
02	Foreword _____	5
03	Company Profile _____	7
	Mission and responsibilities	8
	Services and functions	9
	Service locations and buildings	10
04	Environmental Management System _____	14
	ANA environmental policy	15
	Our stakeholders	17
	Responsibilities of the Environmental	21
05	Direct and indirect environmental aspects and impacts _____	24
06	The 6 Environmental Pillars with ANA's core environmental performance indicators (core indicators) _____	31
	Reference values	32
	Energy	33
	Material	38
	Water	40
	Waste	41
	Land-use with regard to biodiversity	44
	Emissions	46
07	Legal framework _____	63
08	Environmental verifier's declaration on verification and validation activities _____	66
09	Glossary of Terms _____	68
10	Contacts _____	70

INTRODUCTION OF THE NEW DIRECTOR OF ANA

Since April 1, 2025, Andrea Drescher has taken up his position as director of ANA (Air Navigation Administration). His rich and diverse career, marked by high-level responsibilities in half a dozen industries, reflects strong expertise in strategic management and organizational transformation. He holds a master's degree in management sciences from Université Paris Dauphine-PSL.

Andrea's mission is to bring a clear and forward-looking vision to ANA. His appointment is part of a dynamic process of modernization and capacity

strengthening within the organization, with priorities including safety, service continuity, acceleration of strategic projects and improved collaboration with all stakeholders. His international experience and past assignments in the aviation sector are valuable assets in addressing the challenges of the industry.

Under his leadership, ANA will continue to play a vital role in the evolution of air traffic management in Luxembourg, relying on high standards of environment, performance and innovation.



INTRODUCTION OF THE NEW CHIEF STRATEGIC OFFICER

As of July 1st, 2025, Tom Goris has joined ANA as CSO (Chief Strategic Officer). With a Master's degree in Aerospace Systems Engineering from the University of Southampton and an MBA from the Vlerick Business School, he brings strong technical and strategic foundation to the organization.

Prior to joining ANA, Tom served as Chief Operating Officer at LuxAirport, where he oversaw key operational developments and strategic initiatives. He also held the

position of Head of Airside Services at Brussels Airport, where he was responsible for airside safety and the coordination of all services provided by the company. His career reflects a deep commitment to operational excellence and aviation safety.

His appointment marks a significant step in strengthening our strategic capabilities and preparing the organization for future challenges in the air navigation sector including environmental topics.



FOREWORD

As we look back on the environmental milestones of 2024, we are proud to introduce our 2025 Environmental Statement. This past year has marked a pivotal moment in our enduring commitment to sustainability and environmental responsibility.

After eight years of dedicated effort, we can now confidently say that our environmental initiatives are bearing fruit. We have achieved measurable reductions in CO₂ emissions, domestic and cardboard/paper waste, paper consumption, and electricity use, demonstrating progress across all our environmental pillars, with the exception of water, which remains a focus for future improvement.

Through innovation, collaboration, and the adoption of best practices, ANA continues to drive meaningful change and establish a sustainable pathway for its future. Internally, we are concentrating our efforts on reducing emissions from heating systems and emergency generators, decreasing the number of service vehicles and transitioning to plug-in hybrid or electric cars. These actions are part of our broader goal to achieve carbon neutrality by 2030.

In 2024, we also expanded our sustainability approach with the launch of two major initiatives: our ESR (Environment and Social Responsibility) project and the CANSO Green ATM project. The ESR project aims to implement the

national ESR label from INDR, a practical and educational framework that helps companies understand and manage their environment and social responsibilities. The CANSO GreenATM Program is an environmental accreditation that provides air navigation service providers with independent, industry-endorsed recognition of their environmental efforts.

Noise reduction remains an environmental focus for ANA. In 2024, we implemented a significant change in our noise abatement procedures by raising the GTQ turning point from 2200 ft to 2700 ft, reducing the noise impact on surrounding communities. Additionally, ANA has maintained its night flight charter with Cargolux for several years to minimize environmental and noise impacts during nighttime operations. A similar charter with Luxair, signed in August 2025, extends these principles to passenger flights while balancing operational efficiency with community well-being.

Looking ahead to 2025 and beyond, we remain deeply committed to environmental excellence. The progress made in 2024 has laid a solid foundation for the road ahead, and we will continue to innovate, collaborate, and lead the way toward a greener, more sustainable future for the aviation industry.

Sincerely



Andrea Drescher
Director



Tom Goris
Chief Strategic Officer



Yves Becker
Environment Manager



02

COMPANY PROFILE





MISSION AND RESPONSIBILITIES

We, the Air Navigation Administration (ANA), under the authority of the Ministry of Mobility and Public Works, are the Air Navigation Service Provider (ANSP) in Luxembourg, responsible for the safety and efficiency of air traffic in the Luxembourgish airspace.

ANA is responsible for the management and operation in the Luxembourgish airspace as well as on the airport of Luxembourg, where it provides air traffic control (ATC) services, operates the airport's radionavigation, surveillance and communication equipment, maintains the aviation related electrical infrastructure and lighting, provides meteorological and aerodrome information services. The inspections and winter operations responsibilities have been transferred to Lux-Airport in 2024.

ANA's mission is to ensure a safe, efficient and environmentally friendly flow of air traffic in national and delegated airspace, as well as on the airport.

To ensure safe air traffic, ANA goes beyond the efficient allocation of skills, technologies and procedures. Our organisational culture fosters cohesion, satisfaction, pride, respect, openness, skills and personal development as important 'levers' for motivation, commitment and performance in all areas and activities. Environment is a key strategic pillar, as stated in our Environmental Policy.

By fostering active participation, we encourage the innovation that is needed to respond effectively to current and future challenges of air traffic safety and for the sustainable development of our services.



SERVICES AND FUNCTIONS

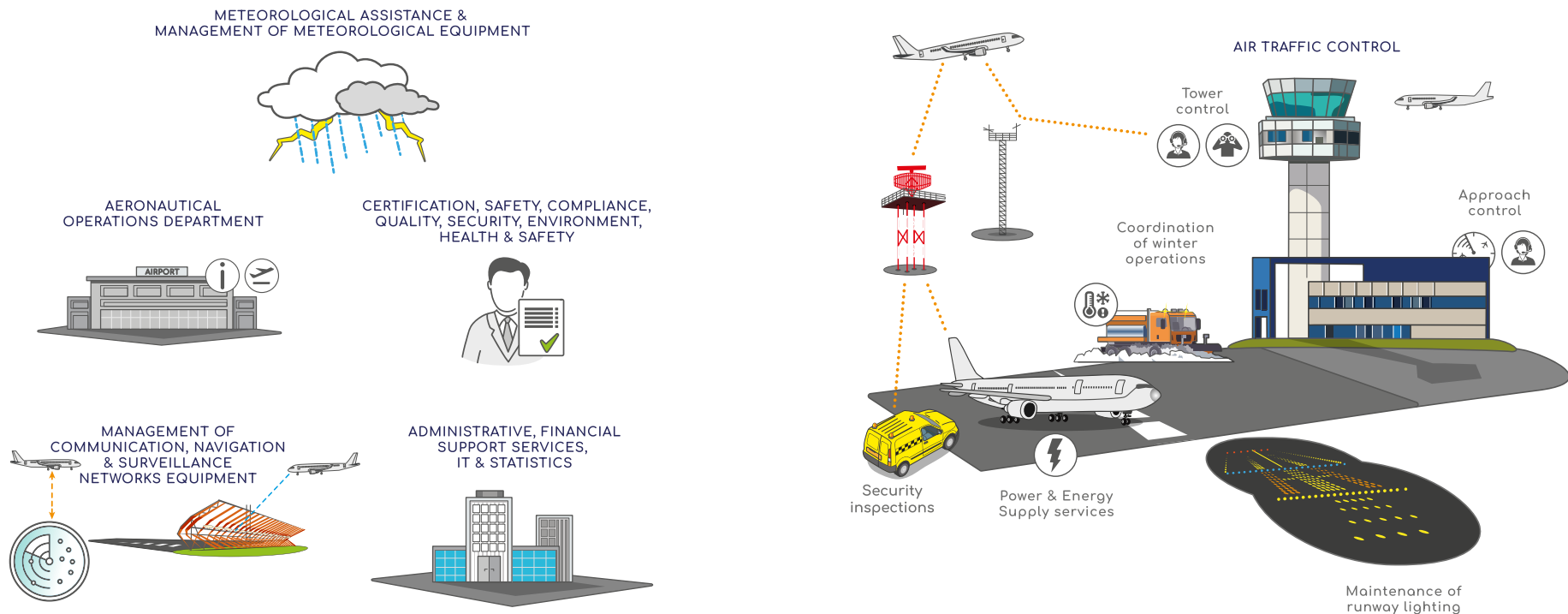
The eight departments—Finance, Administration, Certification (including the Environmental Cell), Safety, Air Traffic Control, Technical, Aeronautical, and Meteorological—form an integrated management structure with allocated tasks.

In 2024, the organisation experienced steady workforce turnover, marked by several departures and new

appointments. The year began with a few employees leaving, but this was gradually balanced by new hires.

During the spring, additional technical and support staff were brought on board, helping to stabilise capacity despite ongoing changes. The most significant staffing increase occurred in late September 2024 with the recruitment of six new air traffic controllers.

Further roles in legal, finance, and security were filled in the final months. By year-end, the organisation had made 16 hires, including one part-time position, and recorded nine departures, resulting in a net increase of 6.5 full-time equivalent positions.



SERVICE LOCATIONS AND BUILDINGS

Actual locations

Since its creation in 1949, ANA has regularly changed the use and location of its buildings as a result of its different activities and growth. Today, ANA agents work in the following buildings:

Administration building

Built in 1949, the building, which at the time included the control tower, became operational on February the 15th 1950. The construction of the airport's Terminal A in 1975, and later the construction of the new tower building (BTO) in 1993, led to a dispersal of services over different sites.

Today, the building is mainly used as offices. The management, the administrative departments, including general affairs, human resources, the facilities department, the safety department, the certification department which encompasses the environmental manager, the finance department and part of the meteorological department work in the administrative building.

In 2018, a containerised annex was added next to the administration building, housing the IT department, the technical meteorology department (METTECH) and the facilities department.

ANA has been using 100% green, emission-free electricity for all its buildings for several years. The administrative building is still heated by an oil-fired boiler, which was replaced in 2015. Its tanks hold 6,000 litres of fuel.

Most of the offices are equipped with an air-conditioning system, which is maintained as scheduled. The same maintenance interval is observed for the heating system. The container annex is heated by an air-conditioning system; electric radiators are installed for supplementary heating if required.

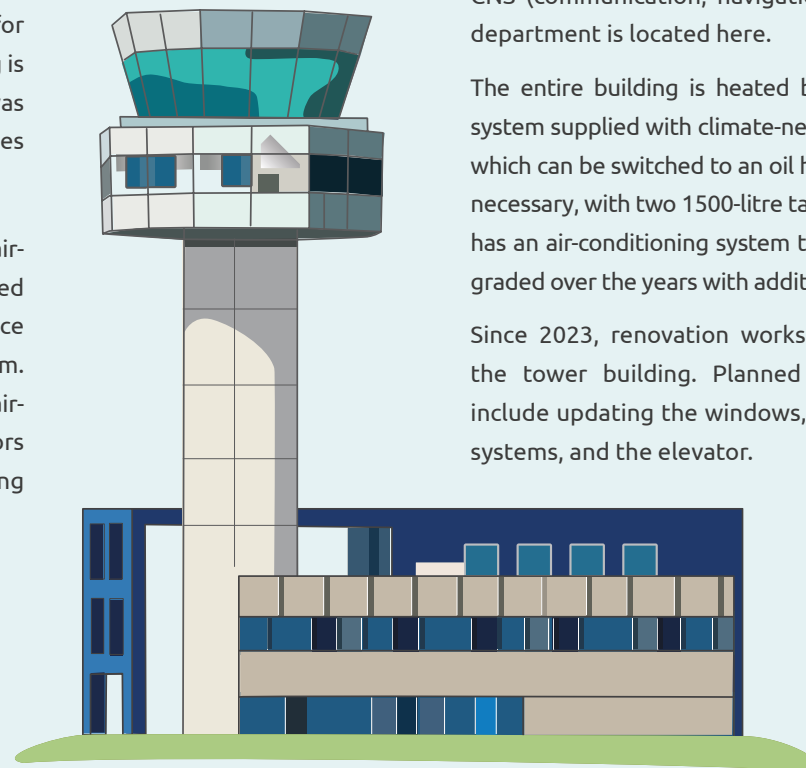


Tower building (BTO)

Construction of the actual control tower and associated technical facilities began in 1989 and was inaugurated on 17 April 1993. The tower building (BTO) is ANA's main operational site. Approach and tower services operate from this building. In addition to air traffic services, the CNS (communication, navigation, surveillance) department is located here.

The entire building is heated by a gas heating system supplied with climate-neutral natural gas, which can be switched to an oil heating system, if necessary, with two 1500-litre tanks. The building has an air-conditioning system that has been upgraded over the years with additional units.

Since 2023, renovation works are ongoing in the tower building. Planned refurbishments include updating the windows, air conditioning systems, and the elevator.



ELE building

The ELE building was constructed in the 1980's. It houses offices for the ELE agents, a workshop, a meeting room and garages for the ELE fleet of cars. The building is heated by an oil-fired boiler renewed in 2016. Its fuel tanks hold 8000 litres of fuel and are located in the building next to the ELE building. In 2024 the ELE building facade was repainted.

AER Offices

The AER building, originally constructed in 2018 as a temporary container-based solution, consisted of two office containers, one for the inspectors and the other for department heads and a trainer, as well as a driving license simulator and four garages for vehicles. The building was heated by electric radiators, equipped with air conditioning maintained by the container owner, and used a septic tank for sanitary facilities.

At the end of 2024, the AER team relocated to the ANA Data Center. The office containers were subsequently dismantled and removed, leaving only the adjacent garages in continued use for vehicle-related operations.

Temporary Offices (Data Center)

The technical facility "Data Center" was partially refurbished to accommodate the AER team in November. This new location is a temporary solution, as also the last inspection services has been transferred to Lux-Airport in 2025. In the meantime, a dedicated space for the simulator has been set up. In 2025, the Aerodrome department will be dissolved, and only the driver training unit, including the simulator, will remain at this location. However, this should be considered a temporary arrangement until the [Skypark](#) is ready. The offices are equipped with air conditioning which is used for heating and cooling of the offices.

Additional rented offices

Eight additional office spaces are rented from Lux-Airport S.A.: Operations offices - one for the meteorological (MET) department and one for the aeronautical operations (OPS) department, offices for the head of MET and OPS, a terminal charges billing office, restrooms, a kitchen and a meeting room. These offices were inaugurated in April 2008 and are located in the Terminal A building at Luxembourg airport. Three other offices are located in the Lux-Airport administration building close to the ANA Administration building. Rented offices are the responsibility of Lux-Airport, therefore consumption of environmental aspects such as heating, water and energy is invoiced by Lux-Airport to ANA and is not included in ANA's core indicators.



Technical buildings

All the 22 technical buildings on and around the airport perimeter contain highly sensitive technical equipment essential to the provision of air traffic management (ATM) services. These buildings are not equipped with ordinary heating systems, as the technical installations produce sufficient thermal energy. However, all technical buildings are equipped with an air-conditioning system. Electric heaters are used when required for maintenance purposes. Other technical stations are located at remote sites in Diekirch, Roodt-Syr, Berg and Leudelange. A technical station, the 'Emission centre', which houses radio equipment and transmission and reception antennae for ATC, situated north of the runway, is equipped with gas heating. The site's gas consumption is included in the figures for the respective measurements and basic performance indicators.

Emergency generators and their fuel tanks are located in 5 different stations. The quantity of fuel stored is a maximum of 32.810l, which is distributed in 9 different reservoirs.

Relocation of ANA offices

The old buildings and annexes limit energy savings opportunities or the use of modern technologies to save energy and resources. Hence the new building concepts currently under development, with the objectives to bring services closer together, achieve synergies save resources and protect the environment. From 2026, ANA services will be relocated into the Skypark building.



New Tower building project

The project to build a new physical control tower, initially planned near the India intersection, has been abandoned. Instead, ANA and its stakeholders are currently working on alternative solutions, assessed against operational, digital and environmental efficiency criteria. This strategic shift towards a digital/virtual contingency tower and a hybrid tower creates opportunities to implement innovative technologies (taking the best of two worlds) that ensure safe and reliable air traffic management, while aligning with sustainability goals.





Skypark project

ANA is participating in the 'Skypark' development project in collaboration with its owner, Lux-Airport. Our aim is to relocate ANA's management, support teams and part of the operational and technical teams to this new building in 2026

The new building, which was built using a wooden frame, aims to be a benchmark for sustainability and environmental awareness.

As such, it incorporates the latest sustainable technologies such as photovoltaic energy supply, rainwater harvesting, ecological facades, green roofs and terraces, as well as energy reduction due to heat retention by a green layer. 'Skypark' will give ANA the opportunity to work in a motivating and rewarding environment and to bring together in a single location a large number of agents currently spread across several buildings.



03

ENVIRONMENTAL MANAGEMENT SYSTEM



ANA ENVIRONMENTAL POLICY

Policy

The Air Navigation Administration (ANA) is responsible for ensuring safe and efficient flight operations in its airspace as well as at Luxembourg airport.

ANA, within all areas and activities under its control, will seek to implement all measures and best practices to reduce its environmental impacts and improve its environmental efficiency while considering economic and sustainability aspects, in a manner that is consistent with its legal and regulatory obligations, and with its safety and quality policies.

