



ROADMAP TO

NET ZERO 2030



NET ZERO NET ZERO STRATEGY		
NET ZERO BY 2030	AIRPORTS ENGAGED >90	PILLARS 4

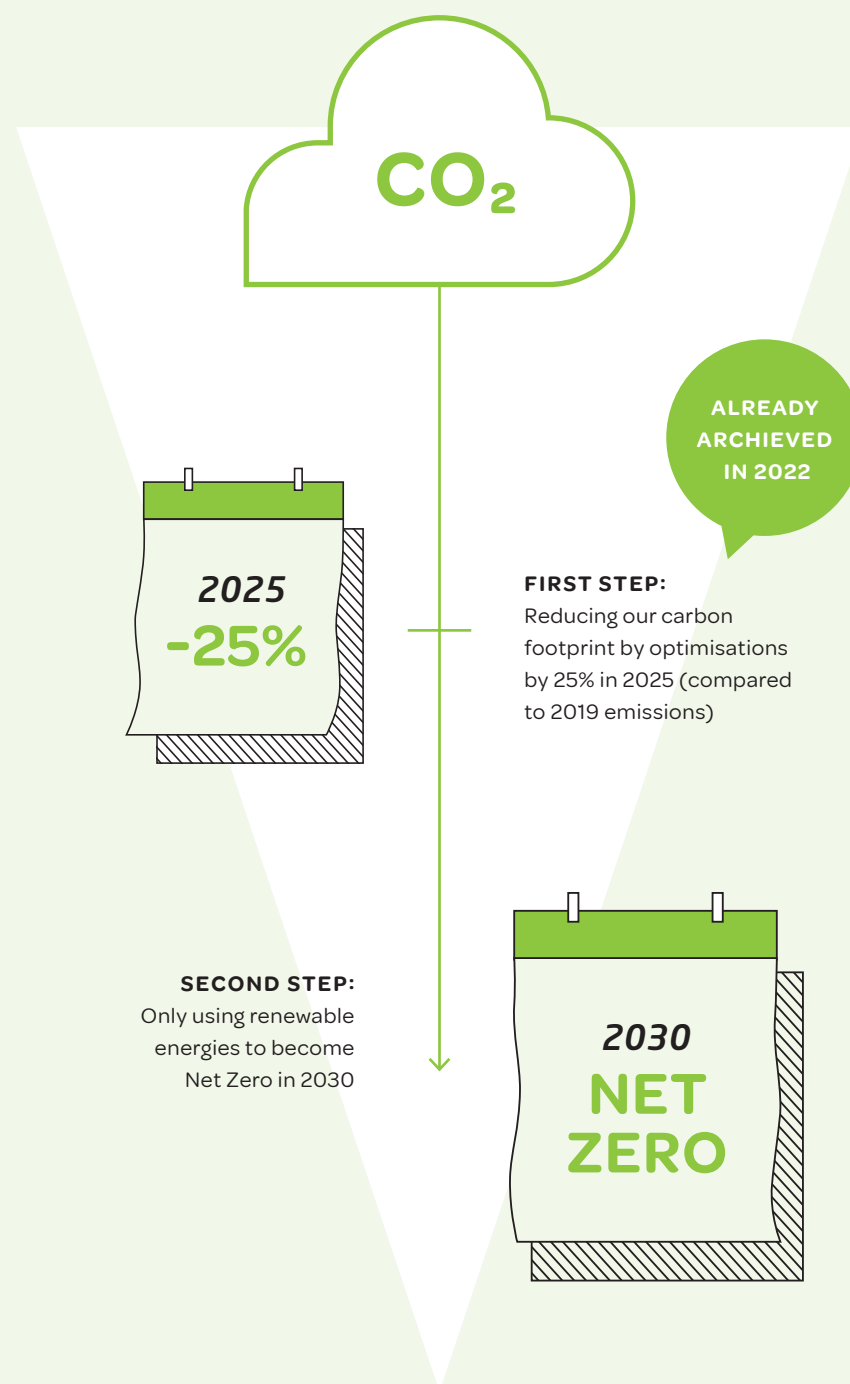
COMMITTING TO NET ZERO BY 2030

LUX-AIRPORT IS ONE OF ALMOST 100 AIRPORTS THAT HAVE COMMITTED TO ACHIEVING NET ZERO, ABSOLUTE CARBON NEUTRALITY, BY 2030.

