

Environmental Bulletin of Chania “Ioannis Daskalogiannis” Airport (CHQ)

Reference year 2019

Fraport Greece

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1. INTRODUCTION

Location

The airport of Chania is located at the centre of the Akrotiri peninsula, to the north-east of the town of Chania at a distance of approximately 15 km from the town, and operates within the military airport, in an area provided by HASGS for this purpose.

Administration

The airport administratively belongs to the Region of Crete, Regional Unit of Chania, and specifically to the Municipality of Chania, encompassing the former Municipalities of Akrotiri, El. Venizelos, Keramies, Nea Kidonia, Therisos, Souda and Chania.

Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	51226/25.10.2016
E.T. Amendment Decision Reference number	5100/05.03.2018

1.1. Airport Basic Data

Airport Basic Data	
Airport name IATA / ICAO	CHQ/LGSA
Airport position – Airport Reference Point (ARP)	Latitude: 35° 31' 53" N Longitude: 24° 09' 04" E
Altitude:	149.4m
Number of runways	1
Operation hours (winter & summer)	0:01 – 24:00

Runways	Length/Width					Code
Runway	3,348m x 45m					11/29
Full length of parallel taxiway	3,348					
Number of taxiways	6					
Apron capacity	A	B	C	D	E	
	-	-	8	-	2	
Employees	High season (31.8.2019)			Low season (30.11.2019)		
Fraport Greece (FG) employees	40			40		
Employees of other companies	1136			768		

Terminal	
➤ Total area (m ²)	35,600

Other buildings and service/storage areas	
➤ RFF (m ²)	Housed in HAF facilities

Parking Areas	
Car parking spaces	580
Bus parking spaces	56
Taxi parking spaces	70

1.2. Airport Facilities

1.2.1. Fuel Handlers

Number of fuel handler companies				
Number of fuel handler companies operating at the Airport				2
Installations inside the airport		EKO	GISCO	HAFCO
Environmental Management System (EMS)	(YES/NO)	YES	YES	Not operating at the airport

1.2.2. Ground Handlers

Ground Handlers				
Number of ground handler companies operating at the airport				3
Installations inside the airport		SKYSERV	SWISSPORT	GOLDAIR
Vehicles (total number)		22	-	200
Environmental Management System (EMS)	(YES/NO)	YES	Not operating at the airport	YES

2. TRAFFIC DATA STATISTICS

2.1. Annual Traffic Data

Annual Traffic Data for the year 2019	
Overall Annual Air Traffic Movements ¹	20,502
Percent of increase or decrease in relation to the previous year	4.6%
Annual passenger traffic	2,983,542
Percent of increase or decrease in relation to the previous year	-0.8%
Annual cargo transferred (tn)	381
Percent of increase or decrease in relation to the previous year	-16.1%

Aircraft types	
Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
A320	2,808
AT75	884

¹ Military and training flights not included.

AT72	826
A32A	434
B73H	412
AT45	228
A321	100
D62	96
B733	80
A319	68
Other	411
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B73H	6,136
A320	1,988
B738	1,270
A32B	836
A321	708
B73W	414
A21N	382
A319	364
A32A	315
B76W	278
Other	1,464

