ZAGREB AIRPORT

ACI ACA LEVEL 4 CARBON MANAGEMENT STAKEHOLDER PARTNERSHIP PLAN

FRANJO TUĐMAN AIRPORT ZAGREB

airport carbon accredited LEVEL 4

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ISO 9001 - ISO 14001
BUREAU VERITAS Certification

ACI ACA LEVEL 4 CARBON MANAGEMENT STAKEHOLDER PARTNERSHIP PLAN

RECORD OF DOCUMENT REVISIONS	VERSION	DATE	DESCRIPTION	PAGE OR CHAPTER REVISED	AUTHOR
	V0	11.06.2025.	Original document	-	Luka Kobelščak

DISTRIBUTION LIST	Vidi CC-IMS-FO-001/ See CC-IMS-FO-001
PURPOSE OF THE DOCUMENT	The purpose of the Stakeholder Partnership Plan is to institutionalize cooperative climate action across all airport-associated organizations, enabling the airport to achieve meaningful and reportable reductions in Scope 3 emissions. It reflects the airport's maturity in system-level climate governance, required for Level 4 ACA accreditation. The goal is to drive third parties towards delivering emissions reductions, through their own reduction plans and through measures initiated by the airport operator.
SCOPE OF APPLICATION	The manual is applicable to stakeholders with material emissions at International Zagreb Airport Jsc.
REFERENCE(S)	Manuals ➢ Airport Carbon Accreditation Application Manual Issue 14, December 2023 ➢ Carbon Footprint manual 2025 Records ➢ MZLZ ACI ACA ACERT Calculation table

CONTENT OF THE DOCUMENT

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1. Definitions

TERM	DESCRIPTION
Airport Stakeholders	Operational and service companies, such as airlines, ground handlers, cargo handlers, catering companies, waste management contractors, public and local transport operators, passengers, decision makers, planners, employees, tenants, retailers, cargo operators, civil workers and other contractors.
Stakeholder Partnership	All stakeholders that are responsible for a significant contribution to the Scope 3 Footprint related to Level 4 conditions effectively implementing the Stakeholder Partnership Plan.
LTO cycle	ICAO has defined a specific reference LTO (Landing and Take-off) cycle below a hight of 915 n (3000 ft).
Scope 3	All other indirect emissions, which are consequence of the activities of the airport but occur from sources and not owned and/or controlled by company (e.g. aircraft movements, etc.). Such sources can be located within or outside the airport premises (geographical boundary).
Level 4	Absolute emissions reductions in line with the Paris Agreement Enhanced 3rd party engagement of airport carbon accredited.
Airport Stakeholders	Operational and service companies, such as airlines, ground handlers, cargo handlers, catering companies, waste management contractors, public and local transport operators, passengers, decision makers, planners, employees, tenants, retailers, cargo operators, civil workers and other contractors.

2. Abbreviations

ABBREVIATIONS	DESCRIPTION
MZLZ	International Zagreb Airport Jsc.
ZAG	Franjo Tuđman Airport located in Velika Gorica, Republic of Croatia (including all buildings and external areas within the site of Franjo Tuđman Airport
ACA	Airport Carbon Accreditation
CTN	Croatia Airlines
AEC	Airport Environment Commitee
MRO	Maintenance, repair and overhaul emissions in aviation
APU	Auxiliary Power Unit, a small independent engine whose primary function is to start the main engines and power essential onboard systems while the aircraft is parked at the airport.
GPU	Ground Power Unit, an external power source that provides electricity to aircraft while they are on the ground. This allows aircraft to operate their electrical systems, such as avionics, lighting, and air conditioning, without needing to use their engines.
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3. Introduction

A Stakeholder Partnership Plan outlines the work that will be undertaken with stakeholders within the Scope 3 value chain to reduce emissions[1]. The development of the Plan is one of the Stakeholder Management requirements for Level 4 accreditation.

Inclusion of all stakeholders that are responsible for a significant contribution to the Scope 3 footprint, setting emissions reduction objectives for stakeholders or stakeholder groups, carbon reduction plans/measures directly taken by the stakeholders with airport contribution or defined by the airport operator[2]. The threshold of significance was generally set to sources being greater than 10 % of the total (Scope 1, 2 and 3, but excluding full flight) emissions. Considering the level of MZLZ's influence on specific stakeholder groups other sources with smaller contribution were also considered.

4. Policy Statement Requirement at Level 4 (Transformation)

MZLZ has set a target to achieve at least 70,48 % absolute reduction in CO_2e emissions in Scope 1 and 2 compared to baseline year by 2050. For the purposes of the Carbon Management Plan and Level 4 certification, MZLZ must follow the absolute reduction target which is in line with the IPCC 2 °C pathway. According to estimations MZLZ might even achieve significantly higher emissions reduction than the minimum prescribed IPCC 2 °C pathway. Scope 3 Engagement states expansion of the Stakeholder Partnership Plan to influence third-party emissions.

