Version: 1
July 2019

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

3rd Annual Report on Environmental Strategy

Fraport
Greece

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Glossary

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
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
WWTP	Waste Water Treatment Plant

Executive Summary

This 3rd “Annual Report of Environmental Strategy” is the result of Fraport Greece’s (FG) compliance to the Environmental Requirements set in the Concession Agreement, twenty-seven 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.

The objectives and 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: 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.

Finally, for each environmental aspect specific targets are presented accompanied with a respective fulfilment timeframe.

1. Introduction

1.1 About Fraport Greece

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 489 people are employed by FG at the 14 airports (June 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)	1
Kerkira (CFU)	2
Zakinthos (ZTH)	3
Kefallinia (EFL)	4
Aktion (PVK)	5
Kavala (KVA)	6
Chania (CHQ)	7

1.2 Environmental Strategy Annual Report 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 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:

Sustainable development

Soil management

Surface water and groundwater

Biodiversity

Cultural heritage

Air quality

Noise

Waste Management

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

Finally, for each environmental aspect specific targets are presented accompanied with a respective fulfilment timeframe.

2. Environmental & 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
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 & Stakeholder Requirements

3.1 Legal Requirements

Environmental aspects of airport activities are largely governed by national legislation which is in accordance to the European Directives. National regulations and standards are used as the foundation for environmental programming and performance.

FG, also 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 endeavour 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.

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	
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

Greek Legislation No	GG	Content	European Legislation
Environmental and aircraft noise			
JMD 211773/2012	B 1367	Environmental and aircraft noise	Directive (END) 2002/49/EC
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	

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

3.2 Approved Environmental Terms

Each airport operates under Approved Environmental Terms which ensure the optimal operation of the airport regarding the protection of the environment.

The terms set limits, guidelines and monitoring patterns adjusted to each airport individually, defending each environmental aspect.

A/A	Airport	Environmental Terms Approval
1	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
2	CFU	● 11945/08.03.2017, as it has been modified by the following: ○ 7208/30.03.2018
3	CHQ	● 51226/25.10.2016 ○ 5100/05.03.2018
4	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
5	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
6	PVK	● 11543/07.03.2017, as it has been modified by the following: ○ 50502/08.12.2017
7	KVA	● 84821/95/08.07.1996, as it has been modified by the following: ○ 105624/14.11.2006 ○ 200818/23.07.2012 ○ 172044/09.04.2014 ○ 24353/19.05.2017 ○ 37774/20.12.2017

Table 2: Approved Environmental Terms Decisions for all 7 airports of Cluster A.

3.3 Stakeholder Requirements

As a community-based organization, we value the relationships we build with our business partners and local communities. Stakeholder engagement is being currently carried out and is also planned for the upcoming stages of project implementation. Prior to the start of construction activities, a site specific plan Stakeholder Engagement Plan (SEP) has been 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.

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.

Table 3: Roles and responsibilities

Fraport

External

Civil Society

- Local communities
- Local authorities
- Local media
- Vulnerable groups
- NGO's

Grantor, Government & Public bodies

- Greek Goverment
- HCAA, HRADF, HAF
- European Institutions
- Professional & scientific organisations
- Independent authorities

Financial Partners

- Shareholders
- Lenders (EBRD, EIB, IFC, BSTDB, Alpha Bank)

The relevant stakeholders identified per category are:

- Local Communities
- Airport Employees
- Grantor, Government and Public bodies
- Non - Governmental Organizations
- Professional Associations
- Scientific Organizations
- Media
- Vulnerable Groups (which may include people with disabilities, refugees, cultural or religious minorities groups, etc.)
- Customers and Economic Partners
- Financial Partners

Graphic 1: Stakeholder categories

Greece
Customers
Passengers
Airlines
Ground Handlers
Fuel Handlers
Retailers etc
Employees
FRG personnel
Labour organisations and unions
3rd parties personel
Internal
Economic Partners
Service providers
Contractors, sub-contractors
Customers

4. Cluster A Airports

4.1 Location and Airport Environment

Kerkira (CFU)

