



ICAO EUR/NAT and ACI EUROPE

REGIONAL GREEN AIRPORTS SEMINAR

**Hosted by the Ministry of Transport
Republic of Kazakhstan**

Sustainable Transformation at Vienna Airport



ICAO



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Sustainable Transformation at Vienna Airport

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The hub in the heart of Europe and Gateway to CESEE

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About Vienna Airport

The hub in the heart
of Europe and
Gateway to CESEE



Flughafen Wien AG

→ Joint-Stock Company - Ownership

- Core shareholders:
State of Lower Austria & City of Vienna
- Employee participation foundation (10 %)
- Airports Group Europe S.à r.l. (44 %)

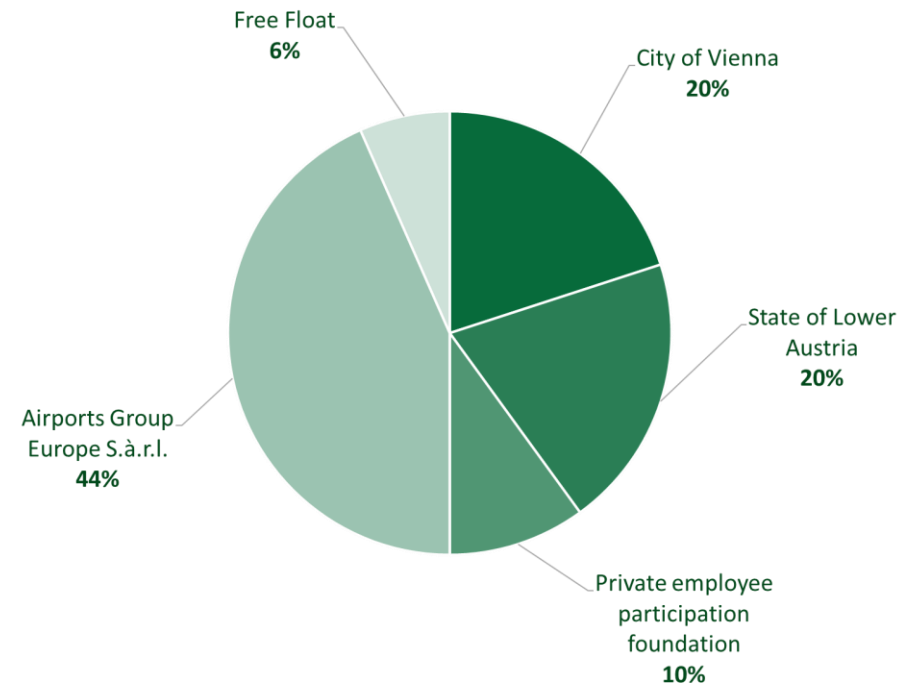
→ Foreign Subsidiaries:

Malta Airport (48.44 %), Košice Airport (66 %)