In order to avoid the most acute repercussions of Climate Change, our civilization needs to reach "Net Zero carbon emissions" by 2050 at the latest. Net Zero in the definition proposed by the International Panel on Climate Change (IPCC) is that state "when anthropogenic CO₂ emissions are balanced globally by anthropogenic CO₂ removals over a specified period."

In other words, to achieve this we either need to stop producing new CO₂ or compensate for any emissions by removing existing emissions from the Earth's atmosphere.

OUR GOALS:





European countries where one or more airports are committed to Net Zero by 2030.

IN GOOD COMPANY: EUROPEAN AIRPORTS ARE PULLING TOGETHER

Airports have bold ambitions on their path to carbon neutrality, with experience in carbon management dating back over a decade. In their landmark Resolution adopted in June 2019, they committed to Net Zero carbon emissions from operations fully within their own control by 2050 at the latest. **lux-Airport is one of almost 100 airports that have committed to achieving Net Zero, absolute carbon neutrality, by 2030.**

LUX-AIRPORT

EMISSION INVENTORY AND DEFINING TARGETS

CARBON FOOTPRINT BASELINE ASSESSMENT

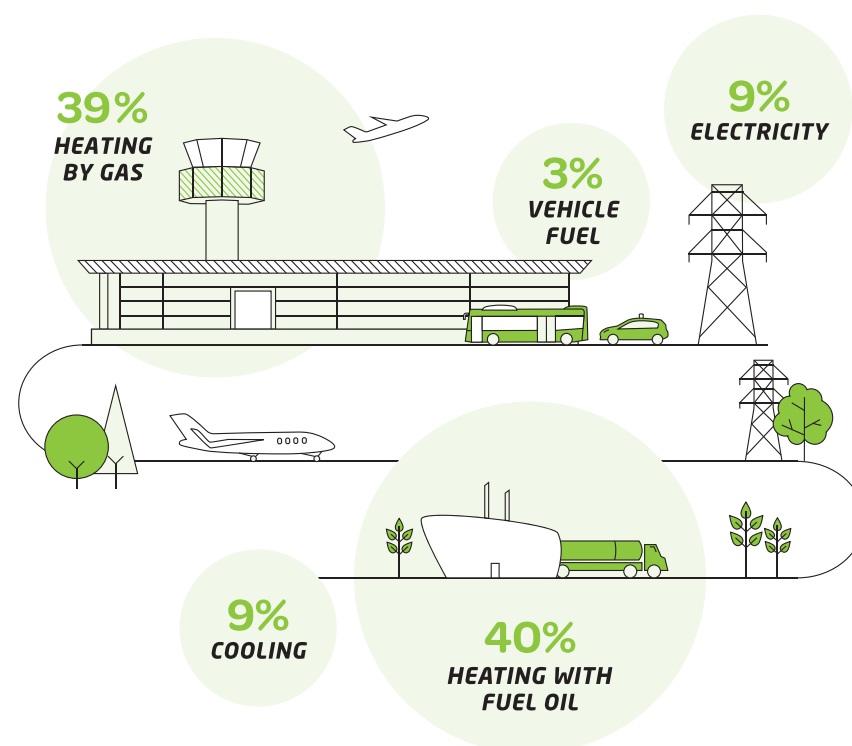
2019 was chosen as the baseline year for the road map. This decision was based on clear data availability for electricity, heating, cooling and vehicle fuel.

Once the baseline had been decided, a detailed analysis of emission sources was prepared to understand where the major opportunities for improvement at the airports are.

An extensive list of solutions used at other airports and in other industries has been studied and the potential of their application to lux-Airport has been analysed in detail. With this approach, the different opportunities available to reach Net Zero Carbon, their potential impact and the challenges involved have been analysed. From this, the list of possible solutions applicable to lux-Airport has been extended.