[1] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 59.
[2] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 61.

5. Overview of Scope 3

Scope 3 implies all other indirect emissions in the value chain of the airport operator that occur from sources not owned and/or controlled by the company (for example, purchased goods and services, aircraft movements, vehicles and equipment operated by third parties, off-site waste management, etc.). Such sources can be located inside or outside the airport premises (geographical boundary). They include upstream emissions (Categories 1-8: indirect emissions related to purchased or acquired goods and services, if relevant) and downstream emissions (Categories 9-15: indirect emissions related to sold products and services, if relevant). The range of Scope 3 emission sources has been expanded in order to comply with Emission Sources and Reporting Requirements at Level 4.[3]

Scope 3 emissions from upstream and downstream value chain[4]

- Purchased Goods: water, material, products ... (Category 1),
- Services: construction, maintenance, financial, legal, marketing ... (Category 1),
- Capital goods: vehicles, installations (Category 2),
- Energy & Fuels production offsite: WTT, WTG, T&D (Category 3),
- Waste & wastewater management (Category 5),
- Staff business travel: air, road (Category 6),
- Staff Commute (Category 7),
- Full flight (incl. APU and MRO) (Category 11),
- 3rd party vehicles/ground support equipment and de-icing (Category 11),
- Public Landside Access (Category 11),
- Tenant electricity (Category 13).

The Scope 3 categories noted above are applicable to MZLZ Stakeholder Partners will be discussed and determined, in stages, during the activities described under the Point 9, see Airport environment committee (AEC) in table.

[3] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 24.
[4] See Figure 6 –Overview of emissions per Scopes, Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023.

General Overview of Scopes (Source: Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 24)

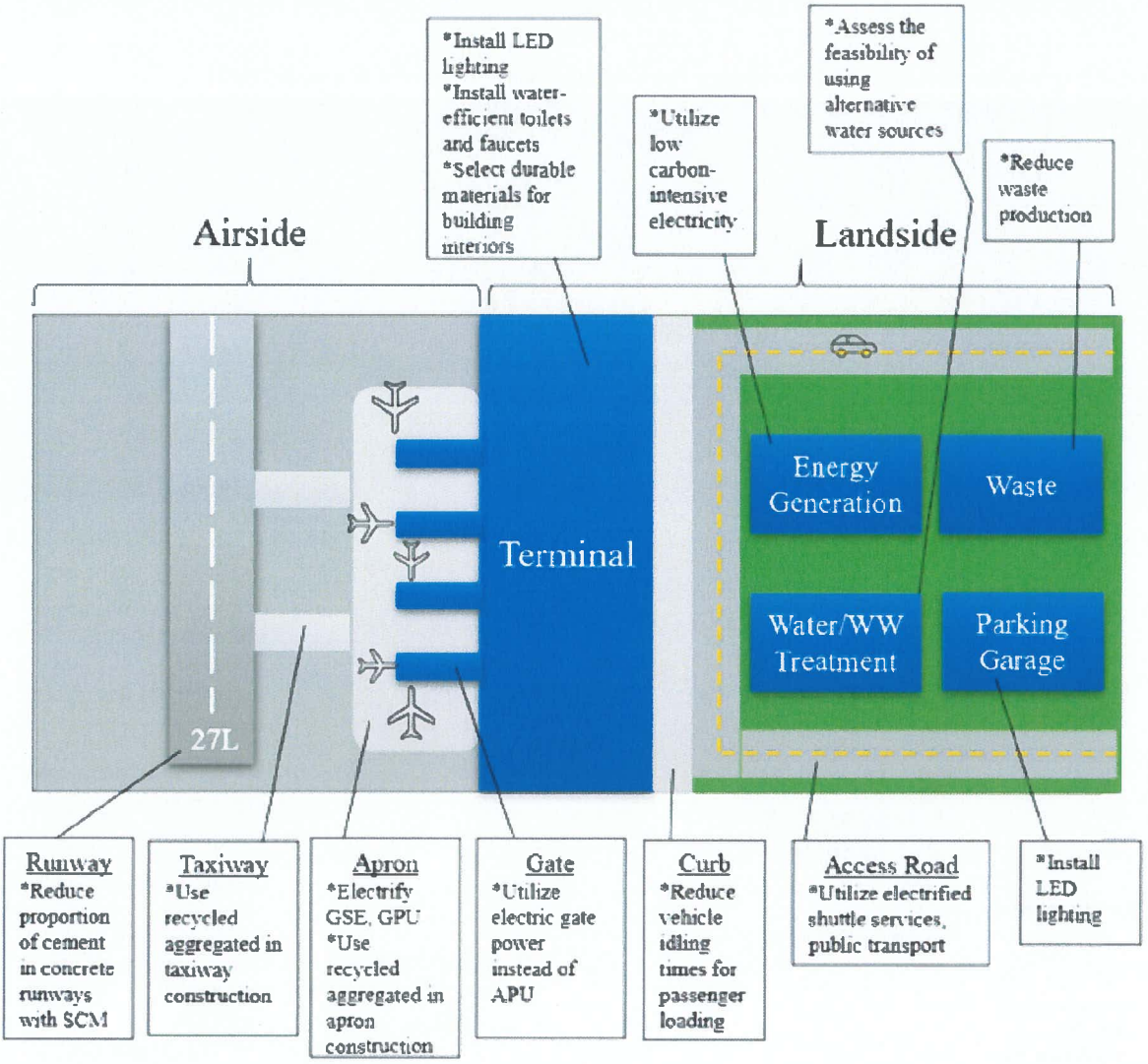
6. The Stakeholder Partnership Plan – guideline for the purpose and requirements

