

Roadmap towards

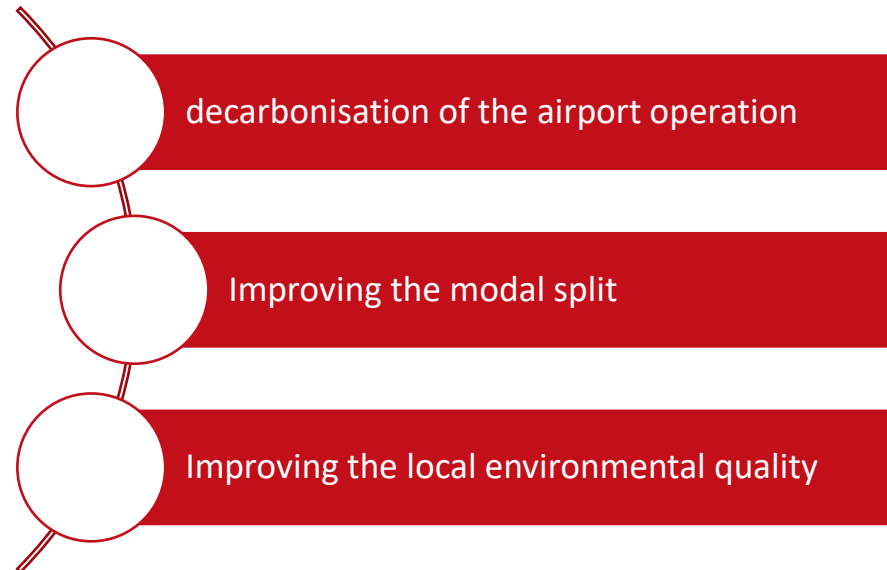
Net zero carbon 2050

Our ambition

Net zero carbon by 2050 the latest

Sustainability Vision

Brussels Airport wants to be a **game changer** and **trendsetter** in the aviation industry, particularly in sustainability through the execution of a **strategic sustainable airport development** with a transversal focus and **Best in Class European airport**.



Sustainability Strategy

We position ourselves as a responsible player, striving daily for a fair balance between positive and negative impact, and caring for people (customers, employees, local residents and their environment). The overall Sustainability Strategy is fully in line with the SDG's from the UN.

Decarbonization	Circular Economy	Diversity & inclusion	Local Environmental Quality	Modal split
				
				
becoming net zero carbon	reducing waste	Empowering inclusion with a clear commitment to diversify our workforce	minimisation of the levels ground noise and ultrafine particles (UFP) and NOx emissions by means of innovative technologies and methods	improving mobility modal shift through the implementation of innovative mobility solutions focused on promoting public transport and cycling



Our ambition

- Airport Carbon Accreditation (ACA)
 - Accredited since 2008
 - since 2018 at Level 3+ “Neutrality”
 - evolve towards Level 4+ (by 2025 the latest)
- Net zero carbon 2050



