

# ENVIRONMENTAL BULLETIN OF KERKIRA “IOANNIS KAPODISTRIAS” AIRPORT (CFU)

## Reference year 2021

Fraport Regional Airports of Greece A S.A.

Issue Year: 2022

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## 1. INTRODUCTION

### 1.1. Location

Kerkira Airport “Ioannis Kapodistrias” is located S-SW of the city of Kerkira and east of Chalikiopoulos lagoon in an area of approximately 760 acres.

### 1.2. Administration

The Airport administratively belongs to the Regional Unit of Kerkira of the Region of the Ionian Islands in the Municipal Unit of Kerkira of the Municipality of Kerkira.

### 1.3. Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	11945/08.03.2017
E.T. Amendment Decision Reference Number	7208/30.03.2018

### 1.4. Airport Basic Data

Airport name IATA / ICAO	CFU / LGKR
Airport location – Airport Reference Point (ARP)	Latitude : 39° 36' 07" N Longitude : 19° 54' 42" E
Altitude	2m
Number of runways	1
Operation hours (summer)	0:01-24:00
Operation hours (winter)	Monday 07:00 – 19:00 Tuesday/Saturday 07:00 – 16:00 Wednesday/Friday 07:00 – 21:00 Thursday 09:00 – 21:00 Sunday 08:00 – 21:00

Runways	Length/Width					Code
Runway	2,373 m x 45 m					17/35
Full length of parallel taxiway	N/A					
Number of taxiways	3					
Apron capacity	A	B	C	D	E	
	-	-	8	2	-	

Employees	High season (31.08.2021)	Low season (30.11.2021)
Fraport Greece (FG) employees	44	40
Employees of other companies	916	476

<b>Terminal</b>	
➤ Total area (m <sup>2</sup> )	31.696

<b>Other buildings and service/storage areas</b>	
➤ RFF Station (m <sup>2</sup> )	1.626

<b>Parking Areas</b>	
Car parking spaces	334
Bus parking spaces	44
Taxi parking spaces	55

## 1.5. Airport facilities

### 1.5.1. Fuel Handlers

<b>Number of fuel handler companies</b>	
Number of fuel handler companies operating at the Airport	2

<b>Installations inside the airport</b>	<b>EKO</b>	<b>GISSCO</b>	<b>HAFCO</b>
Environmental Management System (EMS)	YES	YES	Not operating at the airport

### 1.5.2. Ground Handlers

<b>Number of ground handler companies</b>	
Number of ground handler companies operating at the Airport	3

<b>Installations inside the airport</b>	<b>SKYSERV</b>	<b>SWISSPORT</b>	<b>GOLDAIR</b>
Environmental Management System (EMS)	YES	YES	YES

## 2. TRAFFIC DATA STATISTICS

### 2.1. Annual Traffic Data

<b>Annual Traffic Data for the year 2021</b>	
Overall Annual Air Traffic Movements <sup>1</sup>	21.218
Percent of increase or decrease in relation to the previous year	94,9%
Annual passenger traffic	2.044.704
Percent of increase or decrease in relation to the previous year	112,8%
Annual cargo transferred (tn)	67
Percent of increase or decrease in relation to the previous year	-6,9%

<b>Aircraft types</b>	
<b>Prevailing aircraft types for domestic flights</b>	
Aircraft type	No. of flights
A320	661
AT75	536
AT45	470
AT76	400
AT72	361
A32A	300
DH8D	202
A321	189
B73H	143
A20N	77
Other	769
<b>Prevailing aircraft types for international flights</b>	
Aircraft type	No. of flights
B73H	5.103
A320	2.659
B738	2.272
A32A	1.112
A319	772
A321	417
7M8	404
A20N	403
C56X	319
A32B	250
Other	3.399

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

## 2.2. High season traffic data

<b>High season traffic data (June-September)</b>	
Highest traffic month	August
Air traffic movements during the month with highest traffic	5.404
Air traffic movements daily average number during the month with highest traffic	174