2.2. High season traffic data

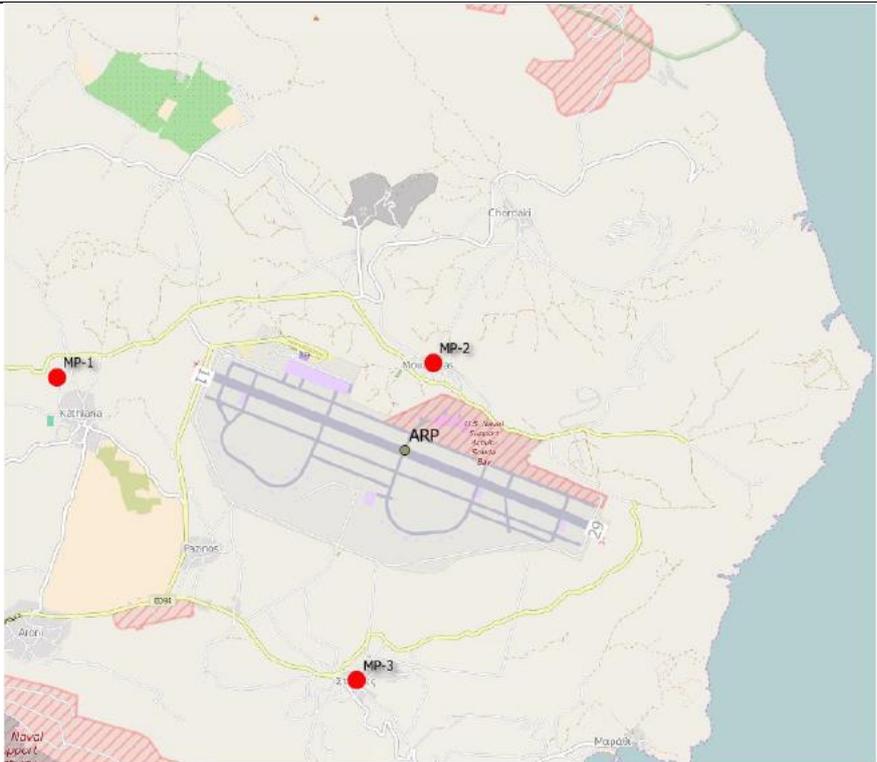
High season traffic data (June-September)	
Highest traffic month	July
Air traffic movements during the month with highest traffic	3,270
Air traffic movements daily average number during the month with highest traffic	105

2.3. Low season traffic data