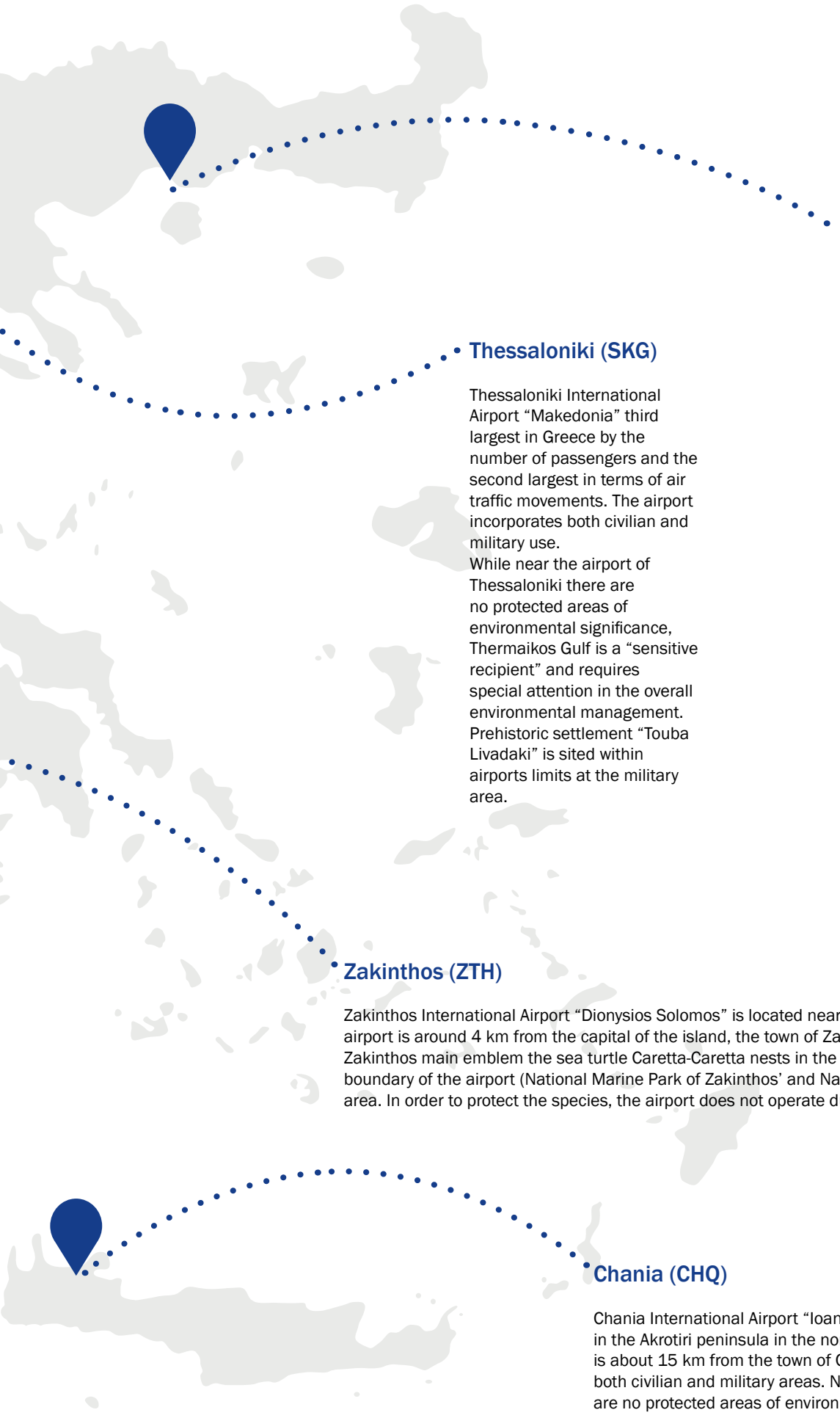
Kerkira International Airport "Ioannis Kapodistrias" is an Ionian island airport located in Kerkira, three kilometres south of Kerkira town, in the coastal sea area between Kanoni and Mesoggi villages. The island of Kerkira is one of the most popular tourist destinations in Europe, attracting visitors 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 righ tout of the terminal exit.

Aktion (PVK)

Aktion International 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 airforce base. Taking off we can admire the National Wetland Park of Amvrakikos an area of significant ecological value as well as the Natura GR2310006, (SCI, SAC).

Kefallinia (EFL)

Kefallinia International 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.