## 2.3. Low season traffic data

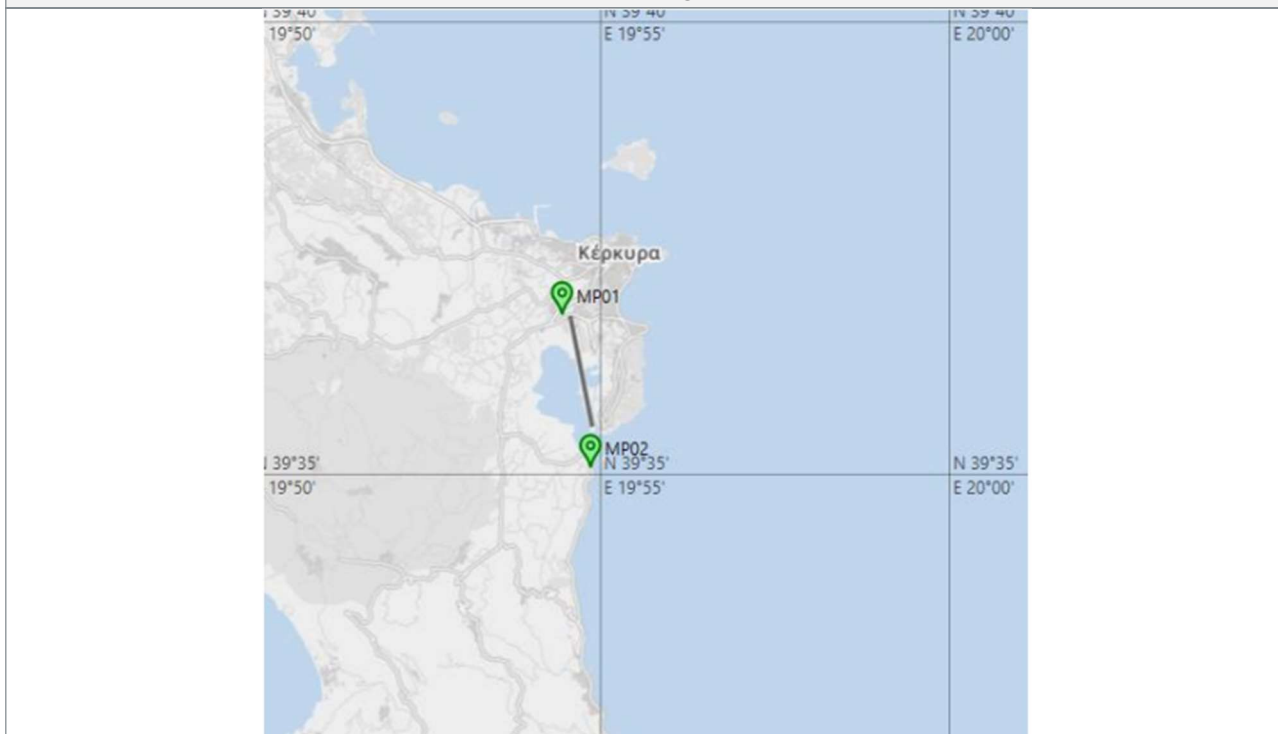
<b>Low season traffic data (October-May)</b>	
Lowest traffic month	February
Air traffic movements during the month with lowest traffic	207
Air traffic movements daily average number during the month with lowest traffic	7

### 3. AIRCRAFT NOISE

#### 3.1. Noise measurements during the reference year

<b>Have noise measurements at the airport's surrounding area been performed during the reference year?</b>	<b>YES</b>
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<b>Noise Monitoring Stations</b>
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Measurement points coordinates	Measurement points description
MP01: 39° 36' 45.43" N 19° 54' 26.84" E	East of the airport, in KTEO parking lot, in 500 meters distance.
MP02: 39° 35' 04.03" N 19° 54' 51.22" E	Located in Perama, south of the runway in the garden of a hotel. Affected by departures from runway 17 and arrivals on runway 35.
<b>Measurement period</b>	01.03.2021 – 31.12.2021
<b>Noise indicators</b>	L <sub>den</sub> , L <sub>night</sub>

