



ENVIRONMENTAL PERFORMANCE REPORT

2016



TABLE OF CONTENTS

1. Introduction	3
2. Noise and Air Quality	4
3. Voluntary Carbon Management	6
4. Energy	7
5. Water	9
6. Waste	11
7. Biodiversity	13
8. Environmental Management of Works	16
9. Environmental Awareness	17
10. Conclusions	19



1. Introduction

In its daily management, ANA – Aeroportos de Portugal, SA (ANA) took responsibility in continuously improve its environmental performance, which in 2016 represented an investment of 1.6 million euros in the environmental sector. For that it's determinant the Integrated Management System (SGI) - Environment Component adopted by the company in 2008, which is certified according to ISO 14001: 2004.

It is also of significant importance, the valuation of the company's role with the surrounding community at the airport, seeking to orient and sensitize the different economic agents for a more responsible performance, is also of significant importance. public revealing ANA's 2016 environmental performance to all stakeholders, presented ahead.



2. Noise and Air Quality

A Noise Monitoring and Simulation System has been implemented in the Airports (in continuous operation), in order to evaluate the real impact of the noise associated with airport's activity in the surrounding community, as well as verifying the compliance of legal dispositions, through the realization of Noise Monitoring reports and noise maps. During 2016 ANA has updated the system, intending to be equipped with the most up-to-date tools in terms of noise management worldwide. In the specific case of João Paulo II airport, the Noise Monitoring reports are carried out by an external laboratory, based on monitoring campaigns conducted by IATA period.

In 2016, Noise Abatement Procedures Studies were prepared for the Madeira airport.

Likewise, participation was maintained in the project JTI-CS-2013-2-SGO-04-009- Airline Trials of Environmental Green flight management functions (ATAEGINA) in order to validate the new functionalities designed in the Clean Sky Program for operations (namely landings and take-offs) with lower impacts on the environment, both in the noise component and in the gases (CO₂ and NO_x).

In the airport environment, much of the population is exposed to the lowest levels of noise from the airport infrastructure.

In 2016, 11 complaints concerning noise were received at Lisbon airport. Most of the reported complaints did not derive from an increase in noise emissions in the airport surroundings, but rather from increases in noise levels. Noise, for work reasons, and at certain times, namely during the night period due to the diversion of traffic to the least used runway (runway 35-17). In 2016, there were still 2 noise complaints at Faro Airport.

ANA strictly controls the gaseous emissions at its airports, in accordance with its legal obligations, about point

sources, namely boiler chimneys. Likewise, air quality monitoring is carried out at Humberto Delgado, Francisco Sá Carneiro, Madeira Airports. This monitoring is generally carried out by monitoring campaigns, which occur in the summer and in the winter period, involving two sampling points.

At the João Paulo II airport, the campaigns are carried out every three years – the last one was in august 2016.

Air quality at airports, in terms of air quality classifications obtained, was most favourable in 2016, with values below the legislated limit values.

Although operations related to the operation of the airport contribute to the air quality within the airport, they have little influence over the monitoring campaigns compared to the anthropogenic sources.

At Faro Airport, two campaigns were carried out to monitor the quality of outdoor air, in the exploration phase, within the framework of the Environmental Impact Statement (DIA) of the project "Infrastructures for ILS and Runway 10 Approach, Platform Expansion and Circulation and Expansion and Remodelling Paths of the Terminal of Faro Airport".



3. Voluntary Carbon Management

In the context of Voluntary Carbon Management, in 2016, ANA calculated its carbon footprint for 2015 activity, and an external entity verified the footprints associated with direct emissions and emissions that it can control (scopes 1 and 2).

TABLE 1 – EMISSIONS (Tonnes CO2 eq.) FOR ANA				
	2015	2014	2013	Change14/15
Scope 1 (direct emissions)	8.354	8.776	9.206	-5%
Scope 2 (indirect electrical emissions)	50.471	39.026	38.635	29%
Scope 3 (other indirect emissions)	699.199	617.599	574.899	13%
Total	758.025	666.402	622.740	14%

Overall emissions from all 10 airports managed by ANA and headquarters increased by 92,623 TCO2eq compared to 2014. The overall increase was determined by the variation of scope 3, which increased by 13% compared to 2014. The emissions of scope 2 also increased 29% while emissions of scope 1 showed a decrease (-5%) compared to 2014 (whose data were recalculated).

