ANS CR Carbon Footprint Report 2021

Executive Summary

1 INTRODUCTION

This document is an executive summary of the Air Navigation Services of the Czech Republic Carbon Footprint Report for the year 2021. The greenhouse gas inventory was carried out in accordance with the Greenhouse Gas Protocol (Scopes 1 to 3).

This document was prepared within the scope of Environmental Management System (EMS) which forms a part of Integrated Management System (IMS) in ANS CR. The information is intended for both internal and external stakeholders.

2 COMPANY DESCRIPTION AND BOUNDARY ANALYSIS

2.1 Company description

Air Navigation Services of the Czech Republic (ANS CR) provides air navigation services - air traffic services, air traffic flow management, airspace management, search and rescue services - in the airspace of the Czech Republic and at Praha/Ruzyně, Brno/Tuřany, Ostrava/Mošnov and Karlovy Vary aerodromes. Further, ANS CR ensures the operation and maintenance of its technical infrastructure and provides training of aviation personnel.

2.2 Processes description

The following processes represent the sources of company's greenhouse gas emissions:

- Air navigation services provision,
- Operation and maintenance of company's technical infrastructure,
- Training of aviation personnel,
- Facility management.

2.3 Year of calculation

This document provides information about ANS CR carbon footprint for a period from January 1st 2021 to December 31st 2021.

2.4 Inventory base year

In ANS CR, the year 2009 is the base year for the calculation of basic carbon footprint. The year 2018 is the base year for the calculation of full carbon footprint.

2.5 Organisational inventory boundary

To determine the inventory boundary a *control approach* method (see the Greenhouse Gas Protocol) was used. Therefore, the carbon footprint calculation includes greenhouse gas emissions from all facilities over which ANS CR has financial and operational control.

2.6 Operational inventory boundary

The operational inventory boundary was set as follows:

Scope	Emissions	Emission source	Relevance	Basic CF	Full CF	Emission source in detail
Scope 1	Direct emissions	Natural gas consumption	Relevant	✓	✓	Natural gas consumption
			Relevant	✓	✓	LPG consumption
		Automobile fuel consumption	Relevant	✓	✓	Automobile petrol consumption
			Relevant	✓	✓	Automobile diesel consumption
			Relevant	✓	✓	Automobile CNG consumption
		Diesel generator fuel consumption	Relevant	✓	✓	
		Own aircraft aviation fuel consumption	Relevant	✓	✓	
		Refrigerant leakage	Relevant		✓	
Scope 2	Indirect emissions from purchased energy	Electricity consumption	Relevant	✓	✓	
Scope 3	Other indirect emissions	Purchased goods and services	Relevant		✓	Office paper
					✓	Bottled water
					✓	ICT hardware
		Capital goods	Relevant		✓	Purchased automobiles
					✓	Purchased aircraft
		Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	Relevant for market-based method	✓	✓	Transmission and distribution of electricity
			Relevant		✓	Transmission and distribution of natural gas
		Upstream transportation and distribution	Not relevant			
		Drinking water consumption	Relevant	✓	✓	
		Wastewater generation	Relevant	✓	✓	
		Waste generation	Relevant	✓	✓	Dangerous waste generation
				✓	✓	Other waste / energy recoverable waste generation
				✓	✓	Recyclable waste generation
				✓	✓	Mixed waste / landfilled waste generation
				✓	✓	Biodegradable waste generation
		Business travel	Relevant		✓	International business air travel
					✓	International business rail travel
					✓	International business bus travel
		Employee commuting	Relevant		✓	Employee commuting
					✓	Work from home
		Upstream leased assets	Not relevant			
		Downstream transportation and distribution	Not relevant			
		Processing of sold products	Not relevant			
		Use of sold products	Not relevant			
		End-of-life treatment of sold products	Not relevant			
		Downstream leased assets	Not relevant			
		Franchises	Not relevant			
		Investments	Not relevant			

Both *basic carbon footprint* and *full carbon footprint* were calculated in accordance with Air Navigation Service Provider Carbon Footprinting, A Best Practice Guide.