At Level 4 and above, an airport shall demonstrate that it has formulated and is effectively implementing a Stakeholder Partnership Plan. It shall demonstrate that the airport actively drives third parties at the airport towards delivering emissions reductions themselves. The Stakeholder Partnership Plan includes the following:

- All stakeholders that are responsible for a significant contribution to the Scope 3 footprint. It is up to the airport to define what a "significant contribution" means in its specific context.
- The setting of emissions reduction objectives for a specific stakeholder or a group of stakeholders. These objectives can be absolute or relative and can either be set by the airport operator or by the stakeholder. If the stakeholder has set the objective, the airport will have to demonstrate significant involvement/contribution to the objective setting.
- Carbon reduction plans/measures directly taken by the stakeholders in partnership with the airport and leading to emissions reductions. Again, the airport operator shall demonstrate their involvement in these measures and plans. If the stakeholders had implemented these plans unilaterally, the airport operator would not be able to include these in the Stakeholder Partnership Plan.
- Reduction measures defined by the airport operator on stakeholder activities e.g. APU restrictions, emissions limits.
- It is not mandatory to define and prepare 1) an emissions reduction objective(s), 2) a carbon reduction plan/measures, and / or 3) individual restrictions, for each individual stakeholder. Rather, each stakeholder group needs to include a response to each of these three requirements noted above (i.e., at a group level), within its Stakeholder Partnership Plan.[6]

[6] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 63-64.

Suggested best practices for improving airport environmental sustainability (source: Greer at al. (2020): Airports and environmental sustainability: a comprehensive review)



7. International Zagreb Airport Operational Scope 3 Boundary

Operational boundary defines scope of direct and indirect emissions for operations based on company's established boundary[7]. The table below presents the International Zagreb Airport Operational Boundaries for Scope 3.

International Zagreb Airport Scope 3 Boundary (source: Carbon Footprint Manual 2025)

	CONTROL Facilities, services, activities and equipment for which the airport company has ownership/control.	GUIDE Facilities, services, activities, and equipment owned / controlled by subcontractors, close partners and suppliers for which the airport company can provide guidance.	INFLUENCE Facilities, services, activities and equipment owned/controlled by loose partners, tenants, customers, government agencies, etc. which the airport company can only influence.	INTERNAL Department or third party with responsibility for emission source
Scope 3 Upstream and downstream Indirect Emissions				
Purchased goods and Services	Goods and commodities Machinery related procured services On-site construction activities Financial, legal and similar services			International Zagreb Airport Jsc. Commercial affairs and marketing division Strategic marketing department Procurement department Maintenance division
Capital goods	Vehicles Installations			International Zagreb Airport Jsc. Procurement department
Fuel-and energy-related activities			Well-to-tank Well-to-grid Transmission and distribution losses	Various energy suppliers INA d.d. HEP ODS HEP - Opskrba d.o.o.
Waste generated in airport activities		Solid waste treatment Wastewater treatment		BTA d.o.o. Private and municipal waste facilities International Zagreb Airport Jsc. Construction Maintenance De-snowing and De-icing Department
Staff Business travel	Road travel Air travel			International Zagreb Airport Jsc. Accounting department Invoicing department
Staff commuting		Road travel (surface access)		Staff travel in own vehicles, public transport and other. International Zagreb Airport Jsc.

[7] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 23.