It can be seen that direct emission sources are in fact controlled, with a tendency to decrease. Regarding the production of acquired electric energy, it is observed that, although the consumption of electricity was, in most cases, less significant than in 2014, the emission factors associated with the energy traders were, in general of the cases, higher, thus not allowing the reduction of the indirect emissions of scope 2. The other indirect emissions, of scope 3 are strongly related to the airport activity that increased about 11% in terms of the number of passengers between 2014 and 2015.

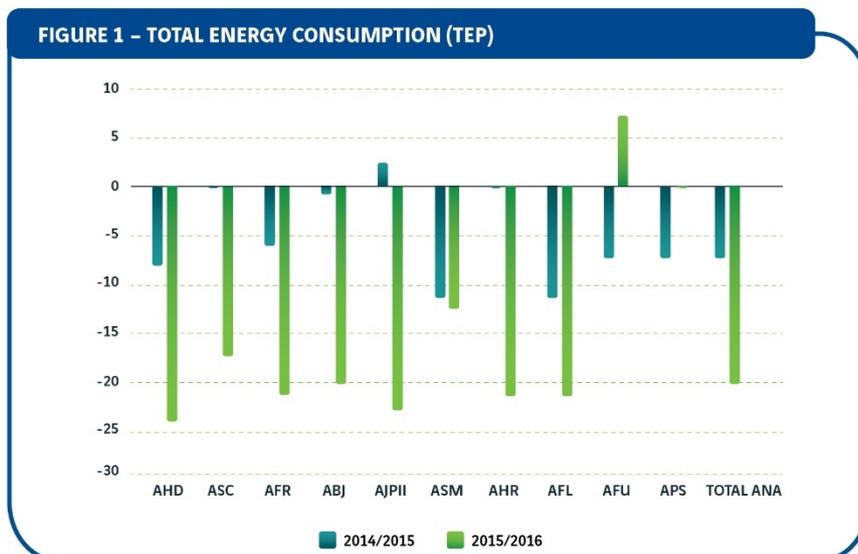
The company's positive performance in managing carbon emissions has been reflected at the level of ANA's accreditation in the ACI independent program, Airport Carbon Accreditation (ACA). In 2016, the company renewed the accreditation of its 10 airports, having eight in level 2 (Reduction) and two in level 1 (Mapping).



4. Energy

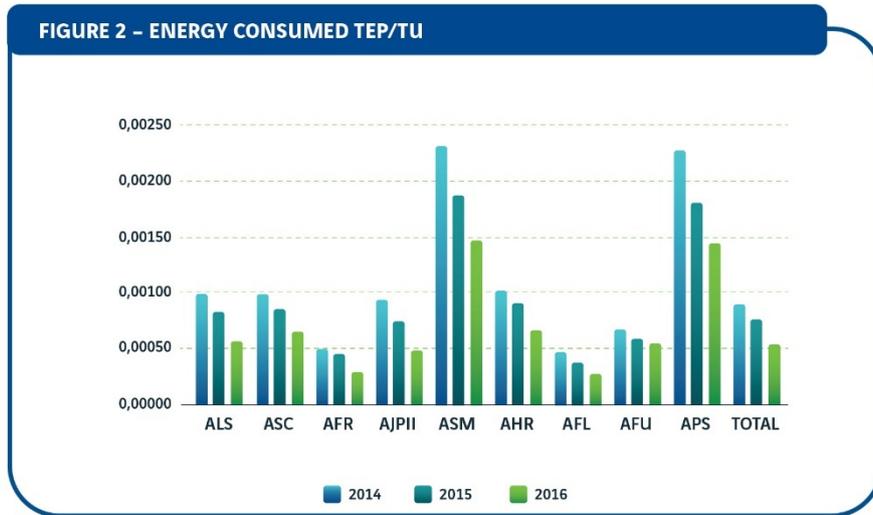
Energy efficiency is particularly important in airport activity, both in terms of economic repercussions and associated with the environmental impacts resulting from atmospheric emissions and greenhouse gases, representing a fundamental aspect of acting towards sustainability.

