

ENVIRONMENTAL BULLETIN OF KAVALA “MEGAS ALEXANDROS” AIRPORT (KVA)

Reference year 2020

Fraport Regional Airports of Greece A S.A.

July 2021

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1. INTRODUCTION

1.1. Location

Kavala “Megas Alexandros” airport is located at the east part of the Regional Unit of Kavala, at a distance of approximately 31 Km to the south-east of the city of Kavala and of approximately 7.5 Km to the south-west of Chrysoupoli settlement. The airport occupies an area of approximately 988 acres

1.2. Administration

The Airport administratively belongs to the Municipality of Nestos and more specifically to the Municipal Unit of Keramoti and the Municipal Unit of Chrysoupoli in the area Agiasma Kavalas.

1.3. Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	84821/95/08.07.1996
E.T. Amendment Decision Reference Number	105624/14.11.2006
	200818/23.07.2012
	172044/09.04.2014
	24353/19.05.2017
	37774/20.12.2017

1.4. Airport Basic Data

Airport name IATA / ICAO	KVA / LGKV
Airport location – Airport Reference Point (ARP)	Latitude: 40° 54' 48" N Longitude: 24° 37' 09" E
Altitude	5m
Number of runways	1
Operation hours (summer)	07:15 – 23:15
Operation hours (winter)	Monday /Tuesday /Wednesday 07:30 – 18:30 Thursday /Friday 09:00 – 20:00 Saturday /Sunday 13:00 – 20:00

Runways	Length/Width					Code
Runway	3,000 m x 45 m					05R/23L
Full length of parallel taxiway	3,000m					
Number of taxiways	5					
Apron capacity	A	B	C	D	E	
	-	-	5	-	1 (MARS)	

Employees	High season (31.08.2020)	Low season (30.11.2020)
Fraport Greece (FG) employees	23	21
Employees of other companies	575	490

Terminal	
➤ Total area (m ²)	8,569

Other buildings and service/storage areas	
➤ RFF Station (m ²)	734

Parking Areas	
Car parking spaces	240
Bus parking spaces	15
Taxi parking spaces	40

1.5. Airport facilities

1.5.1. Fuel Handlers

Number of fuel handler companies	
Number of fuel handler companies operating at the Airport	3

Installations inside the airport	EKO	GISSCO	HAFCO
Environmental Management System (EMS)	YES	YES	YES*

*HAFCO facility was not operating during the reference year

1.5.2. Ground Handlers

Number of ground handler companies	
Number of ground handler companies operating at the Airport	3

Installations inside the airport	SKYSERV	SWISSPORT	GOLDAIR
Vehicles (total number)	6	7	11
Environmental Management System (EMS)	YES	YES	YES

2. TRAFFIC DATA STATISTICS

2.1. Annual Traffic Data

Annual Traffic Data for the year 2020	
Overall Annual Air Traffic Movements ¹	1,142
Percent of increase or decrease in relation to the previous year	-67.0%
Annual passenger traffic	72,674
Percent of increase or decrease in relation to the previous year	-77.6%
Annual cargo transferred (tn)	38
Percent of increase or decrease in relation to the previous year	-61.8%

Aircraft types	
Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
DH8D	478
DA42	35
B06	32
AT46	20
C172	20
EC20	8
A320	8
DA40	7
SR2	6
A319	6
Other	55
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
A320	132
A32A	48
B73H	38
E195	36
A321	32
A319	28
B737	20
C172	18
A32B	18
7S8	10
Other	87

¹ Military and training flights not included.

2.2. High season traffic data

High season traffic data (June-September)	
Highest traffic month	August
Air traffic movements during the month with highest traffic	214
Air traffic movements daily average number during the month with highest traffic	7

2.3. Low season traffic data

Low season traffic data (October-May)	
Lowest traffic month	December
Air traffic movements during the month with lowest traffic	30
Air traffic movements daily average number during the month with lowest traffic	1

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?		NO*
Measurement points		
N/A		
Measurement points coordinates	Measurement points description	
1) Position: N/A	N/A	
2) Position: N/A	N/A	
3) Position: N/A	N/A	
Measurement period	N/A	
Noise indicators	N/A	

Summary of measurement 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).
Given the situation with the COVID-19 pandemic and the subsequent dramatic decrease of the airport traffic no noise measurements were performed during the peak period of the reference year and the competent Ministry for Environment & Energy was informed accordingly.

3.2. Noise levels calculation based on noise simulation software

Aircraft noise levels calculation based on noise simulation software	NO*
Software used: N/A	
Noise indicators and respective contours calculation: N/A	
Noise contours: 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).
Given the situation with the COVID-19 pandemic and the subsequent dramatic decrease of the airport traffic no noise software simulation was performed during the peak period of the reference year and the competent Ministry for Environment & Energy was informed accordingly.

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?		NO*
Measurement points		
N/A		
Measurement points	Measurement points description	
N/A	N/A	
Measurement period:	N/A	
Pollutants measured:	N/A	

Summary of measurement 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).

Given the situation with the COVID-19 pandemic and the subsequent dramatic decrease of the airport traffic no air pollution measurements were performed during the peak period of the reference year and the competent Ministry for Environment & Energy was informed accordingly.

4.2. Air pollutants emission and dispersion modelling

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

Given the situation with the COVID-19 pandemic and the subsequent dramatic decrease of the airport traffic no air pollution software simulation was performed during the peak period of the reference year and the competent Ministry for Environment & Energy was informed accordingly.

