4th Annual Report on Environmental Strategy

FRAPORT GREECE - Cretan, Continental Greece and Ionian Sea Regional Airports - *Cluster A*

July 2020

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List of Abbreviations

Term	Definition
ACA	Airport Carbon Accreditation
ACI	Airports Council International
CA	Concession Agreement
CCD	Concession Commencement Date
CEMP	Construction Environmental Management Plan
EASA	European Aviation Safety Agency
EBRD	European Bank for Reconstruction and Development
EC	European Community
EIB	European Investment Bank
ESMS	Environmental & Social Management System
E&S	Environmental and Social
FG	Fraport Greece
GG	Government Gazette
HRADF	Hellenic Republic Asset Development Fund
HAF	Hellenic Air Force
IFC	International Finance Corporation
ISO	International Organization for Standardization
RFF	Rescue Fire Fighting
SEP	Stakeholder Engagement Plan
WWTP	Waste Water Treatment Plant

Executive Summary

The 4th "Annual Report on Environmental Strategy" depicts Fraport Greece's (FG) compliance to the Environmental Requirements set in the Concession Agreement, thirty-nine months after the Concession Commencement Date of the 11th of April 2017.

The Environmental Strategy outlines the methods to control environmental impacts during the implementation of infrastructure upgrades and growth in operations in response to the 2017 Master Plans. Additionally, it details the ongoing high quality environmental management of the airports.

Via a framework of objectives and targets, with specific timeframe, this Environmental Strategy provides a framework to ensure that social, economic, and environmental goals are reflected in the development and daily operation of each airport.

The environmental aspects addressed are:

- sustainable development,
- soil management,
- surface and groundwater quality,
- biodiversity,
- cultural heritage,
- air quality,
- noise and
- waste management.

Potential impacts are presented for every environmental aspect, along with preventive actions.

1. Introduction

1.1. Fraport Greece - Overview

Fraport Greece (FG) was established in 2015 and is responsible for maintaining, operating, managing, upgrading and developing 14 regional airports in Greece over a period of 40 years.

The operational transfer of the airports to **FG** took place on April 11th, 2017. At the time of the Concession Commencement Date, full payment of the €1.234 billion upfront concession fee was made by **FG**, linked with the transfer of operations at the 14 airports. Along with the upfront concession payment, an annual fixed concession fee of initially €22.9 million and a variable annual concession fee of on average 28.5% of the operational profit will be paid every year.

Two separate, almost identical concessions were granted by the Greek State in an international tender process, each applying to seven of the 14 airports ("Cluster A" and "Cluster B").

FG consists of two concession companies with their corporate seats in Athens, one company for Cluster A named "Fraport Regional Airports of Greece A S.A." ("Fraport Greece A", FGA) and one company for Cluster B named "Fraport Regional Airports of Greece B S.A." ("Fraport Greece B", FGB).

Fraport Regional Airports of Greece Management Company S.A. (FGM), a third company with its corporate seat in Athens, is acting as management company and is responsible for central functions on behalf of Fraport Greece A and Fraport Greece B, such as employment of staff and contracting of advisors or suppliers.

The Athens headquarters employ more than 200 people and a total of 653 people are employed by **FG** at the 14 airports (November 2019).

The shareholders of **FG** are Fraport AG Frankfurt Airport Services Worldwide, Copelouzos Group and European Marguerite 2020 Fund.

Cluster A under the Concession Agreement of Cretan, Continental Greece and Ionian Sea Regional Airports, includes the following 7 airports:

- Thessaloniki (SKG)
- Kerkira (CFU)
- Zakinthos (ZTH)
- Kefallinia (EFL)
- Aktion (PVK)
- Kavala (KVA) and
- Chania (CHQ)

1.2. Concession Agreement Requirements

FG has entered into a 40-year Concession Agreement (CA) with the Hellenic Republic, represented by the Hellenic Republic Asset Development Fund (HRADF). The Concession Agreement was ratified by means of the Law 4389/2016 (GG 94/A/27.05.2016).

The Concession Agreement, according to Article 13. Environment Protection – 13.2 Environmental Requirements – §13.2.2 requires the Concessionaire to compile, throughout the Concession Period, an annual report on environmental strategy, which shall be submitted to the State within three (3) months of the Concession Commencement Date (CCD) and each anniversary thereof. The Concessionaire is also obliged to create and maintain an internet site where the aforementioned report shall be published.

1.3. Structure of the Environmental Strategy

The Environmental Strategy outlines the airports' methods to control environmental impacts during the implementation of infrastructure upgrades and growth in operations in response to the 2017 Master Plans and details the ongoing high quality environmental management of the airports. The objectives and time framed targets outlined in this Environment Strategy provide a framework to ensure that social, economic, and environmental goals are reflected in the development and daily operation of each airport.

Environmental aspects addressed are:

For every environmental aspect, the potential impacts are presented, along with preventive measures.

2. FG's Environmental and Social Policy

The Management of **FG** has adopted an integrated environmental and social policy for all our business locations (headquarters and airports), having defined environmental and social protection as one of our main company goals. Environmental & Social Protection is the responsibility of all employees who need to realize the importance of their duties, take active participation in meeting the common goals and willingly commit to the results of their activities.

In this context:

- We are managing, operating and developing our units in an environmentally and socially responsible way in compliance with the applicable laws, regulations and other commitments.
- We are promoting greater environmental and social responsibility by training our employees and providing awareness programs for all concerned parties.
- We support a precautionary and socially responsible approach to environmental challenges in respect of cost-effectiveness, economic viability and sustainability.
- We encourage the development and dissemination of environmentally friendly practices and technologies by applying environmental and social criteria when selecting goods and services.
- We engage in a regular dialogue with our community stakeholder groups and we incorporate their concerns and points of view in our corporate decision-making process. We communicate closely with our partners in the air transport value chain and work together to develop joint strategies and concepts directed towards continual improvement of environmental performance.

To meet our goals and targets towards sustainability, we focus on the following key aspects:

1. Protection of natural environment, (including wildlife management);
2. Resource use and waste minimization,
3. Waste management (hazardous, non-hazardous);
4. Wastewater management;
5. Energy management, carbon emissions and climate change;
6. Pollution prevention and emergency response;
7. Noise management and control; and
8. Traffic management.

In the framework of the climate change aspect, we engage to manage and reduce our carbon emissions. In order to achieve this goal we calculate and report the direct and indirect Greenhouse Gas Emissions from all the emission sources in the airports' boundaries, based on the GHG Protocol (scope 1 and 2).

3. Legal and Stakeholders requirements

3.1. Legal requirements

National legislation, in accordance to the European Directives, govern largely the environmental aspects of airport activities and act as a foundation for environmental programming and performance.

Apart from national legislation, **FG**, abides by the E&S Designated Performance Requirement, which means the applicable Alpha Bank Performance Standards as per the 25.7.2016 E&S Policy, the IFC Performance Standards; the EBRD Designated Performance Requirements and the EIB. The environmental guidelines of each bank are publicly disclosed.

In the interest of responsible and sustainable environmental management, **FG** will endeavor to meet or exceed additional self-imposed standards, including the adoption of applicable international regulations. Tenants at **FG** airports are also required to uphold the same standards.

Table 1: Core Environmental Legislation as amended and in force.

Greek Legislation No	GG	Content	European Legislation
General			
Law 1650/1986	A 160	Protection of the environment in Greece	
Law 4014/2011	A 209	New framework for the environmental permitting procedure	
Law 4685/2020	A 92	Modernization of the Environmental legislation	Directives 2018/844 and 2019/692
JMD 5825/2010	B 407	Building Energy Efficiency Code	Directive 91/2002/EC & 31/2010/EC
Waste management			
Law 4042/2012	A 24	Protection of the environment through criminal law, on waste management	Directive (WFD) 2008/99/EC & 2008/98/EC
PD 82/2004	A 64	Management of used mineral oils	
PD 109/2004	A 75	Management of used vehicle tire	
JMD 41624/2057/E103/2 010	B 1625	Management of batteries	
JMD 23615/651/Δ103/2014	B 1184	Management of Waste Electrical and Electronic Equipment (WEEEE)	
JMD 36259/1757/E103/2010	B 1312	Management of Construction and Demolition Waste (CDW)	
JMD 13588/725/1985	B 383	Measures conditions and restrictions on hazardous waste management.	Directive 91/156/EC
Environmental and aircraft noise			
JMD 211773/2012	B 1367	Environmental and aircraft noise	Directive (END) 2002/49/EC

Greek Legislation No	GG	Content	European Legislation
JMD 13586/724/2006	B 384	Environmental Noise	Directive (END) 2002/59/EC
PD 80/2004	A 63	Noise management at EU airports	Directive 2002/30/EC
PD 1178/81	A 291	Measurements and checks on aircraft noise	
Environmental Liability			
PD 148/2009	A 190	Environmental liability for the prevention and remedy of environmental damage.	Directive (ELD) 2004/35/EC
Air pollutants			
JMD 14122/549/E.103/2011	B 488	Ambient air quality	Directive 2008/50/EC
JMD 22306/1075/Δ103/2007	B 920	Target values and limits for assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in atmospheric gases	Directive 2004/107/EC
Nature Conservation			
PD 67/81	A 23	Protection of wild flora and fauna	
Law 3937/2011		Conservation of Biodiversity	
Archaeology and sites of cultural interest			
Law 3028/2002	A 153	Cultural heritage protection	
Wastewater			
JMD 145116/2001	B 354	Establishment of Measures, Conditions and Procedures for the Re-use of Waste Water and other provisions	
JMD 191002/2013	B 428	Amendment of JMD 145116/2011, which abolishes the relevant permit.	
MD E1b/221/65	B 138	Emissions standards and limits of wastewater discharged into water intended for bathing and any other use except from water consumption. As modified by MD Γ4/1305/1974, Γ1/17831/1971, ΓΥΓ2/133551/2008	
Electromagnetic fields			
Decision 661/2012	B 2529	Procedures on licenses of land based antennas	

3.2. Approved Environmental Terms

According to the applicable national legislation, each airport operates under Approved Environmental Terms, which ensure the optimal operation of the airport in regards to protecting the environment.

The terms set limits, guidelines and monitoring patterns adjusted to the specifications of each airport, in order to defend all environmental aspects.

Table 2: Approved Environmental Terms Decisions of Cluster A airports.

Airport	Environmental Terms Approval
SKG	• **105214/17.11.2000** as it has been modified by the following: ○ **125887/08.05.2007** ○ **204012/05.10.2011** ○ **12763/10.03.2016** ○ **9322/09.05.2018**
CFU	• **11945/08.03.2017** as it has been modified by the following**:** ○ **7208/30.03.2018**
CHQ	• **51226/25.10.2016** ○ **5100/05.03.2018**
ZTH	• **43392/96/17.02.1997** as it has been modified and extended by the following: ○ **127597/02.07.2010** ○ **175512/15.10.2014** ○ **36893/24.11.2017**
EFL	• **32647/94/09.05.1995** as it has been modified and renewed by the following: ○ **106586/08.08.2006** ○ **151698/04.09.2015** ○ **24341/19.05.2017** ○ **39772/26.09.2017** ○ **36368/20.12.2017** ○ **85360/3423/07.03.2019**
PVK	• **11543/07.03.2017** as it has been modified by the following: ○ **50502/08.12.2017**
KVA	• **84821/95/08.07.1996** as it has been modified and renewed by the following: ○ **105624/14.11.2006** ○ **200818/23.07.2012** ○ **172044/09.04.2014** ○ **24353/19.05.2017** ○ **37774/20.12.2017**

3.3. Stakeholder requirements

FG, as a community-based organization, values the relationships build with business partners and local communities.

