

# Environmental Bulletin of Aktion Airport (PVK)

## Reference year 2019

Fraport Greece

May 2020



## Version Control

Version	Revision	Description of Revision	Date
0	0		27/05/2020



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## 1. INTRODUCTION

### Location

The Aktio (PVK) airport is located in the west part of Sterea Ellada, at a distance of 4 km from Preveza, 16km from Vonitsa and 20 km from Lefkada. Cape Aktio is surrounded to the east by Amvrakikos Gulf and to the west by the Ionian Sea.

### Administration

The airport administratively belongs to the Regional Unit (RU) of Aitoloakarnania of the Region of West Greece and the Ionian and more specifically to the Municipal Unit of Anaktorio of the Municipality of Aktio – Vonitsa, Local Community of Aghios Nikolaos Vonitsis.

### Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	Ref. No οικ. 11543/07.03.2017
E.T. Amendment Decision Reference number	Ref. No οικ.50502/08.12.2017

#### 1.1. Airport Basic Data

Airport Basic Data	
Airport name IATA / ICAO	PVK / LGPZ
Airport position – Airport Reference Point (ARP)	Latitude: 38° 55' 32" N Longitude: 20° 45' 55" E
Altitude:	3.32 m
Number of runways	2
Operation hours (summer)	07:15-23:15
Operation hours (winter)	Monday/ Tuesday/Wednesday/Friday/Sunday 10:00 - 16:00 Thursday/Saturday 10:00 - 17:00

Runways	Length/Width					Code
Runway	2871m x 45m					07L-25R
Runway	2974 x 30m					07R-25L
Full length of parallel taxiway	2974m					
Number of taxiways	3					
Apron capacity (OPTION 1)	A	B	C	D	E	
	-	-	3	-	1 (MARS)	
<b>Employees</b>	42					40
Fraport Greece (FG) employees	290					112
Employees of other companies	42					40

### Terminal

➤ Total area (m <sup>2</sup> )	9,648
<b>Other buildings and service/storage areas</b>	
➤ RFF (m <sup>2</sup> )	Management by HAF
<b>Parking Areas</b>	
Car parking spaces	50
Bus parking spaces	18
Taxi parking spaces	12

## 1.2. Airport Facilities

### 1.2.1. Fuel Handlers

<b>Number of fuel handler companies</b>				
Number of fuel handler companies operating at the Airport				1
<b>Installations inside the airport</b>		<b>EKO</b>	<b>GISCO</b>	<b>HAFCO</b>
Environmental Management System (EMS)	(YES/NO)	Not operating at the airport	YES	Not operating at the airport

### 1.2.2. Ground Handlers

<b>Ground Handlers</b>				
Number of ground handler companies operating at the airport				2
<b>Installations inside the airport</b>		<b>SKYSERV</b>	<b>SWISSPORT</b>	<b>GOLDAIR</b>
Vehicles (total number)		11	17	-
Environmental Management System (EMS)	(YES/NO)	YES	YES	Not operating at the airport

## 2. TRAFFIC DATA STATISTICS

### 2.1. Annual Traffic Data

<b>Annual Traffic Data for the year 2019</b>	
Overall Annual Air Traffic Movements <sup>1</sup>	5,592
Percent of increase or decrease in relation to the previous year	3.7%
Annual passenger traffic	625,790
Percent of increase or decrease in relation to the previous year	7.2%
Annual cargo transferred (tn)	0
Percent of increase or decrease in relation to the previous year	0

<sup>1</sup> Military and training flights not included.

<b>Aircraft types</b>	
<b>Prevailing aircraft types for domestic flights</b>	
<b>Aircraft type</b>	<b>No. of flights</b>
AT45	674
DH8D	72
AT46	56
EC55	24
A109	14
LJ35	12
A32B	9
A321	8
F100	8
C550	8
Other	124
<b>Prevailing aircraft types for international flights</b>	
<b>Aircraft type</b>	<b>No. of flights</b>
A320	919
B73H	805
A32B	385
A321	282
A32A	214
B712	190
B738	178
A20N	165
A319	142
B73W	138
Other	1,165

## 2.2. High season traffic data

<b>High season traffic data (June-September)</b>	
Highest traffic month	July
Air traffic movements during the month with highest traffic	1,223
Air traffic movements daily average number during the month with highest traffic	39