ANA will motivate its agents, the airport community, airlines as well as local residents to ensure sustainability of resources and protection of the environment.

ANA's Environmental Approach is not only limited to those business activities, services and locations directly under the control of ANA but extends as well to all of its stakeholders.

The Environmental Management System, registered LU-000008 under EMAS regulation and ISO 14001 certified, is an integral part of the Integrated Management System and is in line with ANA policy, mission and vision.



EMAS
LU - 000008



Commitments:

- Foster a culture of environmental consciousness by encouraging agents to integrate sustainable practices into their work whenever possible.
- Co-operate with government authorities, the community and other stakeholders to improve environmental protection practices, encourage the use of sustainable resources, the protection of biodiversity and ecosystems and the adaptation to climate change.
- Prevent pollution and minimize the environmental impact caused by the operations within its areas of control, as well as by its administrative and procurement activities.
- Purchase energy from renewable sources as well as sustainable products wherever feasible (e.g. recycled, FSC or low environmental impact products) and manage internal projects by assessing their environmental impact.
- Prevent pollution that may arise as a result of its internal activities and minimise waste through the careful and efficient use of materials.
- Conduct environmental monitoring of ongoing operations at the airport of Luxembourg by setting environmental key performance indicators and ensure continuous improvement of its environmental performance.
- Reduce noise and gaseous emissions by adopting efficient operational procedures, resulting in less consumption of aircraft fuel.
- Ensure compliance with applicable environmental legislation and regulations, as well as achieving relevant environmental standards in all areas of internal operations.
- Reduce internal CO₂ emissions to reach carbon neutrality by 2030, while contributing to the aviation industry's target of net zero by 2050.



OUR MAIN STAKEHOLDERS

EUROPEAN STAKEHOLDERS The AVENIR Working Group



In the context of the Green Deal and the Paris Agreement, both aimed at avoiding dangerous climate change, ANA participates in external environmental working groups, such as the EASA and EUROCONTROL Environmental Transparency Working Group—later renamed the AViation ENvironmental Reporting (AVENIR) Working Group—and the FABEC Working Group Environment.

The AVENIR Working Group, established under the EASA-EUROCONTROL Joint Work Programme, brings together technical experts from over 15 air navigation service providers (ANSPs), associations, and regulatory bodies to improve environmental transparency in air traffic management. Originally formed in 2020 as the ATM/ANS Environmental Transparency Working Group, its mission is to develop relevant metrics, share best practices, and support the aviation sector's net-zero emissions goal. The group operates through structured pillars addressing performance measurement, technology implementation, and non-CO₂ impacts. Evolving through multiple mandates, AVENIR functions via sub-groups, meets regularly, and delivers coordinated proposals and tools to help ANSPs report and reduce their environmental footprint effectively.

During the first mandate, the Environmental Transparency Working Group developed proposals on how ATM/ANS providers can increase their collective disclosure and reporting of environmental performance using relevant and appropriate metrics, as well as how providers can improve their organisation's environmental footprint. The Step-by-step guide to measure, reduce and report your ANSP's carbon footprint¹ outlines actions ANSPs can take to manage their environmental impact and provides readers with the knowledge, skills, and tools to integrate carbon footprinting into their business processes. ANA, in cooperation with Skeyes, co-chaired Pillar 3 of the working group and organized a series of sustainability-focused webinars aimed at improving ANSPs' environmental footprint. This collaboration led to the publication of the guide. Another key output was the Critical review of ATM/ANS environmental performance measurements, an inventory of current and future environmental indicators for assessing ATM/ANS performance.

¹ <https://www.easa.europa.eu/en/document-library/general-publications/easa-eurocontrol-step-step-guide-measure-reduce-and-report>

During the second mandate, the working group continued its previous activities and further developed proposals to help ATM/ANS providers enhance environmental performance reporting, share best practices, and support the industry's net-zero ambition. The proposals were structured around three main pillars:

Pillar I

How providers identify and measure environmental inefficiencies where they are responsible, or where responsibility is shared, and how they measure environmental performance using both existing and newly developed indicators. This pillar builds on the outcomes of the previous report, including its conclusions and gap analysis matrix.

Pillar II

How individual providers improve environmental performance through the implementation of technologies and procedures, with a focus on measuring the impact of these changes, exchanging best practices, and building a repository of use cases that also consider trade-offs across various environmental and operational factors.

Pillar III

How individual providers identify and measure environmental inefficiencies linked to non-CO₂ emissions, through sharing best practices, developing effective mitigation strategies, and compiling existing methodologies into a common knowledge base.

The final reports of each Pillar, published jointly by EASA and EUROCONTROL in September 2025, form a consolidated basis for future environmental reporting guidance and performance improvements in ATM.

The AVENIR WG operates as a collaborative platform for mutual learning, enabling ANSPs to share real use cases, harmonize methodologies, and identify collective challenges and opportunities in support of the aviation sector's sustainability transition.



FABEC Working Group Environment

ANA is also a permanent member in the Functional Airspace Bloc Europe Central (FABEC) Working Group Environment (FABEC WG ENV). FABEC WG ENV is a body within the FABEC governance structure for ANSP cooperation within FABEC. The FABEC WG ENV is responsible for preparing FABEC's environmental policy and ensuring the integration of the environmental pillar into ATM system performance optimization. As already mentioned, ANA was also chairing the Functional Airspace Bloc Europe Central (FABEC) in 2023.

CANSO Green ATM

The Civil Air Navigation Services Organisation (CANSO) is a global association that represents the interests of air navigation service providers (ANSPs) and other stakeholders in air traffic management (ATM). Established in 1996, CANSO plays a key role in shaping the future of global aviation by promoting safety, efficiency, innovation, and sustainability in the management of airspace.

With members responsible for managing over 90% of global air traffic, CANSO serves as a central platform for collaboration, knowledge sharing, and policy development. It also maintains observer status at the International Civil Aviation Organization (ICAO), ensuring that its members' voices contribute to international aviation standards.

Through initiatives such as GreenATM and its work on digitalization, automation, and integration of new airspace users (like drones and urban air mobility), CANSO is actively leading the transformation of global air traffic management systems.

Next step of ANA's sustainability commitment will be the CANSO Green ATM Certification.

The CANSO Green ATM Programme is an environmental accreditation program that provides air navigation service providers (ANSPs) with an independent, industry endorsed, accreditation of their environmental efforts. Through the programme, ANSPs are assessed with respect to their direct environmental impact, as well as their efforts to facilitate the reduction of emissions by airspace users. (source: CANSO). ANA started in 2024 with a dedicated gap analysis to define a strategy related to the implementation of this project.

The accreditation is scheduled for spring 2026.



National Stakeholders

Over the past few years, the Environmental Management System has pursued the common obligation to address the shared responsibilities of ANA and Lux-Airport and their home-based carriers Cargolux and Luxair, on their environmental impact and in particular air, water, soil, flora and fauna, noise and energy. The aim is to develop measures and agree on mutual environmental performance indicators as part of the airport's ATM (Air Traffic Management) master plan and CDM (Collaborative Decision Making), and to work together on a common charter. The Luxembourg Airport Environmental Committee has been organized periodically since 2020. In 2023, Luxembourg Air Rescue and CGDIS also became active members of the Luxembourg Airport Environmental Committee, reinforcing the collaborative efforts towards environmental sustainability.

ANA is also in constant dialogue with the neighbouring residents, and actively contributes to the "Noise Action Plan" and the "Airport Consultative Commission" in cooperation with the Environment Agency. Other regular meetings are organized with citizens' associations. ANA is also represented on the Aerodrome Safety Team (AST) and the Runway Safety Team (RST), together with all the players involved in the airport.



RESPONSIBILITIES OF THE ENVIRONMENTAL MANAGEMENT SYSTEM

Our Environmental Management System (EMS) has been ISO 14001:2015 certified since November 2017. ANA was EMAS registered in December 2020, with registration number LU-000008. In November 2023, ANA's environmental management system was successfully recertified to EMAS and ISO 14001:2015. The next audits are scheduled in 2026. The next environmental declaration will be published by December 1, 2026.

ANA's director has appointed a management representative for the environment, a function known as the "Environmental Manager". With the support of the management team, the Environmental Manager is responsible for the ongoing progress of the EMS. Each department head has specific objectives linked to the environmental aspects of their activities. The Environment Manager ensures the improvement, maintenance and review of internal environmental management structures, procedures and processes in all departments and at all levels of ANA and is directly accountable to the director.

Internal environmental audits

The internal audit, the cornerstone of the EMS, is defined with the following objectives:

- Determine whether the environmental management system meets the requirements of ISO 14001 and the EMAS Regulation,
- And has been correctly implemented and kept up to date,
- Ensure that the organisation's management obtains the information it needs to review the organisation's environmental performance,
- Verify the effectiveness of the environmental management system.

We carry out audits on an annual basis, as they help demonstrate that we are in control of our environmental aspects. All activities are audited over a three-year cycle on the organisation's environmental performance and compliance in line with the requirements of EMAS and ISO 14001.



Management review

Based on the information provided by the environmental manager, management carries out annual management reviews, presenting issues that need to be revised or addressed, and agreeing on new initiatives, objectives and actions.

The Environmental Committee Review takes place biannually ensuring that each topic of the standing agenda is reviewed at least once a year, at either one or the other meeting. The following items are covered:

- Compliance status of our EMS
 - External audits, certification & registration
 - Results of internal audits including evaluation of legal compliance
- Environmental action plan
 - Status of corrective and preventive actions
 - Follow-up to previous Environmental Review
- Environmental Direct and Indirect Aspects Analysis
- Communication and Communication Plan
- Complaints: Noise plan and citizen complaints
- EMS Stakeholders list and feedback
- Environmental Risk & Opportunities analysis
- ANA's core environmental performance indicators
- Regulatory compliance
- ANA's carbon footprint calculation
- Update on related projects
- Recommendations for improvement, next steps & environmental objectives

To improve the environmental system, the committee will together determine the priorities and allocation of financial and human resources required for this purpose.



Environmental risk management

The analysis of environmental risks and opportunities is reviewed yearly by assessing the effectiveness of the measures taken, based on a series of performance indicators, and by determining whether any new risks or opportunities have arisen. Residual risks are recalculated, and the environmental action plan gets redefined according to priorities. The results of this review are validated at the half-yearly environmental review.



Awareness-raising

We continually invest in improving environmental awareness amongst all agents. After the 2022 version, a new awareness booklet will be developed in 2026, to share best practices related to individual carbon footprints. The [awareness booklet](#) will be available for download on our website under publications and will also be shared with external stakeholders. The research and implementation of more sustainable consumables is a continuous effort, and we will assess whether dedicated workshops for ANA agents can be organized to understand the key issues of climate change, take appropriate action and focus on raising awareness of energy and resource consumption. We have designed the EMS as a dynamic system. Every agent has the opportunity to participate in the EMS development process and has a role in the achievement of environmental objectives

As part of the EMAS registration, ANA organizes a mandatory annual training session on the subject of environmental protection and the environmental management system for all agents, including management.

In addition, environmental newsletters are published regularly, presenting environmental issues, information and news.

Moreover, we are improving environmental awareness amongst our suppliers. An information flyer on the respect for the environment is handed over to all suppliers during to a short environmental briefing. Furthermore, environmental clauses are included in our submission requirements and in our project request forms.





04

DIRECT AND INDIRECT ENVIRONMENTAL ASPECTS AND IMPACTS



Table of direct aspects and their environmental impacts

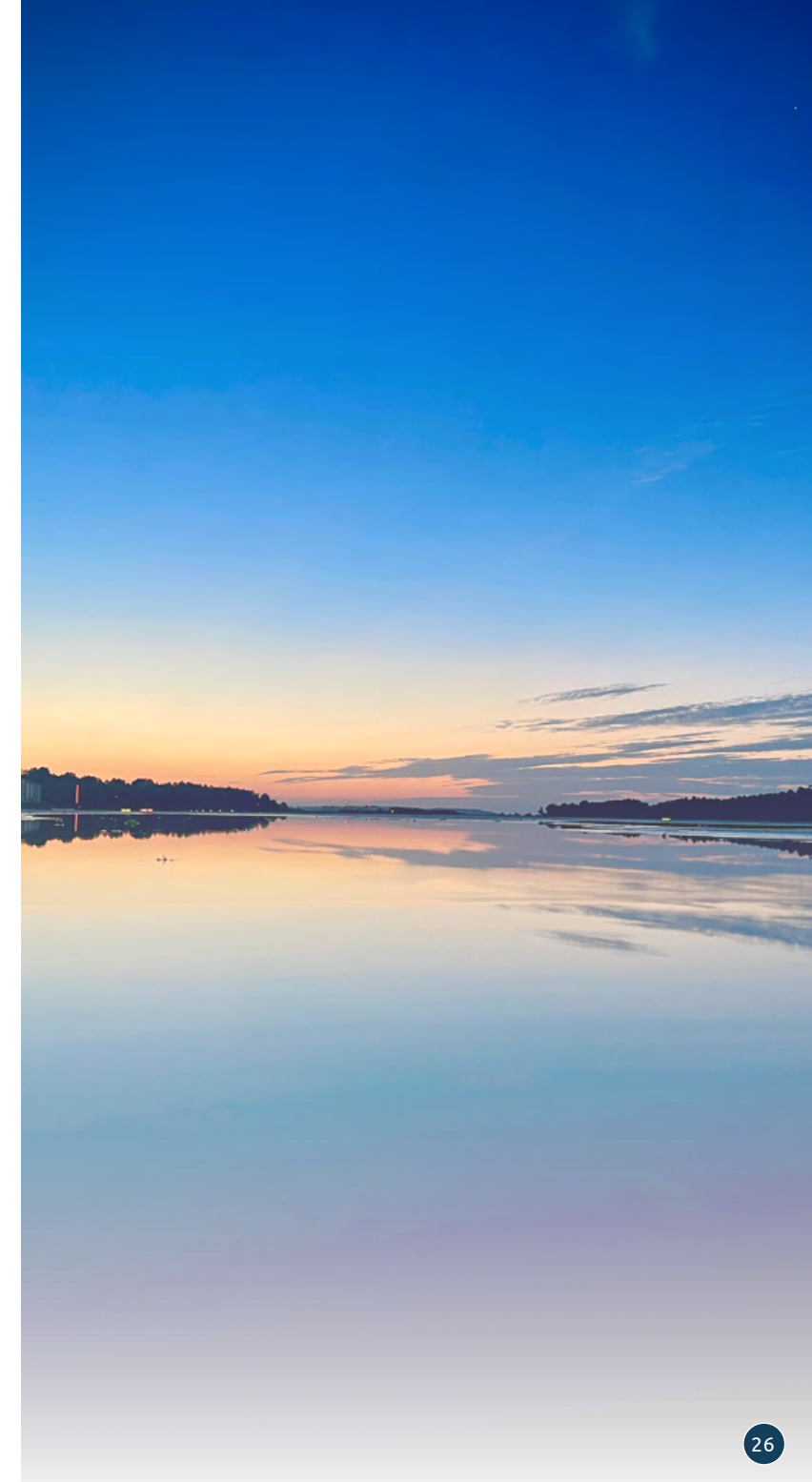
Aspect	Impact	Means of Influence or Control
Purchasing of ANA ANSP equipment	Emissions	• Purchasing procedures, Project management
	Material	
	Waste (equipment lifecycle)	
	Energy	
Purchasing of ANA office materials	Emissions	• Purchasing procedures, Project management
	Material	
	Waste	
	Energy	
Implementation, use & maintenance of ANA ANSP equipment	Emissions	• Purchasing procedures, Project management, Maintenance procedures, equipment follow up
	Material	
	Waste (equipment lifecycle)	
	Energy	
Car fleet management	Material	• Water for cleaning recycled (if possible) or filtered
	Emissions	• Measure consumption
	Waste (equipment lifecycle)	• Waste policy
	Energy	• Use of vehicle
Use of hazardous products	Material	• Measure consumption, chemicals procedure, waste procedure
	Waste	
	Water	
Use of Office	Material	• Measure consumptions, Waste procedure, resources procedure, Training & Communication
	Waste	
	Water	
	Energy	
Facility management & maintenance	Material	• Measure consumptions, Waste procedure, resources procedure, maintenance procedure
	Waste	
	Water	
	Energy	
	Emissions	
Internal transport (on airport / between ANA facilities)	Material	• E-bikes for agents, purchasing policy for vehicles (e- or plug-in hybrid), communication
	Emissions	
Business travels	Emissions	• switch to public transport or green mobility
	Material	• internal policy (car vs. planes), measure Co2 impact and resources used*

The analysis of aspects and impacts is divided into two tables. The **first table groups direct aspects**, for which the ANA has direct responsibility and control over, enabling ANA to focus on the identified actionable items. The **second table presents indirect aspects**, resulting from interaction with third parties, including other stakeholders and subcontractors over whom the ANA may have influence.

The logic, in the direct and indirect environmental aspects and impacts analysis and in all other environmental documentations, follows the EMAS environmental pillars – Energy, Material, Water, Waste, Biodiversity and Emissions.