As the stages of project implementation evolve, stakeholder engagement is carried out and planned. Prior to the start of construction activities, a site specific plan Stakeholder Engagement Plan (SEP) was developed for each airport.

The SEP outlines a systematic approach to stakeholder engagement that helps Fraport Greece develop and maintain over time a constructive relationship with the stakeholders throughout the duration of the Concession period.

Each plan contains information on the following:

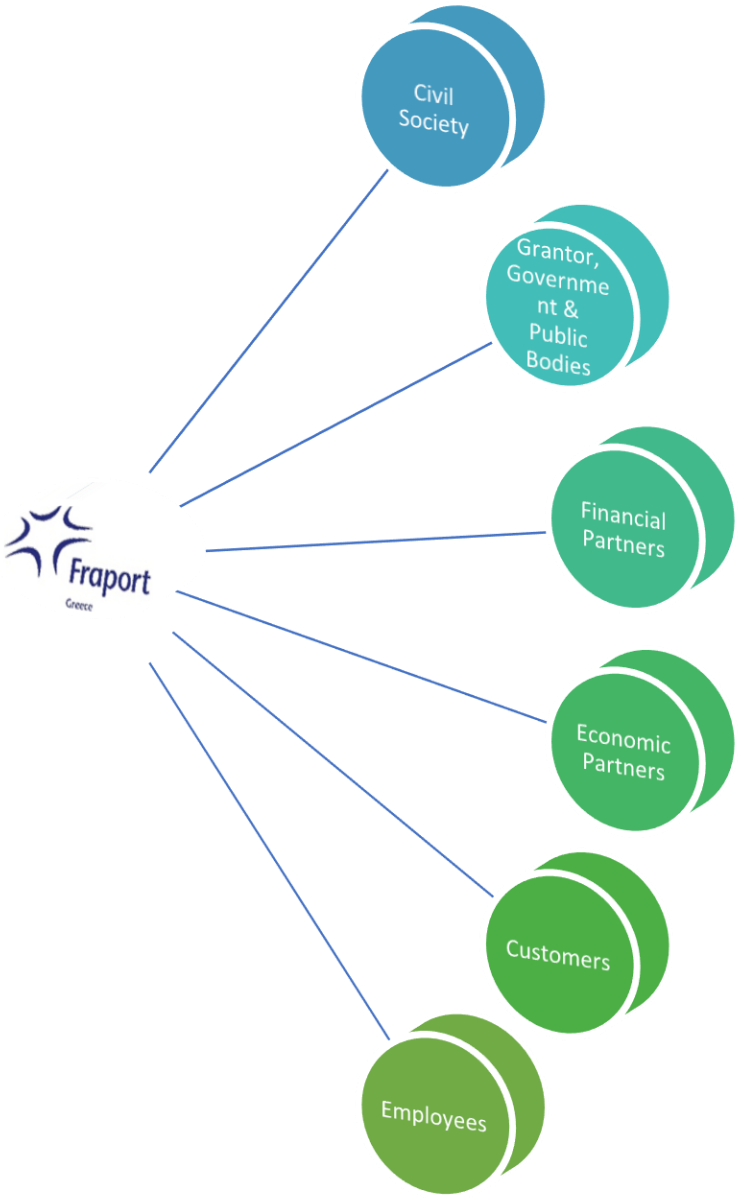
- specific works that will take place at each airport;
- stakeholders who may be affected or interested in the works;
- indicative timeline for any consultation activities;
- communication tools and
- details of grievance process and contacts and local contact information.

3.3.1. Stakeholders categories – External and Internal

The relevant stakeholders identified per category are:

Table 3: Stakeholder categories.

External	
Civil Society	Local communities, authorities, media, Vulnerable groups, NGO's
Grantor Government and Public Bodies	Greek Government, HCAA, HRADF, HAF, European Institutions, Professional and Scientific Organizations, Independent Authorities
Financial Partners	Shareholders, Lenders (EBRD, EIB, IFC, BSTDB, Alpha Bank)
Internal	
Economic Partners	Service Providers, Contractors, Sub-contractors
Customers	Passengers, Airlines, Ground Handlers, Fuel Handlers, Retailers
Employees	FG personnel, Labour organizations and unions, 3rd parties personnel



Graphic 1: FG's Stakeholder categories

3.3.2. Roles and responsibilities

Role	Responsibility
Fraport Greece	• Overall responsibility for implementing the environmental requirements specified by the legislation and the Environmental and Social Management Plan. • Auditing compliance of contractors and airport users (concessionaires, tenants, ground handling service providers, etc.) with the relevant environmental obligations. • Reviewing and/or approving contractors' and airport users' environmental management plans. • Promoting best practice environmental management to airport users and contractors.
EPC Contractor	• Complaint management at construction sites. Available information on line : http://www.intrakat.gr/en/contact/subsidiary-and-branches-addresses/fraport-construction-sites/
Airport Users	• Responsible for preventing environmental harm. • Meeting statutory environmental requirements. • Ensuring appropriate plans and/or systems are in place to manage environmental risks posed by their activities.

4. Airport Environment and Location

4.1. Continental Greece

4.1.1. Thessaloniki Airport “Makedonia” (SKG)

Thessaloniki Airport “Makedonia” third largest in Greece by the number of passengers and the second largest in terms of air traffic movements. The airport incorporates both civilian and military use.

While near the airport of Thessaloniki there are no protected areas of environmental significance, Thermaikos Gulf is a “sensitive recipient” and requires special attention in the overall environmental management.

Prehistoric settlement “Touba Livadaki” is sited within airports limits at the military area.

Figure 1: SKG airport location - https://www.skg-airport.gr/en.

4.1.2. Kavala Airport “Megas Alexandros” (KVA)

Kavala Airport “Megas Alexandros” is located approx. 15 km South-East of the Kavala town. and incorporates both civilian and Military use.

The airport is in close proximity to Nestos Delta (Natura GR1150001 (SPA), GR1150010 (SCI, SAC)) that consists of agricultural land with few freshwater lagoons separated from the sea by narrow sandy strips.

Figure 2: KVA airport - https://www.kva-airport.gr/en.

4.1.3. Aktion Airport (PVK)

Aktion Airport is located on a peninsula between three touristic locations: Preveza (4km), Vonitsa (16km) and Lefkada Island (20km).

From the naval battle of Aktion, where Octavian defeated Marcus Antonio's and Cleopatra's troops, the airport today has a strong military presence as it is a NATO air force base.

While taking off passengers can admire the National Wetland Park of Amvrakikos an area of significant ecological value as well as the Natura GR2310006, (SCI, SAC).

Figure 3: PVK airport - https://www.pvk-airport.gr/en.

4.2. Ionian Sea

4.2.1. Kerkira Airport "Ioannis Kapodistrias" (CFU)

Kerkira Airport "Ioannis Kapodistrias" is an Ionian island airport located in Kerkira, three kilometres south of Kerkira town, in the coastal sea area between Kanoni and Mesoggi villages. The island of Kerkira is one of the most popular tourist destinations in Europe, attracting visitors from the UK, Scandinavia, Germany, Italy and Austria.

Airport's surroundings offer a variety of environmental and cultural attractions with Chalkiopoulou Lagoon (SCI, SAC) and Kola lake around the runway, Pontikonisi Peninsula (Particular Natural Beauty Area) and the old Kerkira Town right out of the terminal exit.

Figure 4: CFU airport - https://www.cfu-airport.gr/en.

4.2.2. Kefallinia Airport “Anna Pollatou” (EFL)

Kefallinia Airport “Anna Pollatou” is located near Svoronata village, about 8 kilometres south of Argostoli, the capital of Kefallinia.

The marine area in the southeast airport boundary and up to Argostoli is a Natura area GR2220004 (SCI, SAC) mainly due to the phanerogam Posidonia Oceanica.

Figure 5: EFL airport - https://www.efl-airport.gr/en.

4.2.3. Zakinthos Airport “Dionisios Solomos” (ZTH)

Zakinthos Airport “Dionysios Solomos” is located near the town of Kalamaki. The airport is around 4 km from the capital of the island, the town of Zakinthos.

Zakinthos main emblem the sea turtle Caretta-Caretta nests in the Lagana Bay in the southern boundary of the airport (National Marine Park of Zakinthos’ and Natura GR2210002 (SCI, SAC) area. In order to protect the species, the airport does not operate during nighttime (22:00-05:00).

Figure 6: ZTH airport - https://www.zth-airport.gr/en.

4.3. Crete

4.3.1. Chania Airport “Ioannis Daskalogiannis” (CHQ)

Chania Airport “Ioannis Daskalogiannis” is located in the Akrotiri peninsula in the north-west of the Island of Crete, is about 15 km from the town of Chania. The airport includes both civilian and military areas. Near the airport of Chania there are no protected areas of environmental significance.

Figure 7: CHQ airport - https://www.chq-airport.gr/en.

5. Planning for the future

5.1. Imminent Works Progress

FG is investing a total of at least €415 million in airport infrastructure until 2021, for both Clusters A & B, followed by maintenance and traffic-driven capacity investments during subsequent years of the project.

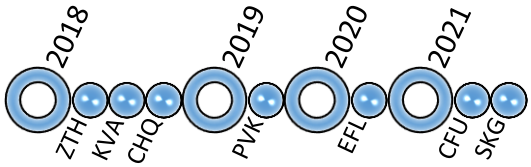


Figure 8: Timeline of final completion of Imminent Works in Cluster A.

5.1.1. Completed works

So far, five (5) out of seven (7) airports of Cluster A have been successfully delivered to operations, with all of the Imminent Works completed.

Chania (CHQ)

- ✓ Internal terminal building expansion for retail use –remodeling.
- ✓ Connection to the public sewage network.

Figure 9: Terminal façade landside area.

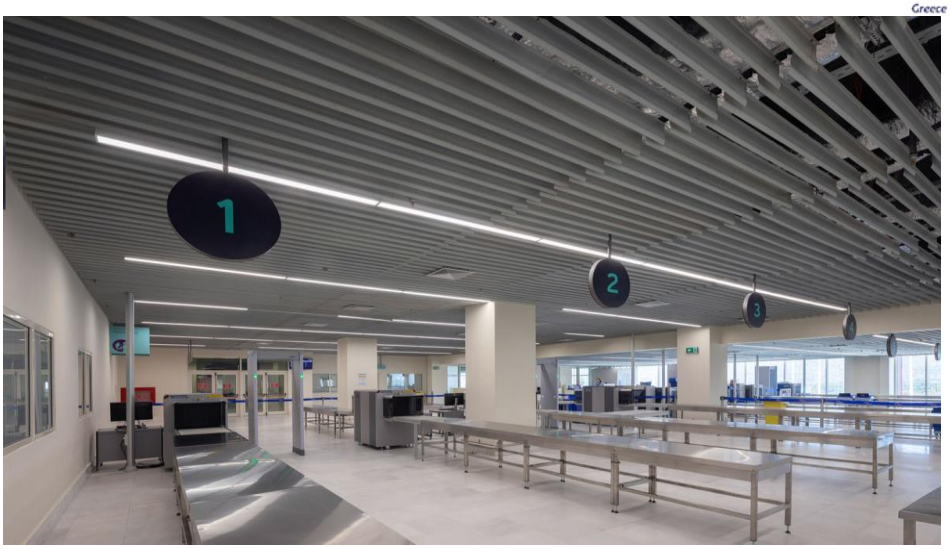


Figure 10: Terminal, Security screening area.