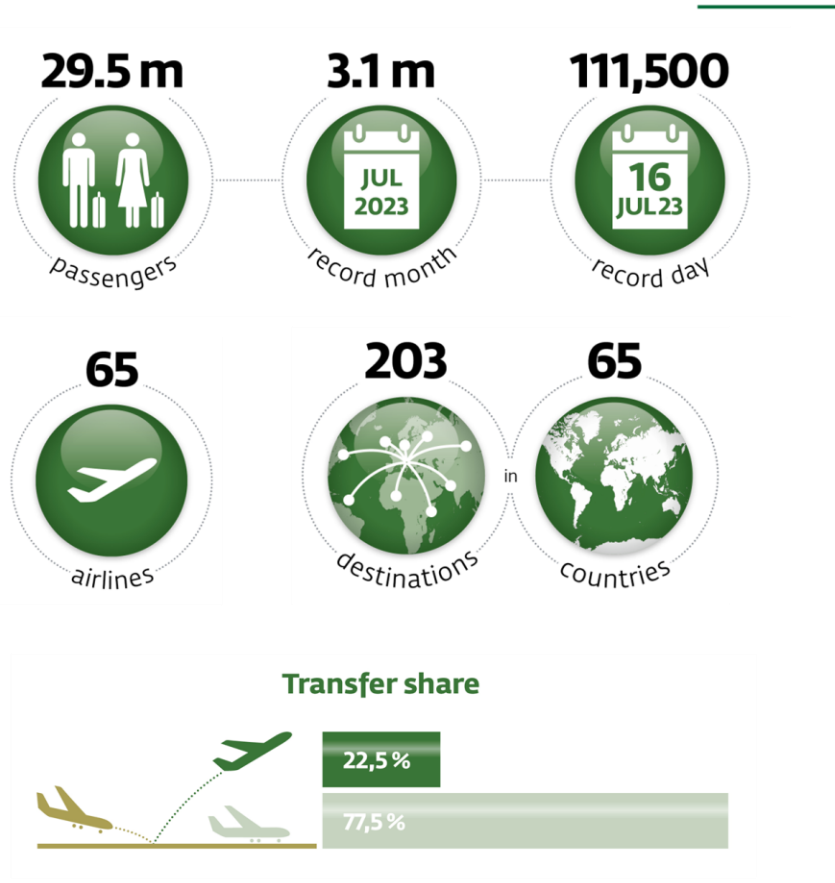
→ Full-Service Provider

- Airport operations, ground handling service, security service, infrastructure provider and commercial activities

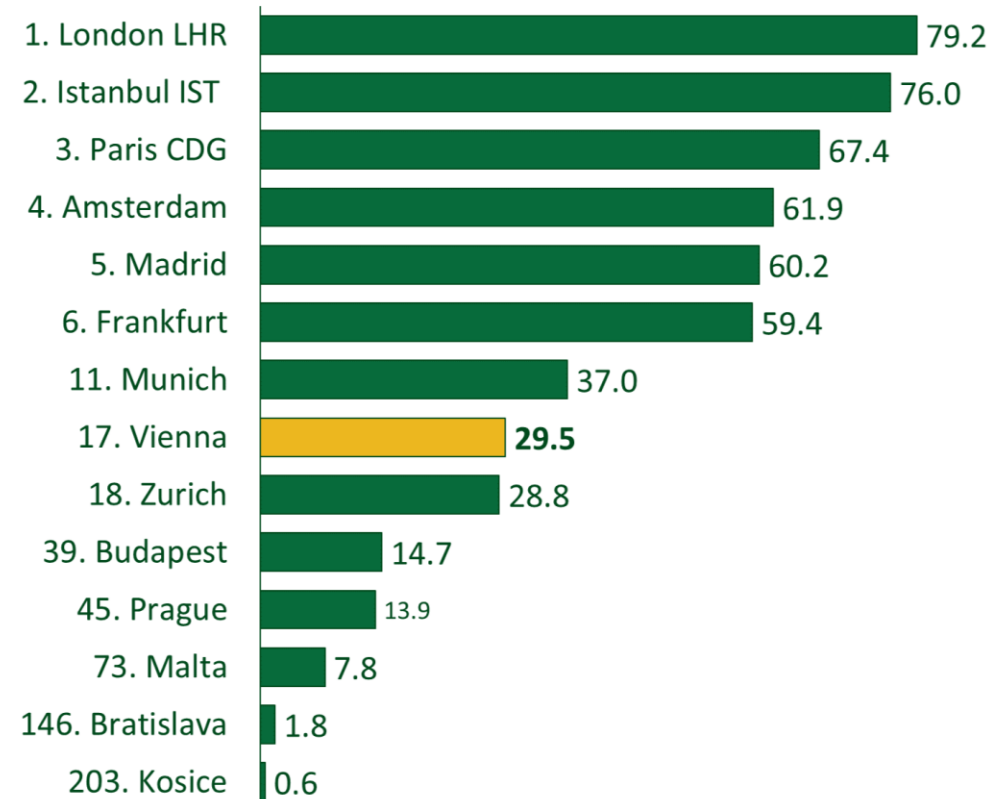
→ 5.100 Employees (FTEs), > 25.000 people on site