Kavala (KVA)

Kavala International Airport “Megas Alexandros” is located approx. 15 km South-East of the Kavala town.
The airport 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.

Thessaloniki (SKG)

Thessaloniki International 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.

Zakinthos (ZTH)

Zakinthos International 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).

Chania (CHQ)

Chania International 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.

5. Completed Works

By the end of 2018 three out of seven airports of Cluster A were delivered according to the timetable of the Imminent Works.

Zakinthos (ZTH), Kavala (KVA) and Chania (CHQ) Airports were successfully completed, showcasing the works described in the respective Master Plans.

Chania Airport (CHQ)	
Completed Works	**Description**
Terminal	Internal terminal building expansion for retail use -remodelling

Utilities	Connection to the public sewage network

Zakinthos Airport (ZTH)	
Completed Works	**Description**
Terminal	Refurbishment and remodelling of the existing terminal

RFF	New RFF station in a new location next to the existing one

Αερολιμένας Ζακύνθου (ZTH)	
Completed Works	**Description**
Others	New building for electromechanical equipment

Runway refurbishment

Utilities	Installation of sand traps for storm water treatment

Kavala Airport (KVA)	
Completed Works	**Description**
Terminal	Expansion of the existing terminal building in two levels and remodelling

RFF	Expansion of the existing RFF in both levels

Runway refurbishment

Utilities	Connection to the public sewage network

6. *Planning for the future*

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.

The remaining imminent works in Cluster A include:

- Terminal refurbishment and expansion at 4 airports: Aktion (PVK), Thessaloniki (SKG), Kefallinia (EFL) and Kerkira (CFU) will be refurbished and expanded.

6.1 Imminent works

Thessaloniki (SKG)	
Imminent Works	**Description**
Terminal	Terminal expansion by the construction of a new building in three levels
RFF	New RFF station in a new location next to the existing one
Road & Parking	New access road for the new terminal
Utilities	Connection to the public sewage network
	Utilities new connections

Kerkira (CFU)	
Imminent Works	**Description**
Terminal	Terminal expansion in two levels and remodelling of the existing
Apron	Expansion of the apron
Road & Parking	Remodelling of the internal roads and existing parking spaces and provision of new parking areas
Utilities	Installation of oil separators for storm water treatment

Kefallinia (EFL)	
Imminent Works	**Description**
Terminal	Terminal expansion by the construction of a new building in three levels
RFF	New RFF station in a new location next to the existing one
Road & Parking	Remodelling of the internal roads and existing parking spaces and provision of new parking areas
Utilities	Installation of a new WWTP in a new location
	New water tank construction serving the new RFF

Aktion (PVK)	
Imminent Works	**Description**
Terminal	Terminal expansion of the existing in two levels and remodelling
Road & Parking	Remodelling of the existing parking areas to increase parking slots and traffic reconfiguration
Utilities	Upgrade of the existing WWTP

6.2 What has already been achieved

Approved Master Plans for all 7 airports. Each Master Plan determines an ultimate overall layout that will best utilise the potential of the airport campus and optimise the use of existing infrastructure that best fits the expected traffic volume and characteristics over the next 20 years.

Modified Approved Environmental Terms for every airport. The new 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.

For the assessment of the status of the environment and the existing contamination, an Environmental Baseline Survey was conducted in every airport. The survey recorded:

- Soil contamination
- Surface and underground water contamination
- Waste disposal

Environmental Baseline Survey of Waste Water Treatment Plants (WWTP) for the evaluation and monitoring of the effectiveness of the existing WWTPs, which are located in Aktion (PVK), Kefallinia (EFL), Thessaloniki (SKG). Improvements were proposed for the existing facilities in order to upgrade them. Maintenance and upgrade works of the WWTPs are of high priority for FG.

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.

Noise Monitoring for the peak period of 2018 at each airport, which included on site 24 hour measurements and raw data collection. The measurement period was from July 2018 until September 2018. The data were evaluated, Lden and Ln noise contours were calculated with the use of special modelling software and the subsequent noise trends were presented.

Air Quality Monitoring for the peak period of 2018 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).

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 year (2018) and one more year follows (2019). According to the Environmental Terms after the end of the two (2) year implementation period, a Technical Report will be submitted to the Ministry for Environment and Energy with proposals for the future monitoring plan, based on acquired data evaluation and legislative requirements.