Figure 11: Terminal interior.

Zakinthos (ZTH)

- ✓ Refurbishment and remodeling of the existing terminal.
- ✓ New RFF station in a new location.
- ✓ New building for electromechanical equipment.
- ✓ Runway refurbishment.
- ✓ Installation of sand traps for storm water treatment.

Figure 12: Overview of ZTH airport, landside area.

Figure 13: Overview of ZTH airport, airside area.

Figure 14: New rescue and firefighting (RFF) station.

Kavala (KVA)

- ✓ Expansion of the existing terminal building in two levels and remodeling.
- ✓ Expansion of the existing RFF in both levels.
- ✓ Runway refurbishment.
- ✓ Connection to the public sewage network.

Figure 15: KVA airport, lanside area.

Figure 16:KVA airport, airside area.

Figure 17: New rescue and firefighting (RFF) station.

Figure 18: Terminal interior, check-in gates.

Aktion (PVK)

- ✓ Terminal expansion of the existing in two levels and remodeling.
- ✓ Remodeling of the existing parking areas to increase parking slots and traffic reconfiguration.
- ✓ Upgrade of the existing WWTP.

Figure 19:PVK airport, landside area.

Figure 20: PVK airport, airside area.

Figure 21: Terminal interior, check-in area.

Kefallinia (EFL)

- ✓ Terminal expansion by the construction of a new building in three levels.
- ✓ New RFF station in a new location next to the existing one.
- ✓ Remodeling of the internal roads and existing parking spaces and provision of new parking areas.
- ✓ Installation of a new WWTP in a new location.
- ✓ New water tank construction serving the new RFF.

Figure 22: EFL terminal, airside area.

5.1.2. On-going works

Thessaloniki (SKG)

- Terminal expansion by the construction of a new building in three levels.
- New RFF station in a new location next to the existing one.
- New access road for the new terminal.
- Connection to the public sewage network.
- Utilities new connections.

Figure 23: SKG airport future landside façade.

Kerkira (CFU)

- Terminal expansion in two levels and remodeling of the existing.
- Apron expansion.
- Remodeling of the internal roads and existing parking spaces and provision of new parking areas.
- Installation of oil separators for storm water treatment.

Figure 24: CFU airport future terminal airside façade.

5.2. How is the environment impacted?

Aspect	Impact
Physical Environment	Imminent works are located within each airport's existing boundary. During construction of the proposed works, no major issue from dust is anticipated.
Subsurface and Soil	Soil compaction generally occurs during most of the construction activities involving heavy machinery, especially when the soil is wet. The main impact during construction occurs from the excavation due to the construction of the expansion works. It is expected that the morphology and the surface characteristics of the surrounding area do not have major impacts during the construction of the imminent works.
Water Resources	Possible water pollution sources are the storm water runoff of the construction site, or other runoff and possible accidental oil or fuel leakage. Water consumption for construction purposes is considered not significant. Regarding the urban wastewater, the estimated loads from the construction site are not expected to significantly affect each airport's area.
Landscape & Visual Amenity	During construction there will be impacts on landscape and visual amenity but these are not considered significant and are short – term and totally reversible. It should be noted that the proposed works are designed to be consistent and enhance the area's aesthetics.
Acoustic Environment	The proposed works are likely to result in local noise disturbance from construction activities and machinery. No significant impact (noise or vibration) is expected on residential properties from blasting and hammering as the majority of these activities will take place within the terminals.
Solid Waste / Toxic and Dangerous Waste	For the waste produced during construction, the estimated quantities do not affect the existing management methods.
Socioeconomic Environment	For the socioeconomic environment, opportunities and benefits are expected from the construction of the proposed works. Significant employment positions will occur during construction.

Aspect	Impact
Cultural Heritage	Potential sites within the Project footprint will be investigated further prior to construction. Any findings are being addressed in cooperation with the Local Archaeological Authorities.

5.3. Achievements and on-going actions

5.3.1. What has already been achieved

Prior to Imminent Works commencement

- ✓ Approved Master Plans for all seven airports. An ultimate overall layout that will best utilize the potential of the airport campus and optimize the use of existing infrastructure that best fits the expected traffic volume and characteristics over the next 20 years.
- ✓ Modified Approved Environmental Terms per airport. The modified terms include the Imminent Works and provide measures and guidelines in order to ensure the preservation of the environment and the minimization of the environmental impacts.
- ✓ Assessment of existing contamination, via an Environmental Baseline Survey was conducted in every airport, in order to record: soil contamination, surface and underground water contamination and waste disposal
- ✓ Environmental Baseline Survey of Waste Water Treatment Plants (WWTP) for the evaluation and monitoring of the effectiveness of the existing WWTPs, at Aktion (PVK), Kefallinia (EFL), Thessaloniki (SKG). Improvements were proposed for the existing facilities so as to upgrade them.
- ✓ Development and start of implementation of the Environmental & Social Management System (ESMS) of FG, in accordance to the ISO 14001 standard, including appropriate risk identification, assessment, performance monitoring and control for all airports.
- ✓ Climate Change Resilience Study in order to identify and ensure that climate-related risks and opportunities are identified early on and managed effectively, by integrating the findings of this study in the airport's Master Plans.
- ✓

Construction related

- ✓ Following an extensive evaluation Asbestos Management Plan is under implementation and distributed at all the airports in order to manage the risks from Asbestos Containing Materials (ACMs) and minimize asbestos related health hazards to all personnel working on or visiting airport sites. The procedures described in the plan cover all facilities under the control of FG within the Concession Areas during performance of construction and / or maintenance. Up to now five out seven Cluster A airports are either asbestos free or asbestos has been properly sealed and marked.
- ✓ Approved Construction and Environmental Management Plans (CEMP). In total 7 Construction Management Plans have been implemented, an overall for the entire Cluster and a Site Specific plan for each airport individually. Each plan shall address all environmental procedures, protocols and processes in order to conduct the works in accordance with all applicable Laws, Regulations, Permits and ensure the same to be consistent with Best Industry Practice. The basic principle of this CEMP is the construction of the project aiming at the environmental protection and classification of the project among the most environmentally friendly projects in Greece. This CEMP is a live document to be developed further during the Project in accordance with the requirements of the DCC and the modified Environmental Terms of each airport.
- ✓ Approved Health and Safety Manual and Health and Safety Plans for the Construction. In total 7 Construction Health and Safety Site Specific Plans implemented for each airport and an overall for the entire Cluster, Health and Safety Manual. The manual and plans (for each site) depict the Contractor's requirements regarding Health and Safety in alignment with Greek legislation OHSAS 18001, as well as FG's requirements.

Annual basis (reference period 2019-2020)

- ✓ Noise Monitoring for the peak period of 2019 at each airport, which included on site 24 hour measurements and raw data collection. The measurement period was from July 2019 until September 2019. The monitoring included data evaluation followed by calculation of L_{den} and L_{night} noise contours via special modelling software and presentation of the subsequent noise trends.
- ✓ Air Quality Monitoring for the peak period of 2019 in all 7 airports. Monitoring of air pollutants that are typically associated with airports mainly from the combustion of jet fuel and airport vehicles. The pollutants measured included sulphur dioxide (SO_2), nitrogen dioxide (NO_2), benzene (C_6H_6), particulate matter (PM_{10} & $PM_{2,5}$) and ozone (O_3).
- ✓ Interim Air and Noise Monitoring Plan: Starting back in 2017 and in cooperation with the National and Technical University of Athens an Interim Air and Noise Monitoring Plan was implemented for each airport and was included as an Annex

in the EIA Studies. The two (2) year interim plan proposed a comprehensive air pollution and noise monitoring system approved via the Environmental Terms. The Plan has already been implemented for the first two years (2018 and 2019).

- ✓ Permanent Air and Noise Monitoring Plan: According to the Environmental Terms after the end of the two (2) year implementation period, a Technical Report was submitted to the Ministry for Environment and Energy with proposals for the future monitoring plan, based on acquired data evaluation and legislative requirements. The proposal is currently under review by the Ministry of Environment and Energy.
- ✓ Certifications according to "Airport Carbon Accreditation" programme and Verification statements according to EN ISO 14064:1. For each airport in cluster A, a carbon footprint report was prepared for reference year 2019. The two airports of cluster A (Thessaloniki and Kefallinia) that joined in 2019 the Airport Carbon accreditation programme and their carbon management processes earned the accreditation level of Mapping, level 1, renewed their status. Developed by Airports Council International (ACI) Europe, the Airport Carbon Accreditation programme is the only voluntary global standard for CO_2 reporting and management especially for airport operators. In 2020 one more airport of Cluster A, CHQ airport received the Level 1 (Mapping) certification.
- ✓ Five airports of Cluster A, are certified for Greenhouse Gases (GHG) total emissions according to the requirements of EN ISO 14064-1, an international standard that specifies requirements for the quantification and reporting of greenhouse gas emissions and their reductions.
- ✓ As per Greek and European legislative requirements, Energy Audits were implemented during 2018 for every Cluster A airport

5.3.2. On-going actions

- ➢ Monitoring plans for each of the following environmental aspects:
  - air quality (including CO2 emissions),
  - noise,
  - surface and groundwater quality,
  - soil.

  The frequency of the monitoring is being set according to the respective Environmental Terms.
- ➢ Annual Environmental Bulletins: The monitoring results are included in the Annual Environmental Bulletins, which are published on FG website as per the requirements of the Environmental Terms for each airport of Cluster A.
- ➢ Waste Management: implementation of integrated waste management at all airports for non-hazardous waste, taking into consideration the necessities of each airport, as well as the obligations imposed by the Environmental Terms and the general Environmental Legislation.
- ➢ Recycling of Hazardous Waste: In compliance with the relative legislation regarding waste management and recycling FG is cooperating with Alternative

Management Systems in order to manage the recycling of hazardous waste such as:

- Used Mineral Oils,
- Used Tires,
- Waste from Electric and Electronic Equipment (WEEE),
- Batteries and Accumulators.
- Other hazardous waste are handled ad hoc after being identified with their respective codes as per the European Waste Catalogue.

- Construction Environmental Management Plan updates. As mentioned before the site specific CEMP is a live document to be developed further during the Project in accordance with the requirements of the DCC and the modified Environmental Terms of the Whole Project as officially approved by the Ministry of Environment & Energy.
- Wildlife Management Plans: reference to wildlife hazards, risk assessments, actions to eliminate the wildlife strike risk and biodiversity conservation.
- Monitoring of Greenhouse Gases (GHG): Quantification of Greenhouse Gas emissions (baseline) for all seven airports based on ISO 14064-1:2006, Greenhouse Gas Protocol and ACI Guidance Manual.
- Soil and Groundwater Remediation: in identified contaminated areas by the EBS commenced in 2019 and is being concluded in 2020 at Thessaloniki (SKG), Corfu (CFU), Kavala (KVA) and Zakinthos (ZTH) Airports. In-situ and ex-situ methods were used in order to remediate the contaminated areas and achieve the quality limits set by HCAA and the National and Technical University of Athens (NTUA).

6. Sustainable Development

6.1. Overview and Objectives – Environmental and Social Management System

Company Objectives:

The objective of **FG** is the safe, secure, and efficient management of the 7 Greek Regional Civil Airports of Thessaloniki (SKG), Kerkira (CFU), Zakinthos (ZTH), Kefallinia (EFL), Aktion (PVK), Kavala (KVA) and Chania (CHQ).

FG provides the infrastructure and the necessary services for meeting, sending off and serving of airplanes, passengers, visitors, baggage, cargo and mail according to the best practices and the applicable legislation.