	CONTROL Facilities, services, activities and equipment for which the airport company has ownership/control.	GUIDE Facilities, services, activities, and equipment owned / controlled by subcontractors, close partners and suppliers for which the airport company can provide guidance.	INFLUENCE Facilities, services, activities and equipment owned/controlled by loose partners, tenants, customers, government agencies, etc. which the airport company can only influence.	INTERNAL Department or third party with responsibility for emission source
				Human Resources Division
Use of sold products			Full flight (incl. APU and MRO)	Airlines INA d.d. Croatia Control Ltd.
			Public Landside access	International Zagreb Airport Jsc. Strategic marketing department
		De-icing of aircrafts		HAVAS – Ground Handling Services Llc.
		3rd party vehicles/ground support equipment		HAVAS – Ground Handling Services Llc.
Downstream leased assets	Purchased electricity (tenant share)			International Zagreb Airport Jsc. Maintenance methods department
Franchises	The Airport Operator does not have franchises, only tenants on location.			
Investments	GHG Category 15 is not relevant to airport operations.			

8. MZLZ Stakeholders responsible for significant Scope 3 footprint contribution

Baseline year for extended Scope 3 emission calculation was 2024. The ZAG airport listed the stakeholders with related contributions to the Scope 3 footprint in the table below. Those are the stakeholders who perform their activities or use MZLZ's equipment, located in the MZLZ area and cause carbon emissions.

Stakeholders at MZLZ with significance of emissions by each stakeholder

Stakeholder	Prioritization	Emission source
Airlines	One of the most important stakeholder groups. Airlines come in broad range of operational activities. Aircraft are air pollution emitters, directly impacting the surrounding environment during their LTO cycle and when maneuvering on the taxiway/aprons. An aircraft with non-effective maintenance could potentially raise its pollution emissions. Contribution to emissions was estimated based on share in overall operations (from EnviroS): <5 % Low, 5-20 % Medium, >20 % High	
Croatia Airlines	High	• APU, MRO, full flight • solid waste
Turkish Airlines	Low	
Qatar Airways	Low	
British Airways	Low	
Eurowings	Low	
Austrian Airlines	Low	
Lot Polish Airlines	Low	
Lufthansa	Medium	
Air Serbia	Low	
Others	Medium	
Ryanair	Medium	
Air France	Low	
Iberia	Low	
KLM	Low	
FlyDubai	Low	
Trade Air	Low	
Norwegian Air Sweden	Low	
Air Transat	Low	
Aegean Airlines	Low	
Pegasus Airlines	Low	
T'way Air	Low	
Tenants	Consists of retailers, shop staff, cafe and restaurant staff, rent-a-car's, offices located at the airport and/or at airside. These stakeholders are constant energy consumers including those who perform their activities due to energy consumption. Contribution to emissions was estimated based on average monthly electricity consumption in overall consumption: <15,000 kWh Low, 15,000-100,000 kWh Medium, >100,000 kWh High Most of these stakeholders are in the passenger terminal and platform. Contribution to emissions from waste was estimated based on share in used surface area.	
Croatia Airlines	Medium	• energy use • solid waste and wastewater
Deutche LH	Low	
Jung Sky	Low	
British Airways	Low	
Qatar Airways	Low	
Ryanair	Low	
Fly Star	Low	
Euro Jet	Low	
BTA Food & Service Group	High	
SDA	Medium	

Stakeholder	Prioritization	Emission source
IAAC Croatia d.o.o.	Medium	
Trade Air	Low	
Avia Technics d.o.o.	Low	
Dale Aviation	Low	
Global Aerotech	Low	
GH	Low	
A-Anticus	Low	
Auto Technica Fleet Service	Low	
Uniline	Low	
Uni Rent	Low	
Auto Benussi	Low	
Centar Auto	Low	
Rental Viribus	Low	
M.A.C.K.	Low	
Sub Rosa	Low	
Avant	Low	
Nova Gratia	Low	
Viator	Low	
Ok Global Mobility	Low	
Oryx Grupa	Low	
Avia	Low	
Relay	Low	
The Fashion Place	Low	
SonusArt	Low	
In Kapital	Low	
Relay	Low	
Securitas	Low	
Atalian Global Services Croatia d.o.o.	Low	
Air France Cargo	Low	
Europak Promet	Low	
Primal	Low	
Zagrebšped	Low	
Cargo Consolidators	Low	
Maurice Ward	Low	
Euro Ruta	Low	
Log Adria	Low	
Makella	Low	
DHL Global Forwarding	Low	
Lufthansa Cargo	Low	
Primacošped	Low	
Trans Avio Tim	Low	
Intereuropa	Low	
Cargo Mind	Low	
Spedman Global Logistic	Low	
Sky Xs Aircargo	Low	
Service providers	Stakeholders such as Ground handlers, Cargo Handlers, Catering companies, contractors, government services, telecom services, retailers that are constant energy consumers	