2023 Key Figures



Passengers in 2023 in millions





02
Sustainability
Journey at
VIE
The story of
sustainable
transformation at
Vienna Airport so far



Timeline of Environmental Projects



1980
District heating from nearby oil refinery



1991
Underground pipeline for jet refuelling



2003
City Airport Train

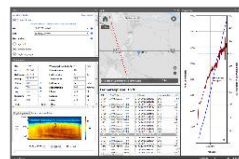


2011
Airport Carbon Accreditation System



2012
Establishment of a working group on energy efficiency

1990
Aircraft noise and flight movement recording



1997
Air quality measuring point in vicinity of runways



2008
Considerations for the implementation of ISO/EMAS

2005
Dialogue forum Vienna Airport



Timeline of Environmental Projects



2015
Environmental
Management
System
EMAS



2017
Smart Airport City
Technical University
Vienna

2017
Photovoltaic plant 3



2020
Sustainable office
building
Office Park 4
(geothermal heating)

2022
CO2 free district heating
provided by OMV

2022
Photovoltaic plant 8



2016
Photovoltaic plants 1
+ 2

2016
Natural gas and
lighting offensive



2019
Photovoltaic plant 4

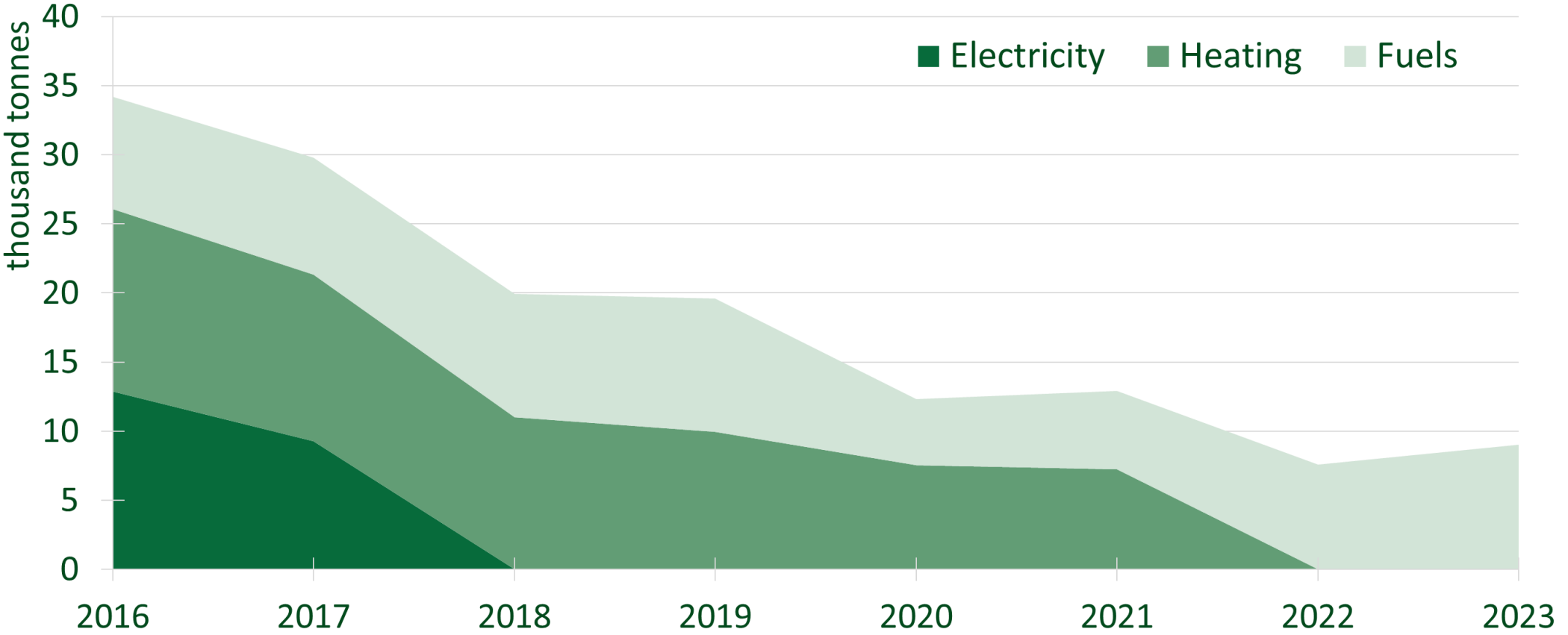
2019
CO2 free power
supply

2021
Photovoltaic plants 5 + 6 + 7

2023
CO2-neutrality
Offsetting fuel
consumption

2024
Photovoltaic plants
10 + 11

CO₂ Emissions at Vienna Airport



2017: Share of electricity reduced through purchase of 50 GWh hydropower certificates
2018: Share of electricity made CO₂ neutral through VIE photovoltaics and 100% hydropower certificates

CO₂ Neutral Airport Operations since January 2023

→ Basket of measures

- Photovoltaic facilities, e-mobility, CO₂-neutral geothermal energy/district heating, new technologies, digitalization, automation and countless other measures