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.

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 2018. In connection with this, two airports in cluster A (Thessaloniki and Kefallinia) joined the Airport Carbon accreditation programme and their carbon management processes earned the accreditation level of Mapping, level 1. 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 addition, for the remaining five (5) airports in Cluster A, the Greenhouse Gases (GHG) total emissions were certified according to the requirements of EN ISO 14064-1. It is an international standard that specifies requirements for the quantification and reporting of greenhouse gas emissions and their reductions.

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.

As per Greek and European legislative requirements **Energy Audits** have been implemented during 2018 in each airport of Cluster A.

Airport waste clearance at all airports and especially at SKG. At SKG in 2018 a large scale clearance took place removing from the airport large quantities of waste (hazardous and non-hazardous) that had been accumulated over the years.

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 considered 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.

Approved Health and Safety Manual and Health and Safety Plans for the Construction. In total 7 Construction Health and Safety Site Specific Plans have been 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.

6.3 What could happen to the environment

Physical Environment

All the 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.

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.

6.4 On-going Actions

Actions regarding environmental protection and monitoring

Monitoring plans

Monitoring plans are being implemented 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. 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.

1

Waste Management

FG is implementing 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.

2

Recycling of Hazardous Waste

In compliance with the relative legislation regarding waste management and recycling FG has active contracts 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.

3

Construction Environmental Management Plan

In total 8 Construction Environmental Management Plans (CEMPs) have been implemented, an overall for the entire Cluster and a Site Specific plan for each airport individually. Each plan is addressing all environmental procedures, protocols and processes in order to conduct the works in accordance with all applicable Laws, Regulations, and Permits and ensure the same to be consistent with Best Industry Practice. The basic principle of the 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. The CEMP is considered to be 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.

4

Wildlife Management Plans

Wildlife Hazard Management Plans refer to wildlife hazards, risk assessments, actions to eliminate the wildlife strike risk and biodiversity conservation.

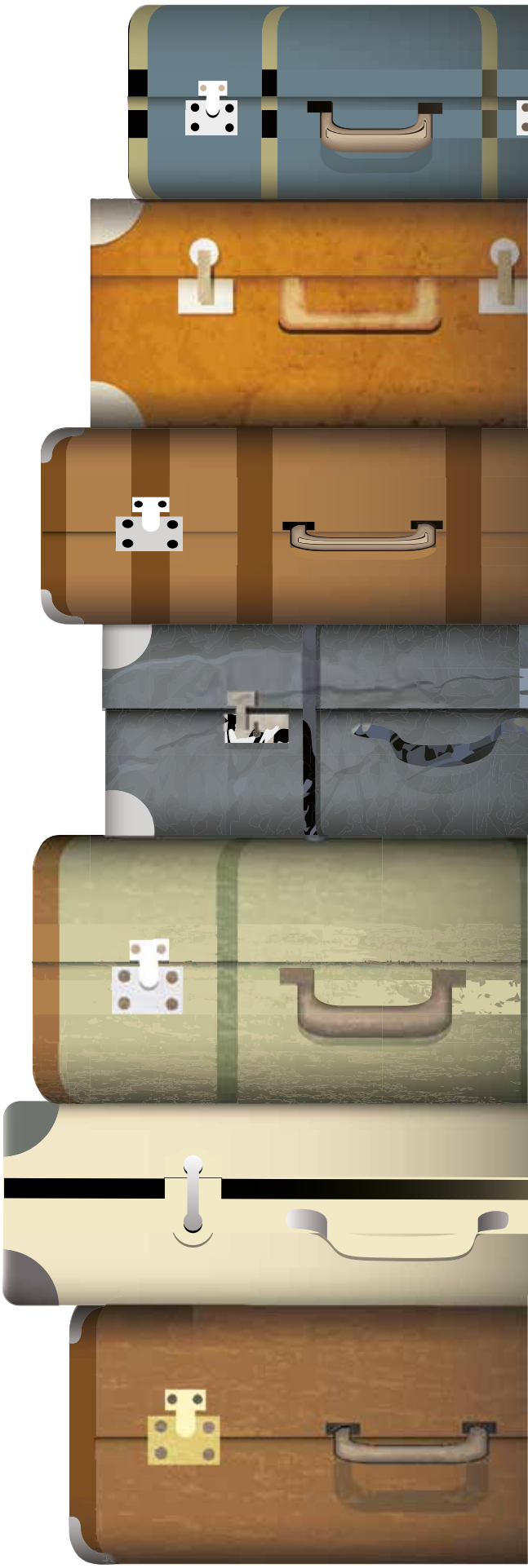
5

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.