<b>Summary of measurement results:</b>
----------------------------------------

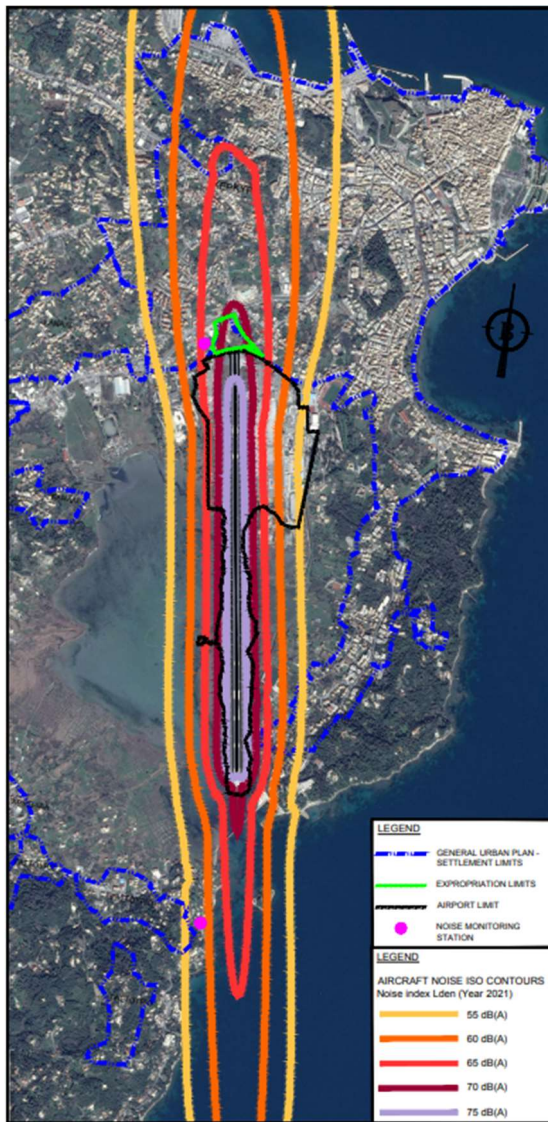
Noise levels are monitored according to the airport's monitoring program.  
 No exceedance of the noise indicators levels L<sub>den</sub> = 70 dB(A) and L<sub>night</sub> = 60 dB(A) was observed.  
 MP01: L<sub>den</sub>=68 dB(A) & L<sub>night</sub>=58,3 dB(A)  
 MP02: L<sub>den</sub>=57,5 dB(A) & L<sub>night</sub>=47,7 dB(A)



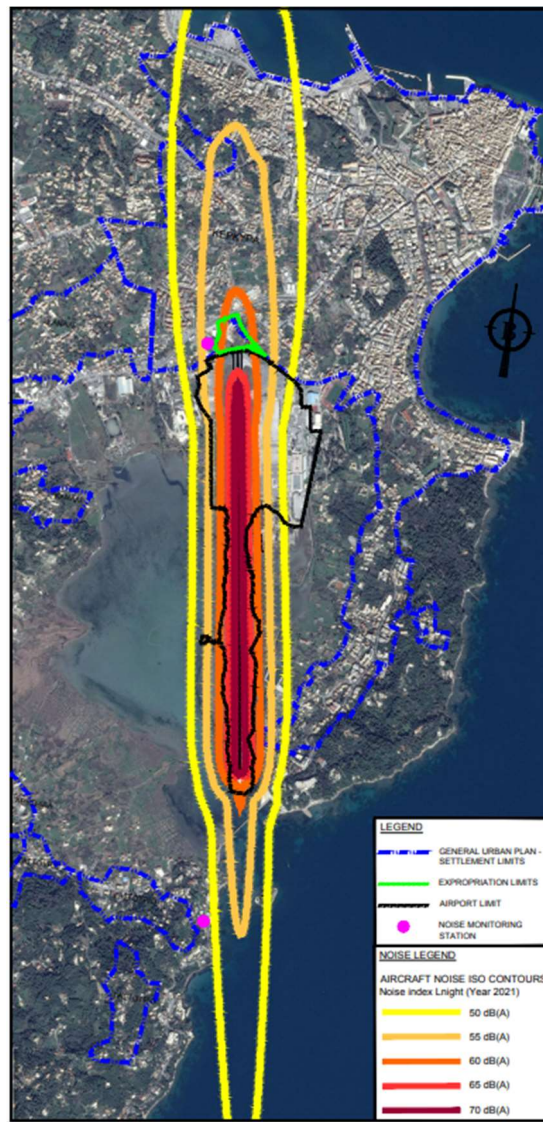
**3.2. Noise levels calculation based on noise simulation software**

<b>Aircraft noise levels calculation based on noise simulation software</b>	YES
<b>Software used:</b> IMMI Noise Prediction Software (CNOSSOS-EU assessment method based on Directive 2015/996/EU)	
<b>Noise indicators and respective contours calculation:</b> $L_{den}$ , $L_{night}$	