Stakeholder	Prioritization	Emission source
	including those who perform their activities and/or by using their equipment, located in the MZLZ area.	
HAVAS – Ground Handling Services	High	• GSE fuel use • de-icing chemicals for aircrafts • energy use
BTA Food & Service Group	High	• waste • energy use
Air Traffic Control Ltd.	Medium	• energy use
INA d.d.	Medium	
SDA	Medium	
IACC	Medium	
Resalta	Low	
Telemach, HT-Cronet, A1	Low	
Ministry of Interior Affairs	Low	
Ministry of Finance	Low	
Transport operations	Transport operations services, stakeholders that are not energy consumers, but their activities have influence on air pollution.	
Pleso Prijevoz Ltd.	Medium	• surface access
ZET	Medium	
Taxi	Medium	
Passenger and Employee transport	High	
Passengers, visitors, employees, local community	Passengers, visitors, and employees are not significant energy consumers, but they can have influence on overall energy use. Most of their contribution to emissions comes from land access to the facilities. Local communities are resident groups that interact directly and indirectly with airport operations. They are seeking for preservation of the environment and of their quality of life.	
Passengers	Low	• surface access
Visitors	Low	
Employees	Low	
Local communities	Low	

* Resalta's emissions at the airport are low but their influence on energy management resulting in emissions in Scope 1 and 3 are significant.

Stakeholders responsible for a significant contribution to the Scope 3 footprint in Y2024

Stakeholder Partnership Identification Matrix			
Airlines			
Croatia Airlines (CTN)	Croatia Airlines is a joint-stock company with the biggest shareholder being Republic of Croatia (99,159 %). Croatia Airlines is also member of association Star Alliance, and it provides its' passengers access to the global network of flights. On December 31st 2023, the Company had 911 employees, including the locally employed staff at its branch offices. In 2023, Croatia Airlines operated a fleet of 13 aircrafts: seven Airbus (two A320 and five A319) and six Q400.		
	Contribution to Scope 3: HIGH	Influence of MZLZ: LOW	Emission source: - APU and MRO - full flight - cabin waste - energy use
Food and services			
BTA Hrvatska d.o.o.	TA Hrvatska d.o.o. is a part of BTA Food & Services Group and has been serving food in Franjo Tuđman Airport since 2016. In Franjo Tuđman Airport BTA Hrvatska d.o.o. offers Cakes&Bakes bakery, Brewmark Pub, Spread street food, cafe bar Caffe Nero in two locations and Needstop food and beverages shop.		
	Contribution to Scope 3: HIGH	Influence of MZLZ: MEDIUM	Emission source: - solid waste and wastewater - energy use
Ground Handling Services			
HAVAS - Ground Handling Services Llc.	avas Ground Handling Services LLC. which is a subsidiary of Havas Ground Handling Co. of Turkey, is the sole ground handling services provider at Zagreb Airport for the airlines, passengers, and representatives/agents of the airlines. Havas Ground Handling Services LLC. offer a complete range of services from flight registration (check-in) to boarding the aircraft.		
	Contribution to Scope 3: HIGH	Influence of MZLZ: MEDIUM	Emission source: - GSE fuel use - de-icing chemicals for aircrafts - energy use
Public Landside access			
Passengers and employees	n increase in the number of passengers is expected throughout the EU, and the same is expected at MZLZ, which may cause an increase in emissions from access to the airport. Current public land access emission take up 8.8 % of total Scope 3 emissions (77,7 % of Scope 3 emissions excluding full flight).		
	Contribution to Scope 3: HIGH	Influence of MZLZ: LOW	Emission source: - surface access

9. MZLZ Stakeholder Partnership Management

The Stakeholder Partnership Management implies the inclusion of all stakeholders that are responsible for a significant contribution to the Scope 3 footprint, setting of emissions reduction objectives for stakeholders, carbon reduction plans/measures directly taken by the stakeholders with airport contribution or defined by the airport operator[8].

MZLZ Stakeholder Partnership Agenda related to Carbon Management

<table>
<tr><td colspan="2">AIRPORT ENVIRONMENT COMMITTEE (AEC)
ACA APPLICATION MANUAL ISSUE 14 REQUIREMENTS RELATED TO LEVEL 4 – TRANSFORMATION</td></tr>
<tr><td colspan="2">UPDATED NEW CARBON MANAGEMENT AGENDA</td></tr>
<tr><td>STAKEHOLDER PARTNER INCLUSION</td><td rowspan="3"><u>MZLZ OBLIGATIONS</u>
- Can choose to incorporate stakeholders with smaller contribution
- Organizing and moderating meetings related to the Agenda Topics
- If the stakeholder has set the objective, the airport will have to demonstrate significant involvement/ contribution to the objective setting
- If stakeholders (already) have Carbon reduction plans/measures, the Air Operator shall demonstrate their involvement in the stakeholder partnership measures and plans
- Will implement gradual energy renewal of buildings</td></tr>
<tr><td>All Stakeholder Partners during Committee:
- participate in meetings related to the Agenda Topics
- hold discussions related to the Level 4 requirements
- participate in updates of SPP and report on new initiatives</td></tr>
<tr><td><u>HAVAS GHS</u>
- Creating an action plan for replacing fleet with electric and hybrid vehicles, biodiesel for heavy GSE
- Procurement of more efficient and higher number of GPU, when possible electric GPU
-No idling policy

<u>CROATIA AIRLINES</u>
- Increase the share of SAF used
- Use of GPU when possible, avoiding use of APU
- Renewal of fleet with aircrafts with lower emissions (A220)</td></tr>
</table>

[8] Airport Carbon Accreditation Application Manual (Issue 14) – Update Date: December 2023, p. 61.