6

7. Sustainable Development



7.1 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:

1. Pollution Prevention: noise, vibrations, storm water, wastewater, non-hazardous waste, hazardous waste, hazardous materials (handling & storage), soil/groundwater protection (leaks & spills), air emissions.
2. Community Health, Safety & Security
3. Biodiversity Conservation
4. Resource Efficiency (water, energy, raw materials)
5. 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).

7.2 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.

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**

Table 4: Targets for sustainable development

8. Soil Management

8.1 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

8.2 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 will aim 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.

Target	Timeframe
Remediation of any identified pre-existing contaminated areas	Within 36 months from CCD
Re-use of excavation and demolition products	In imminent and future works
Coastline Monitoring	In Thessaloniki as appropriate after the completion of State Works

Table 5: Targets for soil management

8.3 Achievements (with respect to soil conservation)

Already since 2016, an Environmental Baseline Survey (EBS) took place in order to identify pre-existing contaminated areas. In all FG airports specialized personnel conducted on site visits in order to record the existing contamination.

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.

Soil remediation in identified contaminated areas by the EBS has been successfully completed in Zakinthos (ZTH) and Kefallinia (EFL) Airports. Fuel handler's sites in Kerkira (CFU) and Thessaloniki (SKG) Airports are currently under remediation.

9. Surface Water & Groundwater

9.1 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.

9.2 Water Management Plan

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

Surface and groundwater quality is being monitored at various sites regarding various physicochemical parameters by using:

- monitoring boreholes
- surface water samples across the airports.

All chemical analyses are conducted in 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.

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

Table 6: Targets for water management

9.3 Achievements

As of January 2018 a Water Quality Monitoring Program, is being implemented. The Monitoring Program 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, BOD5, 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 closely monitors the results and undertakes proper actions if necessary.

All the Waste Water Treatment Facilities 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 in 2018.

Landing at Corfu Airport.

10. Biodiversity

10.1 Overview

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

- appropriately manage biodiversity values across the network of its 14 airports,
- reduce adverse impacts to surface water (lakes, lagoons and sea) and groundwater from airport activities.
- protect and enhance the ecological values of conservation areas.

Wildlife Hazard Management

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 wildlife hazards on airport
- statistics analysis of wildlife strikes
- risk assessment
- wildlife management measures

An annual Wildlife Strike Committee is held at CFU, KVA, SKG airports 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 cause:

- Biodiversity loss
- Introduction and spread of weed and animal pest species.
- Fragmentation of habitat from clearing associated with new developments.
- Degradation of foraging or breeding habitat
- Loss of native species from weed, pest and fire management activities

10.2 Biodiversity Management Action Plan

Actions that can be protective of biodiversity values are:

- Employment of additional personnel, dedicated to wildlife control and biodiversity conservation
- Systematic monitoring of bird species and populations on and off-airport (up to an area of 13km radius) with emphasis on birds behaviour (e.g. nesting, roosting, flight paths) by the additional support of the Hellenic Ornithological Society
- Regular habitat modification through grass and tree cutting
- Enrichment of wildlife control methods (e.g. Pyrotechnics)
- Continuous training of the FG Operations Personnel on Wildlife Hazard Management

- Seminars awareness regarding Snakes identification, Reptile conservation and Stray Animal management
- Birds and Mammals trapping and relocation off-airport (under permission by the Ministry of Environment & Energy)
- Landscaping procedures and guidelines with an emphasis on using locally sourced, endemic species.
- Controlled spraying using biological pesticides (especially for overpopulation of species such as mosquitos) CEMP's prepared for relevant construction projects addressing potential biodiversity impacts.
- CEMP's prepared for relevant construction projects addressing potential biodiversity impacts.