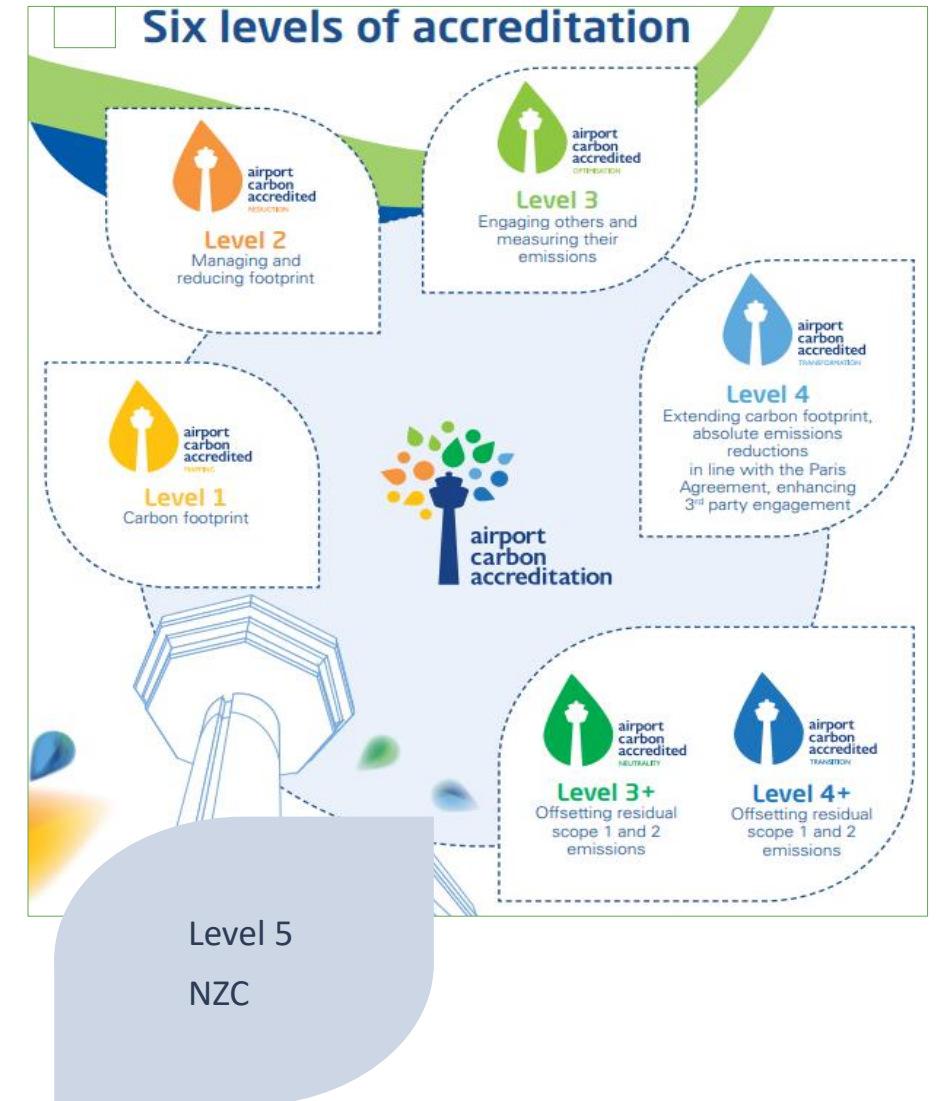
NIEUWS

02 07 2019

Brussels Airport zal geen CO2 meer uitstoten tegen 2050

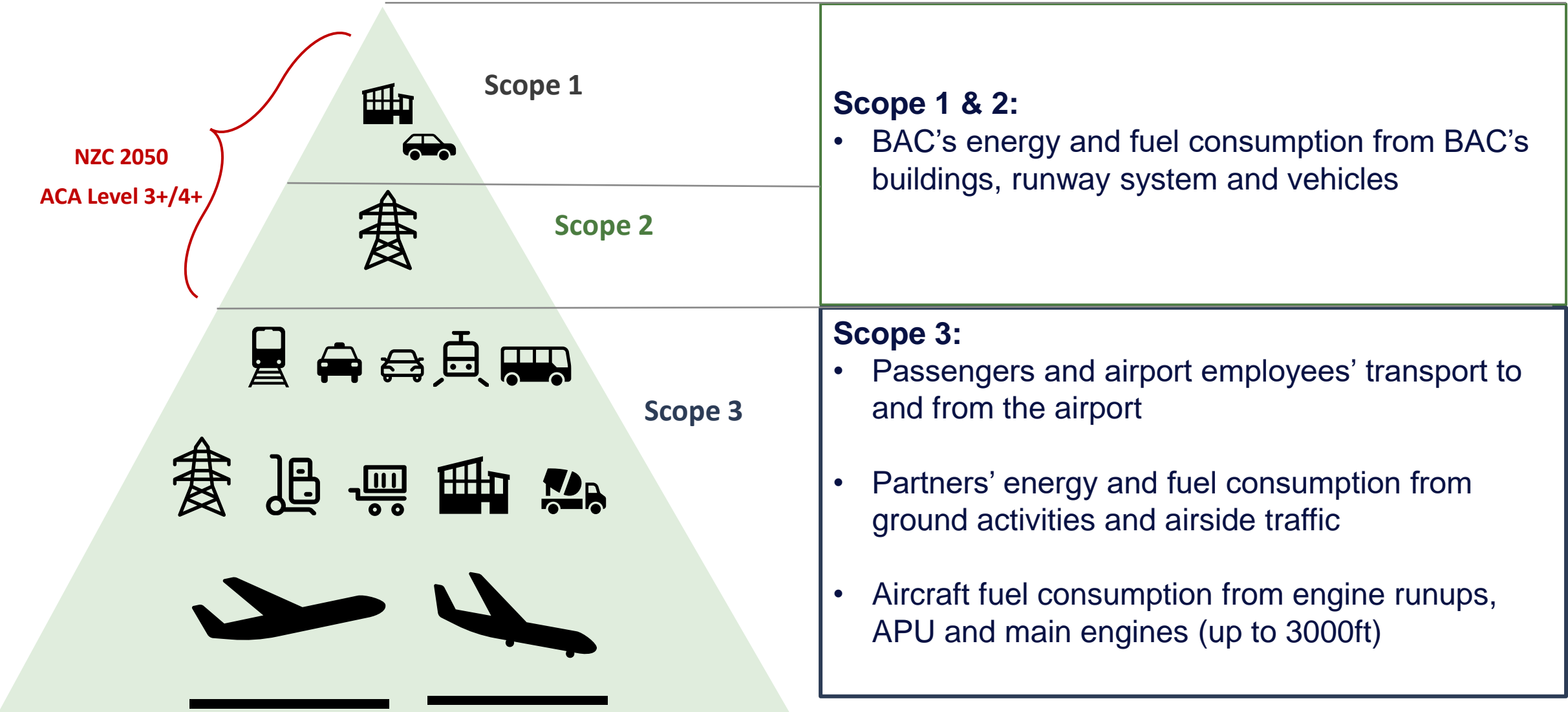
Samen met 192 andere luchthavens uit 24 verschillende landen, ondertekent ook Brussels Airport de resolutie 'NetZeroCarbon2050' van luchthavenvereniging ACI Europe om geen CO2 meer uit te stoten tegen ten laatste 2050.