OUR CARBON EMISSIONS SOURCES

(reference year 2019)



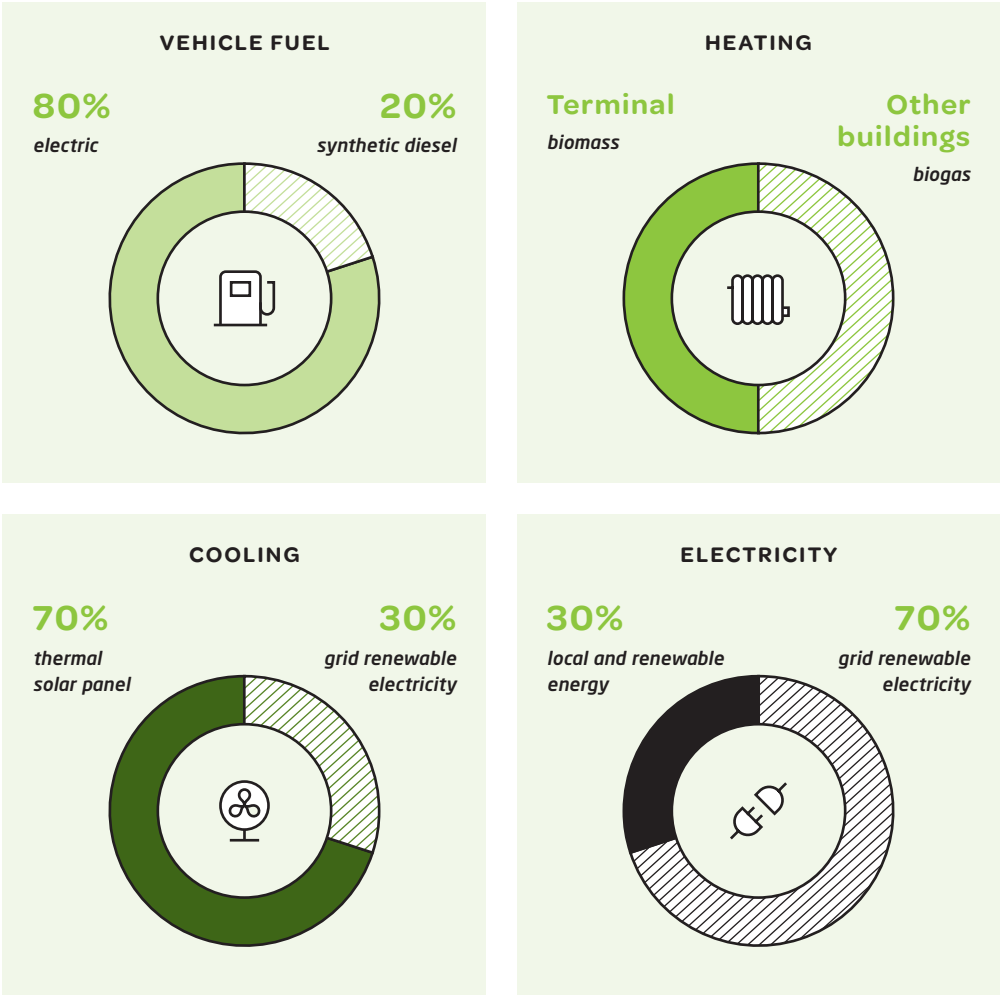
NET ZERO 2030

SCENARIO: 4 PILLARS

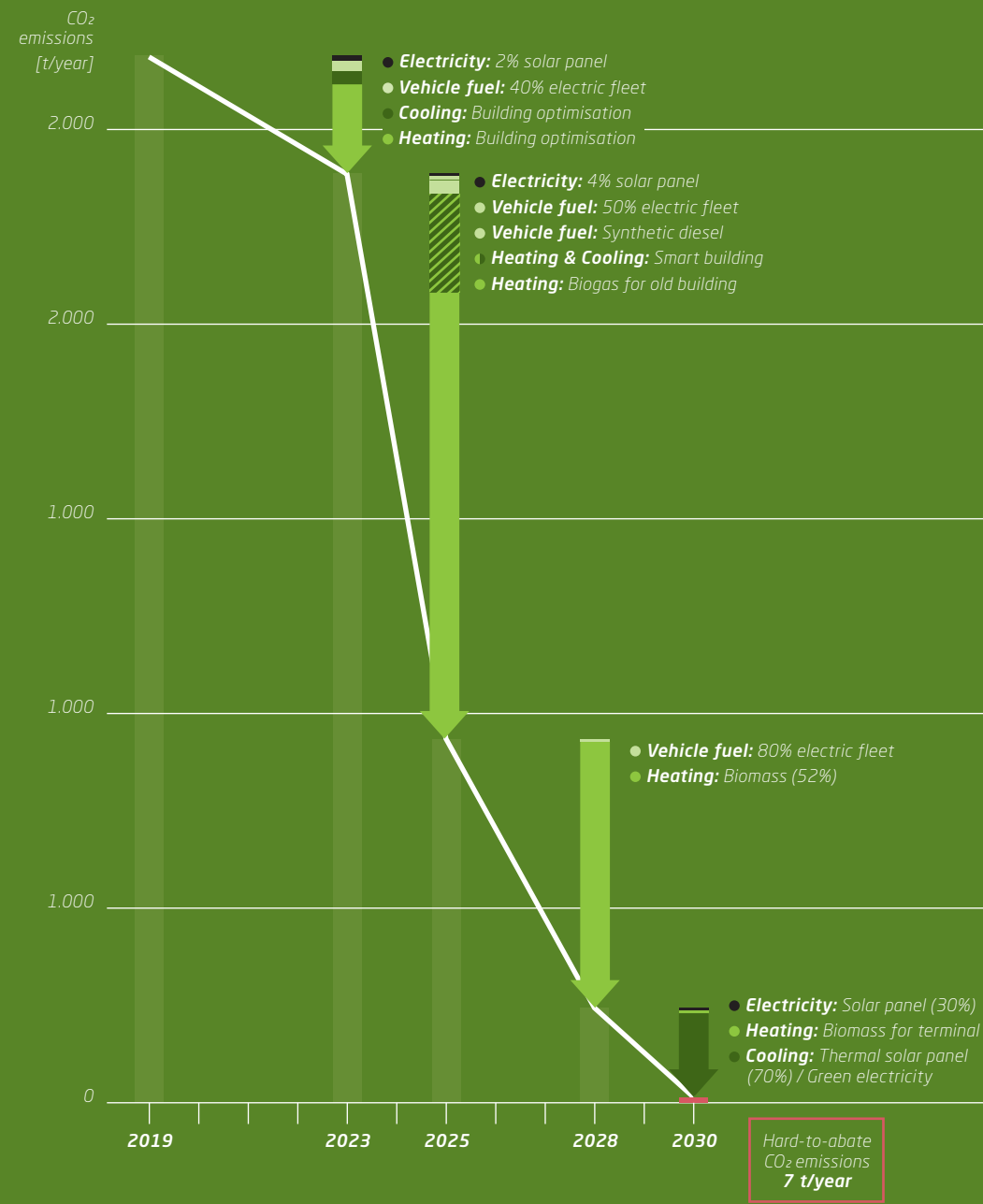
We created an emission inventory (reference year: 2019) and established a baseline emission forecast until 2030.

We considered four pillars: vehicle fuel, heating, cooling and electricity. For each of these main pillars, we developed and assess possible measures, including a technical feasibility check, an assessment of possible CO₂ reductions, as well as a timeline and cost estimation (CAPEX / OPEX). The resulting feasibility scenario matrix determine our actions.