FG aims to create a pleasant passenger experience for airport users, thus creating new business opportunities for concessionaires and service providers; as well as to make our airports attractive and environmentally friendly destinations for passengers, tour operators and airlines in the region.

We constantly improve the quality of our services, productivity and environmental performance in order to keep our market place in the long term.

FG ensures that:

- We communicate our environmental policy to all employees and persons working on our behalf.
- We communicate this policy and the results of our activities to our Shareholders and to Second and Third parties as appropriate, and to the Public.
- We maintain and continuously improve our environmental policy and management system.
- We set objectives and targets for the environment.
- The environmental policy is reviewed on an annual basis.

Requirements

FG has incorporated, as applicable, international environmental and social standards (EIB, EBRD, IFC, etc.), as well as policies and guidelines of its shareholders (mostly Fraport AG) in the development of its own respective Environmental & Social Management System (ESMS) in order to address the environmental and social impacts and issues associated with each airport project.

In the context of the ESMS, which has been based on the ISO 14001 standard, **FG** has identified the key environmental and social aspects for the following areas:

- Pollution Prevention: noise, vibrations, storm water, wastewater, non-hazardous waste, hazardous waste, hazardous materials (handling & storage), soil/groundwater protection (leaks & spills), air emissions.

- Community Health, Safety & Security
- Biodiversity Conservation
- Resource Efficiency (water, energy, raw materials)
- Cultural Heritage

for which, it takes the appropriate control and monitoring measures.

Also, through the development of the airport masterplans, **FG** minimized the need for land acquisition and mitigated or eliminated any degradation or disturbance of landscape features, disturbance of wildlife habitats or altering of heritage buildings and monuments.

FG, through promotion of sustainable growth of air-travel, is supporting local communities by boosting regional financial activity and job creation. The Project is enhancing sustainable local working conditions and hiring, both by **FG** and business partners.

The ESMS is in compliance with all ordinances, statutes and regulations of the Greek State Agencies and European Union policy and legislation related to the protection of the environment, as required for enterprises as ours.

The approved EPC Contractor, the ground handling services providers as well as the fuel handlers in the airports hold ISO 14001 certification or equivalent.

The EPC agreement requirements specify that the contractor shall elaborate and enforce a project specific Construction Environmental Management Plan (CEMP).

6.2. Environmental dimension as incorporated in planning and designs

Airport tenants, contractors and operators are required to ensure appropriate systems and procedures are in place to manage specific environmental risks associated with their activities from resources consumption. Tenants are encouraged to conserve energy through KENAK, the Greek state “Regulation on the Energy Performance of Buildings” and the technical guidelines issued by the Technical Chamber of Greece to be applied to all new and extensively renovated airports buildings. Recommendations are made to tenants during audits on methods to reduce their energy and resource consumption and waste generation.

FG inspects each airport, tenant, contractor and operator activities. Where excessive resource consumption is observed, airport operators are required to monitor and reduce this consumption.

Energy

Energy conservation as already incorporated in the design is achieved through:

- Terminal use minimization during winter period by isolating unnecessary parts of the buildings with minimal use.

- Protection of the building against outdoor adverse conditions by enhancing shell insulation specification, solar protection glazing and / or external shading.
- Use of natural light preferred where possible.
- High efficiency chilled and hot water production equipment.
- Adjustable energy consumption to variable load demand (variable flow systems).
- Energy recovery systems in the air-handling units' design and free cooling and night cooling mode concepts.
- Installation of active power harmonic filters.
- Upgrade to low energy consuming lighting fixtures and automated lighting controls.
- Energy Management System in connection for monitoring energy consumption, providing trends and correlation data and introducing effective related controls.
- Energy Balance report as design deliverable that will constitute the base line for the elaboration of the Energy Management System.

Water Conservation and Quality

- Site-wide drainage and wastewater monitoring schemes as appropriate. Landscaping that features xeriscape and drought-tolerant species.
- Monitoring to track water consumption.
- Storm water pollution prevention plan for all new construction.
- Spill traps/management, oil separators and closed fuel delivery systems as foreseen in the environmental terms.
- Refurbishment of existing Waste Water Treatment Plants and connection to local sewage network for SKG. CHQ and KVA have been connected to the local sewage network in 2018.

Resources (materials and waste management)

Selection of materials that reflect our sustainability approach consider, when possible, the following criteria:

- Reuse of building & appropriate excavation materials onsite
- Future use of lower biochemical oxygen demand (BOD) de-icing materials.
- Use of nontoxic pest-control products.
- Use of construction materials & interior finishes with high recycled content and low VOC paints is encouraged.

The CEMP's for all airports include Construction Waste Management Plans which are based on the principles of Reduce, Re-Use, Recycle. To this end the re-use of materials (e.g. in backfilling) is being set in force in order to minimize the materials that end up in

landfills. Likewise recycling of materials through Alternative Management Systems is implemented.

Energy conservation is promoted also in all construction sites by following simple practices. Finally biodiversity is preserved through the implementation of an Alien Invasive Species Management Plan.

To minimise recourses consumption as well as material transport FG is installing temporary plants for the production of asphalt and construction demolition plants to achieve re-use of excavation material on site.

Table 4: Targets for sustainable development.

Target	Timeframe
Implementation of the ESMS to continuously improve the environmental performance of FG	Continuous process (in yearly intervals)
Establishment of Carbon Management Plan to reduce emission	After Imminent Works Completion
Implementation of an EMS according to ISO 50001	Upon completion of IW

7. Soil Management

7.1. Overview

FG's objective is to protect soil from airport activities and appropriately manage and/or rehabilitate any contaminated sites.

The majority of contaminated sites are associated with historic activities on and off each airport including hydrocarbon spills, landfill activities and constituents of firefighting foams.

Some activities that could affect soil are:

- Construction and earthworks.
- Grounds maintenance including vegetation removal and weed control.
- Storage, handling, use and disposal of hazardous materials.
- Aircraft refuelling, vehicle and aircraft wash down.
- Aircraft, vehicle, mechanical plant and electrical equipment maintenance.
- Car parking.
- Waste management infrastructure, storage and disposal.
- Demolishing buildings containing hazardous materials.
- Surrounding land use.

These activities could cause:

- Contamination from spillage, leakage, seepage, or residual runoff from hardstand areas.
- Migration of existing contamination from the original source through natural pathways or disturbance during construction.
- Erosion.

7.2. Soil Management Action Plan

FG is regularly inspecting the airport, tenant, contractor and operator activities. Where there is soil or groundwater contamination caused by their operations, airport operators are required to undertake relevant measures to monitor, manage or remediate the contamination (obligation imposed by the Approved Environmental Terms).

According to article, 13.4 of the Concession Agreement **FG**, aims to remediate any identified pre-existing contamination within the concession sites.

Actions to manage potential impacts to soils include:

- Periodic measurement campaigns to evaluate soil pollution and surveys of contaminated sites.
- Decontamination of polluted zones and soil remediation.
- Activities with the potential to contaminate soil or groundwater will undergo a risk assessment to inform appropriate management procedures.

The Construction Environmental Management Plan (CEMP) includes a specific Erosion & Sedimentation Control Plan. This plan contains environmental management objectives, mitigation measures, inspection and reporting requirements relating to soil and water quality. The plan incorporates requirements from the Environmental Terms, as well as the national and European legislation.

The main objectives of the Plan are

- Prevent the loss of soil during construction by storm water runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.

Airport tenants, contractors and operators are required to ensure appropriate systems and procedures are in place to manage specific environmental risks associated with their activities.

Table 5: Targets for soil management

Target	Timeframe
Remediation of any identified pre-existing contaminated areas	Within 2020
Re-use of excavation and demolition products	In imminent and future works
Coastline Monitoring for erosion	In Thessaloniki as appropriate after the completion of State Works

7.3. Achievements

Some of the achievements so far include:

- ✓ Environmental Baseline Survey (EBS) in order to identify pre-existing contaminated areas, in all FG airports by specialized who personnel conducted on site visits. The main pollutants were various products of hydrocarbons and contaminated soil by pathogenic microorganisms.

- ✓ Soil remediation in identified contaminated areas by the EBS has been successfully completed in Thessaloniki (SKG), Kerkira (CFU), Kavala (KVA), Zakinthos (ZTH) and Kefallinia (EFL) Airports.

  The techniques used were both in-situ and ex-situ, depending on the area and extent of contamination. The in-situ technique was performed in order to remediate the soil's vadose zone that would prevent any further contamination of the groundwater by leaching processes. The target limits, in order to deem the remediation successful were set by HCAA in cooperation with the National Technical University of Athens (NTUA).

The ex-situ technique included removal of the contaminated soil and rehabilitation to its prior condition.

A grand total of 255 tn of contaminated soil were removed from SKG, KVA and CFU. These quantities were collected by a licensed collector, were treated as contaminated soil (European Waste Catalogue code 17 05 03*) and were disposed and recovered as per the relevant legislation for hazardous waste.

Fuel handler's sites in Kerkira (CFU) and Thessaloniki (SKG) Airports also performed in situ remediation, with the necessary equipment, also abiding by the set limits by HCAA and NTUA.

- ✓ **FG** through the Soil Erosion and Sedimentation Plan has managed a high percentage of re-use of excavation and demolition materials for backfilling or use of aggregates.

8. Surface water and Groundwater

8.1. Overview

FG's objective is to protect surface water and groundwater from airport activities and appropriately manage or rehabilitate any contaminated sites.

The majority of the airports of Cluster A, with the exception of Chania (CHQ), are near coastal areas and are typical of coastal environments. Being close to the sea, surface and groundwater levels and quality can be susceptible to quality and quantity alterations affected by sea level rise, tidal influences and flooding.

In addition, some activities that could affect water quality may be:

- Changes to the drainage network, leading to increased flow velocities or reduced flood storage capacity.
- Development that creates increased impermeable areas and increased runoff.
- Construction, earthworks and vegetation removal.
- Weed and pest control.
- Aircraft refuelling.
- Equipment refuelling.
- Vehicle and aircraft cleaning.
- Aircraft, vehicle and equipment maintenance.
- Collection, storage, handling, use and disposal of hazardous materials.
- Waste management infrastructure and storage.
- Upstream land uses.
- Known and potentially contaminated sites.
- Potential malfunction of sewerage collection and wastewater treatment.

These activities may cause:

- Contamination from spillage, leakage or seepage into storm water infrastructure.
- Disturbance of known and potentially contaminated sites.
- Changes to the upstream or downstream flooding regime and possible disturbance of local water drills.
- Increased flow velocities, leading to erosion.
- Creation of mosquito-breeding habitat leading to public health risks.
- Attraction or spread of pest animals and weeds.
- Possible disturbance of local fauna and flora.

8.2. Water Management Plan

FG is developing water management procedures aiming to eliminate any potential surface and groundwater environmental disturbance.

Potable, surface and groundwater quality is monitored at various sites regarding various physicochemical parameters by sampling:

- terminal water network
- monitoring boreholes
- surface water across the airports (open drainage system).

All chemical analyses are conducted at licensed and certified laboratories.

Measures to manage potential impacts to surface water and groundwater quality include:

- Implementation of water protection measures as described in the Environmental Terms for each airport.
- Spill response and reporting procedures.
- Waste handling procedures.
- Installation and maintenance of storm water treatment devices (oil-separators and sand traps).
- Tenant and construction audits with routine inspections.
- Incorporation of existing surface water and groundwater information during planning of the new developments (imminent works).
- Drainage infrastructure designed and modelled to prevent potential flood impacts.