Table of indirect aspects and their environmental impacts

Aspect	Impact	Means of Influence or Control
Aircraft approach, take off, VFR traffic	Emissions	• ATC, airlines procedures, Charging fee per aircraft type, Night curfew quota, CDO/PBN procedures
	Energy	
Aircraft on ground (taxiing, reverse thrust, engine test, auxiliary power supply)	Emissions	• ATC, airlines, aerodrome procedures
	Energy	
Maintenance of airport infrastructure / surface & Inspections*	Emissions	• Coordination meetings, Project management procedure, inspection: fuel and oils spills detection, FOD, etc.
	Waste	
	Energy	
Purchasing of ANA Airport equipment	Emissions	• Purchasing procedures, Project management
	Material	
	Waste	
	Energy	
Implementation, Use & Maintenance of ANA Airport equipment	Emissions	• Purchasing procedures, Project management, Maintenance procedures, equipment follow up
	Material	
	Waste	
	Energy	
De-icing of manoeuvring area	Material	• Friction test info, Winter operations procedure, rain water treatment
	Water	
	Emissions	
	Energy	
Biodiversity (wildlife, flora and fauna management)	Biodiversity	• Airside and surroundings inspections, Honey production, biodiversity surveys
Commuting to work	Material	• Free public transport as of March 2020, charging station for e-cars, communication
	Emissions	
	Energy	





05

**ENVIRONMENTAL
GOALS**



The targets and objectives of the environmental program are directly observable and quantifiable. The transposition and resulting actions (in the case of quantitative targets) or observations (qualitative events) of the targets are shown in the table below.

The targets are directly linked to ANA's main environmental performance indicators (core indicators) (the '6 pillars') and to the corresponding chapters in this [document](#).

For each core indicator, the results achieved in relation to the targets set are measured, verified, and evaluated and reviewed annually at the Environment Committee. Each core indicator is linked to environmental objectives and to the environmental program. The goal of these efforts is to achieve continuous improvement in our environmental impact, in line with ANA's environmental policy and supported by specific projects and environmental actions.

Table of Environmental Goals

Pillar	Goal	Goals	Objective	Objectives	Baseline	Status 2023	Responsibility for the objective	Metric	Target for 2024 (unless another year is stated)
Governance 	1	Achieve relevant environmental standards and requirements in all areas of its internal operations.	O 1.1	Retain ISO 14001 certification	2017	Finalised	ENV/DIR	ISO 14001 certificate	ISO 14001 certificate
			O 1.2	Retain EMAS registration	2020	Finalised	ENV/DIR	EMAS registration	EMAS registration
			O 1.3	Retain "SuperDrecksKesch"® certification annually	1998	Finalised	ENT	"SuperDrecksKesch"® certification	"SuperDrecksKesch"® certification
			O 1.4	Implement ESR project	2024	Agreed	ENV/HR/DIR	ESR certification by INDR	ESR certification by INDR (2025)
			O 1.5	CANSO Green ATM accreditation	2024	Agreed	ENV/ATC/CNS/DIR	CANSO Green ATM accreditation	Accreditation by CANSO - level 3 (2026)
	2	Manage internal projects by assessing their impact on the environment	O 2.1	Enhance eco-responsible project management	2021	Agreed	ENV/DIR	% new projects with impact assessment	100% new projects with impact assessment
Energy 	3	Purchase energy from renewable sources	O 3.1	Maintain green electricity (neutral scope 2 emissions)	2017	Finalised	Ministry / DIR	Green electricity certificate	Green electricity certificate
			O 3.2	Maintain climate-neutral natural gas	2024	Finalised	ENV/ENT	climate-neutral natural gas certificate	Gas supplier compensation certificate
	4	Manage use of energy resources	O 4.1	Enhance LED technology & decommissioning of old equipment	2020	Agreed	ELE/Lux-Airport ATC	% LED replacement Reduction of electricity consumption	100 % LED replacement (2025) Reduction of electricity consumption
			O 4.2	Reduce fuel and gas consumption	2021	Agreed	ALL	Reduction in fossil resources consumption per FTE until 2030	50% reduction in fossil resources consumption per FTE (2030)
			O 4.3	Source organic gas	2024	Proposed	DIR	Carbon neutral organic gas certificate	Feasibility study and cost analysis (cf O14.2)

Pillar	Goal	Goals	Objective	Objectives	Baseline	Status 2023	Responsibility for the objective	Metric	Target for 2024 (unless another year is stated)
Material 	5	Purchase sustainable products wherever feasible [e.g. recycled, FSC or low environmental impact products]	O 5.1	Maintain purchase of CO ₂ neutral and recycled paper	2021	Finalised	ADM/DIR	% CO ₂ neutral and recycled paper	100% CO ₂ neutral and recycled paper
			O 5.2	Purchasing policy for sustainable products	2024	Proposed	ENV/DIR	Create and implement Purchasing Policy	Implement purchasing policy
	6	Enhance environmental considerations in procurement decisions where appropriate	O 6.1	Include request for a product life cycle assessment and end of life disposal guidelines in public submission	2022	Proposed	DIR/LEG	Number of public submissions to request a product life cycle assessment and end of life disposal guidelines	Public tenders (where possible) to request a product life cycle assessment and end of life disposal guidelines
	7	Manage use of natural resources	O 7.1	Reduce paper consumption	2022	Agreed	ALL	Reduction of paper consumption in sheets per employee	Reduction of paper consumption in sheets per FTE to 1200 in 2025
Water 	8	Manage use of water resources	O 8.1	Reduce water consumption linked to internal activities	2021	Agreed	ALL	Water consumption reduction in 2023	Water consumption below 3.25 m ³ per FTE
Waste 	9	Prevent pollution that may arise as a result of its internal activities and minimize waste through the careful and efficient use of materials.	O 9.1	Retain SuperDrecksKescht certification annually	2017	Finalised	ENT/ENV	SuperDrecksKescht certificate	SuperDrecksKescht certificate
			O 9.2	Maintain Zero Single-Use Plastic Manifesto	2020	Finalised	ENV	Signed manifesto & Single-Use Plastic reduction	Signed manifesto & Single-Use Plastic reduction
			O 9.3	Reduce domestic & special waste	2021	Agreed	ALL	Domestic waste production reduction	Domestic waste production below 7.8 tons / 50 kg per FTE Cardboard/paper waste below 4 tons
Biodiversity 	10	Protect flora and fauna around the airport	O 10.1	Maintain bee project with Lux-airport	2020	Finalised	ENV/DIR	Honey production in kg	Maintain Honey production

Pillar	Goal	Goals	Objective	Objectives	Baseline	Status 2023	Responsibility for the objective	Metric	Target for 2024 (unless another year is stated)
 Emissions	11	Reduce internal CO ₂ emissions	O 11.1	Calculate carbon footprint for scope 1 and 2	2021	Finalised	ENV	Carbon footprint yearly	Carbon footprint calculation
			O 11.2	Reduce Scope 1 mobile emissions (fuel consumption from cars)	2018	Finalised	DIR/ENV	Average CO ₂ emission per car in gr/km	Average emissions per car below 135 grCO ₂ /km For 2030: 0 emissions from car fleet
			O 11.3	Reduce other scope 1 emissions (linked to O4.2, O4.3 and O3.1)	2021	Agreed	ALL/ENV/DIR	Carbon neutral by 2030 (Metrics linked to O4.2 and O3.1)	Carbon neutral by 2030
	12	Reduce gaseous emissions and saving aircraft fuel	O 12.1	Enhance Tools for environmental performance	2022	Agreed	CERT	Reduced aircraft CO ₂ and/or noise emissions	Reduced aircraft CO ₂ and/or noise emissions
			O 12.2	Enhance CCO application	2022	Agreed	ATC/ENV	Reduced aircraft noise emissions	Reduced aircraft noise emissions
			O 12.3	Enhance CDO application	2019	Agreed	ATC/ENV	Reduced aircraft noise emissions	60.5% of CDO application
	13	Reducing noise emissions and saving aircraft fuel	O 13.1	Enhance noise measurement	2024	Proposed	ENV/ATC	Explore operational KPI to measure ENV (noise) impact	Investigate measurement of noise impact ex: ASMA Arrival Sequencing and Metering Area KPI
			O 13.2	Manage curfew extensions	2021	Finalised	CERT/DIR	Nb of curfew granted	Grant maximum 95 curfew extension per year
			O 13.3	Collect, investigate and address noise complaints to the right stakeholders	2020	Proposed	ENV	Nb of noise complaints	Register of noise complaints
	14	Carbon neutrality	O 14.1	Enhance home office if possible within employee tasks	2024	Agreed	DIR	Nb home office days/week	Carbon neutral by 2030
			O 14.2	Feasibility study: neutral gas	2024	Agreed	ENV/DIR	CO ₂ e reduction	N/A
			O 14.3	Cost and impact study for Renovation of ELE building	2025	Agreed	ENV/DIR/ELE	CO ₂ e reduction	Carbon neutral by 2030
			O 14.4	Feasibility and timeline study for Full electrical or plug-in hybrid car fleet	2025	Agreed	ENV/DIR	CO ₂ e reduction	Carbon neutral by 2030
			O 14.5	New buildings - Skypark&Tower building	2026	Agreed	DIR	CO ₂ e reduction	New mix of energy certified neutral by 2030
			O 14.6	Reduce emissions in Scope 1&2 to zero (carbon neutrality)	2023	Agreed	ENV/DIR/ALL	CO ₂ e neutrality (Scopes 1 & 2)	Carbon neutral by 2030



06

THE 6 ENVIRONMENTAL PILLARS WITH ANA'S EMAS CORE INDICATORS



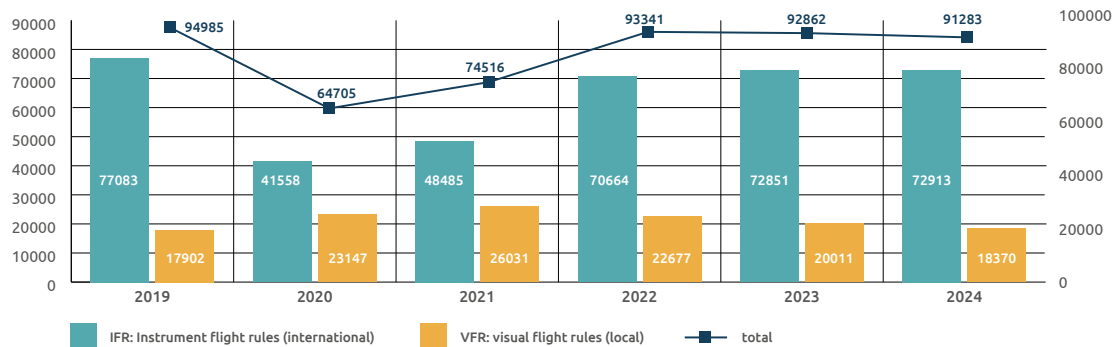
THE 6 ENVIRONMENTAL PILLARS WITH ANA'S EMAS CORE INDICATORS

Introduction

To facilitate meaningful comparisons, ANA uses benchmark data encompassing both aircraft movements and full-time equivalents (FTEs) as reference points for contextualizing raw data across different core indicators in each annual analysis. This approach illuminates nuanced trends within the indicators.

Full-time equivalent (FTE) values serve as the basis for a more precise assessment of consumption in terms of percentage per agent, while the number of aircraft movements enhances the comparative analysis of operational metrics relative to the volume of traffic.

NUMBER OF AIRCRAFT MOVEMENTS ON ELLX



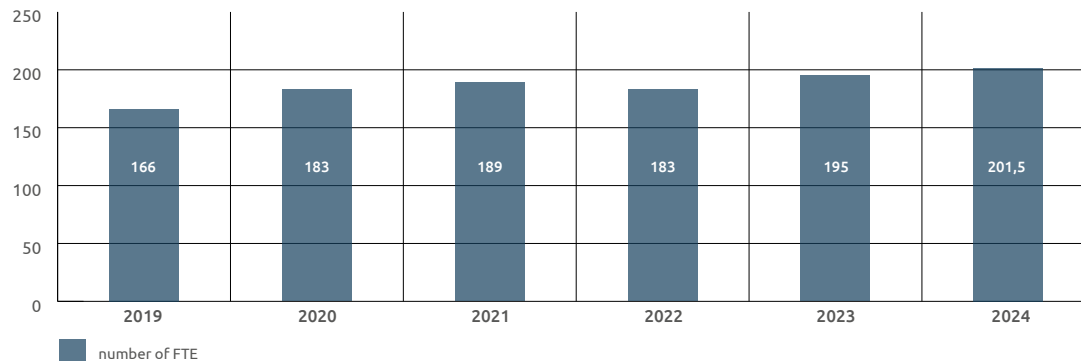
NOTE

Air traffic increased slightly over the three last years and has stabilized itself following the recovery of the COVID years.

TARGET

The reference values have no target.

NUMBER OF FTE (FULL TIME EQUIVALENT)



NOTE

In 2024, staffing developments included the departure of 9 full-time equivalents (FTEs) and the addition of 15.5 new FTEs, among them 6 newly recruited air traffic controllers (ATCOs), bringing the total workforce to 201.5 FTEs.

TARGET

The reference values have no target.

ENERGY

Introduction

Energy efficiency remains a key focus at ANA, particularly in the operation of communication, navigation, surveillance systems, and airfield lighting, which represent our largest areas of consumption. In recent years, significant progress has been made through the introduction of energy-saving measures, including the installation of LED lighting on the manoeuvring area and in administrative buildings, as well as decommissioning of the NDBs (Non-Directional Beacons).

Beyond technical improvements, ANA is committed to promoting an environmentally responsible approach across the organization. This includes regular awareness initiatives such as yearly staff training, internal newsletters, posters, and social media content. These efforts aim to encourage energy-conscious behaviour and support a culture of sustainability within the administration.

Objectives

- **02.1:** Enhance eco-responsible project management
- **03.1:** Maintain green electricity
- **04.1:** Enhance LED technology decommissioning of old equipment
- **04.2:** Reduce fuel and gas consumption

Using LED technology

As part of the runway refurbishment, new LED lights and associated power supplies were installed in and around the runway. The project, which began in April 2021 and concluded in October 2022, resulted in the full replacement of runway lighting—excluding the approach lighting systems—with sustainable, energy-efficient LED technology. Since the completion of the works in 2022, the level of LED lighting has remained stable. With the taxiway refurbishment project 100% of the lights on the manoeuvring area will be LED lights. The implementation date of this projects is not yet known and depends on several inputs.



	2019	2020	2021	2022	2023	2024
% of LED technology on manoeuvring areas	64%	64%	75%	75%	78%	78%
Target	100%					

NOTE

The runway lighting has been replaced, with the exception of the approach lights and some remaining taxiway edge lights. The approach lights are scheduled for renewal starting 2025, while the remaining taxiway edge lights will be replaced as part of the upcoming taxiway refurbishment project, which is currently in the planning phase.

TARGET

100 % LED replacement by 2030.



Stable over the last 3 years. Positive trend towards 2030 target will be achieved with the approach lights replacement and the taxiway refurbishment project.



Eco-responsible project management

ANA has developed an environmental impact assessment to classify projects and major activities on a common scale. Before launching a project, we identify the conditions necessary for its implementation as well as the possibility and chances of success of an environmentally friendly approach. In this context, the environmental impact of our projects is assessed both locally and globally.

Supply of 'Green' electric power

ANA buys only renewable electricity under the nova Naturstrom label. In 2024 its power came from about 42 percent hydropower generated in Europe, 27 percent hydropower generated in Luxembourg, 18 percent biomass from Luxembourg, 6 percent wind from Luxembourg, 6 percent wind from other European countries, and 1 percent solar power from Luxembourg.²

Because water flow, wind, sunlight and the supply of biomass change with the seasons, this mix shifts during the year.

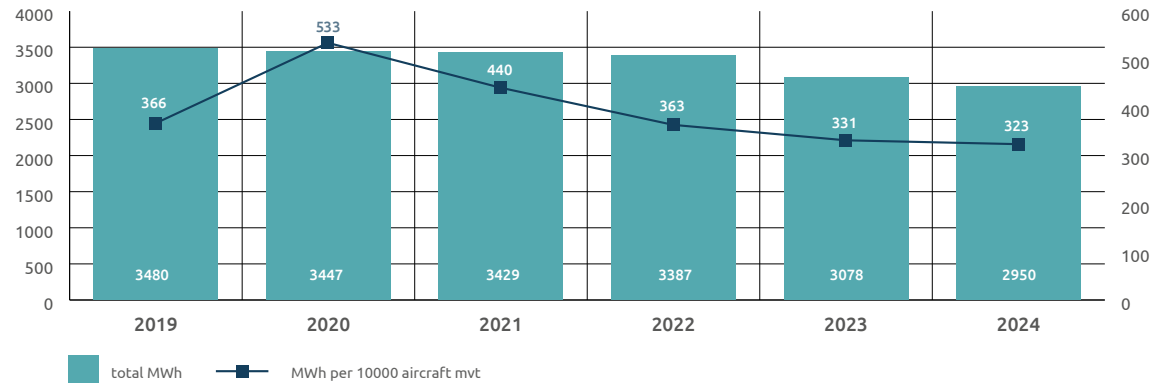
Using the 2024 emission factor for Luxembourg of 0.357 kg CO₂³ per kWh. ANA's green electricity avoided roughly 1 050 tonnes of CO₂ in 2024 compared with taking the same amount of power from the standard grid.

³ <https://lowcarbonpower.org/fr/region/Luxembourg>

Decommissioning of NDB's

The decommissioning of NDBs (non-directional beacons) has positive effects on the environment. NDBs are radio beacons used in aviation for navigation purposes, particularly during non-precision instrument approaches and en-route navigation. Their operation requires a continuous power supply, generally in the form of electricity. Taking them out of service results in reduced energy consumption, less maintenance and a decrease in operating costs. In order to ensure the transition to more environmentally friendly Performance Based Navigation (PBN), the ANA has decommissioned all NDBs in Luxembourg by the end of 2022.