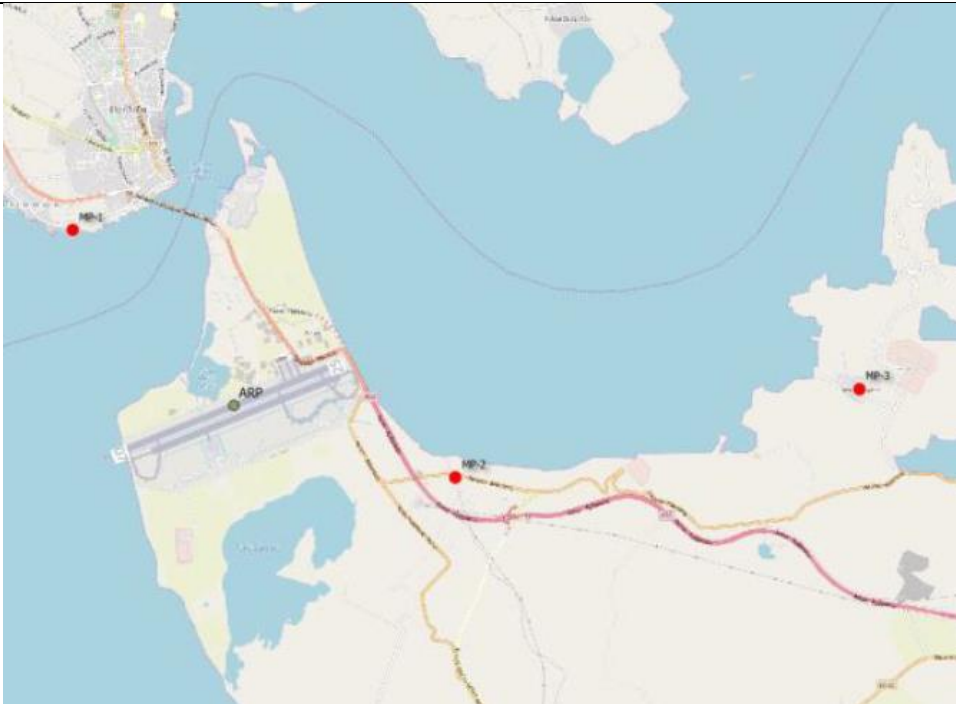
## 2.3. Low season traffic data

<b>Low season traffic data (October-May)</b>	
Lowest traffic month	December
Air traffic movements during the month with lowest traffic	56
Air traffic movements daily average number during the month with lowest traffic	6