**Noise contours:**



$L_{den}$



$L_{night}$

**Summary of results:**

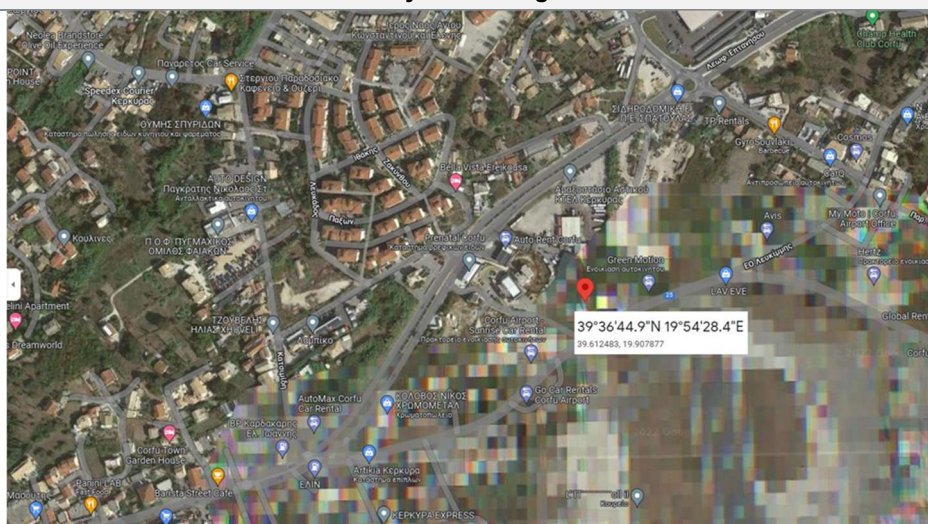
For the year 2021 minor population & buildings within official settlement boundaries were found to be exposed to noise levels higher than the limits, more specific for 0,1%  $L_{den} \geq 70$  dB(A) and for 0,2  $L_{night} \geq 60$  dB(A).

## 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?</b>	<b>YES</b>
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#### Air Quality Monitoring Network



Measurement points	Measurement points description
Position: 39° 36' 44.9" N 19° 54' 28.4" E	East of the airport, in KTEO parking lot, in 500 meters distance
<b>Measurement period:</b>	01.03.2021-31.12.2021
<b>Pollutants measured:</b>	PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>2</sub> , SO <sub>2</sub> , C <sub>6</sub> H <sub>6</sub> , O <sub>3</sub>

#### Summary of measurement results:

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

**4.2. Air pollutants emission and dispersion modelling**

<b>Calculation of air pollutants concentrations based on an emission and dispersion modelling software</b>		NO*
Software used: N/A		
Pollutants concentrations and respective contours calculation: N/A		
PM <sub>10</sub>		N/A
NO <sub>x</sub>		N/A
SO <sub>x</sub>		N/A
Benzene (C <sub>6</sub> H <sub>6</sub> )		N/A

**Summary of results:**

\*Fraport Greece, during the years 2018-2019, has implemented a noise & 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. At the end of the two year period of the program in April 2020, in implementation of the Environmental Terms, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment & Energy, with proposals for the most suitable in terms of effectiveness, air pollution & noise monitoring program for the years ahead (ref. number 39833/833/29.4.2020).  
According to the program, which is also an appendix in approved Environmental Impact Study, in 2021 the air pollution simulation was not foreseen.

## 5. WASTE MANAGEMENT

Waste	Collection	Management/Disposal
<b>Recyclables (paper, plastic, metals, glass)</b>	Separate collection by appropriately licensed private company	Disposal at Kerkira material recovery facility for recycling
<b>Residues (Mixed Waste) and Bulky Waste</b>	Separate collection by appropriately licensed private company	Disposal at Kerkira material recovery facility for materials recovery and disposal to landfill afterwards