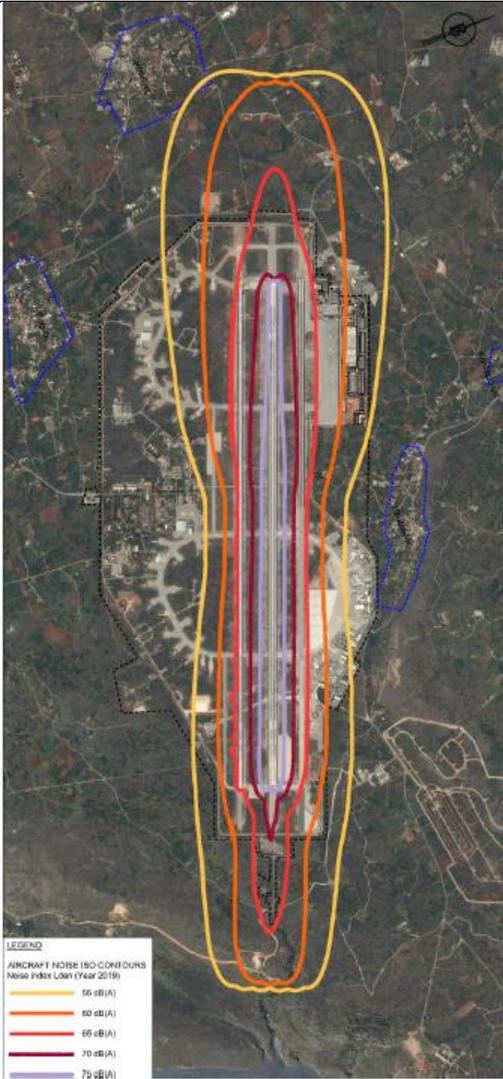
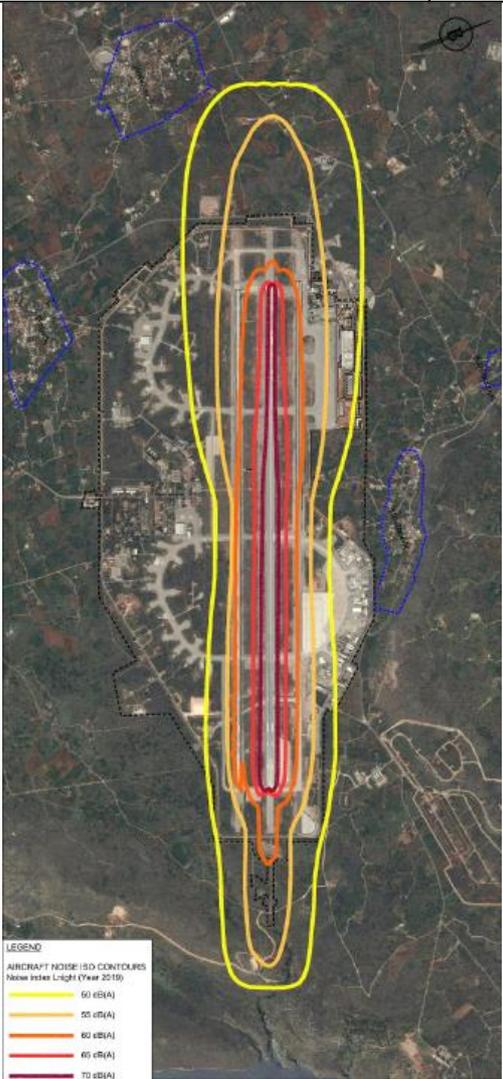
Low season traffic data (October-May)	
Lowest traffic month	February
Air traffic movements during the month with lowest traffic	428
Air traffic movements daily average number during the month with lowest traffic	15