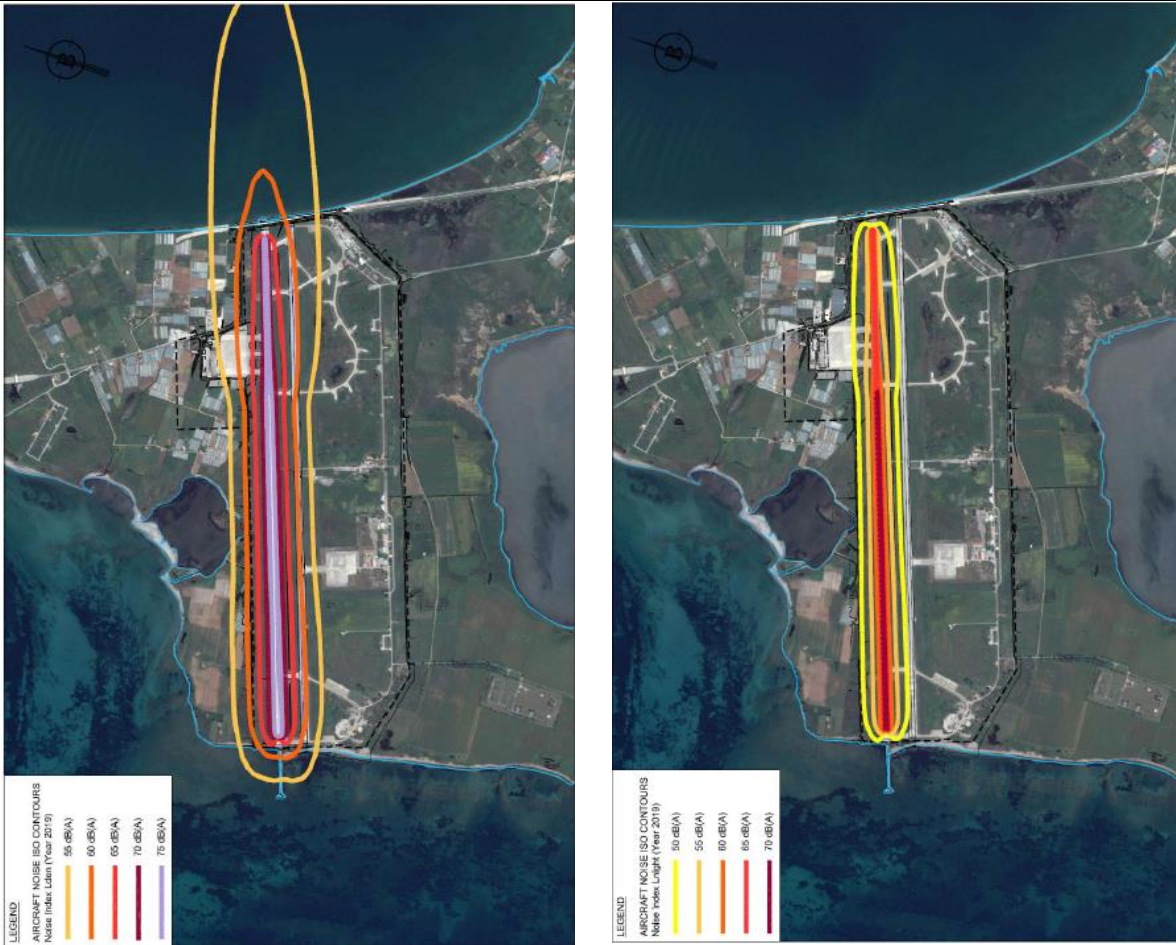


### 3. AIRCRAFT NOISE

#### 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
<b>Measurement points</b>		
		
<b>Measurement points coordinates</b>	<b>Measurement points description</b>	
1) Position: 38° 56' 43" N 20° 44' 30" E	Agios Georgios area, north west of the runway. Affected by arrivals RWY 07 and departures RWY 25.	
2) Position: 38° 55' 03" N 20° 47' 49" E	Aktio area, to the south-east of the runway on the roof of a house. Affected by departures RWY 07 and arrivals RWY 25.	
3) Position: 38° 55' 36" N 20° 51' 20" E	Nea Kamarina area, east of the runway in the garden of a house. Affected by departures RWY 07 and arrivals RWY 25.	
<b>Measurement period</b>	29.07.2019 – 30.07.2019	
<b>Noise indicators</b>	Lden, Lnight	
<b>Summary of measurement results:</b>		
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

<b>Aircraft noise levels calculation based on simulation software [YES/NO]</b>	YES
<b>Software used:</b> IMMI Noise Prediction Software	
<b>Noise indicators and respective contours calculation:</b>	L <sub>den</sub> , L <sub>night</sub>
	
<b>Summary of results:</b>	
For the year 2019 no populations or buildings inside official settlement boundaries were found to be exposed to noise levels higher than the limits L <sub>den</sub> = 70 dB(A) and L <sub>night</sub> = 60 dB(A).	