### Notes:

1. Regarding the different categories of the MSW (recyclables, mixed waste, bulky waste), the Airport Users handle their waste together with Fraport Greece A in most cases (central management), while in a few other cases they handled them autonomously. The implementation of a fully central system by Fraport Greece A is expected.
2. Regarding the “alternative management” waste categories (Waste lubricant oil WLO, WEEE, etc.):
  - i. Waste Lubricant Oil (WLO): Collection and management by authorized collector “CYTOP S.A.”
  - ii. Waste Electrical & Electronic Equipment (WEEE): Collection and management by alternative management system “Appliances Recycling S.A.”
  - iii. Accumulators: Collection and management by alternative management system “Re-Battery S.A.”
  - iv. Small batteries: Collection and management by alternative management system “AFIS S.A.”
  - v. Used tires: Collection and management by alternative management system “ECOELASTIKA S.A.”
3. The total quantities of the hazardous waste further to the above-mentioned and produced at the airport, are managed by licensed private companies which have a contract with Fraport Greece A, according to the provisions of the legislation in force.
4. The total quantities of the produced waste by category resulting from all activities of the airport, the collectors and final recipients, are recorded by Fraport Greece A and submitted in the Electronic Waste Registry of the Ministry for Environment and Energy via the Annual Waste Producer Report according to the provisions of the legislation in force.

## 6. ECOSYSTEM AROUND THE AIRPORT

### 6.1. Flora-Fauna

Flora	
Are there protected zones of vegetation/habitats in the broader airport area?	YES
<p><b>(if YES)</b> Short description: Kerkira Airport is adjacent to the protected site GR2230005 “PARAKTIA THALASSIA ZONI APO KANONI EOS MESONGI (KERKYRA)” of the Natura 2000 network. The marine region is characterized by a great diversity of flora. The area also includes Chalikiopoulos lagoon (type of priority habitat of the Directive 92/43/EC, 1150* Coastal lagoons)</p>	
Fauna	
Are there protected species of fauna/birds in the broader airport area?	YES
<p><b>(if YES)</b> Short description: The protected bird species that have been observed at Kerkira airport since April 2017 are presented below:  <i>Eurasian curlew (Numenius arquata), Eurasian spoonbill (Platalea leucorodia), Eurasian stone-curlew (Burhinus oedichnemus), European kingfisher (Alcedo atthis), Garganey (Anas querquedula), Glossy ibis (Plegadis falcinellus), Great egret (Casmerodius albus), Lapwing (Vanellus vanellus), Lesser kestrel (Falco naumanni), Marsh harrier (Circus aeruginosus), Mediterranean gull (Larus melanocephalus), Pallid harrier (Circus macrourus), Red-footed falcon (Falco vespertinus), Shelduck (Tadorna tadorna), Purple heron (Ardea purpurea), Sandwich tern (Sterna sandvicensis)</i></p>	

### 6.2. Ecologically fragile areas

Kerkira Airport is adjacent to the protected site GR2230005 “PARAKTIA THALASSIA ZONI APO KANONI EOS MESONGI (KERKYRA)” of the Natura 2000 network. The marine region is characterized by a great diversity of flora. The area also includes Chalikiopoulos lagoon (type of priority habitat of the Directive 92/43/EC, 1150\* Coastal lagoons)

## 7. WILDLIFE HAZARD MANAGEMENT

<b>Wildlife strikes and wildlife hazard management measures</b>	
<b>Wildlife species that suffered a strike</b>	<b>Strikes (%)</b>
Barn swallow ( <i>Hirundo rustica</i> )	26%
Common pheasant ( <i>Phasianus colchicus</i> )	17%
Small passerines ( <i>Passeriformes spp.</i> )	13%
Black-headed gull ( <i>Chroicocephalus ridibundus</i> )	9%
House sparrow ( <i>Passer domesticus</i> )	9%
Common buzzard ( <i>Buteo buteo</i> )	4%
DNA analysis results pending*	4%
Grey heron ( <i>Ardea cinerea</i> )	4%
Flycatcher ( <i>Ficedula spp</i> )	4%
Mallard ( <i>Anas platyrhynchos</i> )	4%
Woodchat shrike ( <i>Lanius senator</i> )	4%
Yellow-legged gull ( <i>Larus michahellis</i> )	4%
<b>Wildlife strike risk mitigation measures:</b>	
<ul style="list-style-type: none"> <li>• Inspections of the manoeuvring area for wildlife monitoring and control at regular intervals</li> <li>• Pyrotechnics application by the use of signal pistols to scare birds away from the manoeuvring area</li> <li>• Drainage ditches are regularly monitored and when necessary cleaned, to ensure efficient water run-off and, thus, reducing the attractiveness of the airside to the wildlife</li> <li>• Regular grass cutting at the airside. Kerkira Airport is equipped with tractor.</li> <li>• Fence maintenance</li> <li>• Systematic monitoring of bird species populations and their habitat on and off-airport (at a distance of 13km from the airport)</li> <li>• Holding of the wildlife strike committee meeting, to raise awareness across the airport users and local authorities about the risk of the wildlife strikes on aircraft and the measures applied to mitigate such a risk</li> </ul>	
<b>Reference year summary results:</b>	
<p>Hellenic Civil Aviation Authority (Safety and occurrence management division) receives annual reports referring to the risk assessment of the wildlife hazard as well as to the wildlife hazard management at the 12 regional airports operating by Fraport Greece. Aktion Airport and Chania Airport “Ioannis Daskalogiannis” are excluded, in accordance with the Concession Agreement, Annex 20, paragraph 6.3.3 &amp; 6.3.4..</p>	