At ANA, direct energy (gasoline, diesel, natural gas, butane gas and propane gas) and indirect electricity (electricity) a total of 24,458 TEP were consumed in 2016, which meant a 20% reduction in overall energy consumption between 2015 and 2016, due to the actions of consumption reduction and increase of energy efficiency developed within the scope of the Group of Energy Management and Efficiency, although there has been a significant increase of the traffic processed in the ANA airports. This reduction, in absolute terms, was particularly significant at Lisbon, Ponta Delgada, Horta, Flores and Faro airports.



The correct evaluation of the evolution of airports energy consumption needs to be weighted by Traffic Unit 1 (TEP / TU), called specific energy, which is presented in the following figure.

In this case, there was a reduction of the specific energy consumption in all ANA's airports, due to the combination of efforts to reduce global energy consumption and a significant increase in the volume of traffic processed. This reduction was higher in the airports of Beja (-46.8%), João Paulo II (-34.7%), Faro (-33.2%) and Lisbon (-31.5%).



In 2016, ANA started to carry out an energy audit to the company in accordance with the provisions of Decree-Law no. 68-A / 2015, 30 April, as well as the consequent definition of proposal of energy efficiency action plans.

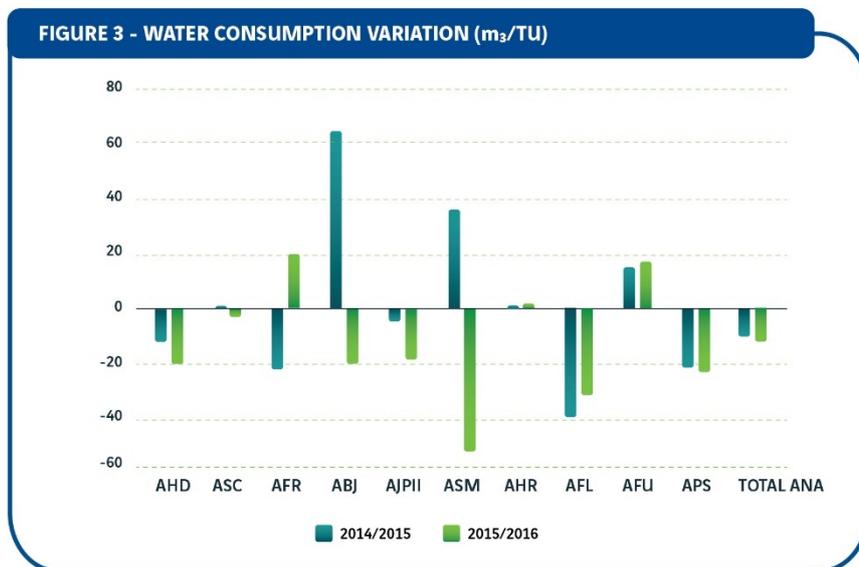
It is also contemplated to carry out a survey of the buildings that are covered by the energy certification under Decree-Law no. 118/2013, and its amendments, and consequent elaboration of a certification plan, in order to ensure the integral compliance with this legislation in the company.



5. Water

During the year 2016, ANA was responsible for the total consumption of 639,543 m³ of water, representing an increase of 1.7% over 2015. This was mainly linked to the increase in the number of passengers processed and, in the case of consumption of Madeira Airport, due to the occurrence of leaks, and in the case of Faro Airport due to the increase of water consumption in the irrigation of landscaped spaces and the existence of leaks due to damage caused by the expansion work of the terminal.

Regarding specific consumption, a total value of 0.0143 m³ / TU was verified in 2016, which means a reduction of 10.9% compared 2015's values. The airports with the greatest reduction in consumption were the Santa Maria airports (-53.1%) and Flores (-30.9%). Only Faro, Madeira and Horta airports showed an increase in specific and absolute consumption. In 2016, Horta's water network was drained at the airport to repair it, as well as the disinfection of the water network in the CEE, near of the Terminal and SLCI, where the water was renewed at least 2 times.