ELECTRICITY CONSUMPTION



NOTE

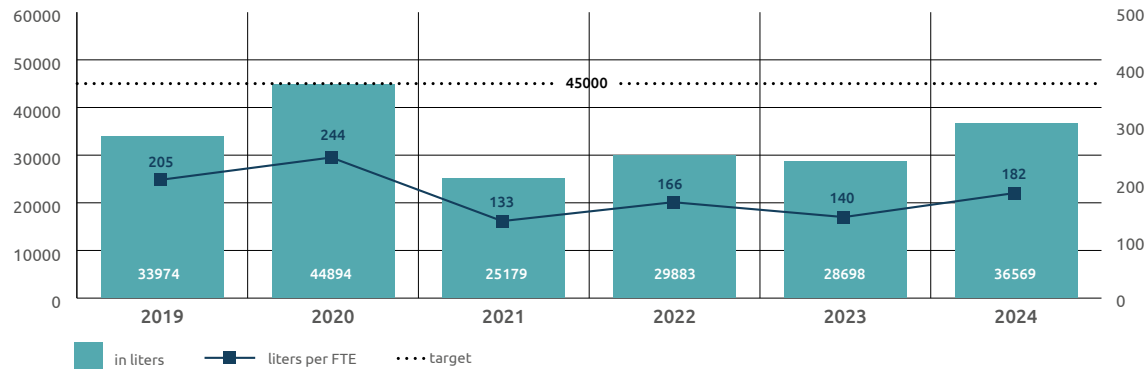
Electricity consumption remains stable. The ongoing switch to LED lighting for runways and offices, together with increased home-office arrangements, has cut ANA's electricity use by more than 20 000 kWh each year since 2019. Additional savings from decommissioning the NDBs lowered consumption by over 300 000 kWh in 2023 and a further 100 000 kWh in 2024. Meter readings for the "Station Pompes" and "Station DVOR Ingeldorf" counters are taken on a July-to-July cycle.

TARGET

Electricity consumption is linked to the supply of air navigation and visual aids, and therefore has an impact on safety, no target will be set for the time being.



FOSSIL RESOURCES- FUEL CONSUMPTION IN LITRES (HEATING ANA BUILDINGS) PER FTE (EMAS KEY AREA MATERIAL)



NOTE

The buildings currently occupied by ANA date back from 1949 and 1993, which limits the potential for significant improvements in energy efficiency. Nevertheless, reductions are expected with the move to the new Skypark offices, scheduled for 2026.

Fuel quantities are tracked based on purchase records rather than direct measurements. An order of 8,000 liters placed at the end of December 2024 resulted in a 27.4% increase in inventory.

Since 2020, the Tower building has been supplied with organic gas. Since June 2024 we switched also for the Emission Center from climate-neutral natural gas to organic gas

TARGET

The target for fossil fuel consumption for heating ANA buildings is 24,000 m³ for gas and 45,000 l for fuel oil. As the current target has not been deemed adequate, and as the buildings will change in the future, and in the context of carbon neutrality, a new target will be set one year after the move is completed in order to have a baseline.



Target was met for fuel consumption

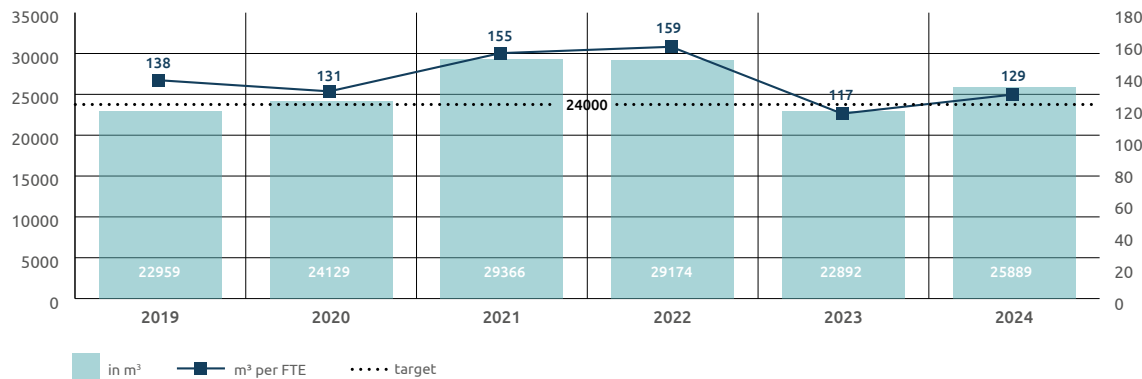


Target was not met for 2024 for gas consumption

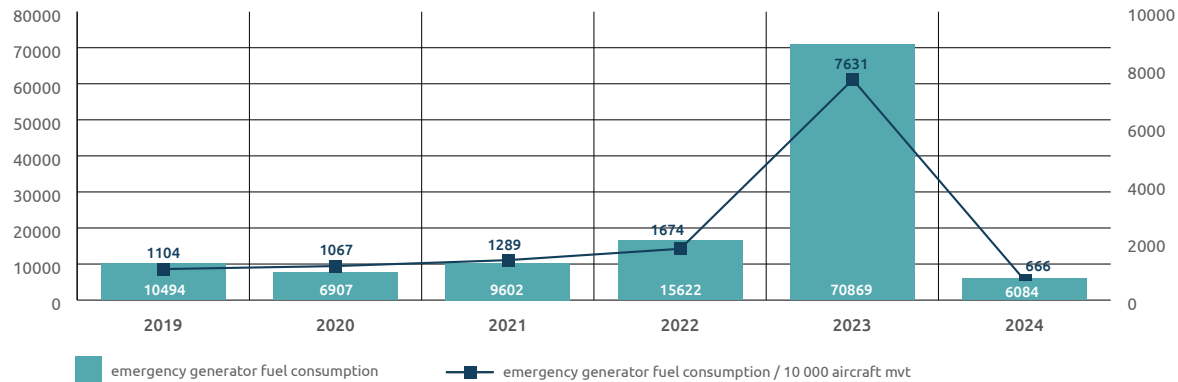
NEW TARGET

50% reduction in fossil resources consumption per FTE until 2030 (baseline year 2021)

FOSSIL RESOURCES. GAS CONSUMPTION IN m³ (HEATING ANA BUILDINGS) PER FTE (EMAS KEY AREA MATERIAL)



EMERGENCY GENERATOR FUEL CONSUMPTION



NOTE

Fuel consumption from emergency generators is calculated based on engine runtime and manufacturer-provided full-load consumption rates. As highlighted in our previous Environmental Statement, in 2023, a significant increase in fuel use occurred due to a 23-day outage of the uninterruptible power supply (UPS), requiring continuous operation of backup generators. This resulted in a total consumption of approximately 55,200 litres of fuel, corresponding to an estimated 144.6 tonnes of CO₂ equivalent.

In 2024, procedural updates for thunderstorm and CAT III operations were implemented, eliminating the need for emergency generator use during these scenarios. This change is expected to reduce fuel consumption and environmental impact without compromising operational safety.

TARGET

As emergency generators are linked to the provision of air navigation aids and visual aids and therefore have an impact on safety, no target will be set.





MATERIAL

Introduction

ANA has demonstrated a commitment to sustainability through material choices and operational practices. Four years ago, ANA eliminated all single-use plastics. Throughout its operations, ANA rigorously evaluates the environmental impact of projects, ensuring that sustainable practices are integrated into decision-making. While a recent shift in financial procedures has led to a temporary increase in paper consumption, ANA has offset this by exclusively using CO₂-neutral paper for the past two years.

Saving trees – reducing paper

The paper used by ANA is 100% recycled and has been awarded the Ecolabel FR/011/006 and FSC C002321 license. In 2022, ANA has switched to CO₂-neutral paper.

This label guarantees:

- Low emissions into the air and water during production,
- Low energy consumption during production,
- The use of sustainably sourced or recycled fibres

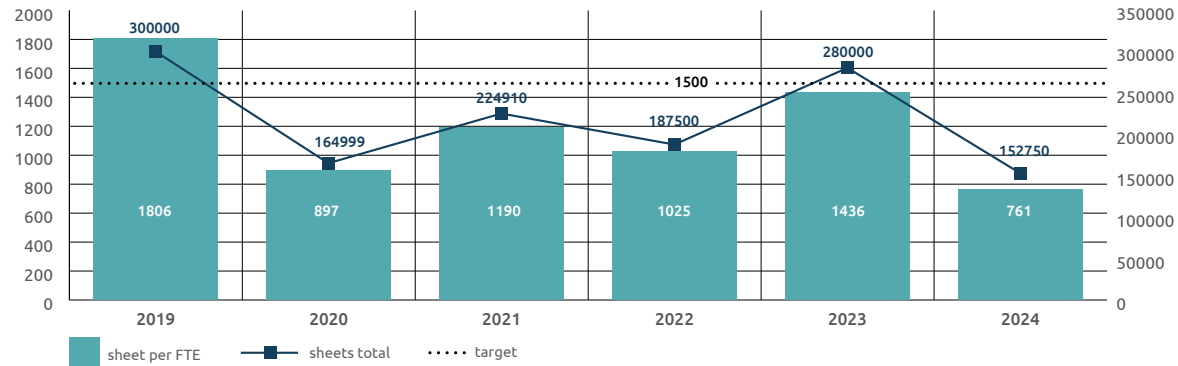
However, our aim is to reduce the use of paper by digital documentation and storage.

Objectives

- **O5.1:** Maintain CO₂ neutral and recycled paper
- **O6.1:** Include request for product life cycle assessment and end of life disposal guidelines in public submission
- **O7.1:** Reduce paper consumption



PAPER-CONSUMPTION IN SHEETS/FTE (EMAS KEY AREA MATERIAL)



NOTE

Paper consumption keeps trending down. Sheets per FTE dropped from 1 806 in 2019 to 897 (2020), 1 190 (2021) and 1 025 (2022). A one-off rise to 1 436 in 2023, triggered by the IGF finance process beyond ANA's control, was reversed in 2024, reaching a record-low 761 sheets (-45 % vs 2023 and well below the 1 500-sheet target). Quantities are tracked through purchase data, not direct metering.

TARGET

The annual target for paper consumption in sheets per agent was evaluated to 1500.



Target was met for paper consumption.





WATER

Introduction

Water consumption data is collected for all ANA buildings, with the exception of those described in the Additional Leased Offices section. Water consumption has been low during the COVID years in 2020 and 2021 and has constantly increased since 2022. We strive to apply safe and sustainable practices to preserve water quality as part of our responsibilities.

Objective

- **O8.1:** Reduce water consumption linked to internal activities

Install new water meters for all airport stakeholders

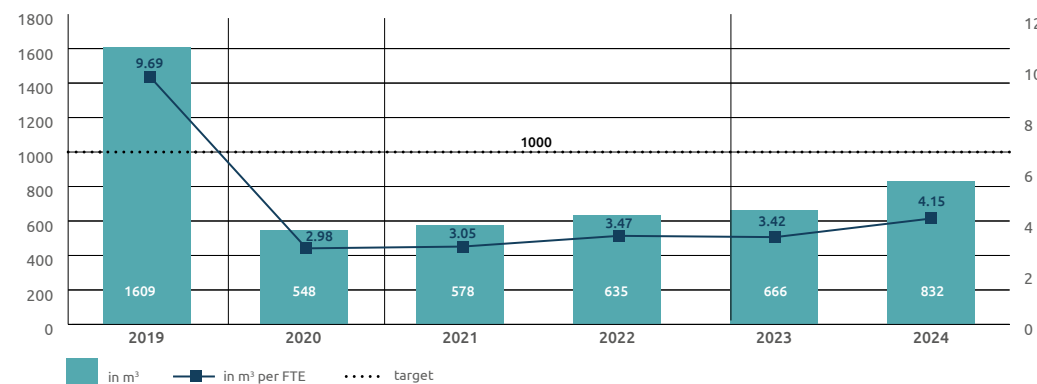
As part of an initiative identified in the 2020 Environmental Statement, a project was launched in 2020 to review all existing water meters on the sites of all airport stakeholders (internal and external) in cooperation with Lux-Airport. An external company was commissioned to carry out a study of the existing infrastructure and to update the existing construction plans. Phase 2 of the project started in 2023 and involves replacing the existing water meters with remote-reading meters. Lux-Airport is now in charge of this project. New water meters will allow us to measure our water consumption more accurately.

Environmental emergency procedure

Our services ensure proper communication and exchange between airport stakeholders to prevent and manage incidents influencing water and soil quality. We continuously monitor and investigate such incidents (e.g. fuel, oil or other spills), help prevent future incidents and participate, in collaboration with other stakeholders, in the implementation of an environmental emergency procedure on manoeuvring areas.

ANA has established an environmental emergency procedure as well as an emergency preparedness and response plan. This plan has been published in all buildings alongside the evacuation plan. In addition, ANA aerodrome inspectors are trained to detect ground pollution (e.g., fuel spills) and other environmental pollution on the manoeuvring area during inspections.

TOTAL ANNUAL WATER CONSUMPTION



NOTE

Water consumption fell noticeably in 2020 and 2021, when pandemic-related teleworking kept most staff off site. Although the number of full-time equivalents has grown steadily since 2020, water consumption remained stable until 2024, year when an unforeseen leak added more than 120 m³ to the annual total.

TARGET

The target for total water consumption was fixed below 1000m³.



Target was met for water consumption.

Target will be updated to a water reduction of 3.25 m³ per FTE.

WASTE



Introduction

For more than twenty years, ANA has been awarded the 'SuperDrecksKëscht® fir Betriber' label, an initiative of the Ministry of the Environment, Climate and Sustainable Development, the Chambre des Métiers and the Chambre de Commerce created in 1993, which rewards the establishment of a precise waste management plan. The plan covers the appropriate collection, sorting and storage of waste, the search for suitable means of reuse and recycling, the prevention of waste production and compliance with provisions (in particular the law of 21 March 2012 on the elimination and prevention of waste).

Data on volume of special waste by type commercial & domestic electrical appliances, incandescent and halogen lamps, cables (copper), cardboard/paper, plastic film, plastic products, fluorescent light bulbs, aerosol cans, polystyrene foam, toner cartridges, dry batteries, etc.) is also provided.

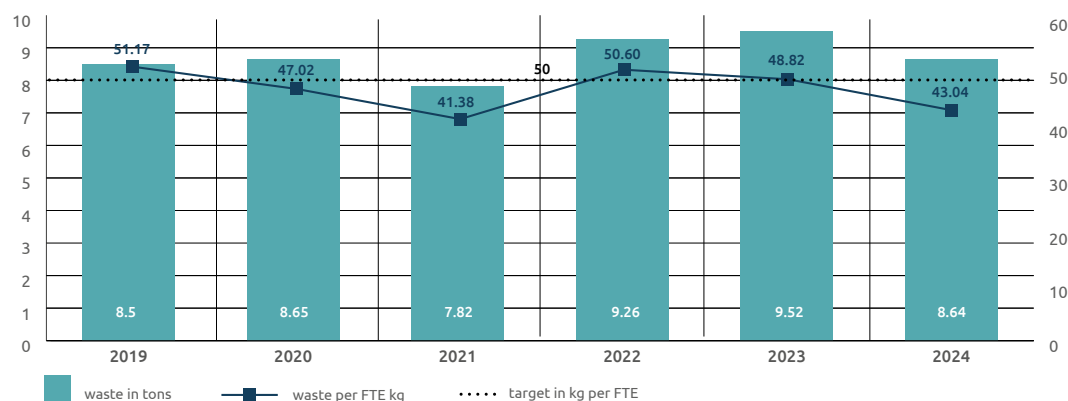
Objectives

- **09.1:** Retain SuperDrecksKëscht certification annually
- **09.2:** Maintain Zero Single-Use Plastic Manifesto
- **09.3:** Reduce domestic & special waste

Sorting and recycling of waste

ANA has published a waste handling procedure. All ANA agents are responsible for the proper disposal of waste generated during and around their work. Agents must strive to reduce and optimise their waste generation and disposal.

ANNUAL TOTAL GENERATION OF DOMESTIC WASTE



NOTE

In 2024 we made clear progress. Total domestic waste dropped from 9.52 to 8.64 tonnes, a fall of about nine percent. Each employee produced 43.04 kilograms of waste, down from 48.82 kilograms in 2023, about twelve percent less. We again stayed below the goal of 50 kilograms per employee.