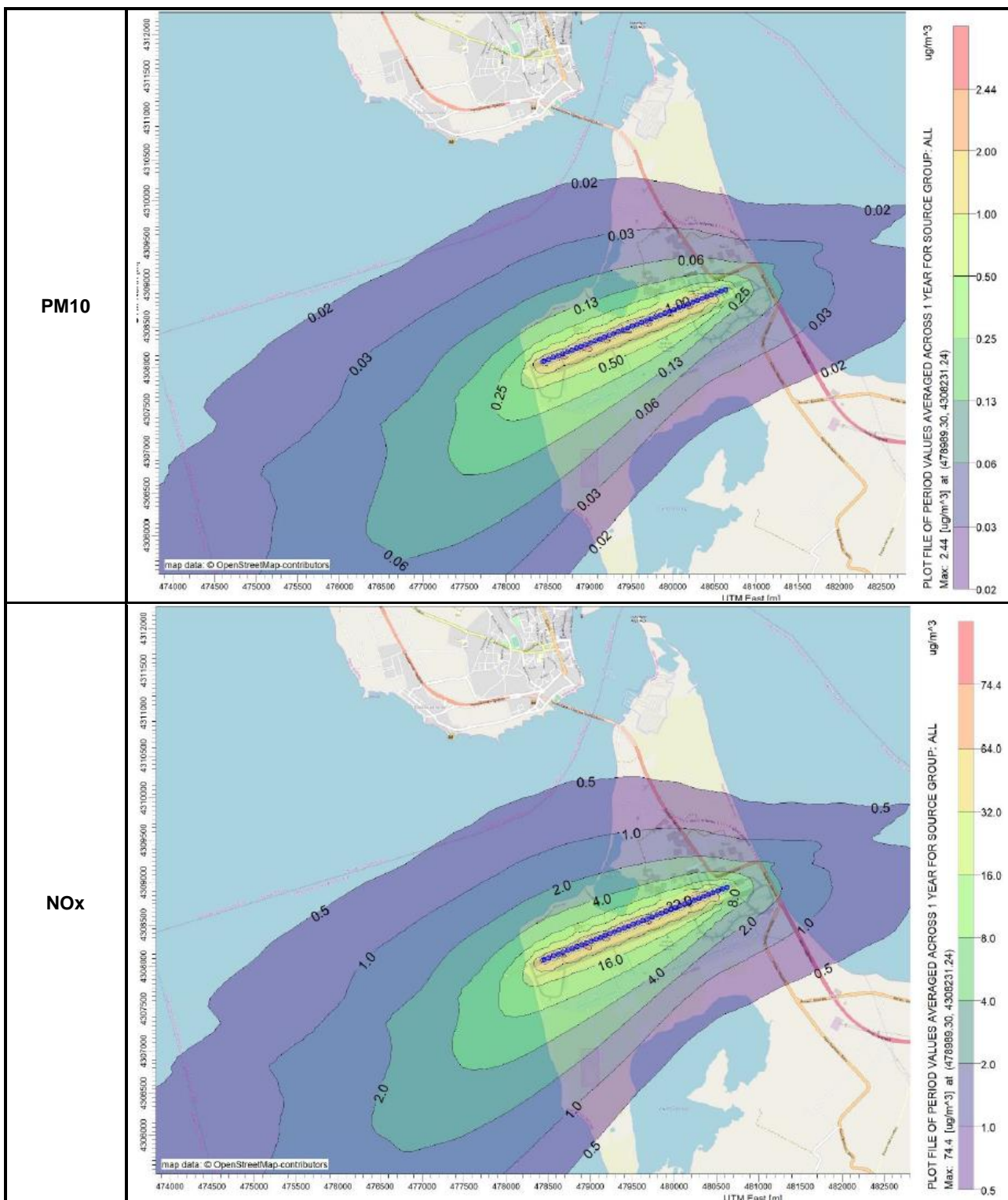
## 4. AIR QUALITY

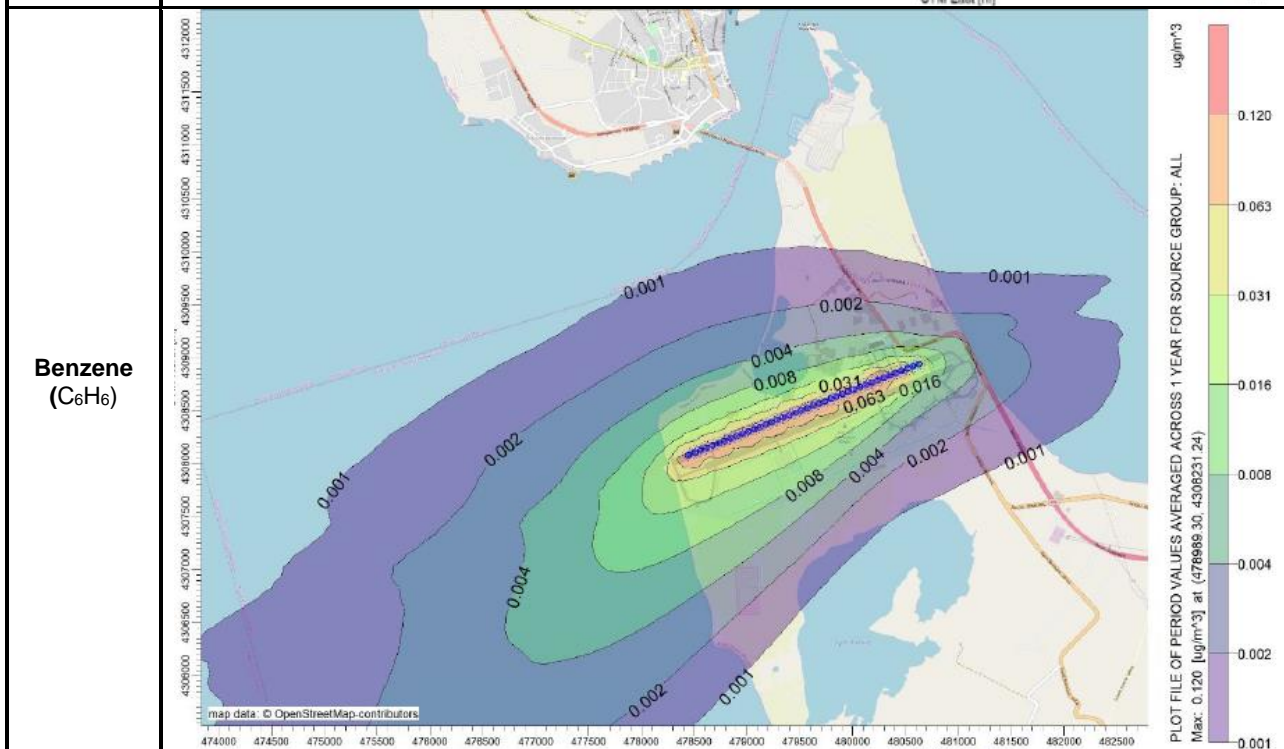