9.1. Stakeholder Partnership Initiatives

Relative reductions are compared to Y2024.

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
Stakeholder group: Other (Full flight) **Reduction of emissions from Category 3.11.1D – full flight**				
• INA d.d. • Airlines	Full-flight emissions: 245,009.6 tCO_2e Outbount operations: 25,522 Average emission reduction of 80 % due to SAF. **Relative reduction: 0.120 tCO_2e /outbound operation by 2026** **Relative reduction: 0.353 tCO_2e /outbound operation by 2030**	Achieve minimal regulatory usage of SAF or higher[9] (2025-2030 min. 2 %, 2030-2035 min. 6 %, 2035-2040 min. 20 %, 2040-2045 min. 34 %, 2045-2050 min. 42 %, from 2050 min. 70 %). Zagreb Airport plans to collaborate with the fuel delivery supplier to be able to provide approximately 2.6 % of SAF by 2026 and 4.6 % by 2030[10].	No restrictions.	MZLZ must collaborate with the fuel delivery supplier to ensure there is enough SAF available to meet the demand of airlines. It is important to ensure that airport managing bodies take the necessary measures to facilitate the access of aircraft operators to aviation fuels that contain SAF, so as not to constitute an obstacle with respect to the uptake of SAF. It is therefore essential that the parties in charge of such infrastructure cooperate and take all necessary measures to enable the continued and uninterrupted access of aviation fuel suppliers to civil transport aviation fuels infrastructure to supply both conventional aviation fuels and aviation fuels containing shares of SAF.
• Airlines	N/A	Encouraging airlines to use SAF fuel Creation of a ranking program for	No restrictions at the moment	Developing the model will give information on SAF usage and accordingly restrictions and/or

[9] Regulation (EU) 2023/2405 of the European Parliament and of the Council (ReFuelEU Aviation)

[10] Source: 2024 Sustainability report p.82 (https://www.zagreb-airport.hr/UserDocsImages/dokumenti/2024)

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
		airlines related to the use of sustainable aviation fuel		incentives will be developed and implemented.
• CTN	The difference in relative emissions of old (A32F) and new (A220) aircraft is -35,49 % for domestic and -16,92 % for international flights. The share of international flights for CTN is 76 %, and domestic 24 %. The share of all CTN flights at MZLZ is about 36 %. CTN will replace half of its fleet by 2027. Full flight: 245,009.6 tCO_2 Outbound operations: 25,552 Share for CTN: 0.36x245,009.6=88,203.46 tCO_2 Share of international: 0.76x88,203.46=67,034.62 tCO_2 Share of domestic: 0.24x88,203.46=21,168.83 tCO_2 **Relative reduction: 1.071 tCO_2/outbound flight by 2028.**	Reduction of emissions by renewal of fleet	No restrictions.	With the aim of reducing the noise levels and CO_2 emissions, MZLZ organizes at least one AEC meeting every year. This resulted in recognizing the need to replace the aircraft fleet with more efficient aircrafts and lower noise levels (which are measured at four noise monitoring terminals (NMT) and one mobile station that monitors the noise level at five locations). The role of airlines is to procure more efficient aircrafts.
Stakeholder group: APU fuel use **Reduction of emissions from Category 3.11.1D – full flight**				
• HAVAS • Airlines	Specific emissions from APU are not available but reduction of APU usage will be visible in overall fuel consumption. Since the share of use of APU and GPU is unknow it was estimated that at least half of flights uses APU. Total departing flights: 25,552 Full flight Jet-A1 fuel consumption: 114,692 m^3 With a typical density of 0.8 t/m^3: 114,692 × 0.8 = 91,753.6 tonnes of fuel Full flight emissions: 245,009.6 tCO_2e	Decrease usage of APU and increase usage of GPU/ FEGP/ PCA when available and technically feasible.	Policy requiring use GPUs where technically feasible.	Ground handling service (HAVAS) and MZLZ will ensure the required infrastructure and equipment to meet airlines' needs. MZLZ will set a policy requiring use GPUs where technically feasible. Failing to comply with this policy will result in higher tariffs. MZLZ, in cooperation with HAVAS, must firstly identify all aircraft systems compatible with existing GPUs and adequately ensure procurement of GPUs needed to cover the needs for other common aircraft systems.