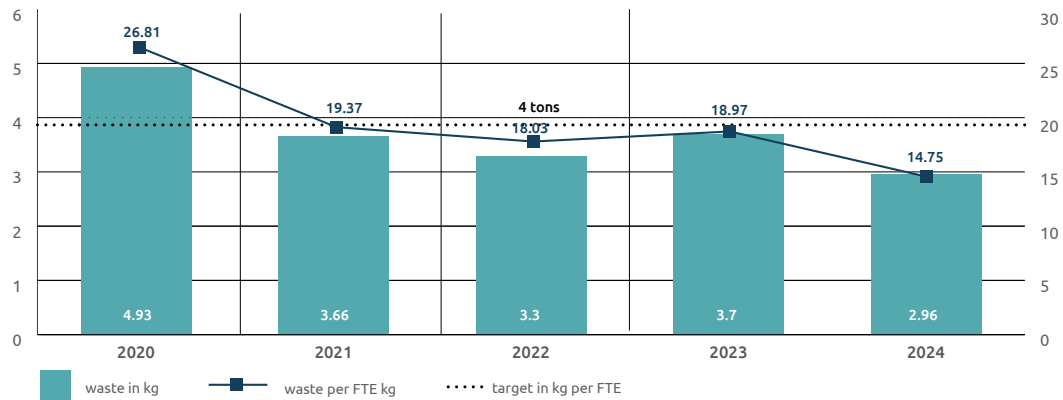
TARGET

The target for annual total generation of domestic waste was fixed to 50kg/FTE



Target was met

CARDBOARD/PAPER WASTE



NOTE

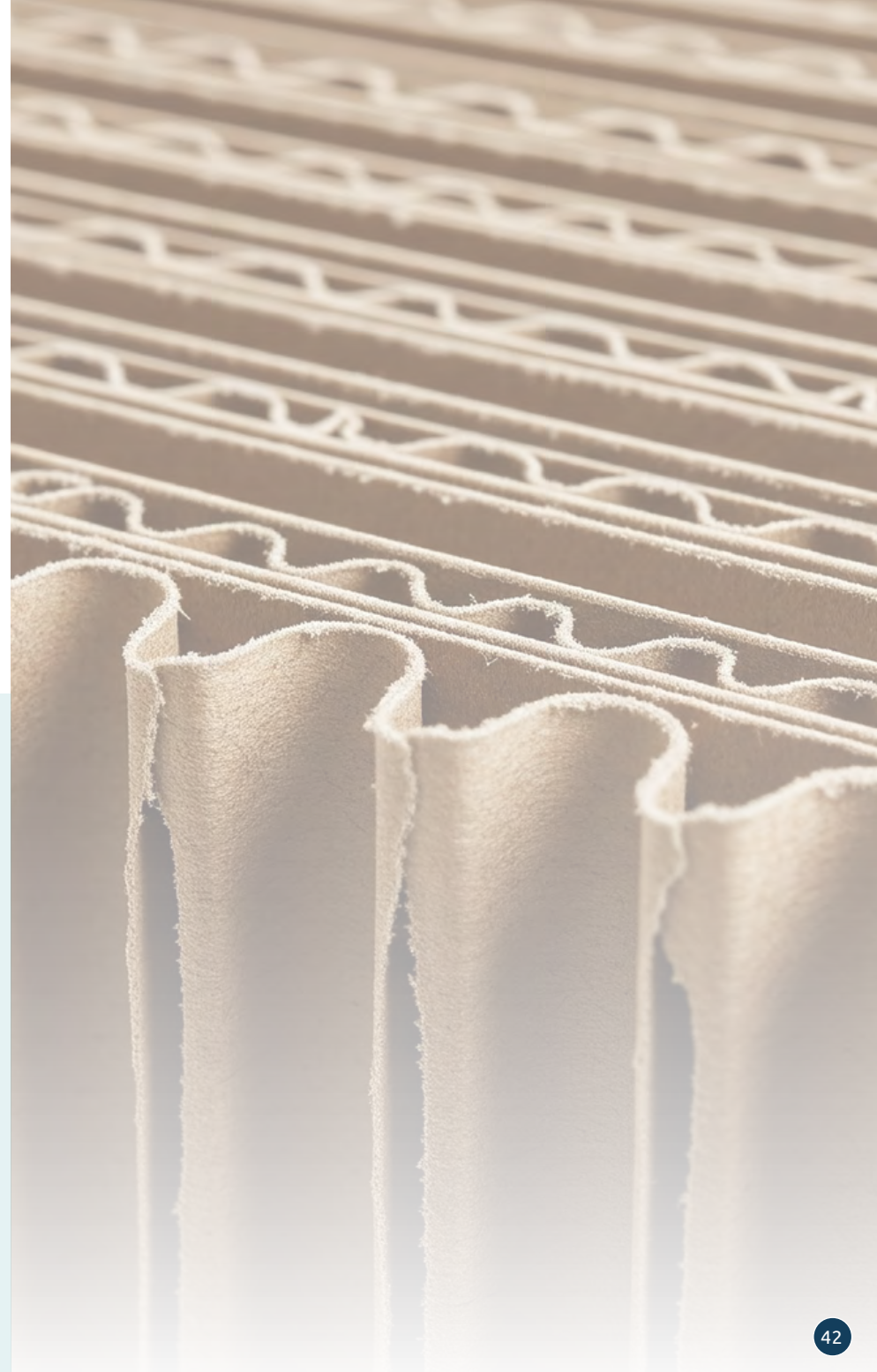
In 2024 we produced much less cardboard and paper waste. The total fell by about 20% compared with 2023, down from 3.7 tonnes to 3.0 tonnes. Waste per employee also went down, from 19 kilograms to 15 kilograms. We remain well below the limit of 4 tonnes.

TARGET

The target for annual total generation of cardboard/paper waste was fixed to 4 tons.



Target was met for cardboard/paper waste



ANNUAL TOTAL GENERATION OF SPECIAL WASTE (KG)

Special Waste	2019	2020	2021	2022	2023	2024
electrical devices (commercial)	418,5	613,5	214	180	56	50
electrical devices (domestic)	125,5	192,5	76,5	8	0	0
incandescent and halogen lamps	22	15	19,5	0	0	0
cabel (copper)	10,5	0	0	0	0	59
plastic film	42	18,8	8,99	14	10	9
fluorescent light bulb	28,5	23,5	28,5	0	0	1,5
spray cans	23,2	8,3	4,8	5,8	8,8	15,2
styrofoam	66,5	19,48	7	13	3	0,5
toner cartridge	135	13	11	0	0	3
dry batteries	147,5	19	1027,5	103	6	50
lead-acid batteries	553	151,5	72,5	103	143	245

NOTE

Special waste amounts are often linked to specific maintenances or projects.

Only the main categories for special waste quantities are shown in the dashboard here above.

For the 2025 Environmental Statement, ANA will revise its special-waste accounting to provide more meaningful metrics and a clearer picture of performance.

TARGET

The indicator will be monitored but no target will be set for special waste.





LAND-USE WITH REGARD TO BIODIVERSITY

Introduction

ANA supports Lux-Airport, who is now the responsible entity for managing the green areas, in the most sustainable and practical way to protect the flora and fauna. ANA has carried out studies and identified the airport's biodiversity to ensure that the number of species remains stable. The development of bees on the airport platform is part of other collaborative environmental initiatives.

Land-use

ANA, as a public administration, has no land ownership of its own, as evidenced by the registration certificate from the Land Registry and Surveying Administration. Only technical buildings are owned by the government, all other land-use is either delegated to, or is under the ownership of the airport operator, Lux-Airport. The forms of land use with regard to biodiversity expressed in surface units, total land use, total impervious surface, total surface oriented towards nature on site and total surface oriented towards nature off site cannot be demonstrated.

The surface area of Luxembourg airport is 358.74 HA. Of this area, 57.6% (206.61 HA) is green space. 131.57 HA are asphalted surfaces and 21.53 HA are buildings. The surface area of ANA's offices is 1635.69 m², 159.86m² for workshops and 6330m² for technical stations.

Beehives - production of honey

The honeybee population is collapsing worldwide, causing biodiversity to decline at an unprecedented rate. The planet's ecosystems are on the verge of collapse, with a mass extinction of species jeopardising economies and the well-being of societies. ANA, in cooperation with Lux-Airport, started this collaborative project in 2018 and has been producing honey since 2019. Today, we have five beehives located at the airport. Setting up beehives is only a small intervention to have a positive impact, but it is hoped that this small initiative will bear fruit.

A few figures:

We have 50000 'agents' (bees) per beehive and 250000 in total in 2021.

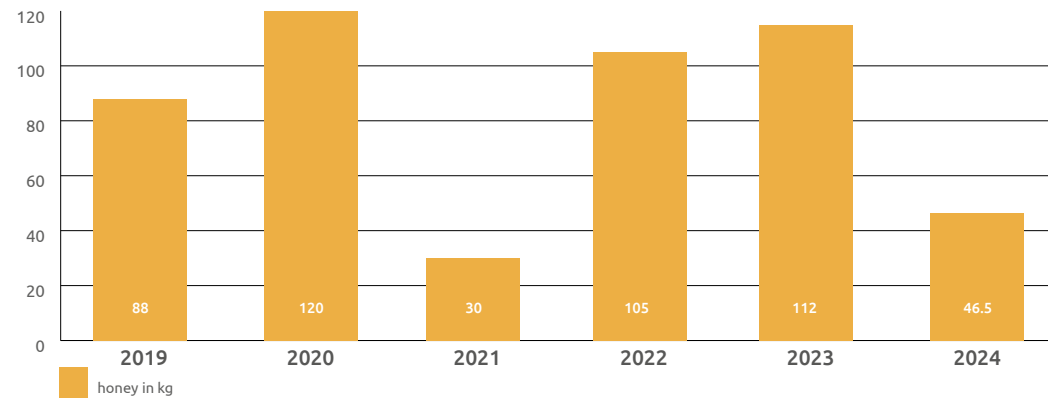
- Our bees can help in monitoring the air quality.
- We have one queen per hive (average age 3-5 years).
- Our worker-bees are living for 35 days and are travelling up to 8000 km during their lifetime.
- Their population is reduced during the winter period to 5000 – 8000 bees.
- Two thirds of the honey production are used for the hive.

Objectives

- **O10.1:** Maintain bee project with Lux-airport



TOTAL PRODUCED HONEY



NOTE

Honey output has fluctuated strongly with weather. Severe weather kept production minimal in 2021. A cold, frosty spring followed by an unusually wet summer limited nectar again in 2022. Conditions improved in 2023, yielding 112 kg from five hives. In 2024 output slipped to 46.5 kg, a year-on-year decline of about 58 %.

TARGET

There is no applicable target because honey production depends on the weather and temperatures.





EMISSIONS

As part of our business, we are actively committed to preserving local air quality by combating climate change and reducing noise pollution on and around the airport.

AIRPORT NOISE EMISSIONS

Introduction

ANA is committed to environmental stewardship and ensuring sustainable practices in all aspects of its operations. As part of our ongoing efforts, we recognize the importance of addressing noise emissions associated with airport activities. Noise emissions from aircraft operations can have significant impacts on local communities, including potential effects on human health, quality of life, and wildlife. The international Civil Aviation Organization (ICAO) provides a framework for member states to develop noise management programs and implement noise reduction abatement measures.

Objectives

- **O12.1:** Enhance Tools for environmental performance
- **O12.2:** Enhance CCO (Continuous Climb Operations) application
- **O12.3:** Enhance CDO (Continuous Descent Operations) application.
- **O13.1:** Enhance noise measurement
- **O13.2:** Manage curfew extensions
- **O13.3:** Collect, investigate and address noise complaints to the right stakeholders

Environmental modulation of terminal charges

Since 2015, ANA has applied a pricing system for its airport air navigation services that includes environmental factors based on aircraft noise emission certificates and encourages the use of departure times that are less disruptive in terms of noise. Airlines using less 'noisy' aircraft engines pay less for the service, as do airlines departing during the airport's normal operating hours, i.e. after 6 a.m. and before 11 p.m. at night.

The modulation formula is applied to all aircraft departures; our regulator (DAC) oversees the formula within the framework of the EU Performance and Charges Regulation and the Local Performance Plan. ANA has an obligation to monitor the application of the formula and to report on its effects to its stakeholders. The scheme has shown its effectiveness, is respected by airlines and has the expected effect to reduce noise.



Noise measurement

Luxembourg airport has a network of four noise-measuring stations, with a fifth one in implementation phase, which regularly and automatically measure noise emissions at the airport and prepare daily and monthly summary reports. ANA has adapted the system to publish noise measurement summary sheets on its website. The use of the European noise indicators that we apply, enables better, more transparent and consistent communication of noise measurements to the public. We are now able to link the results of noise measurements with the noise maps calculated by the airport in order to identify the areas most exposed to noise.

The data collected by the airport's systems is published on a monthly basis and shows, among other things, the number of movements at the airport according to predefined time slots. The data is also used to store actual flight information on movements for incorporation into noise map indicators for noise distribution and an input for the development of noise abatement procedures.

Noise complaints

In the last four years, there has been a considerable increase in noise complaints from residents living near the airport. This trend can be attributed, in part, to the government's COVID-19 pandemic-related lockdown measures. Despite a reduction of international flights, the number of local flight movements had increased, and people had spent more time at home, making residents more aware of disturbances caused by aircraft noise. As a result, new resident associations were created, the reclamations exploded and consequently ANA was obliged to establish an online complaint service.

After the pandemic years the complaints remained on a high level, partly due to an alteration of a departure route known as SID GTQ (more details under 'GTQ departure' paragraph). In 2021, the procedure had been revised once more to minimize noise impact. This revision involved raising the turning altitude from 1700 to 2200 feet. However, despite all these efforts, the number of noise complaints continues to increase. Consequently, another procedure revision was performed in 2023. By raising the GTQ turning point from 2200ft to 2700ft, we have reduced the noise impact on surrounding communities. Resulting is a reduction of noise complaints in 2024. See also [GTQ departure](#) for more details.

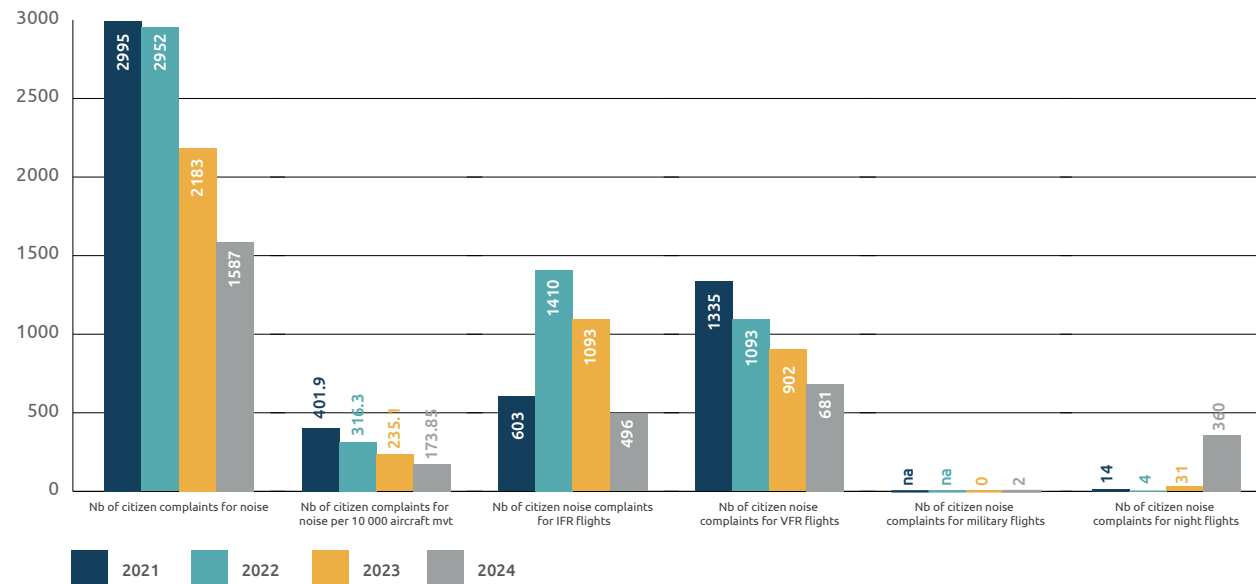


To address these concerns, various measures have been implemented. These include updating the process for citizens' complaints⁴, arranging meetings and collaborative sessions involving the Ministry, the Directorate of Civil Aviation (DAC) and citizens' associations. Additionally, ongoing efforts to update the Airport Noise Action Plan are in progress.

In 2024 a similar case in increased noise complaints was observed related to the night flights.

⁴ with the creation of a template on:
<https://ana.gouvernement.lu/fr/support/contact.html>

NOISE COMPLAINTS



NOTE

No target defined. Reduced noise complaints due to GTQ update.

TARGET

No target was fixed so far for noise complaints.



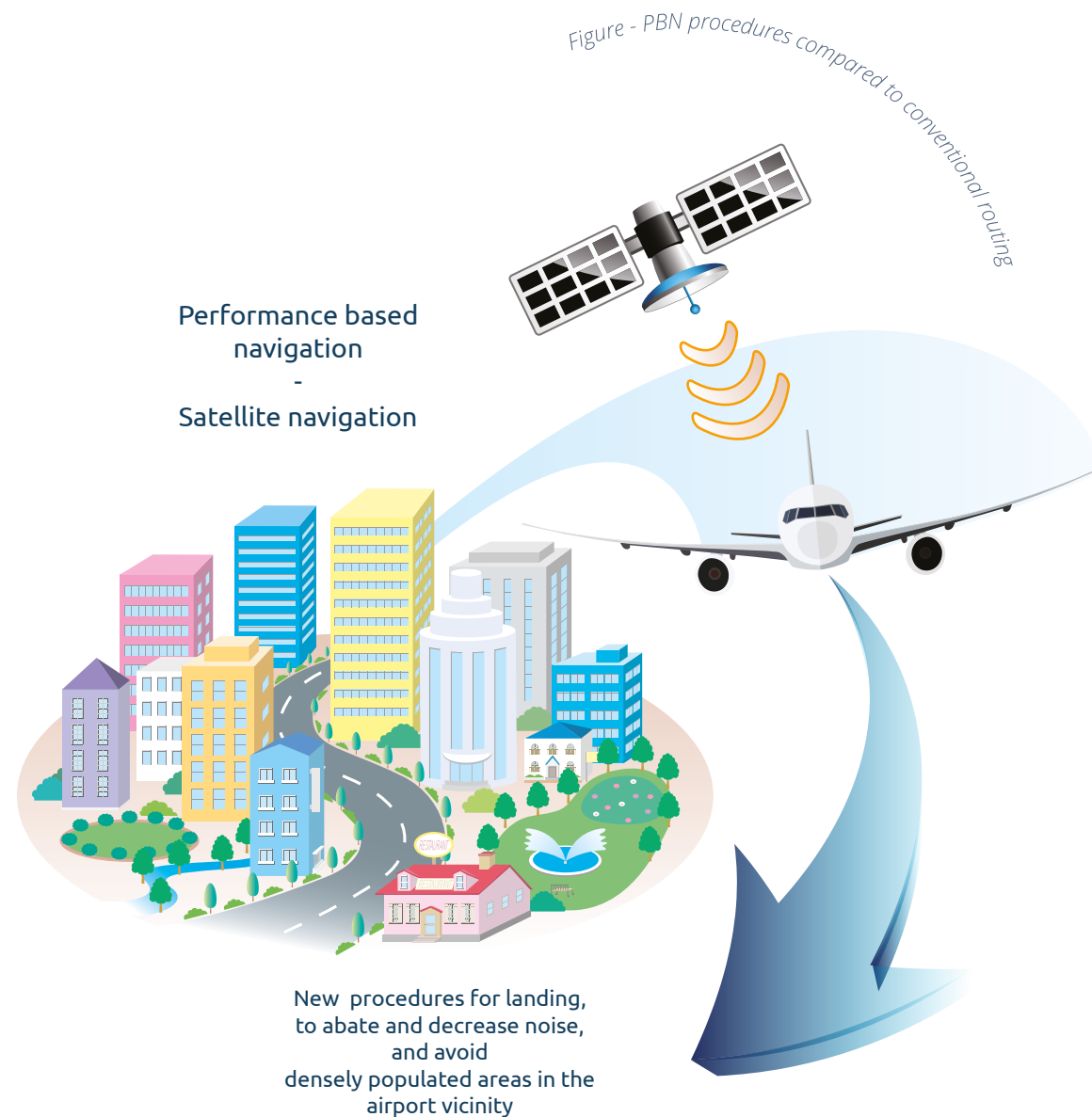
Satellite-based navigation

The use of modern satellite technology is an important step from conventional ground-based navigation and procedures to satellite-based navigation and area navigation procedures. The potential for additional environmental and economic benefits is high.