- More than a 40 % reduction of energy consumption per traffic unit since 2011
- Photovoltaic expansion to about 45 MWp promotes the reliability of the energy supply and reduces dependency on energy costs

→ Large fast e-charging station for the airport region

- New in 2024: large electric filling station for passengers with quick charging stations - charging capacity of 185 KW per charging station – charging completed in 15 minutes



03

PV is key

Photovoltaic plants
as key technology
for sustainable
airport operations



Austria's largest PV plant in operation at VIE

→ Starting 2016

- 1st PV plant at VIE opened in June 2016
- 6 additional PV plants until 2021
- 7th & 8th plants were the biggest PV plants in Austria, were opened in 2022 on an area of about 24 hectares (south of RWY 11/29)

→ From 2023

- 9th PV plant: installation on car park 4
- 10th PV plant: new construction on Bad Vöslau airfield

→ In 2024

- 11th PV plant under construction

→ By the end of 2024, a total of 11 PV plants can supply 45 million kWh of electricity – around 50% of VIE's electricity demand!



Photovoltaic supply as enabling technology

- Reduces energy cost, carbon footprint and dependence on external suppliers
- Produces large amounts of **own energy demand** (VIE: 50 %) with **high reliability**
 - however: seasonal variations demand other technologies (i.e. hydropower)
- Enables to **store power or convert** into other forms of energy (i.e.: hydrogen)
- Contributes massively to reach **climate targets**
- **Visible sign of climate related measures and investment**
 - passenger experience, media, politicians and other decision makers
- First big step to **transforming airports into (sustainable) energy hubs**
- **Catalytic effects** for regional energy infrastructure and markets