The Construction Environmental Management Plan includes a specific Erosion & Sedimentation Control Plan. This plan contains environmental management objectives, mitigation measures, inspection and reporting requirements relating to soil and water quality. The plan incorporates requirements from the Environmental Terms, as well as the national and European legislation.

The main objective of the Plan is to prevent sedimentation of storm sewer or receiving streams.

FG regularly inspects the airport, tenant, contractor and operator activities. Where there is water contamination or impacts to the drainage network caused by their operations, airport operators will be required to undertake relevant measures to monitor, manage or remediate the impacts.

Table 6: Target for water management

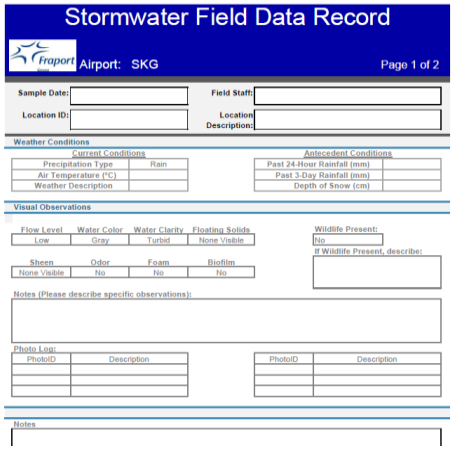
Target	Timeframe
Install storm water quality protection infrastructure (oil-separators, sand traps) as necessary	Up to 2021 (Imminent Works completion)
Water management procedures.	Ongoing - Annually
New WWTP in EFL and connection to municipal sewage network in SKG	Up to 2021

8.3. Achievements

- ✓ Water Quality Monitoring Program**:** which consists of chemical analyses of surface and groundwater samples in predefined positions within the airport throughout the year.
    - The chemical analyses are performed by certified laboratories. The FG personnel that conducts the sampling also has received appropriate training.
    - A total of 18 samples of surface runoffs and 14 samples from monitoring wells in all 7 Cluster A airports are analysed for various chemical parameters including but not limited to pH, BOD_5, COD, DO, TSS, TN, TP, heavy metals, TPH, PAHs, oil & fats, BTEX and PCBs.
    - Fuel handlers conduct their monitoring analyses as per the Environmental Terms requirements. **FG,** in cooperation with the Fuel Handlers, monitors the results and undertakes proper actions if necessary.

Figure 25 PVK storm water runoffs sampling.

Figure 25 SKG storm water runoffs sampling, with the use of a bailer.


Stormwater Field Data Record

Airport: SKG

Page 1 of 2

Sample Date: Field Staff:

Location ID: Location Description:

Weather Conditions

Current Conditions

Precipitation Type	Rain
Air Temperature (°C)	
Weather Description	

Antecedent Conditions

Past 24-Hour Rainfall (mm)	
Past 3-Day Rainfall (mm)	
Depth of Snow (cm)	

Visual Observations

Flow Level	Water Color	Water Clarity	Floating Solids
Low	Gray	Turbid	None Visible

Wildlife Present: No

If Wildlife Present, describe:

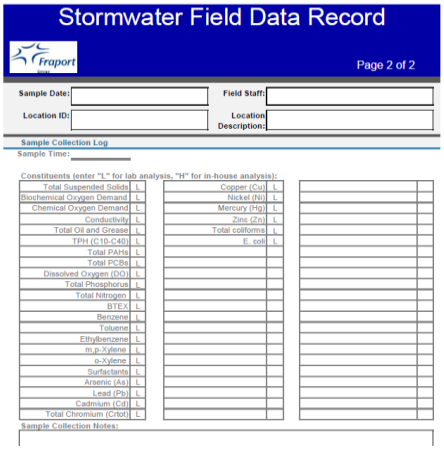
Sheen	Odor	Foam	Biofilm
None Visible	No	No	No

Notes (Please describe specific observations):

Photo Log:

PhotoID	Description	PhotoID	Description

Notes


Stormwater Field Data Record

Page 2 of 2

Sample Date: Field Staff:

Location ID: Location Description:

Sample Collection Log

Sample Time:

Constituents (enter "L" for lab analysis, "H" for in-house analysis):

Total Suspended Solids	L		Copper (Cu)	L	
Biochemical Oxygen Demand	L		Nickel (Ni)	L	
Chemical Oxygen Demand	L		Mercury (Hg)	L	
Conductivity	L		Zinc (Zn)	L	
Total Oil and Grease	L		Total coliforms	L	
TPH (C10-C40)	L		E. coli	L	
Total PAHs	L				
Total PCBs	L				
Dissolved Oxygen (DO)	L				
Total Phosphorus	L				
Total Nitrogen	L				
BTEX	L				
Benzene	L				
Toluene	L				
Ethylbenzene	L				
m,p-Xylene	L				
o-Xylene	L				
Surfactants	L				
Arsenic (As)	L				
Lead (Pb)	L				
Cadmium (Cd)	L				
Total Chromium (Crtot)	L				

Sample Collection Notes:

Figure 27: Storm water field data record. Airport Engineers have received relevant training in order to perform the sampling. Part of the sampling is the filling in of the relevant field data record per sample.

- ✓ All the Waste Water Treatment Plants (WWTP) have undergone heavy maintenance works while the detail design includes either the connection to the Municipal Sewage Network or the construction of new high end on site facilities.
    - Chania (CHQ) and Kavala (KVA) Airports have been connected to the local sewage network since 2018,
    - Aktion (PVK) has undergone additional works
    - Kefallinia (EFL), has a new Wastewater Treatment Plant of tertiary treatment and the treated effluent will be re-used within the airport for enrichment of the underground aquifer.

- ✓ Environmental Baseline Survey (EBS) in order to identify pre-existing contaminated areas, in all FG airports by specialized who personnel conducted on site visits. The main pollutants were various products of hydrocarbons and contaminated soil by pathogenic microorganisms.

- ✓ Groundwater remediation in identified contaminated areas by the EBS has been successfully completed in Thessaloniki (SKG), Kerkira (CFU), Kavala (KVA), Zakinthos (ZTH) Airports.

  The in-situ technique was performed in order to remove dissolved contaminants, such as petroleum hydrocarbons and chlorinated hydrocarbons, form the groundwater. The technique is based on the logic of "pump and treat". The target values, in order to deem the remediation successful were set by HCAA in cooperation with the National Technical University of Athens (NTUA).

  Fuel handler's sites in Kerkira (CFU) and Thessaloniki (SKG) Airports also performed in situ remediation, with the necessary equipment, also abiding by the set target values by HCAA and NTUA.

9. Biodiversity

9.1. Overview

FG values greatly the protection of the ecosystems and plans to**:**

- Appropriately manage biodiversity values across the network of its 14 airports
- Reduce probable impacts to surface water (lakes, lagoons and sea) and groundwater from airport operations
- Protect and enhance the ecological values of conservation areas

Wildlife Hazard Management & Biodiversity Conservation

Each airport has its own Wildlife Hazard Management Programme (WHMP), tailor made to the local environmental conditions. The WHMP refers to:

- Wildlife hazards identification on and off-airport (up to an area of 13km radius)
- Risk assessment of wildlife strikes
- Actions to eliminate the wildlife strike risk
- Biodiversity conservation initiatives

An annual report for each FG airport is submitted to the Hellenic Civil Aviation Authority (HCAA), including data related to:

- Monthly distribution of wildlife hazards on airport
- Statistics analysis of wildlife strikes
- Wildlife strike risk assessment
- Wildlife management measures (including conservation and control)

An annual Wildlife Strike Committee Meeting is held at Kerkira Airport “Ioannis Kapodistrias” (CFU), Kavala Airprot “Megas Alexandros” (KVA) and Thessaloniki Airport “Makedonia” (SKG) (airports at higher risk for wildlife strike), in order to discuss with the airport users and external stakeholders about issues related to wildlife hazard management and biodiversity conservation.

FG manages biodiversity at the airports and works to reduce the potential impact of its operations on the biodiversity of the surrounding area.

Some activities likely to affect biodiversity at each airport may be:

- Grounds maintenance activities including vegetation clearing
- Weed and animal pest control
- Vehicle or aircraft movements
- Construction and demolition works

These activities could affect the:

- Biodiversity
- Weed and animal pest species
- Fragmentation of habitat from clearing associated with new developments

- Foraging or breeding habitat
- Native species from weed, pest and fire management activities

9.2. Biodiversity Management Action Plan

Actions that can be protective of biodiversity values are:

- Extend wildlife monitoring to include less charismatic species, such as insects, amphibians, invertebrates and reptiles and enter all data into the database of the Biodiversity Management System
- Systematic monitoring of bird species and populations on and off-airport (up to an area of 13km radius) with emphasis on bird behavior (e.g. nesting, roosting, flight behavior)
- Enrichment of wildlife monitoring methods with field surveys and wildlife trail camera traps
- Grassland management could be targeted towards enhancing the grass areas on airport; attention should be paid on the number and abundance of protected flora species or wildflowers and on practices against the growth of invasive species
- Continuous training and seminar awareness of the FG Operations Personnel on Wildlife Hazard Management & Biodiversity Conservation
- Enhancement of bird species identification skills from the operations airside personnel, with regular support from the Wildlife Hazard Management Team
- CEMP's prepared for relevant construction projects addressing potential biodiversity impacts.

Table 7: Targets for biodiversity

Target	Timeframe
Land use monitoring on and off-airport	Ongoing - within 3rd year of operations
Wildlife surveys on and off-airport	Ongoing – within 3rd year of operations

9.3. Achievements

Some of the achievements so far include:

- ✓ During daily wildlife patrol, airside observations and walkover surveys at the SKG field, six orchid species have been mapped and are annually monitored. The areas, that are present, have been excluded from grass cutting.
- ✓ Thessaloniki Airport "Makedonia" based firefighters, had the opportunity to attend an interactive training module on the management of snakes. Snakes are considered wild protected species with a beneficial and very important role for the balance and health of ecosystems. Mr. Strachinis, an expert herpetologist, talked about the numerous benefits that snakes offer to humans, the flora and the fauna.

Snakes not only protect the crops but also the public health by controlling the populations of rodents, insects and arthropods, all of which are often carriers of diseases that can affect humans as well. Mr. Strachinis focused on the identification of snakes, their safe handling and translocation from buildings, as well as the appropriate actions in case of a poisonous bite. Within the scope of lifelong learning for Fraport Greece staff and third parties operating at the airports, the awareness workshop was recorded and distributed to all firefighting departments at the Fraport Greece operated airports

- ✓ Stray animal presence at the airside poses a serious hazard to aircraft safety. Special traps are used to capture and safely translocate stray dogs and cats from the airside to areas away from the airport, in collaboration with the municipality. An awareness video was created to educate the Fraport Greece personnel and other stakeholders about dog behavior, safe handling and appropriate translocation of stray dogs to other areas, within the municipality borders. Mr Paraschis, a certified dog trainer, was the speaker and video presenter
- ✓ On-site training about Wildlife Hazard Management was provided at SKG airport. Operations personnel of FGA and FGB was selected to gain further experience on wildlife monitoring and control, bird species identification, as well as on data analysis and decision making process with the aim to finally share such information to their airport colleagues
- ✓ CFU, KVA and SKG Airport Operations staff was officially trained to use pyrotechnics; a non-lethal and effective method for bird control at the maneuvering area
- ✓ Presentation of the Environmental Services at Fraport Greece Airports during the ACI Europe Environmental Strategy Committee Meeting in Paris. The presentation focused on the construction project and the biodiversity conservation initiatives

- ✓ A donation was made to Lalitsa Non-Profit Organization, to carry out small scale educational activities to different local social groups, visiting groups and associations.