Target	Timeframe
Land use monitoring on and off airport.	Annually
Wildlife survey on and off airport.	Annually

Table 7: Targets for biodiversity

10.3 Achievements

Some of the achievements so far are:

- Wildlife Hazard Management Programmes referring to wildlife hazards, risk assessments, actions to eliminate the wildlife strike risk and conserve biodiversity.
- Systematic wildlife monitoring and control by FG Operations Personnel
- Continuous reporting of wildlife activity and wildlife strikes
- Trapping and relocation of stray animals
- Distribution of leaflets regarding the safe handling of stray animals at airports
- Collaboration with «Δράση για την Άγρια Ζωή-Action for wildlife» for injured animals found at SKG airport
- Awareness on snake identification and reptile conservation at SKG airport
- Presentation of Fraport Greece Wildlife Hazard Management at the World Birdstrike Association, Warsaw, 19-21 November 2018

Female and Male Common Kestrel (Falco tinnunculus) at SKG Airport, April 2019

Common Pochard (Aythya ferina) at Volvi Lake, March 2019

On 17th April 2018, a ringed Osprey (Pandion haliaetus) struck on an aircraft at CFU having no effect on flight. Ring data have been provided to the Ringing Centre of Helsinki University. Recovery details revealed that the bird was ringed 2534km NNE of CFU, 1 year 9 months and 2 days prior to the date of birdstrike.

11. Cultural Heritage

11.1 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.

11.2 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.

The Capitol on Corfu

Target	Timeframe
Coordinate with Hellenic Ministry of Culture and Sports to develop corporate level cultural heritage procedure including chance finds procedure (in accordance with the requirements of Article 15 of the CA).	During Imminent Works
Develop site specific cultural management plans in cooperation with Greek authorities and ensure implementation by contractors.	Ongoing
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

Table 8 Targets for cultural heritage

11.3 Achievements

Already for each airport FG has created a Catalogue with relevant heritage sites.

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.

The Heritage Action Plan includes the Chance Finds procedure which 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 follow 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.

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

12. Air Quality

12.1 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).

12.2 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, 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.

Target	Timeframe
Ensure appropriate servicing and maintenance of equipment.	Ongoing – Throughout the concession period
Air monitoring plan for all airports	Interim monitoring plan ongoing – 2018 and 2019
Quantification of CO_2	Annually
Join Airport Carbon Accreditation Program for 2 airports	2019-2020

Table 9: Targets for air quality

12.3 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.

Additionally, in the aforementioned studies Air Quality Modelling was presented depicting the expected air quality in relation to the passenger forecast for upcoming years. The Interim Monitoring Plan for Air Quality was implemented for 2018 as follows:

Air Quality Measurements were conducted from July to September 2018 at all 7 airports.

The monitored pollutants were Sulphur dioxide (SO2), nitrogen dioxide (NO2), benzene (C6H6), particulate matter (PM10 & PM2,5) and ozone (O3).

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, which are published on FG website as per the requirements of the Environmental Terms for each airport of Cluster A.

Quantification of Greenhouse Gas emissions (baseline) for the all 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.

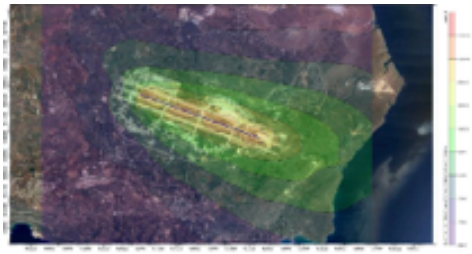
The following table shows the total emissions (Scope 1 and 2) per airport for the year 2018:

Airport	IATA Code	Total emissions (t CO_2)
Thessaloniki	SKG	7.375,3
Kerkira	CFU	2.783,3
Chania	CHQ	4.493,4
Zakinthos	ZTH	2.213,9
Kefallinia	EFL	757,1
Aktion	PVK	1.026,2
Kavala	KVA	1.197,8

Table 10: Total CO_2-emissions 2018 per airport

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

Mobile air quality monitoring station at Thessaloniki (SKG) airport



2018 Annual Concentration for NOx at Chania (CHQ) airport

The Shipwreck on Zakinthos

13. Noise

13.1 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 so as 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.

SKG exceeded 50.000 ATMs in 2018 and as a result a Strategic Noise Mapping is required according to the Directive 2002/49/EC. The mapping is expected to be completed within 2019 and it will be submitted to the Ministry of Environment and Energy for approval.