04

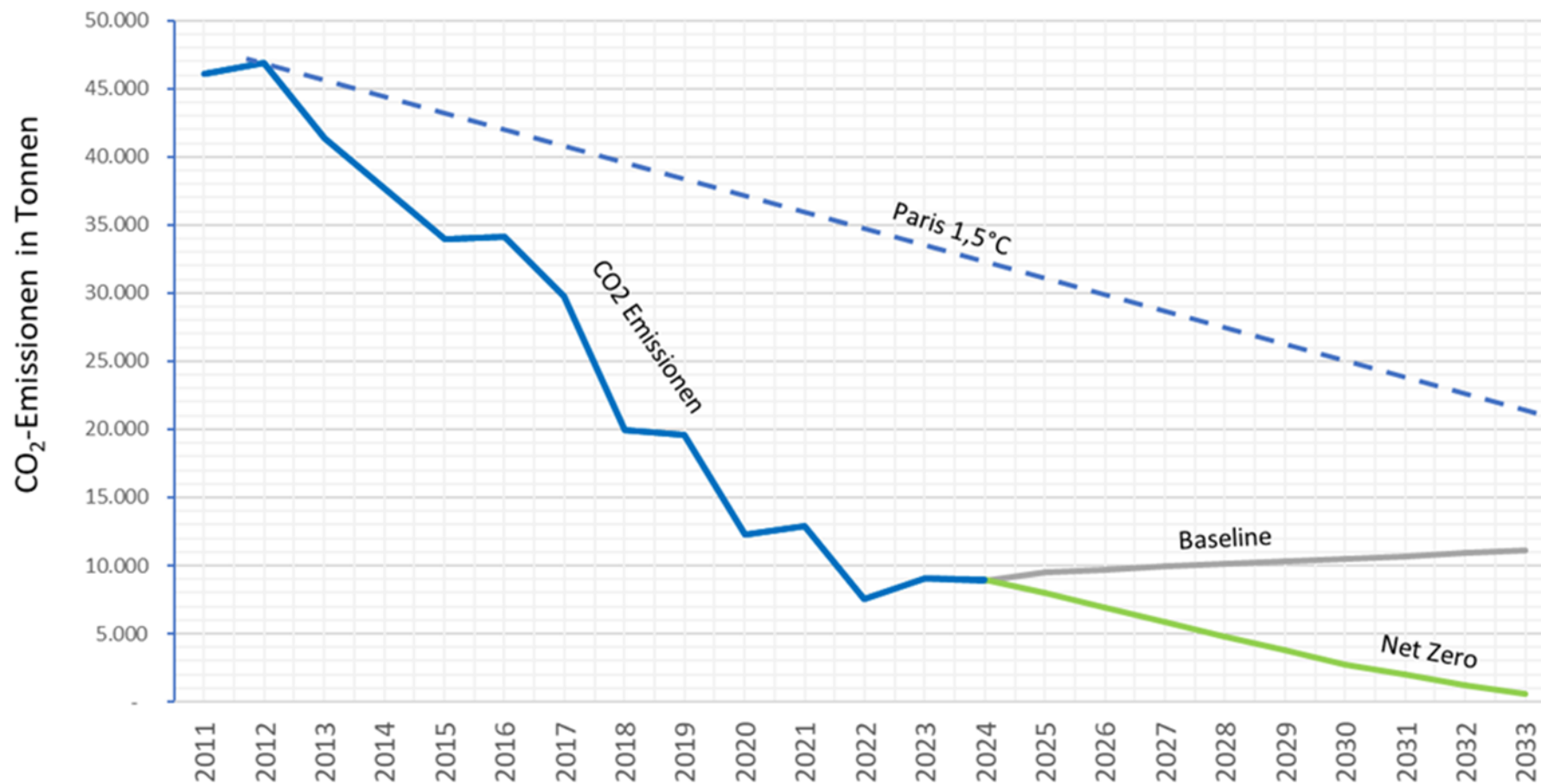
Net Zero Roadmap

From carbon neutral
to carbon free
airport operations



Net Zero operations until 2033 (Scope 1, Scope 2)

CO₂-Emissionen 2011 -2033 in Tonnen



Mapping, measures and implementation

→ Around 9,000 tons of CO₂ were still emitted at VIE at the end of 2023

→ The most important **measures**:

- operating **vehicles and equipment** with sustainable fuels or replacing them with sustainable alternatives
- **sustainable energy production**, expansion of grid and charging infrastructure, ...
- binding the unavoidable CO₂ emissions through **storage or sinks**
- several **hundreds of single measures**, incl. digitalization and automation
- Support reducing **scope 3 emissions**

→ Climate measures as integral part of **company strategy**

→ Roadmap carried by **all management levels**

05 Challenges ahead

Regulatory
framework and
physical limitations



Regulatory Framework

→ Alternative Fuels Infrastructure Regulation ((EU) 2023/1804)

- Electrification of ground power supply
- Infrastructure for electric and hydrogen powered aircraft

→ Clean Vehicles Directive ((EU) 2019/1161)

- low- and zero-emission vehicles in public procurement tenders

→ TEN-T regulation (2021/0420(COD))

- Pre-Conditioned Air on contact stands
- Charging infrastructure for electric and hydrogen powered vehicles

→ National energy regulation

- Rules about feeding in energy
- Cost of local energy network infrastructure

Physical challenges and limitations

- Finding enough **surface areas**

- Possible effects on **radar signals** or **distracting pilots**

- **Seasonality** of energy supply – PV is not enough

- **Surplus energy**
 - Negative energy prices
 - Storage facilities

- **Limits of energy infrastructure** require massive investments
 - Airport grid
 - Regional / local network

Thank You