3. AIRCRAFT NOISE

3.1. Noise measurements during the reference year

Have noise measurements at the airport's surrounding area been performed during the reference year? [YES/NO]		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
1) Position: 35° 32' 16" N 24° 06' 48" E	Kathiana area, to the west of the runway at the centre of an oil plantation. Affected by arrivals RWY 11 and departures RWY 29.	
2) Position: 35° 32' 21" N 24° 09' 15" E	Mouzoura area, to the north of the runway, at the roof of the cultural centre's building. Affected by all arrivals/departures to and from both directions	
3) Position: 35° 30' 40" N 24° 08' 45" E	Sterna area, to the south of the runway, at the balcony of a public building. Affected by all arrivals/departures to and from both directions	
Measurement period	20.06.2019 – 21.06.2019	
Noise indicators	Lden, Lnight	
Summary of measurement results:		
Noise levels are monitored according to the airport's monitoring program. No exceedance of noise indicators levels Lden = 70 dB (A) and Lnight = 60 dB (A) was observed.		

3.2. Noise levels calculation based on noise simulation software

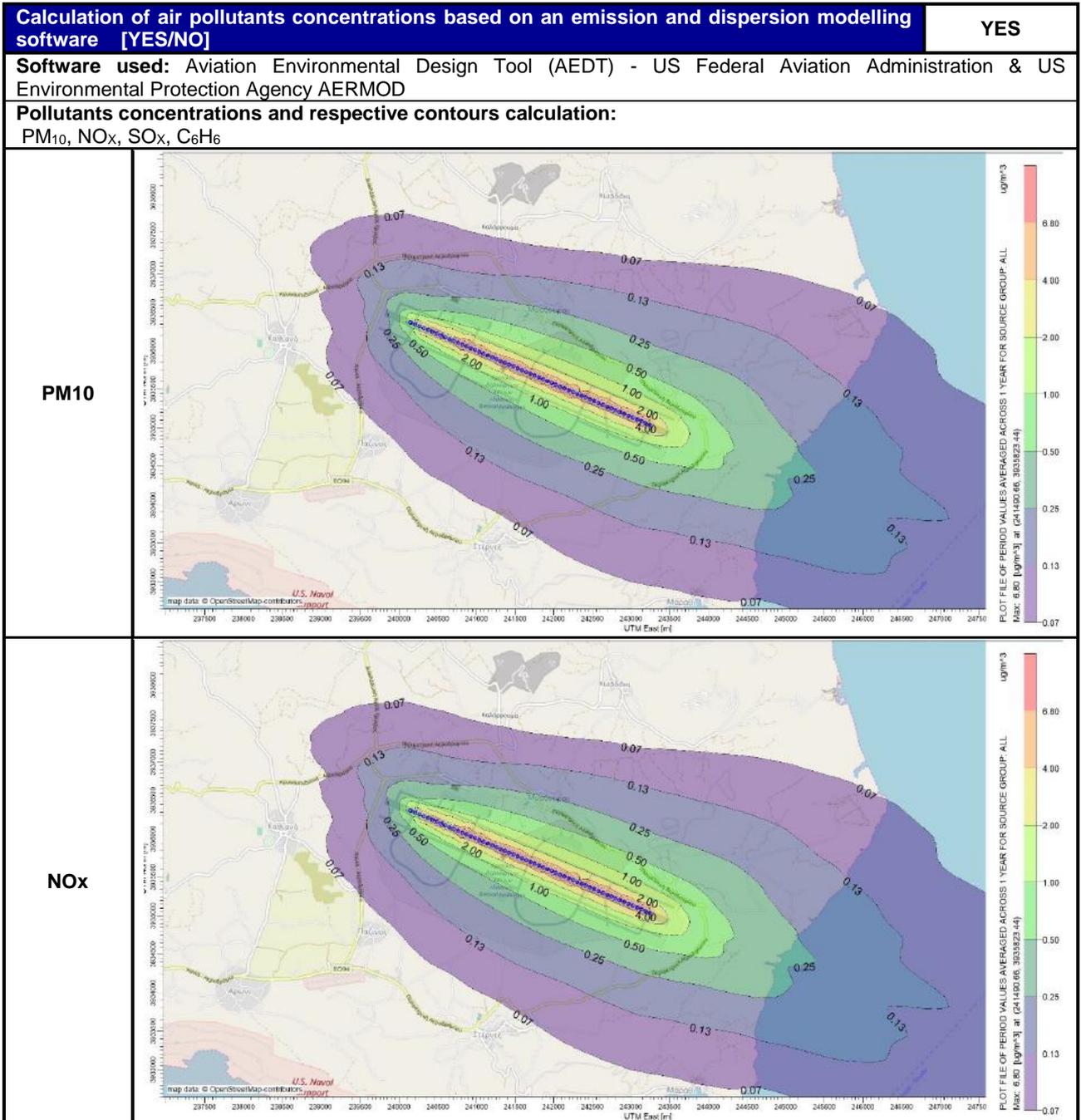
Aircraft noise levels calculation based on simulation software [YES/NO]		YES
Software used: IMMI Noise Prediction Software (CNOSSOS EU assessment method based on Directive 2015/996/EU)		
Noise indicators and respective contours calculation:		Lden, Lnight
 <p style="text-align: center;">Lden</p>	 <p style="text-align: center;">Lnight</p>	
Summary of results:		
For the year 2019 no populations or buildings within official settlement boundaries were found to be exposed to noise levels higher than the limits Lden = 70 dB(A) and Lnight = 60 dB(A).		