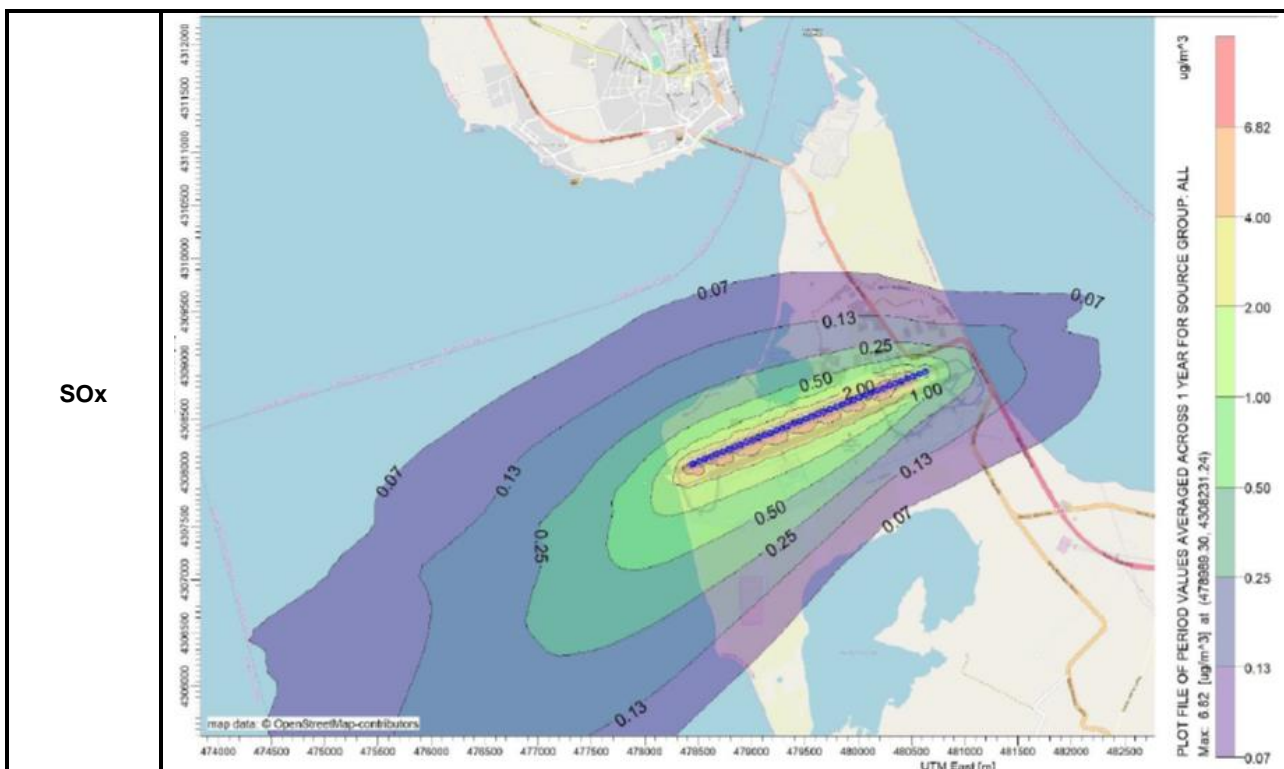
### 4.1. Air quality measurements during the reference year