The Performance Based Navigation (PBN) offers in principle the possibility of reducing noise for citizens in the vicinity of airports and, for example, of designing departure (SID) and arrival (STAR) and transition routes to reduce noise with much greater flexibility than is currently the case.

PBN is available in Luxembourg TMA (Terminal Control Area) for precise navigation since March 2020. The solutions implemented enable shorter, direct routes and more efficient take-offs and landings at Luxembourg airport. PBN, in combination with CDO's improves safety, helps to reduce fuel consumption and noise impact, thereby reducing aircraft emissions.

Additional savings can be achieved by modifying PBN/CDO procedures, making ground operations more flexible and optimized.



ASMA time and ATFM delay

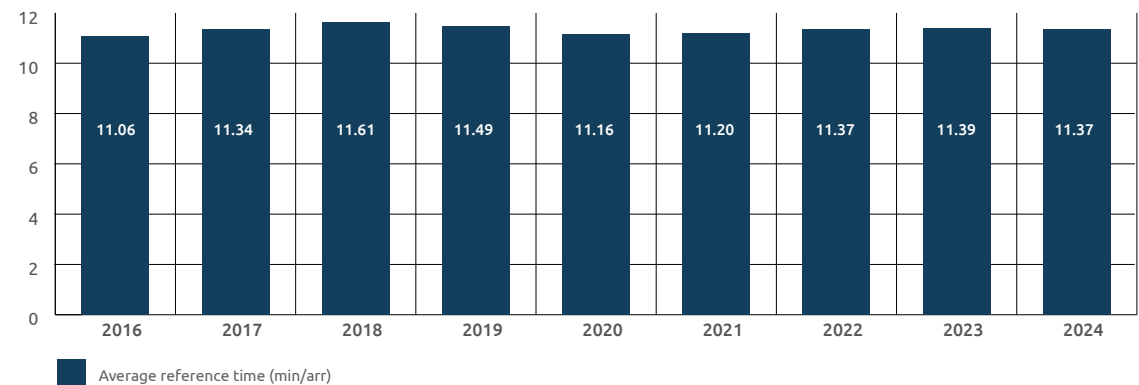
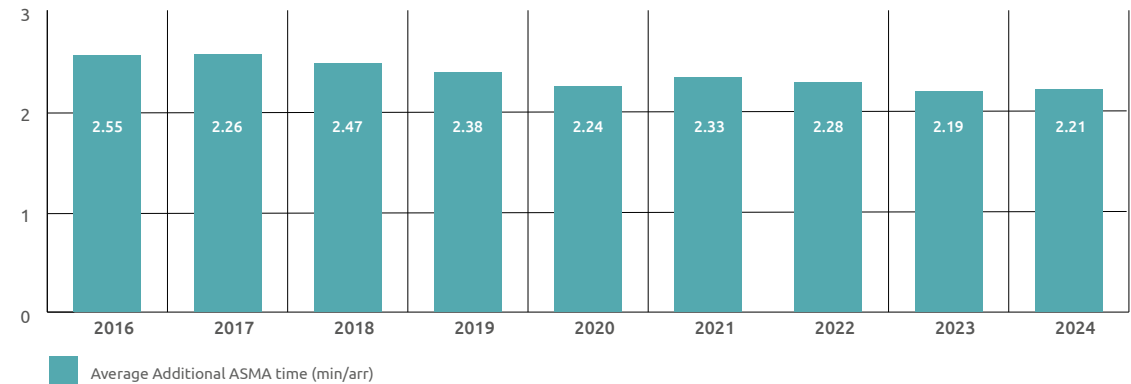
Air navigation services related inefficiencies on the arrival flow are measured in terms of arrival air traffic flow management management (ATFM) delay and additional time in the arrival sequencing and metering area (ASMA time).

The Arrival Sequencing and Metering Area (ASMA) is defined as a virtual cylinder with a 40-NM radius around the airport. The actual time spent by an aircraft between its last entry in the cylinder (Entry-time at 40 NM upstream) and the actual landing time (ALDT) is denoted ASMA transit time.

Additional ASMA time (airborne holdings) has also a direct impact in terms of fuel burn and emissions. The higher the additional ASMA time, the higher the additional fuel consumption and emissions.

By continuously improving the available PBN techniques ("direct to instructions" and PBN transitions including fine-tuned procedures), improved agreements with adjacent sectors and implementing a 3rd ATC position (arrival/director controller), ANA managed to achieve a continuous reduction of ASMA time since 2018 (from 2,47 min in 2018 to 2,17 min in 2024) despite of increasing traffic figures.

EVOLUTION OF AVERAGE ADDITIONAL ASMA TIME (MIN/ARRIVAL)



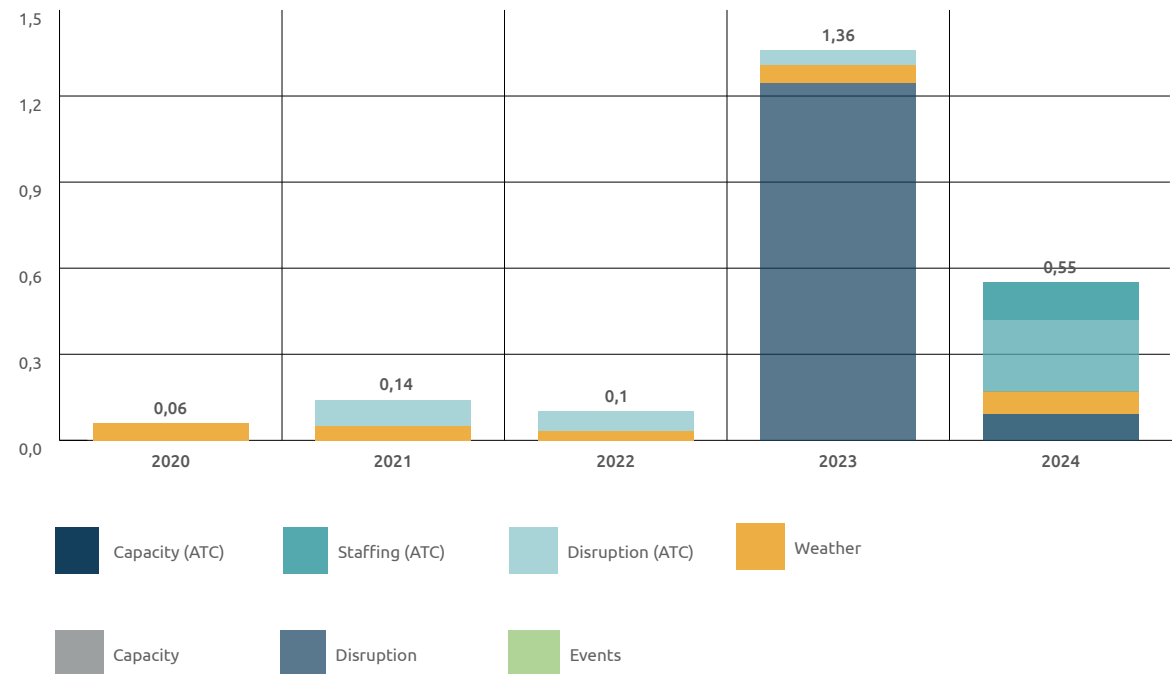
Air Traffic Flow Management (ATFM) delay refers to the additional time incurred by an aircraft due to restrictions imposed by the air traffic management system. Such delays occur when the demand for airspace or airport capacity exceeds what can be safely accommodated, often because of adverse weather, limited runway availability, or congestion in en-route sectors. ATFM delays are reported in minutes per flight.

In 2023, ATFM delays increased following a regulatory decision to reduce hourly arrival rates in response to non-conformities at the Air Traffic Safety Electronics Personnel (ATSEP) level. This measure caused delays to rise, with many flights pushed past the 23:00 local night curfew during peak evening hours. Average ATFM delay reached 1.36 minutes per arrival.

In 2024, these restrictions were lifted, leading to a sharp improvement, even with new technical problems with the ILS emerged which forced ANA to keep regulations for another few months in 2024: the average ATFM delay was reduced to 0.55 minutes per arrival.

Looking ahead to 2025, a further reduction is expected, with average ATFM delay projected at around 0.1 minutes per arrival.

AVERAGE ARRIVAL ATFM DELAY (MIN/ARR)



Source:

[Efficiency in the Arrival Sequencing and Metering Area \(ASMA\) | Aviation Intelligence Unit Portal \(ansperformance.eu\)](https://ansperformance.eu/)

GTQ departure

The southbound standard departure route (GTQ) from runway 06 (east southeast direction) has undergone several changes in recent years:

Until January 1, 2020, aircraft turned immediately south after passing a ground-based navigational aid beacon. The Military Area TRA Lauter (TRA205), an area exclusively located on German Territory extending to the Luxembourg border limited the possibility to continue the straight-ahead course with continuous climbing before turning right.

Since January 2, 2020, aircraft were required to turn as soon as passing a defined altitude, which concentrated the track area for all different aircraft types. This change in the GTQ departure procedure had to be made for reasons of compliance with international regulations, and particularly the decommissioning of beacons. In collaboration with Skeyes (formerly Belgocontrol), ANA has redesigned this procedure to consider the new standards dictated by the European Union regulations (Performance Based Navigation- PBN) and the safety restrictions related to the military zone.

- Thus, as of January 02, 2020, the minimum altitude before turning south had been fixed at 1,700 feet.
- Since December 31, 2020, this altitude had been set at 2,200 feet in response to complaints from residents of the municipality of Schuttrange regarding an increase in noise pollution.
- From autumn 2023 on, the altitude was increased further to 2,700 feet for a trial period of 12 months, following internal simulations. ANA published this change of the GTQ departure route by highlighting that no further increase of the turning altitude could be made due to the compliance with European regulations and the restrictions of the military zone TRA Lauter. Due to change in wind patterns and to the fact that aircraft have to land and take off with a wind coming from the opposite direction, an 8% increase has been noted in the use of runway 06 compared to the reference year 2019. This has resulted in an increase in overflights of this area south of the airport. The years 2021 and 2022 cannot be considered as air traffic was very strongly affected by the pandemic (COVID 19).
- In 2024, the test phase was finalized and the procedure was officially released.



'Green Climbing' - Continuous climb of aircraft (CCO)

Implementing new CCO procedures, we expect to see a reduction in fuel burn and noise complaint and, by compiling and analysing airlines 'early access data', we will monitor and, where necessary, improve performance by adopting measures that suit airlines and ATC. For example, airlines can take steps to achieve optimum climb engine thrust and other operational benefits when using the Continuous Climb Operation (CCO) procedure.

ANA has implemented, in cooperation with local airlines, stakeholders and the DAC, ATC procedures and clearances for CCO. In addition, where appropriate, operational use and environmental effects are monitored: fuel savings for airlines, and reduced emissions and noise for our residents. A new project on PBN SIDs was launched at the end of 2021/beginning of 2022 to enable continuous climb operations on routes clear of arrival routes.

'Green Descent' - Continuous descend of aircraft (CDO)

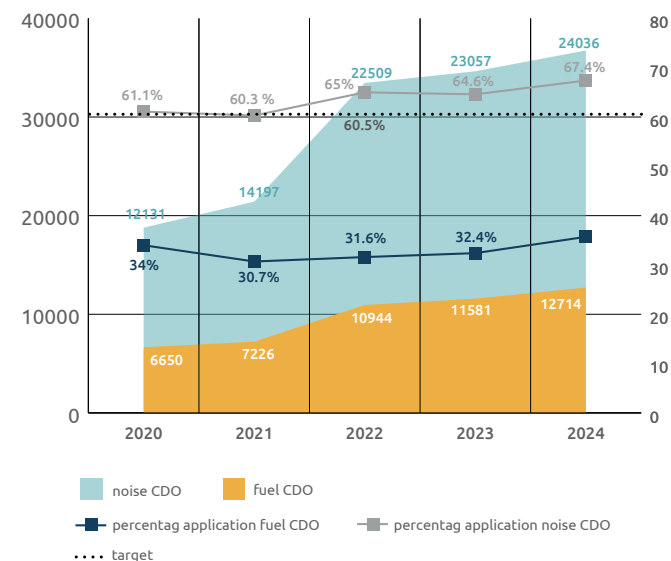
ANA investments in new ATC procedures, terminal airspace and route changes (PBN transitions & approaches enabling CDO) are already reducing fuel burn, CO₂ emission and aircraft noise, thereby improving the environment.

A Continuous Descent Operations procedure (CDO) is a manoeuvre in which an aircraft descends from an optimum position using minimum thrust and avoiding level flight, within the limits authorised by published procedures, while ensuring flight safety. The flight path of an aircraft also helps to reduce noise levels and fuel consumption by descending smoothly to the runway threshold instead of using a traditional level approach.

To ensure the accuracy of the data, we have chosen to update our CDO figures from 2020 onwards with the data and figures provided and collected by Eurocontrol. 2024 has seen a record high % of CDO application with a 67,4 application rate.

Fuel CDOs are measured from ToD (Top of Descent) to 1800ft AGL (at 3000ft QNH in Luxembourg), with no level-off segment. These CDOs reduce fuel consumption during the approach. Fuel CDOs are also considered as noise CDOs, because from FL075 to 1800ft AGL (at 3000ft QNH in Luxembourg), noise is considerably reduced.

NUMBER OF CDO APPROACHES ESTABLISHED/ FLOWN INTO ELLX



NOTE

An increased use of CDO approach used over the four past years.

TARGET

Achieve at least 60.5 % of the noise CDO application.

Target was met for CDO application.



Managing derogations and exemptions

Article 13 of the Grand-Ducal Regulation of 2nd November 2012 amending the amended Grand-Ducal Regulation of 24 May 1998 lays down the conditions for the technical and operational services of Luxembourg airport and regulates exemptions. Beneficiaries (airlines) of exemptions to the regulation are required to submit to the Ministry of Transport quarterly summary statements of exemptions actually used and the reasons justifying them.

ANA, with the support of Transport Department of the Ministry of Mobility and Public Works, analyses in detail the reasons for the exemptions in consultation with the airlines concerned.

Tool for route environmental performance

Furthermore, ANA is studying the possibility to purchase a tool which enables us to analyse the environmental performance of all our arrival and departure routes and procedures. This is significant as the routes were designed from an operational and safety standpoint but have not yet been analysed from an environmental perspective. The first phase of using this tool will enable ANA to gather information about emissions and noise generated by the current areas, and which communities are being most affected. The second phase of use would enable ANA to optimize the current routes and simulate the impact of future route updates to decrease our environmental impact in terms of emissions and noise. Due to budget and resources reasons the project has been put on hold for time being.

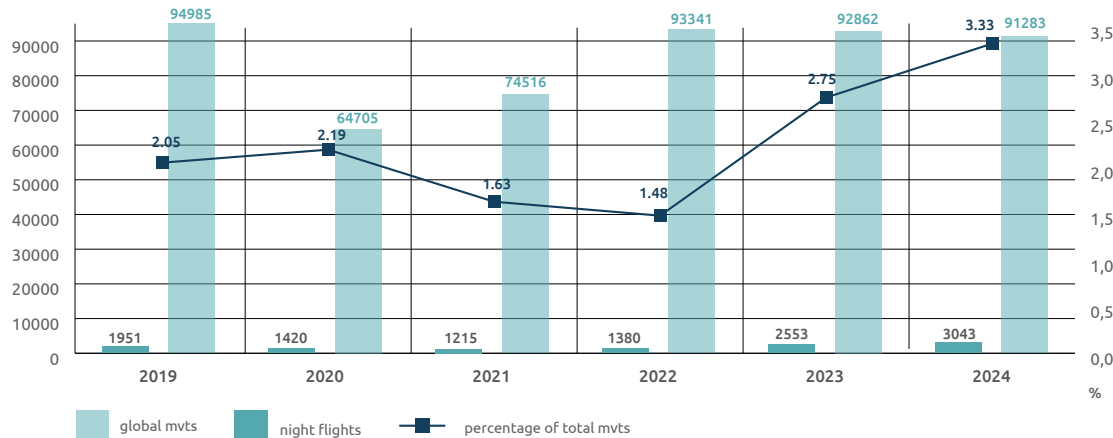
Night flights

Luxembourg airport applies a night traffic ban between 23:00 – 06:00, with the exception of medical flights, search and rescue flights, and late arrivals of scheduled flights. Airlines may ask ANA for authorisation to carry out special take-off and landing operations (curfew extensions). ANA will analyse the justification provided and will grant the curfew only if necessary. Night flights are a serious disturbance to residents and are a major issue. Reducing night flights to the necessary minimum is an important objective in Luxembourg.