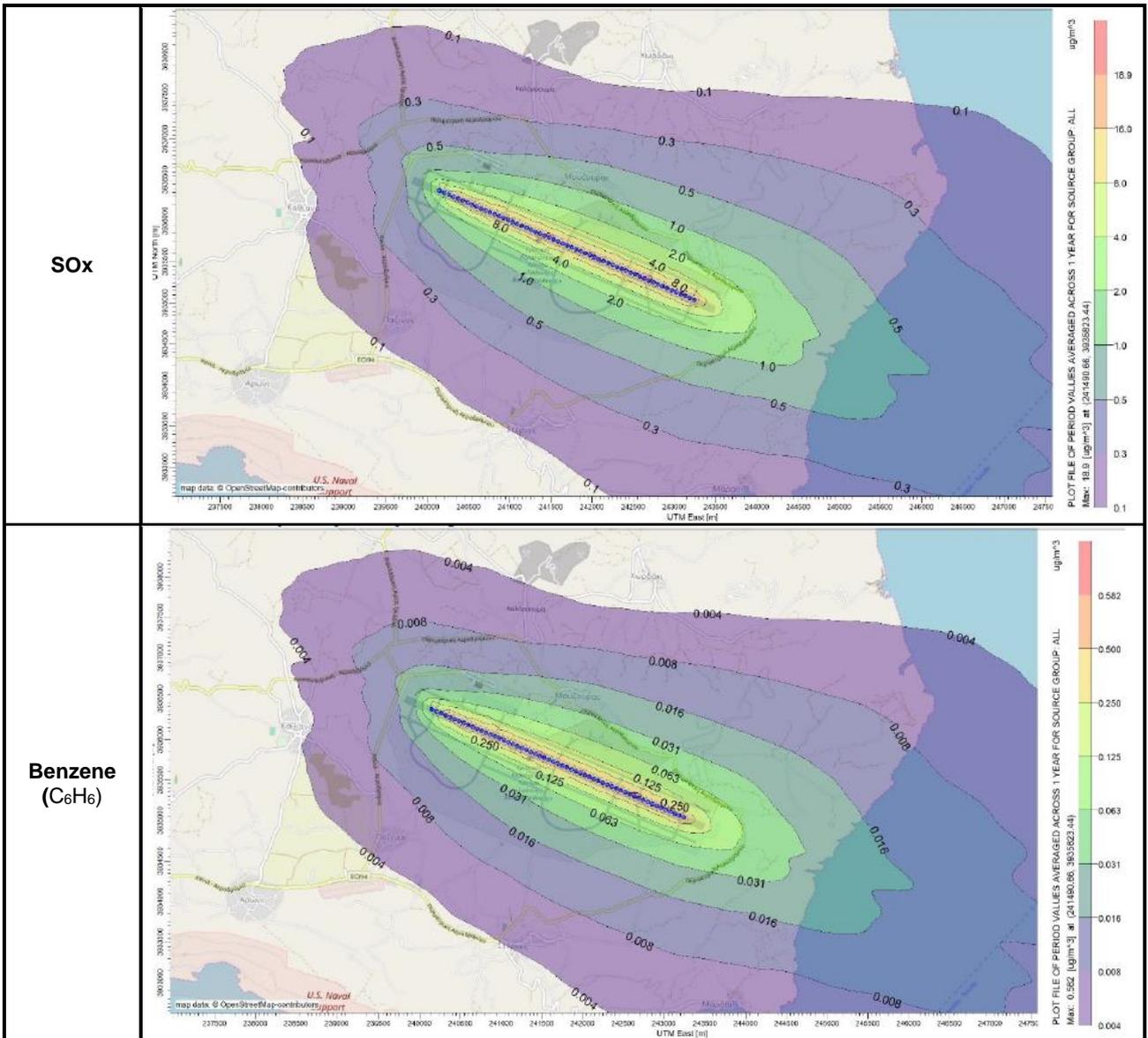
4. AIR QUALITY

4.1. Air quality measurements during the reference year

Have air quality measurements at the airport's surrounding area been performed during the reference year? [YES/NO]		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
1) Position: --° --' --" N --° --' --" E	Sterna area, approximately 2km to the south of the runway.	
2) Position: --° --' --" N --° --' --" E	Kathiana area, approximately 2.5km to the west of the runway	
3) Position: --° --' --" N --° --' --" E	Mouzoura area, approximately 700m to the north of the runway.	
Measurement period	18.06.2019 – 25.06.2019	
Pollutants measured: PM ₁₀ , PM _{2,5} , NO ₂ , SO ₂ , C ₆ H ₆ , O ₃		
Summary of measurement results:		
<p>Air quality is monitored according to the airport's monitoring program. No exceedance of the air quality limits was observed for PM₁₀, PM_{2,5}, NO₂, SO₂ & C₆H₆. It is noted that some individual exceedances for the O₃ pollutant mean values were recorded. As a result of its dependency on the solar radiation, ozone does not show a homogenous trend during the year. Increased ozone concentrations are recorded usually at the end of spring and beginning of summer, especially during the days with high sunlight. Therefore, these momentary exceedances are considered to be individual occurrences not related to the airport's operation.</p>		