This roadmap is not an end in itself but is continuously adapted according to technological innovations and further feasibility studies.

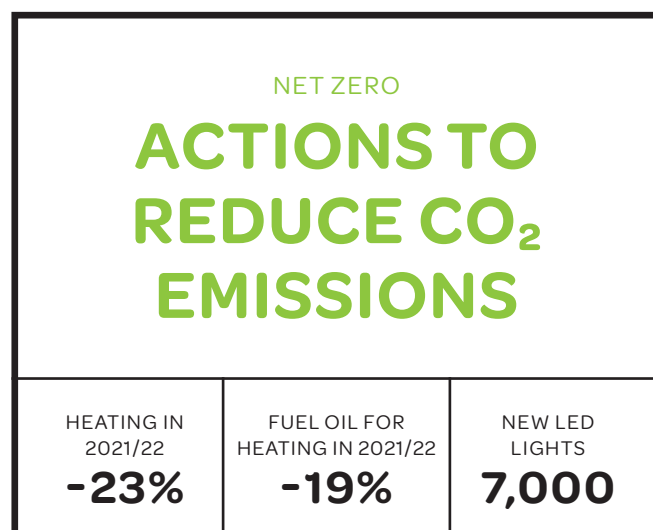


FINAL PATHWAY



HARD-TO-ABATE EMISSIONS

Although the developed scenarios describe pathways that aim to ensure lux-Airport becomes a Net Zero Carbon airport, a few hard-to-abate emission sources are expected to remain. lux-Airport will choose a solution compliant with the requirements, such as carbon capture & storage or other local nature generation.