<b>Have air quality measurements at the airport's surrounding area been performed during the reference year? [YES/NO]</b>		<b>NO*</b>
<b>Measurement points</b>		
N/A		
<b>Measurement points coordinates</b>	<b>Measurement points description</b>	
1) Position: --° --' --" N --° --' --" E	N/A	
2) Position:       --°    --'    --" N --° --' --" E	N/A	
<b>Measurement period</b>	N/A	
<b>Pollutants measured:</b> N/A		
<b>Summary of measurement results:</b>		
<p>*Fraport Greece, during the years 2018-2019, has implemented a noise &amp; air pollution monitoring program, according to the Approved Environmental Terms of the airport. The monitoring program included the implementation of special simulation tools in combination with confirmation measurements, of air pollution and noise, in representative positions around the airport.</p> <p>According to the abovementioned monitoring program, which is an annex of the approved Environmental Impact Assessment Study, and based on the results of the measurements for 2018, no air pollution measurements were programmed for the year 2019 at the airport. Instead, a computational approach with the use of air pollution simulation software was planned, the results of which are presented in paragraph 4.2. The results of the 2018 air pollution measurement are available at the respective environmental bulletin, which is published at the company's website.</p> <p>At the end of the two year period of the program, in May 2020, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment &amp; Energy, with proposals for the most suitable in terms of effectiveness, air pollution &amp; noise monitoring program for the years ahead.</p>		

### 4.2. Air pollutants emission and dispersion modelling

<b>Calculation of air pollutants concentrations based on an emission and dispersion modelling software [YES/NO]</b>	<b>YES</b>
<b>Software used:</b> Aviation Environmental Design Tool (AEDT) - US Federal Aviation Administration & US Environmental Protection Agency AERMOD	
<b>Pollutants concentrations and respective contours calculation:</b> PM <sub>10</sub> , NO <sub>x</sub> , SO <sub>x</sub> , C <sub>6</sub> H <sub>6</sub>	





**Summary of results:**

Air quality is monitored according to the airport's monitoring program.  
No exceedance of the air quality limits was observed.

## 5. WASTE MANAGEMENT

Waste management		
Waste	Collection	Management/Disposal
Mixed Waste and Bulky Waste	Separate collection by the Municipality of Vonitsa	Disposal in landfill

Σημειώσεις:
<ol style="list-style-type: none"> <li>1. Regarding the mixed MSW Airport Users are served by the central management system of Fraport Greece</li> <li>2. Regarding the "alternative management" waste categories (Waste lubricant oil WLO, WEEE, etc.):                         <ol style="list-style-type: none"> <li>i. Waste Lubricant Oil (WLO): Collection and management by authorized collector "CYTOP S.A."</li> <li>ii. Waste Electrical &amp; Electronic Equipment (WEEE): Collection and management by alternative management system "Appliances Recycling S.A."</li> <li>iii. Accumulators: Collection and management by alternative management system "Re-Battery S.A."</li> <li>iv. Small batteries: Collection and management by alternative management system "AFIS S.A."</li> <li>v. Used tires: Collection and management by alternative management system "ECOELASTIKA S.A."</li> </ol> </li> <li>3. 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.</li> </ol>

## 6. ECOSYSTEM AROUND THE AIRPORT

### 6.1. Flora-Fauna

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

### 6.2. Ecologically fragile areas

The nearest protected area is the "Lagoon of Aggeloxhori" at a distance of approximately 12km from the airport.