3 GREENHOUSE GASES

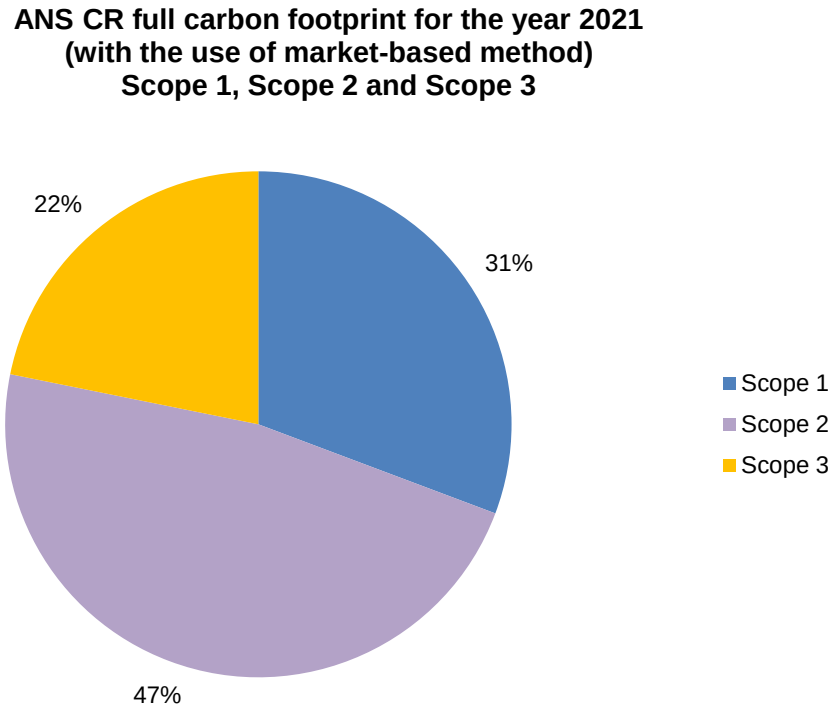
Following greenhouse gases were included in the carbon footprint calculation:

Greenhouse gas	*Chemical formula*	*Included*	*Reason for inclusion / exclusion*
Carbon dioxide	CO_2	Yes	Main component of GHG emissions in all Scopes
Methane	CH_4	Yes	Scope 3 – wastewater and waste generation
Nitrous oxide	N_2O	Yes	Scope 1 – combustion processes
HFC	See ISO 14064-1	Yes	Scope 1 – refrigerant leakage
PFC	See ISO 14064-1	Yes	Scope 1 – refrigerant leakage
Sulfur hexafluoride	SF_6	No	Not relevant
Nitrogen trifluoride	NF_3	No	Not relevant