[Lees meer >](#)

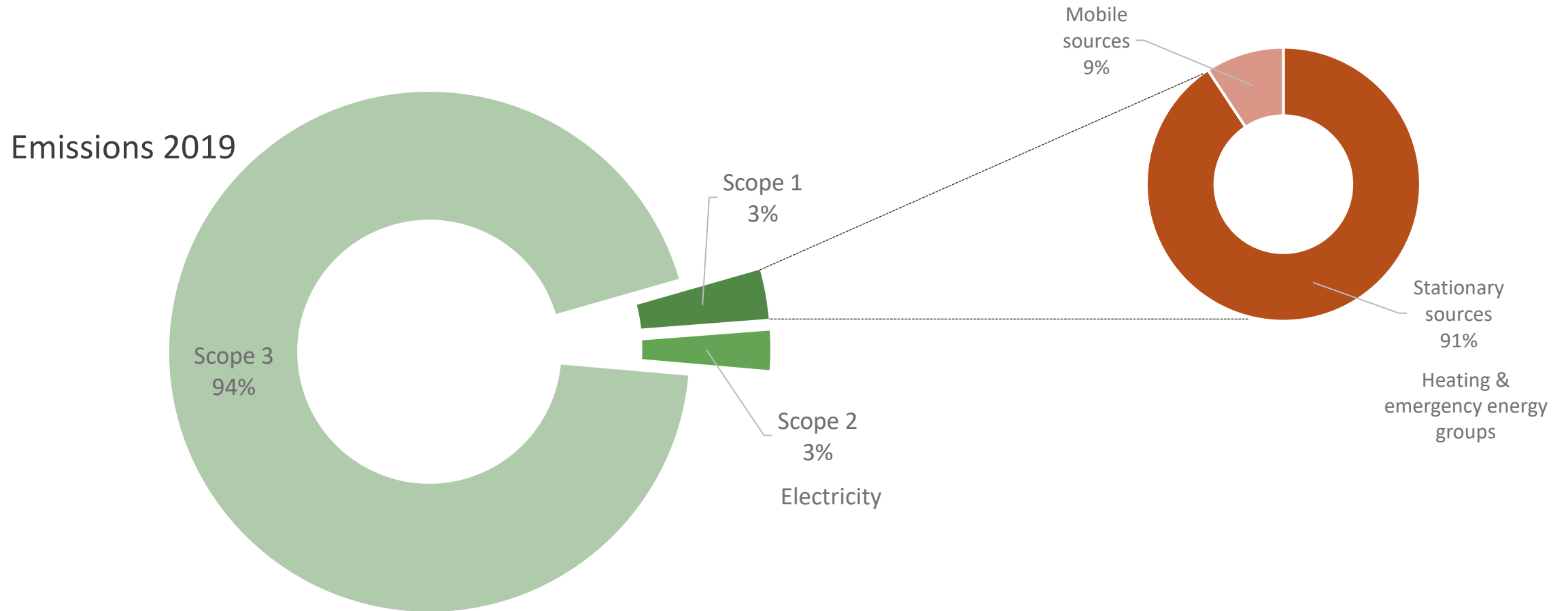


Net Zero Carbon

Sources of BAC emissions and scopes



Our scope 1, 2 & 3 breakdown



Our transition path

5 building blocks



5 building blocks



1

Fossil free heating



2

Electric equipment & vehicles



3

Local green electricity



4

Robust electricity system



5

Connected community



Fossil free heating





1

Fossil free heating

- From 2022 onwards all new buildings will be **maximum energy-efficient buildings** (design, insulation)
- The use of **solar power** and **renewable fossil free heating (heat pumps)** are standard elements
- Transform all existing gas heated central plants (BLD16 & BLD702) towards zero emission plants
- Energetical **renovation of two central heating plants connected existing buildings is needed** to be able to lower the heating temperature (terminal, piers, offices, warehouses)