ANA, in partnership with Cargolux, has developed a charter of best practices in the fight against noise pollution. One of the objectives of this charter is to set a maximum ceiling of exceptions for night flights, taking into account the time of day and type of aircraft. This best practice could be offered to other major airlines.



NIGHTFLIGHTS



TARGET

No target applicable as ANA has no direct impact on the number of night flights.

NOTE

A significant reduction in night flights was observed up to 2023, despite overall traffic growth. This was mainly due to restrictions introduced during the runway refurbishment project, which began in spring 2021 and lasted for two years. The works were carried out at night over a period of six months, excluding holidays and weekends.

In 2023, the increase in night flights was directly linked to a reduction in hourly arrivals imposed by the regulator to address non-conformities at ATSEP (Air Traffic Safety Electronics Personnel) level. This measure also led to higher ATFM (Air Traffic Flow Management) delays. Since normal traffic peaks occur just before the night curfew, these restrictions caused many flights to be pushed beyond 23:00 local time.

In 2024, the restrictions were lifted, and ATFM delays dropped from 1.36 minutes per arrival to 0.55 minutes per arrival. However, new technical problems with the ILS emerged which forced ANA to keep regulations for another few months in 2024. Moreover, new bottlenecks emerged in international airspace, caused by the war in Ukraine and other factors, which put pressure on the global ATC network. Combined with non-optimal flight schedules, this resulted in peak daytime congestion and a further increase in night flights.

Best practices Charter

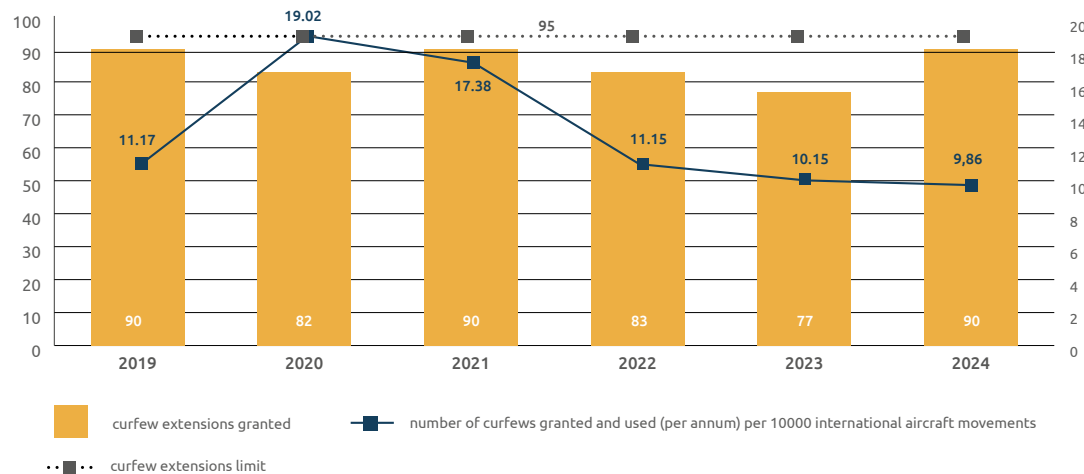
ANA has maintained a night flight charter with Cargolux for several years, aimed at reducing noise and minimizing environmental impact during nighttime operations. Since its implementation in 2018, this charter has led to an average 17% decrease in night movements compared to the 2012–2018 baseline, despite a general increase in overall air traffic.

Building on this success, a similar collaborative charter with Luxair, focused on addressing noise concerns, regulating night flights, and improving operational efficiency while balancing community interest, is currently in its finalization phase. Jointly developed by Luxair and ANA, this operational charter reflects a shared commitment to sustainable practices and mutual understanding among all stakeholders and was officially signed in 2025.

Curfew extensions

ANA, on behalf of the Ministry of Mobility and Public Works (MMTP) may grant individual curfew extensions ⁵.

CURFEW EXTENSIONS



NOTE

The amount of curfew granted is below the target of 95 per year.

TARGET

Curfew extensions should remain below 95 authorizations a year.



Target was met for maximum curfew extensions.

⁵ Règlement grand-ducal du 24 mai 1998 fixant les conditions d'exploitation technique et opérationnelle de l'Aéroport de Luxembourg

CARBON EMISSIONS



Introduction

Carbon emissions, particularly those resulting from the combustion of fossil fuels, are a significant contributor to climate change and global warming. Through innovation, collaboration, and the adoption of best practices, ANA strives to drive meaningful change within its direct impact and establish a sustainable pathway for its organization.

ANA is currently focusing its efforts internally by controlling the heating and emergency generator emissions produced in our buildings, reducing the number of service cars in use and purchasing plug-in hybrid or electric cars with the objective of reaching carbon neutrality in 2030.

ANA encourages the reduction of carbon emissions by providing electric cars and bicycles for journeys during their working hours. Charging stations have also been installed for company and private electric cars. Emergency generator emissions were reduced by switching to the use of battery backups for different procedures.

ANA anticipates further carbon emission reductions by relocating part of its teams to Lux Airport's 'Skypark' construction project by the end of 2026. ANA is actively participating in this project. The new building, which is currently being built with a timber frame, aims to be a benchmark for sustainability and environmental awareness. As such, it incorporates the latest sustainable technologies such as photovoltaic energy supply, rainwater harvesting, ecological facades, green roofs and terraces, as well as energy reduction due to heat retention by a green layer.

Objectives

- **O11.1:** Calculate carbon footprint for scope 1 and 2
- **O11.2:** Reduce Scope 1 mobile emissions
(fuel consumption from cars)
- **O11.3:** Reduce other scope 1 emissions
- **O14.1:** Enhance home office if possible within agents tasks
- **O14.2:** Feasibility study: neutral gas
- **O14.3:** Cost and impact study for renovation of ELE building
- **O14.4:** Feasibility and timeline study for Full electrical or plug-in hybrid car fleet
- **O14.5:** New buildings – Skypark & Tower building
- **O14.6:** Reduce emissions in Scope 1& 2 to zero
(carbon neutrality)

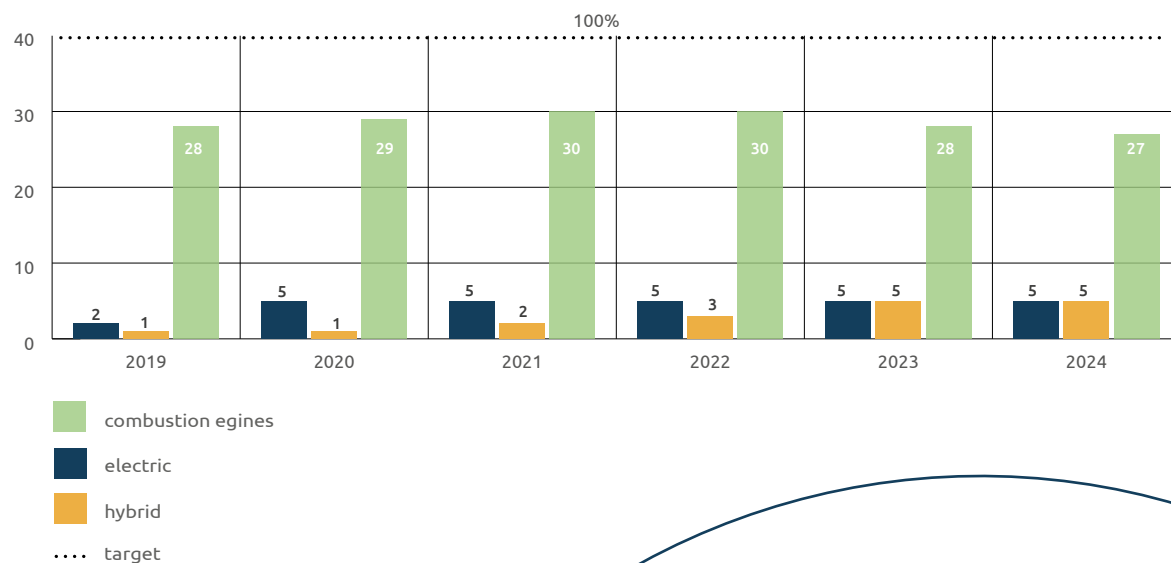


Fleet management

Overall, we observe a 15% reduction in total emissions, primarily driven by a 22% decrease in kilometers traveled — both encouraging trends. However, the average emissions per vehicle (g/km), weighted by distance driven, have increased by 9%. This indicator has been instrumental in identifying an area of concern: despite the overall drop in emissions, the emissions intensity per kilometer has worsened. This suggests a need to reassess fleet usage — particularly by better aligning fleet size with actual demand and encouraging more frequent use of the electric and hybrid vehicles already available, rather than relying predominantly on combustion engine models. To address this, an initiative led by the Environment Cell will be launched in 2025.



FLEET MANAGEMENT

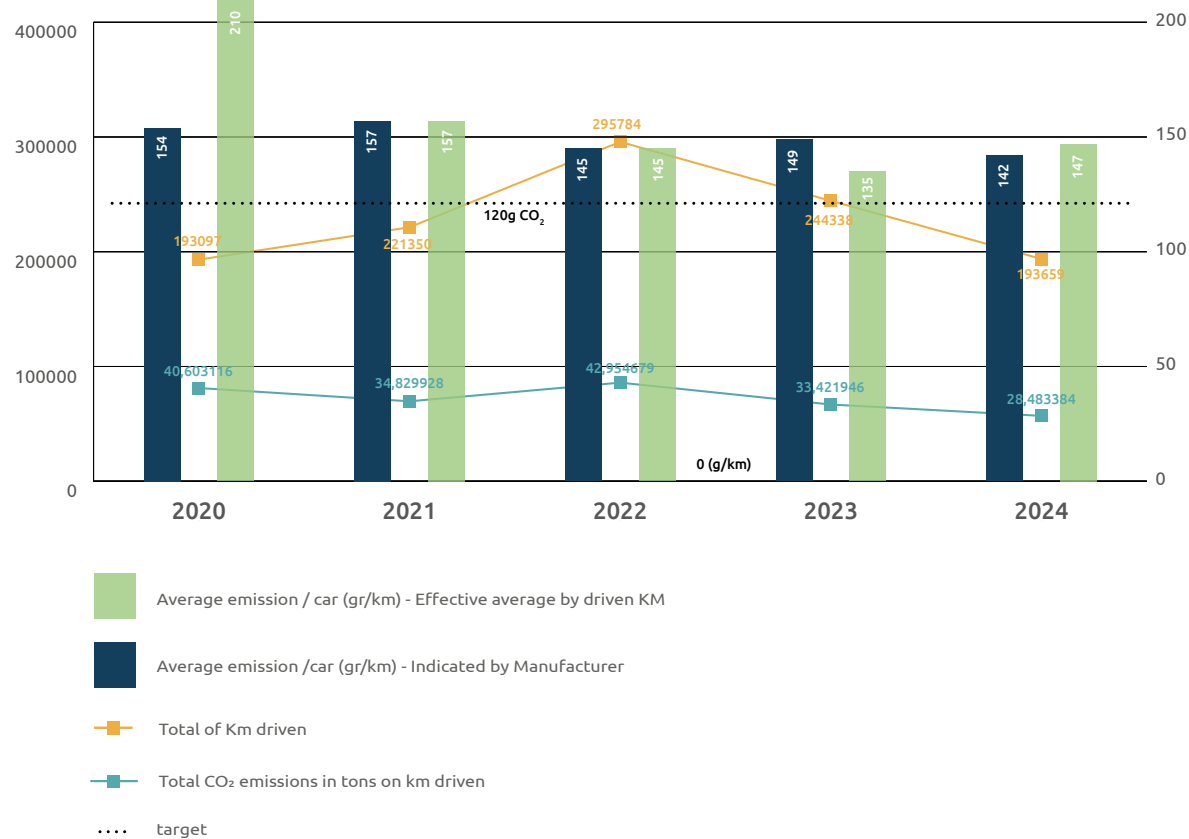


TARGET

👍 100% of electric fleet by 2030 if possible



CAR EMISSIONS



NOTE

Replacing carbon emission cars with electric and hybrid cars will significantly reduce emissions. Car emissions are calculated. The first car emission indicator is calculated with the data provided by the car manufacturers. These data have been reviewed and updated in 2024 for 2023 and 2024 data. The second indicator is based on km driven by car.

TARGET

If possible, ANA will replace all end-of-life cars with electric cars or rechargeable hybrids. The aim will be to replace all cars with combustion-powered vehicles. A timetable will be defined until 2030 in the scope of ANA's carbon neutrality. The target for this year was 120 grCO₂/km of average emissions per car. Car emissions are calculated with the emission value given by the manufacturer and kilometres driven.

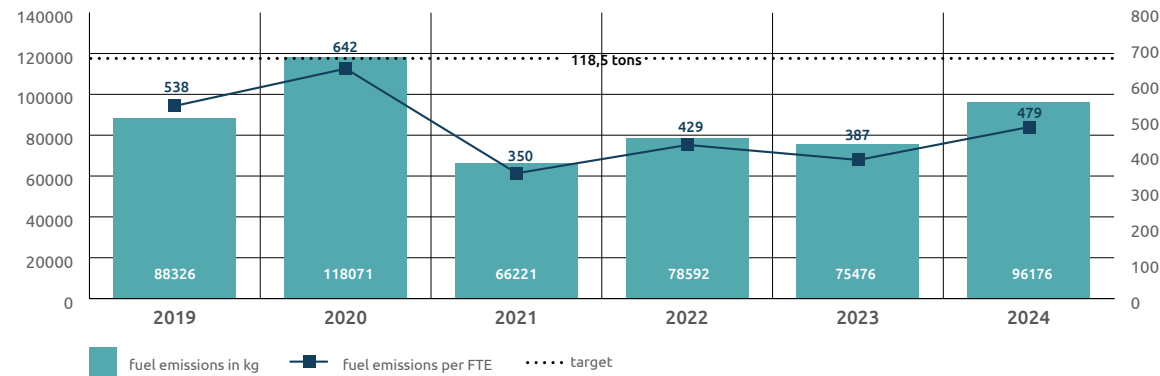
Target was not met related to ANA's car emissions.

ANA will further reduce the emissions caused by its fleet, by renewing it with electric or plug-in hybrid technologies.

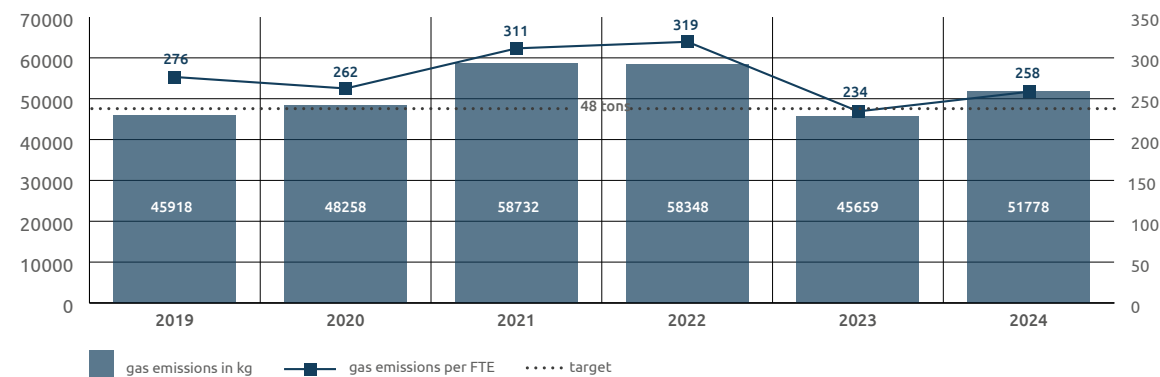
The target for 2030 will be to reduce car emissions to 0.

Use of buildings

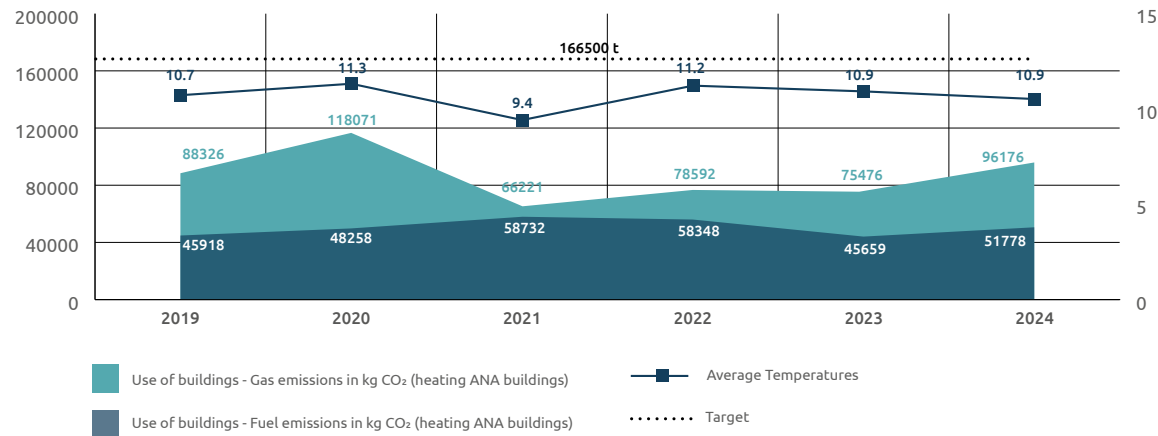
FUEL EMISSIONS IN KG CO₂ (HEATING ANA BUILDINGS) PER FTE (EMAS KEY AREA EMISSIONS)



GAS EMISSIONS IN KG CO₂ (HEATING ANA BUILDINGS) PER FTE (EMAS KEY AREA EMISSIONS)



FUEL AND GAS EMISSIONS ANA BUILDINGS



NOTE

Our buildings, dating from 1949 and 1993, represent challenges in significantly influencing overall energy consumption. We are looking forward to the completion of Lux Airport's Skypark building complex, which is expected to improve this. Please note that detailed consumption figures for separate buildings are not available for 2024 due to a change in the monitoring personnel, but this data will be accessible again in 2025. Our reported quantities reflect filling volumes, not direct measurements, with 8,000 Liters ordered at the end of December 2024, accounting for the difference compared to 2023. Fuel and gas emissions are calculated using conversion factors of 2.63 kg CO₂ per Liter of fuel and 2 kg CO₂ per cubic meter of gas.