4.2. Air pollutants emission and dispersion modelling





5. WASTE MANAGEMENT

Waste management		
Waste	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by appropriately licensed private company (January-October 2019)	Disposal at transshipment unit for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by Chania Solid Waste management Body (DEDISA SA)	Disposal in mixed MSW treatment plant

Σημειώσεις:
<ol style="list-style-type: none"> Regarding the different categories of the MSW (recyclables, mixed waste), Airport Users handle their waste autonomously. The implementation of a central system by Fraport Greece is expected. Regarding the “alternative management’ waste categories (Waste lubricant oil WLO, WEEE, etc.): <ol style="list-style-type: none"> Waste Lubricant Oil (WLO): Collection and management by authorized collector “CYTOP S.A.” Waste Electrical & Electronic Equipment (WEEE): Collection and management by alternative management system “Appliances Recycling S.A.” Accumulators: Collection and management by alternative management system “Re-Battery S.A.” Small batteries: Collection and management by alternative management system “AFIS S.A.” Used tires: Collection and management by alternative management system “ECOELASTIKA S.A.” The total quantities of the produced waste by category resulting from all activities of the airport are recorded by Fraport Greece A and submitted in the Electronic Waste Registry via the Annual Waste Producer Report as provided for by the applicable legislation.

6. ECOSYSTEM AROUND THE AIRPORT

6.1. Flora-Fauna

ECOSYSTEM AROUND THE AIRPORT	
Flora	
Are there protected zones of vegetation/habitats in the broader airport area? [YES/NO]	NO
Fauna	
Are there protected zones of fauna/birds in the broader airport area? [YES/NO]	NO
(If YES) Short description:	

6.2. Ecologically fragile areas

There are no such areas within a distance of 20km approximately from the airport.

7. WILDLIFE HAZARD MANAGEMENT

Wildlife hazard management	
Extent of the problem (bird species):	Birdstrikes
-	-
Adopted measures :*	
*HAF is responsible for the management of birdstrike risk.	
Reference year summary results:	
-	

8. CULTURAL HERITAGE

Have new cultural heritage properties been discovered during the reporting period? [YES/NO]				NO
(if YES) Details provided in the table below:				
Location	Date of discovery	Type of discovery	Additional protection measures taken	

9. RESOURCES CONSUMPTION

9.1. Energy consumption

Energy consumption (monthly electric energy consumption, in Kwh)	
MONTH	Kwh
Total annual electric energy consumption (in Kwh)	7,854,790

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	10	
Number of firefighting vehicles at the airport	Management by HAF	
Total annual fuel consumption	Diesel (lt)	31,810
	Unleaded gasoline (lt)	144

9.3. Heating oil or natural gas consumption

Heating oil or natural gas consumption	
Total annual heating oil consumption (lt)	39,700
Total annual heating natural gas consumption (m ³)	N/A

9.4. Water consumption

Water consumption	
Period	Consumption [m ³]
Total annual consumption (m ³)	14,847

10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT

Greenhouse gas emissions that were included in the carbon footprint calculation are the CO₂ emissions included in scope 1 & 2 of the GHG protocol:

- Scope 1: Direct GHG emissions that occur from sources that are owned and/or controlled by the airport.
- Scope 2: Indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling consumed by the airport.