13.2 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. **The Contractor has estimated 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, 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.

Target	Timeframe
Noise Monitoring Plan and implementation of it.	Interim monitoring plan ongoing – 2018 and 2019
Timely investigation of any reported inappropriate noise generation	When required
Strategic Noise Mapping for Thessaloniki (SKG) Airport	Within 2019

Table 11: Targets for noise

13.3 Achievements

FG has already implemented Noise measurements during the peak period of 2016 and 2017 at each airport.

Additionally, FG has implemented an 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.

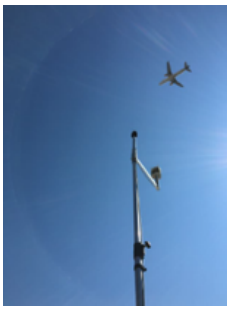
Moreover, in the aforementioned studies Noise Modelling was presented depicting the expected noise levels in relation to the passenger forecast for upcoming years. The Interim Monitoring Plan for Noise was implemented for 2018 as follows:

Noise Measurements were conducted from July to September 2018 at all 7 airports. Lden and Ln indicators were measured and the respective data evaluated.

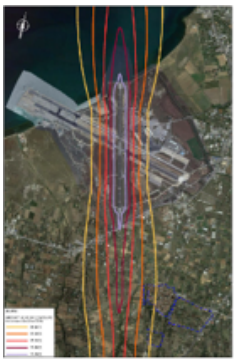
Noise Levels Modelling was conducted in all Cluster A airports. Using special modelling software Lden and Ln contours were calculated and the subsequent noise trends were presented.

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.

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.



Noise measurement equipment



2018 Lden noise mapping at Thessaloniki (SKG) airportt

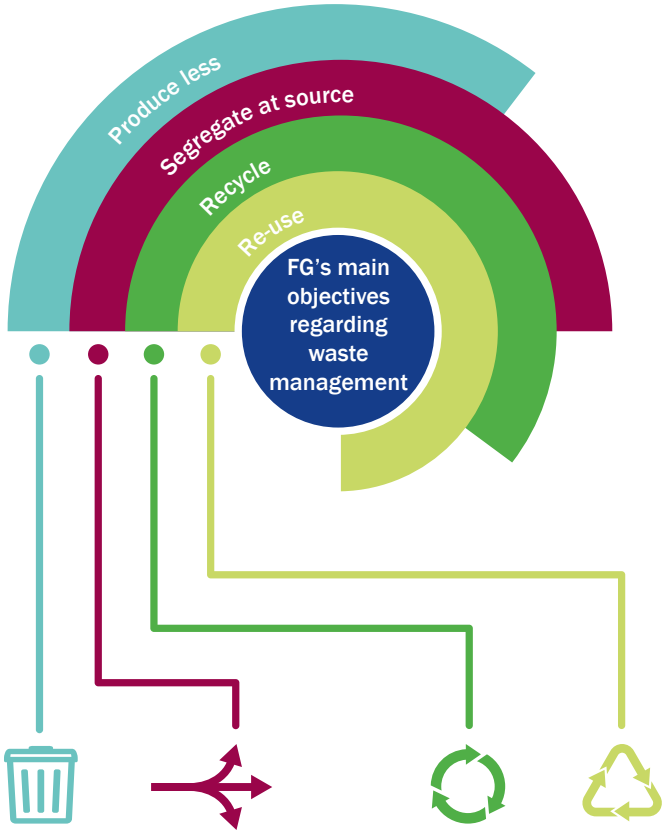
14. Waste Management

14.1 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 in some 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.

14.2 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, 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 include:

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

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

a. Labelling of the materials as asbestos containing materials.
b. Notification of the personnel working in the vicinity of these materials.
c. No disturbance of the asbestos materials.
d. Proactive painting of the external surfaces with plastic painting (optional).
e. Optimal solution: Programmed removal of the asbestos materials by a specialized and licensed company.
f. 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 has been considered and will be appropriately managed by the construction team.

Target	Timeframe
Establishment of integrated waste management in all airports, with focus on sorting at source and materials recovery.	End of 2019
Drafting Waste Management Plans for all airports.	End of 2019
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

Table 12: Targets for hazardous waste

13.3 Achievements

Actions already achieved:

Update of contracts 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.