TARGET

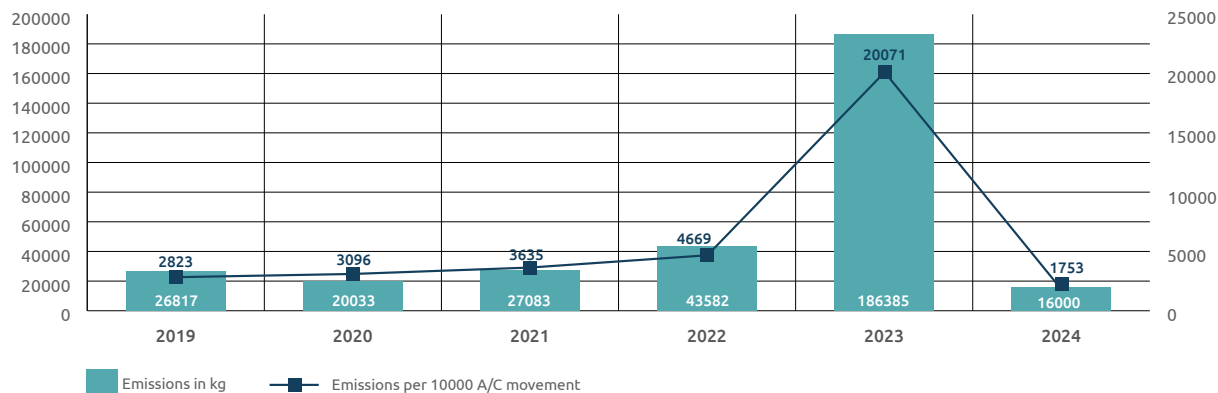
The target for fuel and gas emissions in heating ANA buildings is in total 48 tons of CO₂ for gas and 118.5 tons of CO₂ for fuel. A year after the move into Skypark will be completed, new targets will be set.

- 👍 Target was met for fuel consumption.
- 👎 Target was not met for gas consumption.
- 👍 Considering the total of gas and fuel emissions the target was achieved.

New target: 50% reduction in fossil resources consumption per FTE until 2030 (baseline year 2021)



USE OF ANSP EQUIPMENT – EMERGENCY GENERATOR FUEL EMISSIONS IN KG CO₂ PER 10000 AIRCRAFT (EMAS KEY AREA EMISSIONS)



NOTE

In 2023 a major incident happened on the construction site of the Skypark building, where an electrical cable was damaged. Emergency generators had to run continuously from the 22nd of November until the 16th of December as mitigation, and the extra fuel consumption amounted to 55200 litres. A full internal investigation was conducted in 2024.

Fuel consumption of the energy generators is calculated with the running time of the engines, and the full load consumption value given by the manufacturer. Fuel emissions are calculated with 2,63 kg CO₂/l fuel.

In 2024, procedural updates for thunderstorm and CAT III operations were implemented, eliminating the need for emergency generator use during these scenarios. This change is expected to reduce fuel consumption and environmental impact without compromising operational safety.

TARGET

As emissions from emergency generators are linked to the provision of air navigation aids and visual aids and therefore have an impact on safety, no target will be set.



Carbon Footprint (Scope 1 & 2)

In the Carbon Footprint calculation, we consider, in order of magnitude, the emissions of greenhouse gases generated by all the physical processes that are necessary for the existence of a human activity or organization, when it is possible to assign clear borders.

Emissions are broken down into following categories by the Greenhouse Gas Protocol (GHC) to better understand the source.

Scope 1 – All Direct Emissions from the activities of an organization or under their control. Including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2 – Indirect Emissions from electricity purchased and used by the organization. Emissions are created during the production of the energy and eventually used by the organization.

Scope 3 – All Other Indirect Emissions from activities of the organization, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.

In 2024 ANA's direct greenhouse-gas output (Scope 1) fell sharply to about 192 t CO₂e, down from 340 t in 2023. The late-December delivery of heating oil pushed building-fuel emissions higher and colder weather lifted gas use, yet these increases were more than offset by a return to normal generator operations after the 2023 UPS failure and by lower mileage and a higher share of electric or hybrid vehicles in the company fleet.

Scope 2 emissions remained zero because all purchased electricity once again came from the 100 % European, CO₂-free nova Naturstrom mix.

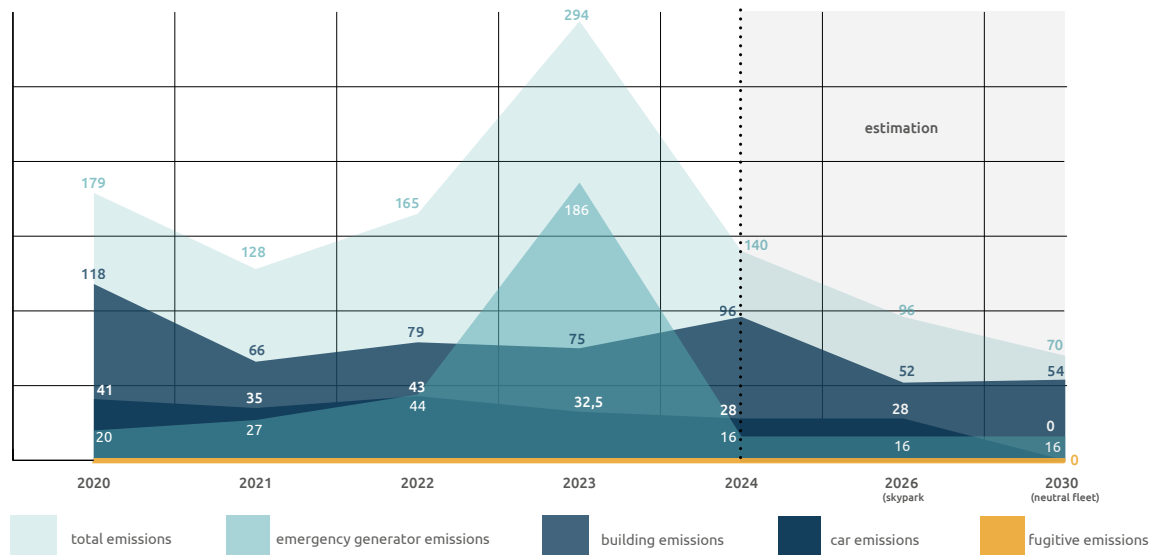
NOTE

Scope 3 emissions were calculated for 2021 and 2022 but were not calculated for the reporting years 2023 And 2024.

TARGET

ANA's target is to reach carbon neutrality in 2030.

Looking ahead to 2030, our estimates show a reduction in emissions to 70 tCO₂e, driven by our move into the Skypark building and the implementation of a neutral vehicle fleet. A compensation scheme would then need to be worked on for the remaining emissions in order to achieve carbon neutrality.





07

LEGAL FRAMEWORK





ANA is committed to complying with a broad range of environmental legislation applicable at both national and European levels. To ensure that these regulatory requirements are consistently met, ANA's environmental cell maintains a comprehensive register of environmental regulations. This register is updated twice a year through legal watch workshops held in cooperation with internal stakeholders, including the Health and Safety Cell, the Facilities Department, and the external partner Luxcontrol.

ANA operates multiple interfaces that allow the company to stay informed of new regulations in force and, at the same time, identify the needs and expectations of its stakeholders.

Environmental legal compliance is verified using specific worksheets. Equipment subject to environmental authorizations is included in this process, with compliance monitored through maintenance programs and other relevant checks. These compliance activities are integrated into ANA's internal audit

process to ensure rigorous oversight. For new equipment or techniques introduced, ANA submits when applicable an authorization file to the relevant authorities, in accordance with regulations governing operating permits for classified establishments ("commodo/incommodo").

The Heads of Department bear the responsibility for identifying new regulations within their areas of competence. With support from the Certification Department, they oversee and ensure the correct implementation and application of all applicable environmental regulations.

To support continuous improvement in environmental management, the environmental cell develops a dedicated procedure along with working files specifically designed for the technical departments. This initiative enables systematic tracking, review, and enhancement of environmental practices, fostering ongoing compliance and operational efficiency.





08

**ENVIRONMENTAL VERIFIER'S
DECLARATION ON VERIFICATION
AND VALIDATION ACTIVITIES**



TÜV Rheinland Cert GmbH, Am Grauen Stein, D- 51105 Köln

with EMAS environmental verifier Erich Grünes, registration number DE-V-0017

accredited or licensed for the scope 84 (NACE Code)

declares to have verified whether the site or the whole organisation as indicated in the updated environmental statement 2025.

Administration de la Navigation Aérienne (ANA), 4, route de Trèves , 2632 Findel / Luxembourg with registration number (if available) meet all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).

By signing this declaration, I declare that:

- the verification and validation have been carried out in full compliance with the requirements of Regulation (EC) No 1221/2009,
- the outcome of the verification and validation confirms that there is no evidence of non-compliance with applicable legal requirements relating to the environment,
- the data and information of the updated environmental statement 2025 with facts and data from 2019 to 2024 reflect a reliable, credible and correct image of all the organisation's activities, within the scope mentioned in the environmental statement.

This document is not equivalent to EMAS registration. EMAS registration can only be granted by a competent body under Regulation (EC) No 1221/2009. This document shall not be used as a stand-alone piece of public communication.

Done at Luxembourg / Cologne on 06/11/25

Signature



Erich Grünes

TÜV Rheinland Cert GmbH
Am Grauen Stein
D-51105 Köln

Airport charges:

Charges levied for airport infrastructure and ground-services paid by airlines to the airport company.

ANS charges:

Charges levied by the ANSP (or EUROCONTROL on behalf of the ANSP) for ANS provision in terminal airspace (Terminal Charges, TNC) and En-route.

Aircraft movement:

A take-off or a landing operation.

Airport Collaborative Decision Making (A-CDM):

Aims to enhance the operational efficiency of airports and improve their integration into the air traffic management network. This is achieved by increasing the information sharing between local ANSP, airport operators, aircraft operators, ground handlers and other airport service providers. A-CDM enhances predictability the predictability of events, optimizing the utilisation of resources and therefore the efficiency of the overall system.

Air Navigation Service Provider (ANSP):

An ANSP is a public or a private legal entity providing Air Navigation Services. It manages air traffic on behalf of a company, region or country. The Air Navigation Administration (ANA), placed under the authority of the Ministry of Mobility and Public Works, is the air navigation service provider of Luxembourg.

Air Traffic Management (ATM):

Communication navigation and surveillance systems (CNS)

Meteorological service for air navigation (MET)

Search and rescue (SAR)

Aeronautical information services/ Aeronautical information management (AIS/AIM).

ATM MP:

Air Traffic Management Master Plan

<https://www.atmmasterplan.eu/learn/essip>

Auxiliary Power Unit (APU):

The power supply unit on board an aircraft that is used to provide electricity for the power supply and air-conditioning on the ground.

Continuous Descent Operations (CDO):

These are descents from flight cruising level down to the final approach without intermediate 'levelling-off', to save fuel (and emission) and to reduce noise.

Emissions:

All (solid, gaseous, or odorous) substances, wave radiation or particle radiation emitted from systems and plants, vehicles, products, materials, or other sources (for example aircraft) which exert an impact on the surrounding environment.

Environmental impact:

Direct impacts are negative or positive effects on the environment, resulting from the various environmentally relevant ANSP activities carried out by ANA where management has direct control. Indirect environmental impacts consist of those effects on the environment over which ANA doesn't have direct influence.

Environmental Management System (EMS):

System for the coordinated processing of operational environmental protection, geared towards concrete local environmental impact. The core aspects of an EMS are a company's environmental policy and environmental programme.

Environmental performance:

The quantifiable results derived from the management of the environmental aspects of an organisation by this organisation.

Environmental policy:

Component of an environmental management system, establishing guidelines for environmental protection at the highest level within a company.

Environmental programme:

Within the framework of an environmental management system, a plan of measures to be applied for a specified period of time in order to minimise environmental impacts.

ESR (Environmental, Social and Responsibility) label:

The ESR label created by the INDR (Institut National pour le Développement Durable et la Responsabilité Sociale des Entreprises) recognizes the efforts made by companies that have decided to manage their ESG (Environmental, Social, Governance) impacts (www.esr.lu).

EU Eco-Management and Audit Scheme (EMAS III):

EMAS is a premium management instrument developed by the European Commission for companies and other organisations to evaluate, report, and improve their environmental performance. More on <https://ec.europa.eu/environment/emas/>

EUROCONTROL:

EUROCONTROL is a Pan-European civil-military organisation for the safety of air navigation established in 1960. The organisation is dedicated to supporting European aviation. EUROCONTROL is the Network Manager for the optimisation of operational air traffic flow and performance, recovers the costs of En-route ANS provision, supports civil-military cooperation, provides En-route service through its Maastricht Upper Area Control (MUAC) centre, delivers research, innovation and development by the EUROCONTROL Experimental Centre and training and skills programmes at the Institute for ANS in Luxembourg. EUROCONTROL currently has 41 European member states (plus agreements with Israel and Morocco). The European Commission is working closely together with EUROCONTROL to achieve the objectives of the Single European Sky (SES) initiative and aims to become a full member.

FABEC:

"Functional Airspace Block Europe Central", an initiative by the European commission to create airspace blocks. The air navigation service providers of six countries (Luxembourg, Belgium, France, Germany, the Netherlands, Switzerland) and Eurocontrol Maastricht UAC are gathered in the former.

Green Deal:

Climate change and environmental degradation are an existential threat to Europe and the world. To overcome these challenges, Europe needs a new growth strategy that will transform the Union into a modern, resource-efficient and competitive economy, where

- there are no net emissions of greenhouse gases by 2050
- economic growth is decoupled from resource use
- no person and no place is left behind

The European Green Deal is the plan to make the EU's economy sustainable. (source EC) .

ISO:

International Organization for Standardization.

ISO 14001:

This international environmental management standard defines globally recognized standards for environmental management.

NDB

An NDB (Non-Directional Beacon) is a ground radio transmitter that sends signals in all directions. Aircraft use it with an automatic direction finder to determine direction for basic navigation and approaches.

PBN:

Performance-based Navigation (PBN) is helping the global aviation community reduce aviation congestion, conserve fuel, protect the environment, reduce the impact of aircraft noise and maintain reliable, all-weather operations, even at the most challenging airports. It provides operators with greater flexibility and better operating returns while increasing the safety of regional and national airspace systems. (source ICAO).

PI / KPI:

A performance indicator or key performance indicator (KPI) is a type of performance measurement. KPIs evaluate the success of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages. (source Wikipedia)

Single European Sky (SES):

SES is a broad legislative and operational initiative and programme of the European Commission as the executive body of the EU. Its goal is the harmonisation, development / enhancement and integration of the European Air Traffic Management system and airspace. The programme includes the SESAR, SES Aviation Research programme, the air traffic Network Manager (EUROCONTROL) and a Performance Management Board and support functions. The performance and charging scheme and FABs are part of the SES programme.

SuperDrecksKëscht (SDK):

The SuperDrecksKëscht® is a trademark which was developed in the frame of the waste management obligations of Luxembourg by the Ministry of the Environment, Climate and Sustainable Development, the Chambre des Métiers (Chamber of Trade) and Chambre de Commerce (Chamber of Commerce). The activities of the SuperDrecksKëscht® are also recognized by the EU Commission through the award of the label 'best practice' in the field of protection of resources and climate.

The orientation is based on the strategy provided by the EU with the hierarchy prevention before preparation for re-use, before recycling, before any other use (as for instance energetic use), before disposal of waste.

The task of the SuperDrecksKëscht® consists in using and implementing the most recent information in order to achieve a sustainable high-quality material management in the ecological and economic sense. Carrying out these tasks allows showing the lead in the ecological restructuring of our society.

Stakeholder:

Groups or individuals that are affected by the activities of a company and can exert influence on attainment of their aims. Accordingly, the stakeholders of a company are the agents, shareholders and lenders, customers, suppliers, neighbours, non-government organizations, government agencies, and politicians.

Surface noise:

Noise emanating from aircraft when they are on the ground, arising from engine tests, taxiing, and / or APU operation. Noise generated by take-off and landing is not considered as surface noise, not even for the phases when the aircraft is on the ground.



CONTACTS



Administration de la navigation aérienne (ANA)

4, route de Trèves
L-2632 Luxembourg



Postal address :

Administration de la navigation aérienne (ANA)
B.P. 273
L-2012 Luxembourg



(+352) 4798-22000
info@airport.etat.lu
ana.gouvernement.lu

Next ANA environmental statement will be published
before December 2026.