SOURCE FLOWS	TOTAL CO ₂ EMISSIONS (t)
	2019
Direct emissions from heating fuel (scope 1)	105.9
Direct emissions from fuel used for fleet vehicles (scope 1)	21.4
Direct emissions from fuel used for firefighting vehicles (scope 1)	*
Direct emissions from fuel used for generators (scope 1)	63.8
Indirect emissions from electricity consumption (scope 2)	5,011.4
Total (t)	5,202.5
Kg CO₂ /passenger	1.74

Notes:

Fraport Greece A is committed to the monitoring, management and reduction of its airports carbon footprint. In order for this target to be achieved:

- Direct and indirect carbon emissions from all the emission sources in the airports' boundaries are calculated and reported, based on the GHG Protocol (scope 1 & 2)
- The airport was certified during the reference year according to ISO 14064 regarding greenhouse gas emission by an independent certification body

*HAF is responsible for the management of the airport's RFF vehicles.

11. HUMAN CONSUMPTION WATER MONITORING PROGRAM

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal Water & Sewage Company (DEYA) of Chania
Is sampling of the airport's water network performed? [YES/NO]	YES
(if YES) Sampling frequency:	Quarterly
Summary of results: The results of the microbiological and chemical analyses show that the parameters analysed as regards the airport's water network are <u>within the legislative limits</u> defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ GG 3282 B/19-9-2017 regarding the quality of human consumption water. DEYA of Chania has granted a suitability certificate/declaration concerning the airport's supplied water.	

12. RAINWATER

RAINWATER (collection, treatment disposal and recipient)		[YES/NO]
Area	Collection/treatment/disposal	
Apron and manoeuvring area	Collected in drainage ditches leading to the sea	YES
Other runoffs (runway etc.)	Collected in drainage ditches leading to the sea	YES
Treatment of rainwater by oil-separator		NO
Rainwater quality		
Is sampling of the airport's rainwater performed? [YES/NO]		YES
(if YES) Sampling frequency::		Yearly
Parameters analyzed: pH, conductivity, TSS, DO, NO ₃ , NO ₂ , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals, PCBs, Detergents		
Summary of results: Surface rainwater quality is monitored according to the airport's monitoring program. Due to the absence of designated recipients and relevant national quality limits for surface rainwater, the Environmental Health & Safety Guidelines of the International Finance Corporation (IFC) are adopted. According to FG's analyses results and based on the abovementioned specifications, the airport's rainwater environmental condition is adequate and no further treatment measure is necessary.		

13. GROUNDWATER MONITORING PROGRAM

Groundwater quality	
Is sampling of the airport's groundwater performed? [YES/NO]	YES
(if YES) Sampling frequency::	Yearly
Parameters analyzed: pH, conductivity,TSS, DO, NO ₃ , NO ₂ , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals,PCBs, Detergents	
Summary of results: Groundwater quality is monitored according to the airport's monitoring program. The results of the analyses from the airport's borehole indicate that the water is suitable for human consumption and no pollution is present. Due to the high depth of the aquifer it was not possible to take water samples from the fuel handler's monitoring boreholes. According to the fuel handler's environmental monitoring reports and based on the limits set in various European countries in the absence of legislative EU limits and relevant national specifications/limits, the environmental condition of soil-gas is adequate and no remediation measures are necessary	

14. SEWAGE TREATMENT & DISPOSAL

Sewage	
Sewage network to the municipal waste water treatment plant (WWTP)	YES
Autonomous airport's waste water treatment plant (WWTP)	NO
Short description:	
Blue water	
Collection and disposal: Collection in tank and transport with tank trucks to the local WWTP.	

Waste water treatment plant description (where applicable)	
<i>Description of characteristics and condition of the airport's WWTP including possible problems. Type and frequency of the effluent quality measurements</i>	
Degree of treatment of airport's WWTP	N/A
Treatment method	N/A
Disposal of treated wastewater	N/A
Sludge disposal	N/A
Sampling frequency of WWTP effluent	N/A
Parameters analysed	N/A
Summary of quality of WWTP effluent	N/A