1

Fossil free heating

ENERGY USE

- Comfort level adaptation (CLA)
- Accelerated renovation of existing buildings
- New buildings BREEAM outstanding certified

ADAPTATION

- Renovation & rebuilding of existing buildings

TRANSFORMATION

- Central Heating BLD 16 zero emission
- Central Heating B702 zero emission
- Other buildings decentralized heating to Zero emissions



Fossil free heating

New buildings zero emissions

All new buildings will be designed and insulated to be as energy-efficient as possible. All new buildings will be at least BREEAM Excellent (hotel, office, terminal, warehouses, ...).

All new buildings will be heated with renewable fossil free energy

- Based on heat pumps & combined with Seasonal Thermal Energy Storage (STES) where possible
- Decentral /Connected for ABD phase 1 (and all subsequent phases)
- Decentral at BRUcargo



All NEW buildings
are heated on
renewable energy



Fossil free heating

Existing building renovations – low temperature heating

Currently, none of the existing buildings are heated at a low temperature, meaning they are not “heat pump ready”. Therefore, action is required.

An accelerated renovation of existing buildings can improve their energy performance (e.g. insulation) and in parallel, the heat delivery systems can be adjusted towards low temperature heating.

The transition to renewable energy based on heat pumps combined with Seasonal Thermal Energy Storage (STES) is the preferred solution



A renovation plan for
EXISTING BUILDINGS
is initiated

Electric equipment and vehicles

Transition Path towards NZC 2050





2

Electric equipment & vehicles

- Substitution of the **entire fleet of company cars towards 100% electric** (battery electric powered vehicle (BPEV) **by 2026**
- Substitution of the **service vehicles fleet to NZC by 2030**
- Provide sufficient loading capacity (electric charging facilities) > key in speeding up the transition towards NZC mobility
- Biodiesel/synth diesel/hydrogen for heavy vehicles (WOPS, FES), where alternatives are not readily available at the market
- Further encourage commuting by public transport and bike by increasing the transport mode infrastructure





2

Electric equipment & vehicles

USE

- Zero emission vehicles airside
- Zero emission vehicles landside
- Multi modal transport
- Zero emission e-GPU

INFRA

- Zero emission Infrastructure (electric charging)
- New mobility
- Mobility as an energy source and energy storage (batteries cars → demand side management)

Local green electricity





3

Local green electricity

- Currently 100% green electricity is purchased
- In collaboration with local stakeholders, agreements can be set up to generate renewable energy locally to ensure its origin
- Invest in on site solar projects (Brucargo zone has highest potential)
- Invest in off site local renewable energy projects (CPPA's for PV and Wind)





3 Local green electricity

EFFICIENT ENERGY

- Smart and efficient LED lighting
- Further maximizing energy efficiency
- Renovation and isolation of old buildings

ENERGY GENERATION

- Local energy production (solar projects)
- Direct investment in green electricity
- Green energy purchasing
- Investment in CPPA's with local solar and wind installations



Robust electricity system





4 Robust electricity system

- Smart resilient electricity grid
- Develop Smart Grid to match supply and demand over time and thus optimally manage energy at the airport itself



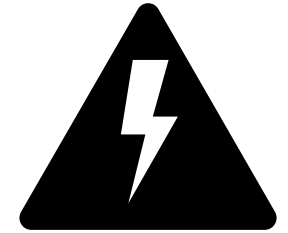
4 Robust electricity system

Smart & Resilient Grids

A Smart Grid is an 'intelligent layer' on the energy distribution network and connects energy generation, energy storage and energy use. This allows you to match supply and demand over time and thus optimally manage energy at the airport itself. The energy demand from outside can thus be optimized (consumption and peak loads) at minimal cost. supply and demand can be optimally matched 'in time'

Examples of how a smart grid helps are by connecting car batteries as energy storage, assessing peak loading times for future aircraft and airport equipment, and distributing electricity to 3rd party stakeholders.

Future revenue streams include the distribution network over which the airport can control ownership, and the energy generation that airports can provide over their network to all connected third parties.



Smart grid connections are established to regulate future energy sources



Connected community

Transition Path towards NZC 2050



14/06/2022

25



5

Connected community