Table 8 Orchid species observed at SKG.

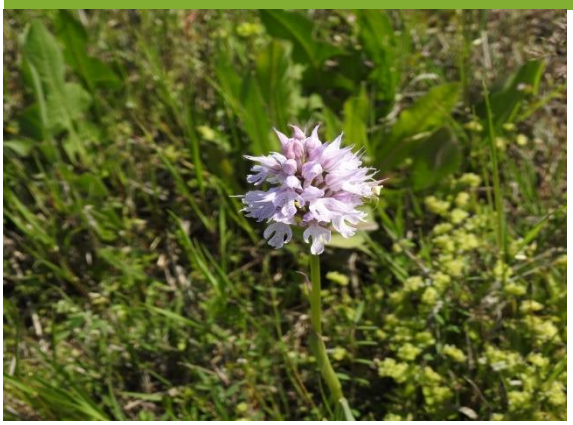
Ophrys mammosa	***Himantoglossum robertianum***
Anacamptis pyramidalis	***Anacamptis coriophora***
Neotinea tridentata	***Serapias bergonii***
	

Table 9 Birds breeding at SKG.

Avocet - *Recurvirostra avosetta* (nest)	Avocet - *Recurvirostra avosetta* (eggs)
Collared pratincole- *Glareola pratincola* (nest)	**Collared pratincole- *Glareola pratincola* (eggs)**
Little tern- *Sternula albifrons* (nest)	**Little tern - *Sternula albifrons* (eggs)**

10. Cultural Heritage

10.1. Overview

The sustainable and respectful management of the heritage values will be achieved by:

- Developing and maintaining a detailed knowledge of the heritage values that exist within and in the proximity of FG's concession areas;
- Identifying heritage values early on in the development process so that those heritage values can be considered, remain undisturbed and protected;
- Developing and submitting applications under relevant legislation, in consultation with relevant stakeholders, to impact those heritage values when that cannot be avoided;
- Developing and implementing procedures for appropriately managing heritage values using the guiding principles of avoid, protect and mitigate;
- Ensuring compliance will heritage legislation, associated statutory approvals and the provisions of the concession agreement; and
- Educating **FG** staff of the heritage values that exist within and in the proximity of **FG's** concession areas and the appropriate actions when interacting with these values.

10.2. Cultural Heritage Management Plan

FG's management of cultural heritage is following procedures laid out in the Concession Agreement, consistent with the following practices:

- ❖ Test excavations to determine the existence of Antiquities.
- ❖ Vibration monitoring where necessary.
- ❖ Maintain the existing building structure, envelope, and interior non-structural elements of a historic building or contributing building in a historic district.

Some of the airports of Cluster A are in proximity of cultural heritage important values (e.g. proclaimed archaeological sites, churches, monasteries, sites of important aesthetic value etc.). Especially in the case of Kerkira (CFU) the proclaimed archaeological site of "Old Kerkira Town or Palaiopoli" (GG 178/ΑΑΠ/2012) boundaries lie within the NE boundary of the concession area.

Activities with the potential to affect cultural heritage at the airports include any ground disturbing activities that could damage known or unknown heritage value. This would include:

- Grounds maintenance activities including vegetation clearing and slashing.
- Construction and demolition works.

Table 10: Cultural Heritage targets.

Target	Timeframe
Develop and maintain a heritage database within and in the proximity of FG's concession areas.	Achieved and revised as necessary
Increasing awareness by FG staff and airport tenants of the diverse heritage values within FG's concession areas, the importance of these values and the process to protect these values.	Ongoing

10.3. Achievements

- ✓ Catalogue with relevant heritage sites for each airport.
- ✓ The catalogue was part of the Heritage Action Plan that was implemented by **FG** and includes the following (where applicable) per airport:
  - ✓ Archaeological places and their relevant protection zones.
  - ✓ Places of significance to the cultural and spiritual beliefs.
  - ✓ Artefacts and the remains of important structures.
  - ✓ Sites of exceptional beauty and traditional settlements.
  - ✓ Architectural landmarks & buildings of beauty and/or importance.
- ✓ Chance Finds procedure, (part of the Heritage Action Plan) aims to address the possibility of Antiquities becoming exposed during ground altering activities within the Concession Areas of the 14 Regional Airports and to provide protocols to ensure that the Antiquities are documented and protected as required.

  The purpose of the procedure is:

  - to avoid significant adverse impacts to antiquities
  - to describe the provisions for managing chance finds through a chance find process which will be applied in the event that cultural heritage is subsequently discovered.

  This procedure includes guidelines and minimum requirements for the Contractor and other parties to define its own chance find procedures appropriate to the nature and scale of their construction works.

- ✓ The Ministry of Culture has granted approvals for all airports of Cluster A concerning excavations. The relevant decisions also state that the **presence of an archaeologist** is mandatory during all excavation works. These actions essentially ensure the identification and detailed understanding of heritage values within proposed development areas.

- ✓ Proper Handling of antiquities discovered during construction. Fragments of antiquities recovered at CFU during excavations, were delivered to the local euphorate as per the relevant CEMP procedure. The findings are dated to 4th and 3rd century BC and consist of fragments of ceramic vases and amphorae, fragments of roofs as well as ceramic shells. Finally, fragments of more recent human and animal bones were also identified. The items are currently in the possession of the relevant archaeological authority at Corfu.

- ✓ The Central Architectural Council has approved the new designs for all seven (7) airports.

11. Air Quality

11.1. Overview

FG manages airport operations in a way that prevents air emissions causing a nuisance or harm to neighbouring receptors.

Some activities that generate air emissions include:

- Aircraft ground operations including refuelling.
- Vehicle and equipment operations.
- Use of air-conditioners, pumps and generators.
- General Aviation maintenance, including spray painting and paint stripping activities, workshop activities and cleaning operations using organic solvents.
- Use of ground power units and auxiliary power units.
- Grounds maintenance, including vegetation removal and weed control.
- Construction and demolition works.

These activities could cause:

- Air emissions, including greenhouse gases and potentially ozone depleting substances.
- Reduced visibility (mainly from dust or smoke).
- Public nuisance or health issues.
- Offensive or concerning odours (e.g. fuel odours).

11.2. Protective actions

Measures to manage potential impacts to air quality include:

- Environmental awareness and inductions.
- Monitoring plan and implementation of the measures imposed by the Environmental Terms. The plan includes type and frequency of monitoring parameters and monitoring equipment. The gathered data are being evaluated, air pollutant contours are being calculated, and the subsequent trends are being presented. Relevant measures will be adopted in case of limits exceedance.
- Appropriate collection and disposal of ozone- depleting substances from air-conditioning units.
- Maintenance of vehicles and equipment to prescribed standards.

The CEMP's include a **Dust Management Plan** for relevant construction projects addressing potential local air quality impacts including dust control measures.

In order to eliminate the environmental impacts to ambient air quality during construction, the following measures are implemented according to the Environmental Terms of the project:

1. Use of the excavated material for land filling inside construction site, taking into consideration:

- the content of the material and the possibility to use it as it is or with enrichment

- the position of the temporary storage areas

2. The necessary material for the construction of the project, that it is impossible to derive from the excavations, is transferred from existing and legal quarrying, which complies with the Environmental Terms. The mitigations measures include the following options:

- Surface watering or equivalent measures, will be applied on disturbed land at construction sites and other unpaved surfaces to reduce particle suspension by vehicles.
- Covered trucks to prevent dust dispersion.
- Wheel washing from mud and dust before leaving the construction site as required.
- Fencing the entire area of the construction site, to limit the dispersion of dust and other pollutants during the construction works.
- Measures to prevent spreading of solid in case of rainfall such as configuration of soil.

Additionally the Contractor has created an **Indoor Air Quality Management plan** in order to address the dust issues from the indoors construction works. The plan includes dust suppression measures and is modified accordingly for each site.

FG is also planning the phased replacement of terminal package air-conditioners that use ozone depleting substances.

Airport tenants, contractors and operators are required to ensure appropriate systems and procedures are in place to manage specific air quality environmental risks associated with their activities.

FG is regularly inspecting the airport, tenant and contractor activities. Where there are unacceptable air emissions caused by their operations, airport operators are required to undertake relevant measures to monitor, manage or remediate the impacts.

Table 11: Targets for air quality

Target	Timeframe
Ensure appropriate servicing and maintenance of equipment.	Ongoing – Throughout the concession period
Air monitoring plan for all airports –	Ongoing
Quantification of CO_2	Annually
Join Airport Carbon Accreditation Program for 1 airport (CHQ)	2020

11.3. Achievements

- ✓ **FG** has already implemented an Interim Monitoring Plan for Air Quality in cooperation with the National and Technical University of Athens. The Plan was submitted to the Ministry of Environment and Energy as an Annex to the Modification EIA studies.

- ✓ Air Quality Measurements were conducted from July to September 2019 at all 7 airports.

  The monitored pollutants were Sulphur dioxide (SO_2), nitrogen dioxide (NO_2), benzene (C_6H_6), particulate matter (PM_{10} & $PM_{2,5}$) and ozone (O_3).

- ✓ Air Quality Modelling was conducted in all Cluster A airports. Using the software a) US FAA Emissions & Dispersion Modeling System (EDMS) and b) US EPA AERMOD concentrations and respective contours were calculated for the following pollutants:

  - Nitrogen oxides (NO_x)
  - Sulphur oxides (SO_x)
  - Particulate matter (PM_{10})
  - Benzene (C_6H_6)

  Input data included passenger traffic as depicted in Air Traffic Movements (ATMs), meteorological data, ground handling equipment etc. for the peak period and annual

  The results of the monitoring program are included in the Annual Environmental Bulletins and published on FG website as per the requirements of the Environmental Terms for each airport of Cluster A.

- ✓ Proposal of permanent Air Quality Monitoring program to the Ministry of Environment and Energy for approval.

  The proposal includes:

  - ❖ installation of permanent monitoring stations at SKG and CFU,
  - ❖ annual monitoring campaigns at CHQ, EFL and ZTH,
  - ❖ monitoring campaigns once every 3 years at PVK and KVA.

- ✓ **Quantification of Greenhouse Gas emissions (baseline)** for the all seven (7) airports.

  The methodology followed for the quantification of GHG emissions was based on:

  - Airport Carbon Accreditation Guidance Document, Issue 11, February 2019.

- ISO 14064-1 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.
- Greenhouse Gas Protocol, WRI (GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition, and GHG Protocol Project Quantification Standard).
- Guidance Manual: Airport Greenhouse Gas Emissions Management, ACI, 2009.

The emissions include the GHG emissions for all direct emissions (Scope 1) and indirect emissions from consumption of purchased electricity, heat or steam (Scope 2) produced within the boundaries of each airport based on the definitions of the HG protocol.

The following table shows the total emissions (Scope 1 and 2) per airport for the year 2019:

Table 12: Total CO_2-emissions 2019 per airport

Airport	IATA Code	Total emissions (t CO_2)
Thessaloniki	SKG	7.784,4
Kerkira	CFU	2.772,9
Chania	CHQ	5.202,5
Zakinthos	ZTH	2.626,8
Kefallinia	EFL	1.055,9
Aktion	PVK	1.250,3
Kavala	KVA	1.442

✓ Thessaloniki, Chania and Kefallinia have earned the accreditation level 1 of MAPPING. The remaining airports have also received Greenhouse Gas emissions verification statement according to ISO 14064.