ENERGY OPTIMISATION

Since July 2014, lux-Airport has only been supplied with green electricity, via Enovos. The renewable energy certificates are issued by the Institut Luxembourgeois de Régulation (ILR) and also validated by the European Energy Certification System (EECS). Our electricity mainly comes from hydraulic energy. Since 2020, the gas used to heat the terminals has also been climate-neutral.

Nevertheless, energy is too precious to be wasted, even if it comes from renewable sources.

For this reason, after a general audit, we are currently working to optimise the use of energy in terminal A and B. Several projects were already carried out in 2021, such as replacing of the energy meters (hot / cold), revising the set points, and replacing part of the lighting with LED.

In 2022, optimisations and adjustments continued with new parameters implemented for public and office areas, which allow some temperature variations, but significantly reduce overall energy consumption. For instance, in the offices, the air conditioning will start cooling only when the temperature reaches 24° according to the thermostat setting.

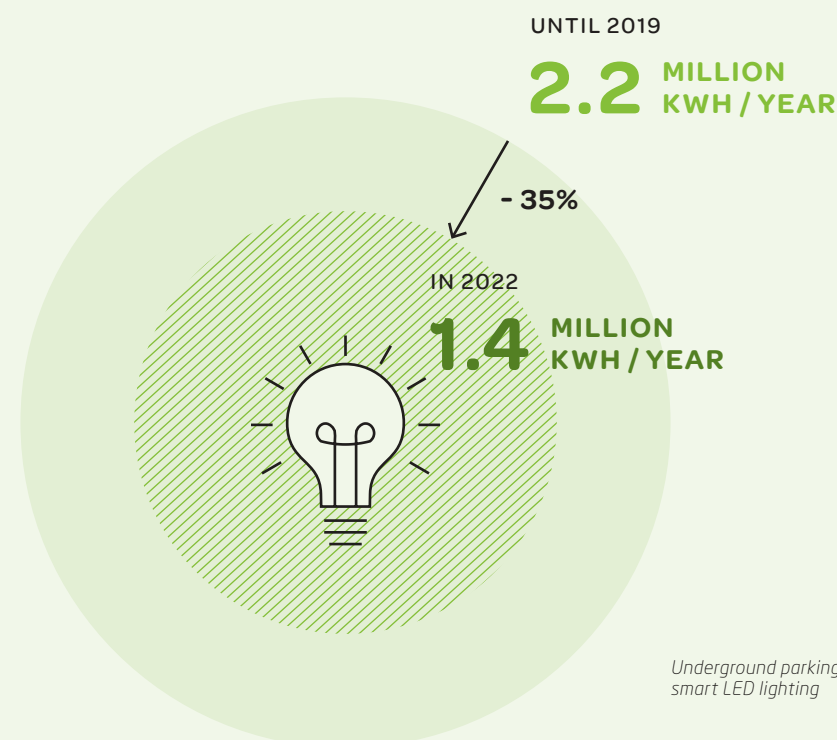
In 2023, this measure, among many others, will help us to reduce the energy consumption for **heating** the terminal by **more than 50%** and for **cooling** by **more than 30%**.

The system will be further observed, analyzed and adjusted during the coming months and seasons in order to support the overall effort required as far as we can.

LED DIMMING UNDERGROUND PARKING

The car parks used to remain lit 24/7, resulting in high energy consumption and high operating costs as a result. There were two issues at stakes because we had to remain consistent with our overall approach to reducing environmental impacts while ensuring the safety of pedestrians and drivers. Approximately 5,500 lights + 1,500 emergency lights were replaced with new LED lights, offering a better quality of lighting with a longer life span. These LED lights are “smart” because they are coupled to

presence detectors, which allow the lights to dim the light in areas where there are no users and turn them up to maximum brightness instantly. The lights are also designed to be dimmed when people or vehicles enter the area (3 m distance from the luminaire to detect pedestrians/cars). Thanks to this work, we have been able to save more than 750,000kWh since installing the new lighting, which is equivalent to a **35% reduction in the overall electricity consumption** of the car park.





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DESIGN & IMPLEMENTATION

LEKKERWERKEN GMBH