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
	Long-haul flights: 3 % of total = 767 flights APU used for 75 minutes, consuming 300 kg* = 0.3 t per flight Short-haul flights: 97 % = 24,785 flights APU used for 45 minutes, consuming 80 kg* = 0.08 t per flight Total APU Fuel Consumption (50 % of flights): (767×0.3)+(24,785×0.08)=230.1+1,982.8=2,212.9 tonnesx0.5= 1,106.45 tonnes Emission Factor for Jet-A1 Fuel: 1 tonne of Jet-A1 emits ≈ 3.16 tCO_2e (based on IPCC and Eurocontrol data) 1,106.45 ×3.16=3,496.38 tCO_2e from APU use Share of Emissions from APU Use: 3,496.38/245,009.6×100≈1.43 % APU usage contributes approximately 3,496.38 tonnes of CO_2e, which is about 1.43 % of total flight emissions. **Relative emissions: 3,496.38/25,552=0.137 tCO_2e/outbound operation which equals the relative emission reduction in the scenario where 100 % GPU use is technically feasible.** *Source: ICAO, Doc 9889, Airport Air Quality Manual, Second Edition, 2020.			According to the Integrated national energy and climate plan for the Republic of Croatia for the period 2021-2030, measure TR-6 Development of energy-efficient air transport, the airport needs to ensure electricity supply (aeronautical fixed or mobile power units) at all terminals used for commercial air transport: Ground Power Unit (GPU) and Preconditioned Aircraft at Standstill (Fixed or Mobile Air Supply Units) Pre-Conditioned Air Unit (PCA)). The objective shall be that the electricity supplied comes from the renewable sources through the electricity grid (Guarantees of Origin) or is produced on the site as from renewable sources.
Stakeholder group: LTO **Reduction of emissions from Category 3.11.1D – full flight**				
• Airlines • ATC	N/A	Decrease usage of fuel during taxiing	Single-engine taxiing policy	Share of use of GSE taxiing is unknown, therefore estimations of reductions using a single-engine taxiing policy is unavailable. Still, it is expected to reduce emissions and is qualitatively described.

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
				MZLZ will set a "single-engine taxiing policy" requiring all airlines to only use one engine during taxiing. Failing to comply with this policy will result in higher tariffs. MZLZ will implement the A-CDM system and coordinate it with current protocols by the year 2027. This will allow the integration of stakeholder data into a single system available to all relevant stakeholders with the purpose of optimizing activities (e.g. variable taxi time) and reducing environmental impacts such as carbon emissions.
Stakeholder group: Cruise **Reduction of emissions from Category 3.11.1D – full flight**				
• Airlines	Minimal relative reduction[11] 0.1605 tCO_2e /outbound operation.	Decrease usage of fuel with tankering bans	No restrictions at the moment	Regulatory maximum for tankering is 10 % and annual reporting to the regulatory body is obligatory. MZLZ will contact the regulatory body for tankering information, once regulatory body has been determined. MZLZ will introduce reduced tariffs and/or incentives according to tankering share.
Stakeholder group: Third party vehicles and machinery, including GSE **Reduction of emissions from Category 3.11.1D – full flight and Category 3.11.2A – GSE of ground handling services**				
• Airlines • ATC • HAVAS	N/A	Reducing taxi-time and optimizing the routing process. Reducing average taxi time by efficient routing	No restrictions.	MZLZ will implement the A-CDM system and coordinate it with current protocols by the year 2027. This will allow the integration of stakeholder data into a single system available to all relevant stakeholders with the

[11] Tankering releases 428 $kgCO_2$/outbound flight. Reducing the share of tankering from estimated 16 % to 10 % results in a relative reduction of 160.5 $kgCO_2$/outbound flight. Source: https://www.eurocontrol.int/sites/default/files/2020-01/eurocontrol-think-paper

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
		will decrease emissions although it is unknown by what share since decrease of average taxi time is yet unknown as well. Share of use of GSE taxiing is unknown, therefore estimations of reductions using a single-engine taxiing policy are unavailable. Still, it is expected to reduce emissions from GSE fuel consumption and is therefore qualitatively described.		purpose of optimizing activities (e.g. variable taxi time) and reducing environmental impacts such as carbon emissions.
• HAVAS	N/A	Replacement of vehicles with electric ones (passenger vehicles and lighter GSE) and alternative fuel vehicles (heavy GSE) to reduce emissions from fuel consumption. To achieve compliance with HAVAS Group level of policy and strategy the Croatian subsidiary is obligated to plan its fleet procurement and replacement with environmentally	No restrictions.	Zagreb Airport is continuously exploring options to renew and replace ground service equipment and vehicles to show a firm commitment to reducing air pollution. Therefore Zagreb Airport will introduce the requirement for electrification of ground handling vehicles. To be able to support vehicle replacement, necessary infrastructure is needed at the location of the airport. MZLZ in cooperation with HAVAS is in the process of installing additional high-power charging stations for electric vehicles and GSE. Apart from commercial charging stations, during 2022–2024 period, Zagreb Airport has installed 5 charging stations for own vehicles on the