\*“DNA analysis results pending” refers to birdstrikes evidence (e.g. blood or part of feathers) that are laboratory analysed for bird species identification

## 8. CULTURAL HERITAGE

<b>Have new cultural heritage properties been discovered during the reporting period?</b>	NO
<i>(if YES)</i> 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)	
Total annual electric energy consumption (in Kwh)	4.676.950

### 9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	11	
Number of firefighting vehicles at the airport	4	
Total annual fuel consumption	Diesel (lt)	23.625,13
	Unleaded gasoline (lt)	512,41

### 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 air conditioning is performed via heat pumps*

### 9.4. Fuel consumption for generator

Water consumption	
Total annual consumption (lt)	3.650

### 9.5. Water consumption

Water consumption	
Total annual consumption (m <sup>3</sup> )	14.614



## 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)
	2021
Direct emissions form heating fuel (scope 1)	0,0
Direct emissions from fuel used for fleet vehicles (scope 1)	28,7
Direct emissions from fuel used for firefighting vehicles (scope 1)	35,6
Direct emissions from fuel used for generators (scope 1)	9,6
Direct emissions from refrigerants scope 1)	-
Indirect emissions from electricity consumption (scope 2)	2.818,8
<b>Total (t)</b>	<b>2.892,7</b>
<b>Kg CO<sub>2</sub> /passenger</b>	<b>1,41</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

## 11. HUMAN COMSUMPTION WATER MONITORING PROGRAM

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal Water & Sewage Company of Kerkira
Is sampling of the airport's water network performed?	YES
(if YES) Sampling frequency:	Quarterly
<p><b>Summary of results:</b> The results of the chemical analyses show that the water provided by the Municipal Water &amp; Sewage Company of Kerkira <b>is non potable</b> due to high concentration of sulphates. The rest of the results of the microbiological and chemical analyses show that the parameters analyzed as regards the airport's water network are <b>within the legislative limits</b> defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ ΦΕΚ 3282 Β/19-9-2017 regarding the quality of human consumption water.</p>	

## 12. RAINWATER

<b>RAINWATER (collection, treatment disposal and recipient)</b>		
<b>Area</b>	<b>Collection/treatment/disposal</b>	<b>[YES/NO]</b>
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		YES

<b>Rainwater quality</b>	
Is sampling of the airport's rainwater performed?	YES
<b>(if YES)</b> 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 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 AND/OR SOIL AND/OR SOIL GAS MONITORING

Groundwater and/or soil and/or soil gas quality	
Is sampling of the airport’s groundwater and/or soil and/or soil gas performed?	YES*
<i>(if YES)</i> Sampling frequency:	According to the Environmental Terms
<b>Parameters analyzed:</b> TPH, BTEX, MTBE, PAH	
<b>Summary of results:</b>	
Groundwater quality is monitored according to the airport’s monitoring program. For the year 2021, it was possible to sample from a borehole managed by Fraport Greece. The quality characteristics of the sample are judged satisfactory according to the New Dutch List (2013) which is adopted in the absence of relevant national specifications/limits. The second sampling point was deemed unsuitable as there was an inability to pump the borehole.	

## 14. SEWAGE TREATMENT AND DISPOSAL

<b>Sewage</b>	
Sewage network to the municipal waste water treatment plant (WWTP)	YES
Autonomous airport’s waste water treatment plant (WWTP)	NO

<b>Blue water</b>
<b>Collection and disposal:</b> Collection in watertight tank and disposal to the municipal sewage network.

<b>Waste water treatment plant description (where applicable)</b> <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 analyzed	N/A
Summary of quality of WWTP effluent	N/A