Figure 26: Mobile air quality monitoring station at Thessaloniki (SKG) airport

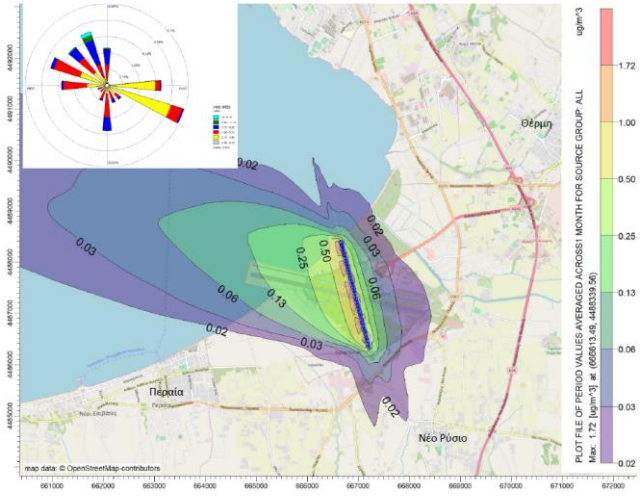


Figure 27: Yearly concentrations of benzene at SKG airport.

12. Noise

12.1. Overview

Noise requirements apply to noise associated with ground-based airport activities and aircraft landing and take-off procedures as well as ground running and idling on aprons.

Noise receptors surrounding the airport that could be affected are predominantly the surrounding or adjacent in some cases, urban areas and local fauna.

During maintenance and imminent works, noise will be carefully managed to reduce off-site impacts.

FG manages noise in such a manner to ensure it does not cause nuisance to, or adversely affect, neighbouring receptors. Activities could generate noise may be:

- Aircraft landing and take-off procedures.
- Aircraft ground running and idling on aprons.
- Aircraft maintenance and testing activities.
- Fixed and mobile equipment.
- General airport and infrastructure maintenance activities.
- Internal road network traffic.
- Tenant and operator activities.
- Construction and demolition works (temporary only for the duration of imminent works implementation).

These activities could cause:

- Nuisance to airport operators and the community
- Disruption in roosting and breeding behaviour of local fauna.

12.2. Noise Management Plan

FG is producing a noise management plan during the operational period, for each airport.

The Monitoring Plan and the implementation of the proposed measures is imposed by the Environmental Terms. The plan includes type and frequency of monitoring parameters and monitoring equipment. The gathered data are evaluated, noise contours are calculated, and the subsequent noise trends are presented. Corrective actions are implemented in case of limit exceedance.

Measures to manage potential impacts from noise emissions include:

- Environmental awareness and inductions.
- Recording, investigation and follow-up of noise enquiries.
- Implementing operational procedures for noise- generating activities.

- Tenant and construction audits.
- Aircraft ground running policy and review of the policy in response to airport operational matters and tenant feedback.
- Regular servicing and maintenance of vehicles and equipment.

Implementing noise control measures through CEMPs as standard. The CEMP's include a Noise Management Plan in order to keep noise levels to acceptable limits.

The Contractor proceeds to the following steps:

1. Estimate the positions of the construction areas where the activities will be executed considering also the planned timetable of activities.

2. If activities are suspected or estimated to exceed the noise criteria, the contractor will investigate the probability to change the timetable activities, so that the noisiest works do not occur simultaneously in a particular area of the construction area and except for summer period, as the windows of the buildings are open. However, the modified timetable will not exceed the total construction time of the project.

3. In case that there is no possibility to modify the timetable of the project, the contractor will investigate the occasion to reduce the duration of the noisy activities, and / or proceed with the following measures:

- Screening and reduction of construction noise with noise barriers, especially at areas close to sensitive noise zones is foreseen where exceeding limits.
- Measures to regulate the movement of the trucks inside and outside the construction area. In order to do so, the contractor will define the routes of the trucks

FG regularly inspects the airport, tenants and contractor and operator activities. Airport tenants, contractors and operators are required to ensure appropriate systems and procedures are in place to manage specific noise-related environmental risks associated with their activities.

Table 13: Targets for noise management

Target	Timeframe
Noise Monitoring Plan and implementation of it.	Ongoing
Timely investigation of any reported inappropriate noise generation	When required

12.3. Achievements

- ✓ Interim Monitoring Plan for Noise in cooperation with the National and Technical University of Athens. The Plan was submitted to the Ministry of Environment and Energy as an Annex to the Modification Dossiers of the EIA studies.
  Moreover, in the aforementioned studies Noise Modelling was presented depicting the expected noise levels in relation to the passenger forecast for upcoming years.
  The Interim Monitoring Plan for Noise was implemented for 2019 as follows:
- ✓ Noise Measurements were conducted from July to September 2019 at all 7 airports. L_{den} and L_n indicators were measured and the respective data evaluated.
- ✓ Noise Levels Modelling was conducted in all Cluster A airports. Using special modelling software L_{den} and L contours were calculated and the subsequent noise trends were presented.
  The results of the monitoring program are included in the Annual Environmental Bulletins, which are published on FG website as per the requirements of the Environmental Terms for each airport of Cluster A.

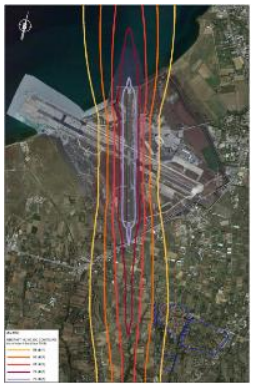


Figure 28: SKG noise monitoring: (left portable monitoring station equipment, right: Lden noise contours.

- ✓ SKG Strategic Noise Mapping**:** SKG exceeded 50.000 ATMs in 2018 and as a result, a Strategic Noise Mapping was required according to the Directive 2002/49/EC. The mapping was completed within 2019 and was submitted to the Ministry of Environment and Energy for approval.
  The Strategic Noise Mapping was performed in accordance with the CNOSSOS EU methodology.
  The mapping consisted of annual noise contours and a detailed analysis of the affected sensitive receptors such as schools, hotels, hospitals, cultural centers, and churches.
  The results of the mapping indicated that there are no exceedances in the legislative noise limits. No residents and no sensitive receptors are affected by noise exceeding the legislative limits. There are no recorded residents in the noise contours of L_{den} 60-65 dB(A) and L_{den} 65-75 dB(A) and no residents **in the noise** contours of L_{night} 55-60 dB(A), L_{night} 60-65 dB(A) and L_{night} >65 dB(A).

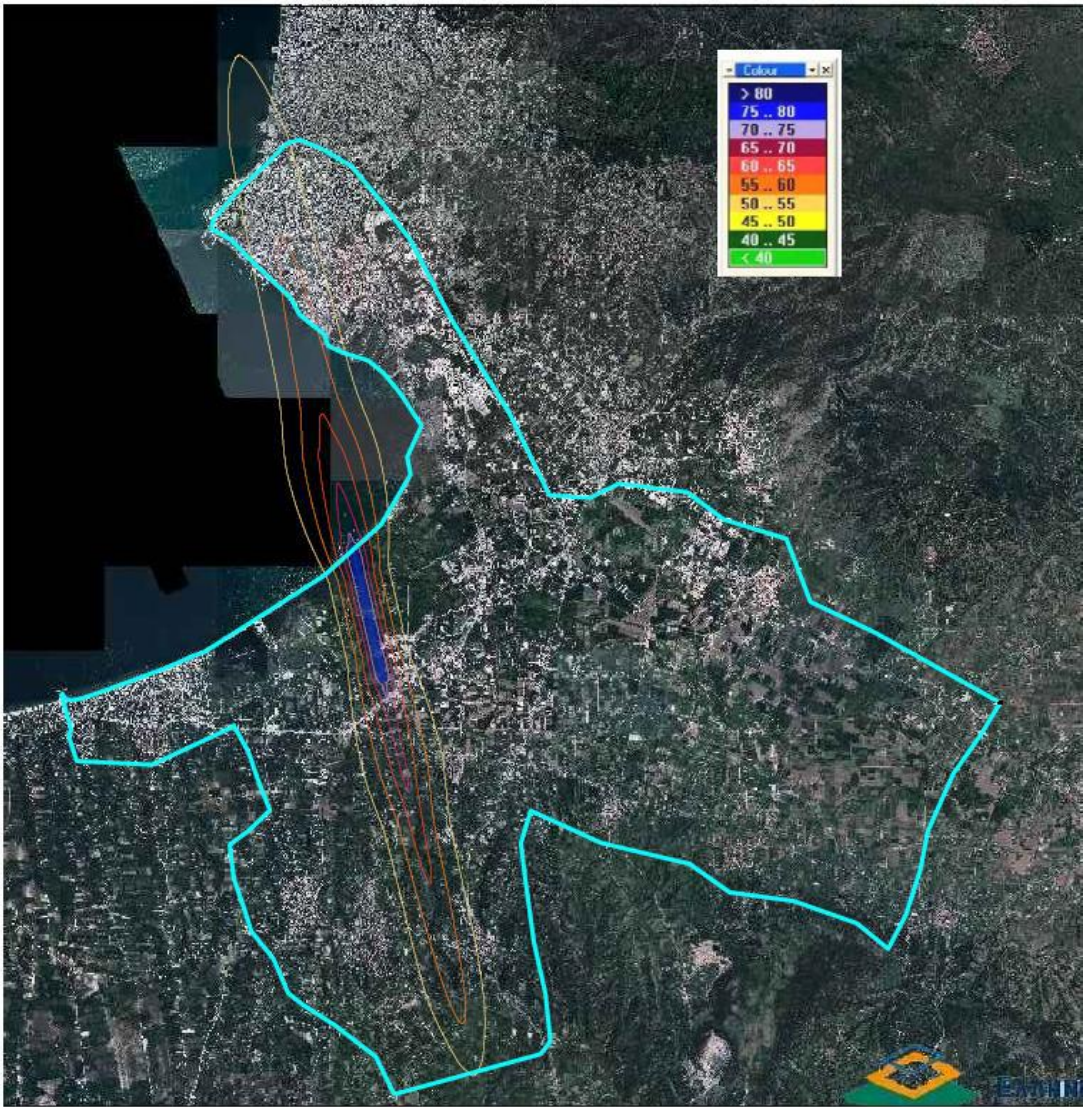


Figure 29: Strategic Noise Map L_{den} contours for 2018.