5. WASTE MANAGEMENT

Waste	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by the Municipality of Nestos	Disposal at material recovery facility or transshipment for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by the Municipality of Nestos	Disposal in landfill

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 (central management).
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>(if YES) Short description: The airport of Kavala is within the limits of the “National Park of Eastern Macedonia & Thrace” (NPEMT). The airport of Kavala is entirely located within Zone C1 of the NPEMT, which is listed as “Ecodevelopment Area” and within delimited Zones A1 to A5, which constitute “nature protection areas” of the NPEMT. Based on Joint Ministerial Decision 44549 (Government Gazette 497/Δ/17-10-2008), within Zone C1 of the NPEMT, the following is permitted among others: “... The preservation, conservation, modernisation of the airport zone, , based on the applicable provisions”.</p>	
Fauna	
Are there protected species of fauna/birds in the broader airport area?	YES
<p>(if YES) Short description: A small part of Kavala airport, at its south south-west end, is located within area GR1150010 “DELTA OF NESTOS & LAGOONS OF KERAMOTI – GENERAL AREA & COASTAL ZONE” as well as within the area GR1150001 “DELTA OF NESTOS & LAGOONS OF KERAMOTI & THASOPOULA ISLAND”. The area GR1150010, is listed as Site of Community Importance (SCI), based on Directive 92/43/EC and as Special Area of Conservation (SAC), based on L. 3937/2011. The area GR1150001, is listed as Special Protection Area (SPA), based on Directive 2009/147/EC.</p>	

6.2. Ecologically fragile areas

A small part of Kavala airport, at its south south-west end, is located within area GR1150010 “DELTA OF NESTOS & LAGOONS OF KERAMOTI – GENERAL AREA & COASTAL ZONE” as well as within area GR1150001 “DELTA OF NESTOS & LAGOONS OF KERAMOTI & THASOPOULA ISLAND”. Moreover, the airport of Kavala is located in its totality within Zone C1 of the “National Park of Eastern Macedonia & Thrace” (NPEMT).

7. WILDLIFE HAZARD MANAGEMENT

Wildlife strikes and wildlife hazard management measures	
Wildlife species that suffered a strike	Strikes (%)
<i>Larus michahellis</i> (Yellow-legged gull)	47%
<i>Falco tinninulus</i> (Common kestrel)	24%
<i>Merops apiaster</i> (European bee-eater)	18%
<i>Anthus pratensis</i> (Meadow pipit)	6%
<i>Falco subbuteo</i> (Eurasian hobby)	6%
Wildlife strike risk mitigation measures:	
<ul style="list-style-type: none"> ● Pyrotechnics application by the use of signal pistols to scare birds away from the manoeuvring area ● 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 ● Regular grass cutting at the airside ● Fence maintenance ● Systematic monitoring of bird species populations and their habitat on and off-airport (at a distance of 13km from the airport). ● Seminar awareness video on the identification, conservation and safe relocation of reptiles (snakes), under the collaboration with the Lalitsa Non-Profit Association ● Awareness video on the safe handling and relocation of stray dogs ● In collaboration with the Hellenic Electricity Distribution Network Operator special equipment is placed at electricity supply poles nearby the Landside areas to exclude White storks nesting attempts ● 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 	
Reference year summary results:	
<p>The Hellenic Civil Aviation Authority (Section D3/B, Wildlife Strike Risk Prevention Office) 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 & 6.3.4.</p>	

8. CULTURAL HERITAGE

Have new cultural heritage properties been discovered during the reporting period?	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)	1,543,918

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	10	
Number of firefighting vehicles at the airport	4	
Total annual fuel consumption	Diesel (lt)	15,822
	Unleaded gasoline (lt)	142

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 ³)	N/A

*Heating and air conditioning is performed via heat pumps

9.4. Water consumption

Water consumption	
Total annual consumption (m ³)	2,558*

*Estimation

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)
	2020
Direct emissions form heating fuel (scope 1)	0.0
Direct emissions from fuel used for fleet vehicles (scope 1)	25.2
Direct emissions from fuel used for firefighting vehicles (scope 1)	17.4
Direct emissions from fuel used for generators (scope 1)	4.5
Indirect emissions from electricity consumption (scope 2)	961.9
Total (t)	1,009.0
Kg CO₂ /passenger	13.88

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 (DEYA) of Nestos
Is sampling of the airport's water network performed?	YES
<i>(if YES)</i> Sampling frequency:	Quarterly
Summary of results: The results of the microbiological and chemical analyses show that the parameters analyzed 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.	

12. RAINWATER

RAINWATER (collection, treatment disposal and recipient)		
Area	Collection/treatment/disposal	[YES/NO]
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
(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 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*
(if YES) Sampling frequency:	According to the Environmental Terms
Parameters analyzed: TPH, BTEX, MTBE	
Summary of results:	
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 the environmental monitoring reports of the fuel handlers, and based on the New Dutch List (20013) 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.	

* The above results refer to the samplings performed by the Fuel Handlers.

14. SEWAGE TREATMENT AND DISPOSAL

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

Blue water
Collection and disposal: Collection in watertight tank and disposal to the municipal sewage network.

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 analyzed	N/A
Summary of quality of WWTP effluent	N/A