## 7. WILDLIFE HAZARD MANAGEMENT

Wildlife hazard management	
<b>Extent of the problem</b> (bird species):	<b>Birdstrikes</b>
-	-
<b>Adopted measures:</b> *	
*The birdstrike risk management is implemented by the Hellenic Air Force.	
<b>Reference year summary results:</b>	
-	

## 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)	1,946,206

### 9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	10	
Number of firefighting vehicles at the airport	Management by H.A.F.	
Total annual fuel consumption	Diesel (lt)	2,661
	Unleaded gasoline (lt)	65

### 9.3. Heating oil or natural gas consumption

Heating oil or natural gas consumption	
Total annual heating oil consumption (lt)	-*
Total annual heating natural gas consumption (m <sup>3</sup> )	N/A

\*Heating and cooling is achieved via heat pumps

#### 9.4. Water consumption

Water consumption	
Period	Consumption [m <sup>3</sup> ]
Total annual consumption	5,000*

\*Estimation

### 10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT

Greenhouse gas emissions that were included in the carbon footprint calculation are the CO<sub>2</sub> 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 <sub>2</sub> EMISSIONS (t)
	2019
Direct emissions from heating fuel (scope 1)	0.0
Direct emissions from fuel used for fleet vehicles (scope 1)	7.3
Direct emissions from fuel used for firefighting vehicles (scope 1)	*
Direct emissions from fuel used for generators (scope 1)	1.3
Indirect emissions from electricity consumption (scope 2)	1,241.7
<b>Total (t)</b>	<b>1,250.3</b>
<b>Kilos CO<sub>2</sub>/ passenger</b>	<b>2.00</b>

#### 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 network of Lefkada & Aetoloakarnania
Is sampling of the airport's water network performed? <b>[YES/NO]</b>	YES
<b>(if YES)</b> Sampling frequency:	Quarterly
<b>Summary of results:</b> The results of the microbiological and chemical analyses show that the parameters analysed as regards the airport's water network are <b>within the legislative limits</b> defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ GG 3282 B/19-9-2017 regarding the quality of human consumption 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
<b>Parameters analyzed:</b> pH, conductivity,TSS, DO, NO <sub>3</sub> , NO <sub>2</sub> , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals,PCBs, Detergents		
<b>Summary of results:</b> Surface rainwater quality is monitored according to the airport's monitoring program. Due to the absence of relevant national quality limits for surface rainwater, the specifications of ref. num. 328925/7912/02.02.2017 recipient designation decision (G.G. 35/D'/2017) and 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
<b>Parameters analyzed:</b> pH, conductivity,TSS, DO, NO <sub>3</sub> , NO <sub>2</sub> , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals,PCBs, Detergents	
<b>Summary of results:</b> Groundwater quality is monitored according to the airport's monitoring program. In addition, the fuel handling companies monitor the quality of groundwater according to the environmental terms. According to FG's analyses results,, the environmental monitoring reports of the fuel handlers, and based on the New Dutch List (2009) which is adopted in the absence of relevant national specifications/limits, the environmental condition of the ground water is found adequate and no decontamination measures are necessary	

## 14. SEWAGE TREATMENT & DISPOSAL

Sewage	
Sewage network to the municipal waste water treatment plant (WWTP)	NO
Autonomous airport's waste water treatment plant (WWTP)	YES
<b>Short description: -</b>	
Blue water	
<b>Collection and disposal:</b> Collection in a tank and disposal at the airport's 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	Tertiary treatment with chlorination
Treatment method	Prolonged ventilation
Disposal of treated wastewater	Drain ditch to the Ionian Sea based on Joint Ministerial Decision KYA 328925/7912 (Government Gazette 35/Δ/2017)
Sludge disposal	Landfill
Sampling frequency of WWTP effluent	Monthly based on the decision determining the recipient
Parameters analysed	BOD, COD, TSS, T. Coliforms, E.Coli, pH, Dissolved Oxygen, Grease and Oils, Residual Chlorine
Summary of quality of WWTP effluent	The WWTP effluent observes the limits set out in the decision specifying the recipient