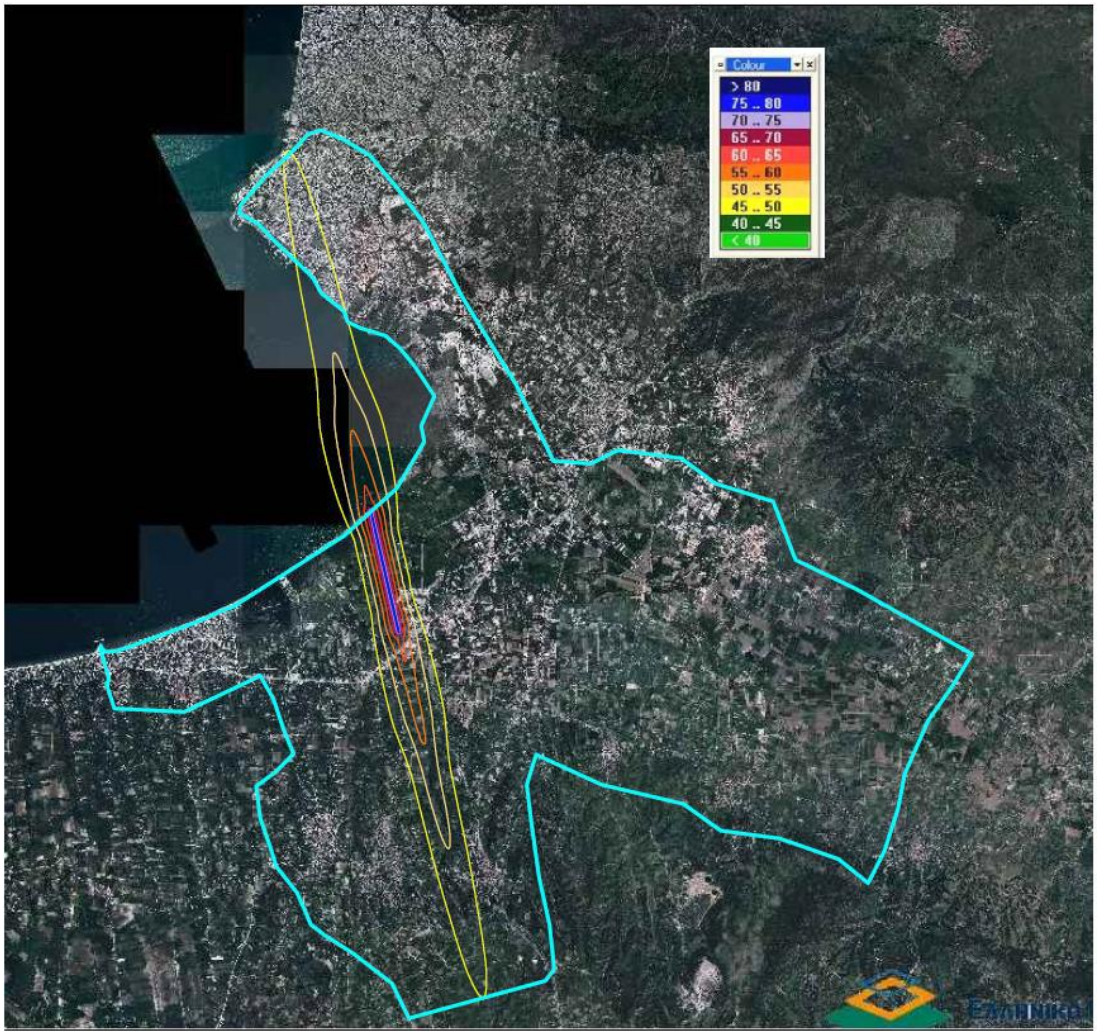


Figure 30: Strategic noise map of L_{night} 2018.

Once the new runway 16-34 is complete and operational, the strategic noise mapping will be updated accordingly.

- ✓ Proposal of permanent Noise Monitoring program to the Ministry of Environment and Energy for approval.
  The proposal includes:
  - installation of permanent monitoring stations at SKG (4 stations) and CFU (2 stations),
  - annual monitoring campaigns at CHQ, EFL and ZTH,
  - monitoring campaigns once every 3 years at PVK and KVA.
- ✓ FG has set up a communication channel for the public via two email accounts (info@fraport-greece.com & environmental@fraport-greece.com) where complaints (e.g. for noise) or even proposals for improvement are received. After a complaint is received the Quality, Environment, Health and Safety and Department undertakes the actions to verify the source of the problem and implement all necessary corrective actions.

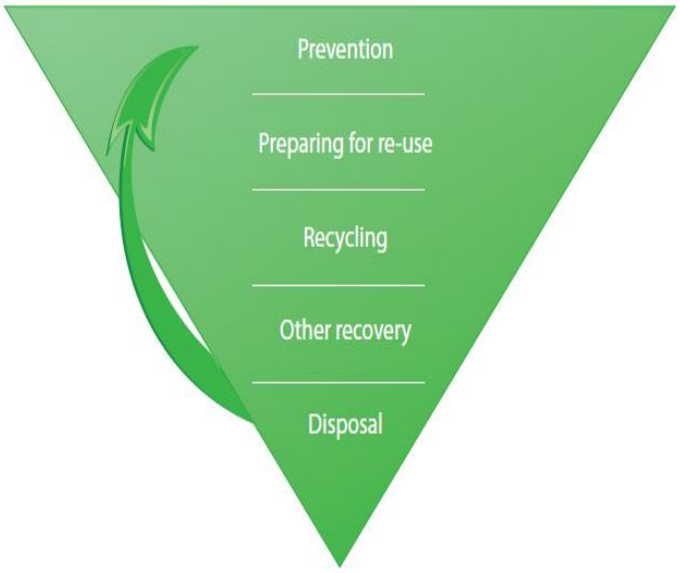
13. Waste Management

13.1. Overview

FG ensures that management (collection, storage, and safe post-management) of waste materials (hazardous and non-hazardous) is carried out in accordance with applicable legislation, standards and state planning for waste management.

The main objective is to promote waste minimization where possible. Waste segregation at the source has already started airports and is planned to be promoted for all personnel and tenants.

Recycling and re-use are both of great importance for **FG** and will be implemented throughout the operational period, including construction works.



Graphic 2: FG's waste management hierarchy

Airport operations inevitably produce solid waste on a daily basis from a variety of sources involving personnel, passengers, tenants and handlers. Also, a variety of hazardous materials are used such as lubricant and mineral oils, batteries and accumulators, tires, waste from Electric and Electronic Equipment (WEEE), etc.

All kinds of waste have the potential to cause harm to persons, property and the environment. As a result, they should be handled in an appropriate manner. Where feasible, **FG** is substituting, reducing or eliminating the use of hazardous materials and those used are appropriately recycled according to relative legislation.

Airport users who produce or receive waste from individuals or other parties retain the responsibility for its management. Therefore, they are asked to ensure that the management of waste is safely carried out, through direct cooperation with an authorized public or private waste collector or through FG's central waste management system, where applied.

Some activities related to hazardous materials may be:

- Bulk fuel storage and handling including aviation, unleaded and diesel fuels.
- Aircraft refuelling, vehicle and aircraft wash down.
- Vehicle refuelling at the service station.
- Aircraft, vehicle and mechanical plant and electrical equipment maintenance.
- Construction, earthworks and demolition.
- Quarantine operations.
- General airport operation, construction, maintenance and landscaping including weed and animal pest control.

These activities could cause:

- Release of hazardous materials, leading to water, land and air contamination.
- Human and ecosystem health impacts.

13.2. Waste Management Plan

Waste Management procedures have been developed so that all waste streams are properly identified, segregated and treated, along the following lines:

- Separation of solid waste types at the point of generation (sorting at source). Use of special waste bins for separation of paper and cardboard, metals, plastics, glass, and biowaste, where feasible.
- Dedicated areas for the collection and storage of recyclable materials
- Hazardous waste disposed and recycled properly by certified handlers.
- Waste containers around the airport for passengers and tenants - transferred to onsite waste containers and then transported to offsite treatment or disposal facilities.

FG's Health and Safety procedures – detail procedures have been developed in relation to storage, handling and disposal of waste, asbestos and other hazardous materials, maintenance of asbestos register, Health and Safety incident reporting, etc.

Airport users and contractors are also required to ensure appropriate systems and/or procedures are in place to manage specific environmental risks associated with their activities and abide by the relevant legislative requirements for waste management.

FG regularly inspects airport users' and contractors' activities to check environmental risks associated with their activities in relation to hazardous materials are being managed appropriately.

Management of hazardous materials is also addressed through CEMPs for relevant construction projects. A Construction Waste Management Plan has been created and is in in force along with a Hazardous Substances Management Plan in all 7 airports.

The Construction Waste Management Plan aims to reduce construction and demolition waste disposed of in landfills by recovering, reusing, and recycling materials.

The main objectives of the plan are:

- Diversion of waste from Landfill.
- Backfilling of inert materials produced during earthworks on site.
- Establishment of separate collection facilities (skips, collection points) for segregated or comingled recyclable materials in accordance with Environmental Terms.
- Cooperation only with fully licensed carriers and receptors.
- Selection of appropriate construction materials that will ensure maximization of reuse and recycling.
- Reduce waste where possible.
- Reuse materials where possible.

Hazardous materials in relation to **FG's** activities are managed under different mechanisms depending on the nature of the activity.

These mechanisms are included in:

- Environmental Management Plan – includes procedures for spill response, interceptor trap maintenance, environment incident reporting, tenant audits, etc.
- Airport Emergency Response Plan – detailed procedures for dealing with major incidents in relation to hazardous materials, fuel and oil spills.

In regards to asbestos materials an Asbestos Management Plan is being implemented were the following actions are included:

- ❖ Labelling of the materials as asbestos containing materials.
- ❖ Notification of the personnel working in the vicinity of these materials.
- ❖ No disturbance of the asbestos materials.
- ❖ Proactive painting of the external surfaces with plastic painting (optional).
- ❖ Optimal solution: Programmed removal of the asbestos materials by a specialized and licensed company.
- ❖ Following asbestos removal the premises must be assessed conducting visual inspection and air monitoring in accordance with relevant Greek legislation for issuing Clearance Certificates – Certificates of Reoccupation. The assessment should be carried out by independent laboratory accredited by Hellenic Accreditation System (ESYD) for asbestos air sampling and analysis. The Hazardous Substances Management Plan (HSMP) forms part of the comprehensive suite of management plans that have been prepared for the construction phase of the Project. This document outlines the hazardous substances that are to be used or stored as part of the construction activities, and how the risks associated with these substances are to be managed.

The plan has been prepared for two distinct purposes:

- to provide information to the construction team as to acceptable management methodologies during the construction phase, and
- to provide information to the consenting authorities to demonstrate that the possible risks as a result of storage and use of hazardous substances have been considered and will be appropriately managed by the construction team.

Table 14: Targets for waste management

Target	Timeframe
Establishment of integrated waste management in all airports, with focus on sorting at source and materials recovery.	Ongoing
Drafting Waste Management Plans for all airports.	Ongoing
Monitor chemical storage and handling practices during internal and tenant audits.	As per internal and tenant audit schedule
Monitor availability of up-to-date Materials Safety Data Sheets at points of use during internal and tenant audits.	As per internal and tenant audit schedule

13.3. Achievements

✓ Cooperation with private and public authorities for the integrated management of non-hazardous waste, with focus on sorting at source of paper and cardboard, plastics, metals, glass and biowaste, in order to maximize materials recovery.

✓ Cooperation with Alternative Management Systems for the recycling of hazardous waste such as oils, batteries, tires, electronic and electrical equipment.

✓ Equipment for storage of Hazardous Waste for all 7 airports.

Part of the overall waste management and it's main objectives FG proceeded to purchasing of new containers for the storage of hazardous waste until they are safely removed from the airports and dispatched for recycling.

The containers were for the following types of waste:

- Large Batteries and Accumulators
- Used mineral oils

For the barrels of the used mineral oils, oil spill pans were also purchased in order to minimize the risk of a spillage. Informative stickers were also purchased for each of the containers.

✓ Sampling of equipment containing PCB and safe removal and management. Electrical devices that were recorded as possibly obtaining PCB's were sampled by licensed companies. Upon confirmation that were PCB free, the devices were recycled as scrap material.

Figure 33: Barrels for used oils stored indoors. The used oils are sent for recycling to the respective Alternative Management System.

Figure 34: Large batteries and accumulators container ready to be sent for recycling

14. Conclusion

The 2020 Environmental Strategy Report is not a business as usual strategy. The commitments, goals and initiatives will be challenging to plan, launch and deliver.

FG will monitor and report annually on progress against the goals and the lessons learned and will seek regular feedback and input on how to improve.