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

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

Equipment for handling 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

Large batteries and accumulators container ready to be sent for recycling.

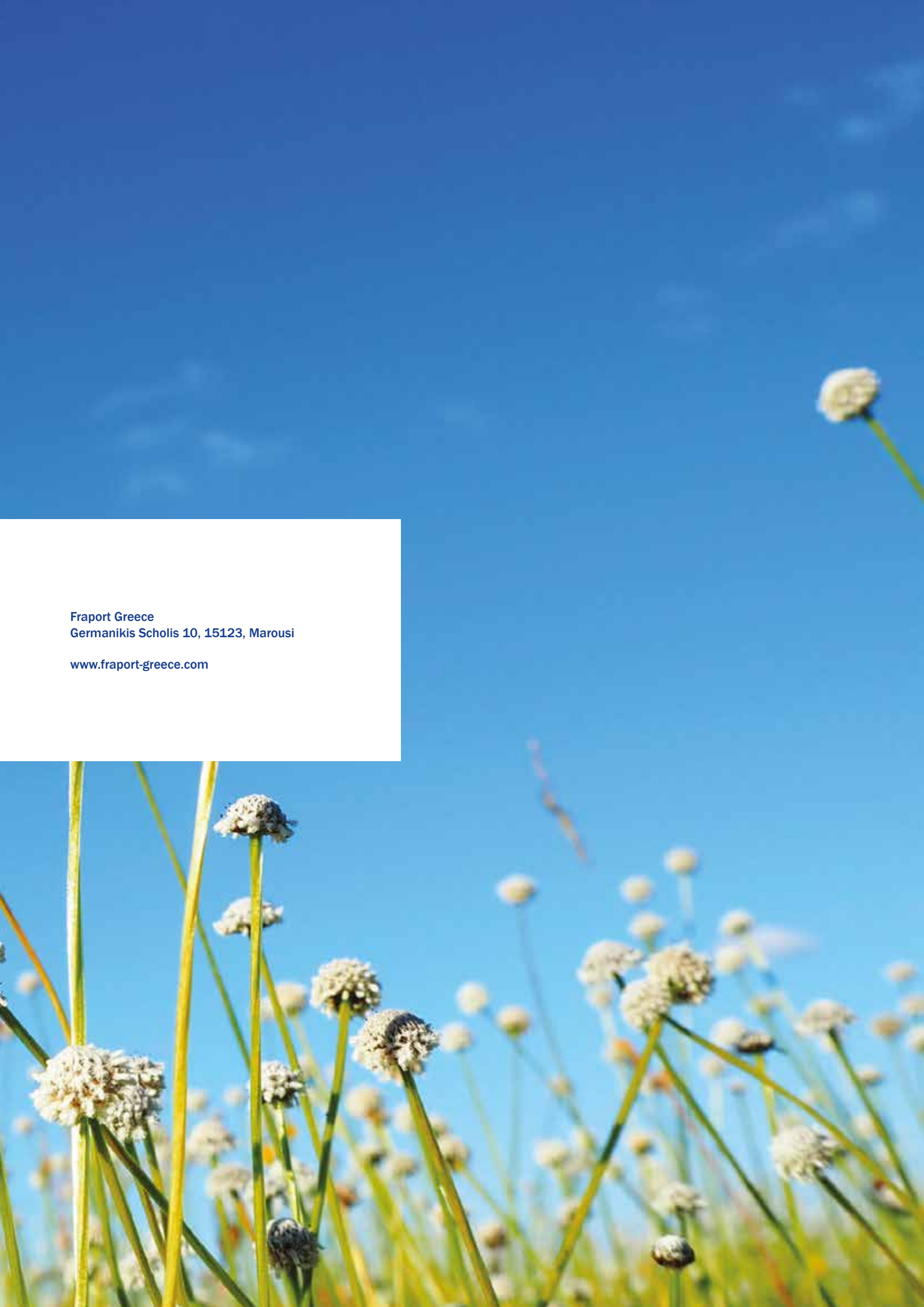
For the barrels of the used mineral oils, oil spill pans were also purchased in order to minimize the risk of a spillage.

Informative stickers were also purchased for each of the containers.

15. Conclusion

The 2019 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.



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