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
		friendlier solutions. In 2025 the Group will commit to the Science-Based Targets initiative (SBTi) and produce an Action Plan accordingly.		airside (3 near the New Passenger Terminal, 2 at the Fire Fighting Station). Havas has installed 5 charging stations for their vehicles, both airside and landside – 3 chargers at New Passenger Terminal, 1 in Technical Base, 1 at General Aviation Terminal airside
Stakeholder group: Offsite solid waste processing **Reduction of emissions from Category 3.5.1 – waste**				
• Airlines • BTA • Waste contractors	N/A	Efficient waste management leads to waste reduction. Currently the measure is being partially implemented. Waste is being separated at the terminal, but it is not possible properly identify metrics for recyclable streams, so it is therefore necessary to enable reporting on these streams and establish specific reduction targets.	No restrictions at the moment	MZLZ will keep track of the amount of each waste fraction being collected at the airport. MZLZ will ensure monitoring of streams that are diverted to recycling, which will reduce emissions, but also provide a good foundation for setting goals in the future. In cooperation with BTA, it will be possible to separate mixed waste streams from aircraft.
Stakeholder group: Passenger surface access and Staff surface Access **Reduction of emissions from Categories 3.11.3 and 3.7 – public landside access and employee commuting**				

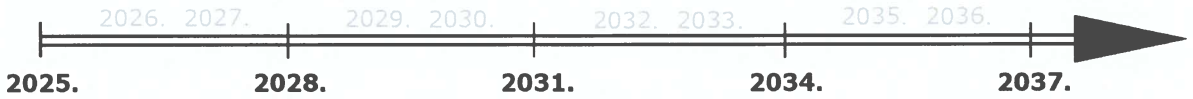
Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
• Passengers	When 100% electric public transport and shuttle bus will be operating further reduction may be expected: Number of passengers (pax): 4.316.619 **Relative reduction: 0.103 kgCO_2/pax** Additional reductions may also be expected stemming from the change of habits and optimization of public transport.	Reduction of emissions from land access by efficient transport Installation of 1 charging point for every 40 parking places 100% Electric shuttle fleet	"No idling policy" for employees and stakeholders on airside.	As Zagreb Airport is a mobility hub, there is a need to reduce emissions from the access vehicles on the main roads. Zagreb Airport plans to establish sustainability requirements for rent-a-car, taxi, and car sharing, and to integrate the criteria for 100 % environmentally friendly vehicles in the tender for selecting taxi and rent-a-car vehicles. Collaboration with City of Zagreb and Velika Gorica to define sustainable initiatives. Additionally, in 2023 MZLZ entered into commercial contract with ZIPER Electrical Vehicles Charging company for installation of 10 chargers for commercial use on 4 locations: New Passenger Terminal Rent-a-car parking (2 fast chargers); New Passenger Terminal B2C parking (2 fast chargers); New Passenger Terminal B2B parking (2 standard chargers) and Old Passenger Terminal location near General Aviation Terminal available for public use (1 fast + 3 standard chargers). In cooperation with the national railway operator and municipalities MZLZ participates in physical planning which would enable the construction of a railway in proximity to the airport. Additionally, the need for extra shuttles and urban transport is also assessed. MZLZ will introduce a "no idling policy" for employees and stakeholders on airside. In order to reduce travel emissions MZLZ will encourage passengers by implementing an
• Employees	When 100% electric public transport and shuttle bus will be operating further reduction may be expected: Number of employees (FTE): 229 **Relative reduction: 43.67 kgCO_2/FTE** Additional reductions may also be expected stemming from the change of habits and optimization of public transport.			

Stakeholder partners	Reduction objectives	Measures	Restrictions	Further Information
				incentive scheme. The shuttle bus will be replaced with an electric one. An updated passenger, employee and tenant poll will be introduced by MZLZ to track progress.

9.2 Revisions

After its initial development, the Plan shall be revised at least every three years. The revised Plan shall report on the emissions reductions achieved from stakeholder sources as a result of cooperation between the airport and the stakeholder.

Years in which Plan shall be revised the latest:



9.3 Verification

Confirmation from the airport's verifier is required (in accordance with the verification timelines defined in Section 10.3[12] that a plan has been formulated and implemented.

9.4 Reporting

Yes, for initial accreditation and every renewal.

[12] *Airport Carbon Accreditation Application Manual (Issue 14)* – Update Date: December 2023, p. 70.