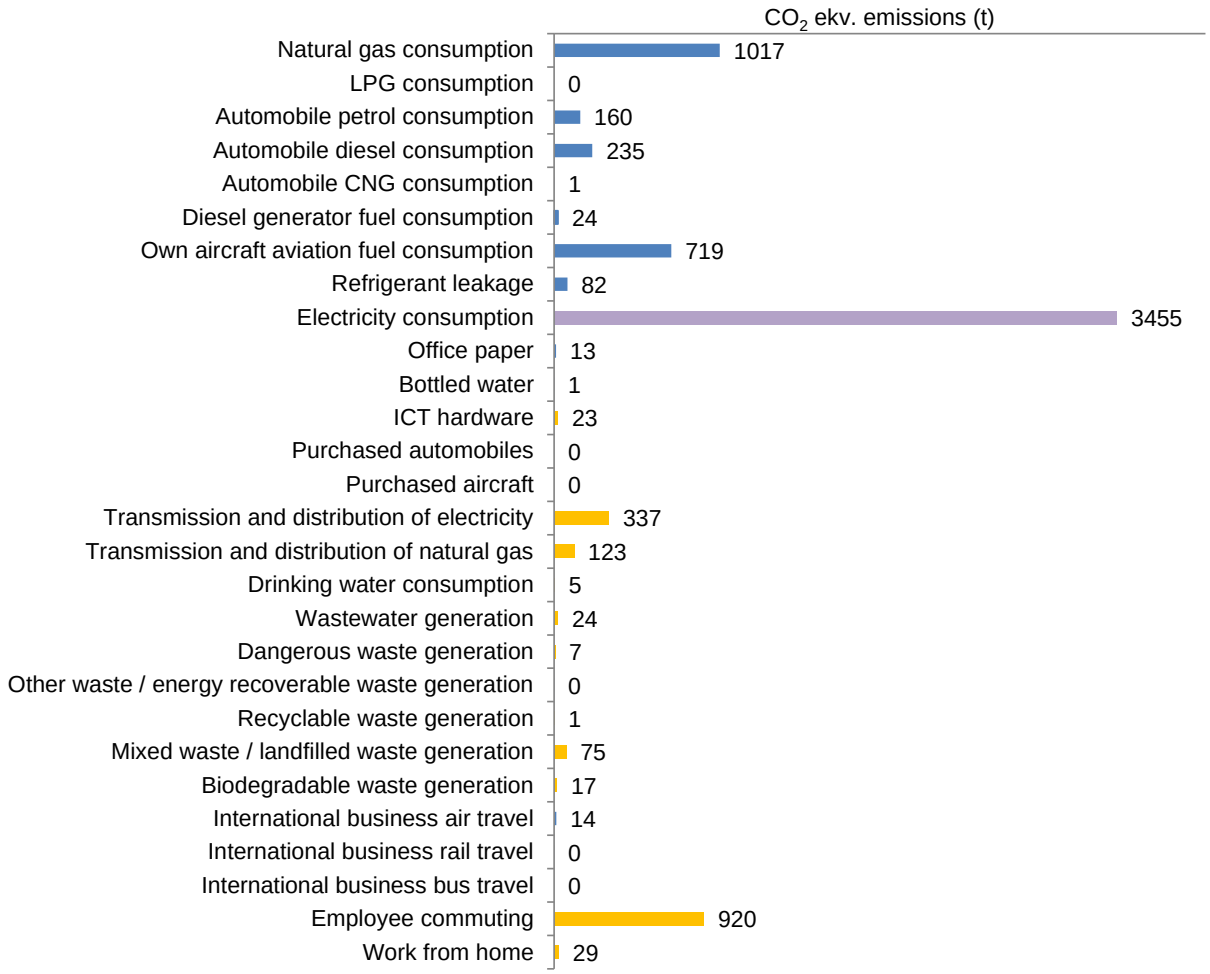
4 EMISSIONS AND RESULTS

Full and basic carbon footprints for the year 2021 with the use of location-based and market-based methods (CO_2 ekv. (t)):

Scope	*Basic carbon footprint – CO_2 ekv. emissions (location-based)*	*Basic carbon footprint – CO_2 ekv. emissions (market-based)*	*Full carbon footprint – CO_2 ekv. emissions (location-based)*	*Full carbon footprint – CO_2 ekv. emissions (market-based)*
Scope 1	2156	2156	2238	2238
Scope 2	7701	3455	7701	3455
Scope 3	129	129	1129	1589
Total	**9986**	**5740**	**11068**	**7282**



ANS CR full carbon footprint for the year 2021 - emission sources (with the use of market-based method)



Full carbon footprint (CO_2 ekv. (t) per year) since 2018:

Scope	*2018*	*2019*	*2020*	*2021*
Scope 1	2476	2734	2173	2238
Scope 2 (location-based)	8559	9023	8470	7701
Scope 3 (location-based)	4956	4803	1326	1129
Total (location-based)	**15991**	**16560**	**11969**	**11068**
Scope 1	-	2734	2173	2238
Scope 2 (market-based)	-	7964	7363	3455
Scope 3 (market-based)	-	5266	1664	1589
Total (market-based)	**-**	**15964**	**11199**	**7282**

5 CONCLUSION

The carbon footprint calculation (greenhouse gases inventory) of ANS CR for the year 2021 was carried out as both basic and **full carbon footprint**. The calculation was performed using both *location-based* and *market-based* methods (for emissions from purchased electricity).

The total amount of greenhouse gas emissions (using *location-based method)* was 11068 t CO_2 ekv. The total amount of greenhouse gas emissions (using *market-based method)* was **7282 t CO_2 ekv.**

The most significant portion of the carbon footprint is represented by emissions from purchased electricity (approx. 47 % using *market-based* method). In 2021 there was a very substantial drop in the emissions from purchased electricity - 3907 t CO_2 ekv., especially owing to using electricity with a high share of nuclear energy.