Regarding the production of effluents and rainwater or contaminated runoff, ANA has been investing in the improvement of drainage systems for wastewater and rainwater in its airports, with some reformulation of existing networks, and introduction of programs to monitor the quality of wastewater, rainfall and runoff produced.

The results obtained by the ongoing monitoring programs in 2016 for wastewater, rainwater and runoff water make possible to state that the parameters defined by law were generally complied with.

In this context, it is also worth highlighting the water footprint calculation of the ANA activity, and in 2016 ANA calculated the water footprint of 2015. In the triennium 2013 to 2015, as far as the blue water footprint is concerned, airports with water performance most favourable are Porto Airport, Faro Airport and Horta Airport. Of all the airports of ANA, Beja Airport, with an average value of 10,369 m³ / TU, is the one that presents less favourable water performance, due to the low traffic.

Overall, it should be noted that the average Traffic Unit consumption for ANA decreased compared to 2014, from 0.016m³ / TU to 0.015m³ / TU in 2015.

As a result of the work on this matter, the "Water reuse system for trainings of the emergency vehicles" at the Porto Airport has been in operation since the end of 2014, and a similar project is being implemented at Lisbon Airport.

TABLE2 - BLUE WATER FOOTPRINT (m ³ /TU)				
Airports	WF Blue / TU (m ³ / TU)			
	2013	2014	2015	VARIATION (13-15)
AHD	0.018	0.018	0.017	0.018
ASC	0.006	0.005	0.007	0.006
AFR	0.009	0.013	0.009	0.010
ABJ	1.516	10.858	18.732	10.369
AFU	0.021	0.025	0.030	0.025
APS	0.111	0.100	0.085	0.099
ASM	0.073	0.046	0.051	0.056
AJP	0.020	0.018	0.017	0.018
AHR	0.011	0.011	0.012	0.011
AFL	0.014	0.023	0.014	0.017
TOTAL ANA Airports	0.015	0.016	0.015	0.015



6. Waste

ANA was responsible for the production in absolute terms of 8097.4 tons of waste, an increase of 11.9% over the value of 2015, mainly due to the significant increase of movements and passengers processed in 2016. The increase of the production of waste was registered in all the airports of the network, except for Madeira airport.

At Lisbon airport, the increase in waste production is also related to the works existing there during 2016, and at Faro the increase is also due to the cleaning of the hydrocarbons separators of the Rent-a-cars and the remodelling of the entire terminal.

The increase in waste production at Ponta Delgada Airport is due to the increased production of RCDs resulting from maintenance works and remodelling of parks 1 and 2. At the airports of Santa Maria and Horta, the increase in waste production is still related to processes of obsolete equipment, and at Flores Airport the increase is linked to the routing of a vehicle at the end of life and higher production of waste oils.

At Porto Santo Airport, there was an improvement in accounting for the amount of waste resulting from yard cleanings.

Despite the increase in waste production, there was an overall increase in ANA's waste recovery rate compared to 2015, with an overall recovery rate of 85.2% in 2016.

In terms of specific waste generation per unit of traffic, ANA registered a decrease of 1.7%, and in 2016, the ANA total value was 0.11771 kg / TU.

Regarding the total weight of the hazardous waste, a stabilization with 431.07 tons in 2015 was verified and 432.27 tons in 2016.

It should be noted that the Madeira airports and the Azores airports do not count MSW, as these are collected by the municipal services. In the Civil Terminal of Beja, only MSW are produced and they are also managed by municipal services, so this indicator is not accounted for in this infrastructure.

The practice of forwarding waste to the most appropriate destination was continued, with preference for recovery solutions rather than landfill. This was reflected in the high valuation of waste at Lisbon and Francisco Sá Carneiro airports (above 92%) and the strong increase in the valuation rate at Faro Airport (from 17.7% in 2015 to 49.4% in 2016) - this is related to the change in the destination of a large amount of undifferentiated waste, which was once destined for disposal and started to be valued.

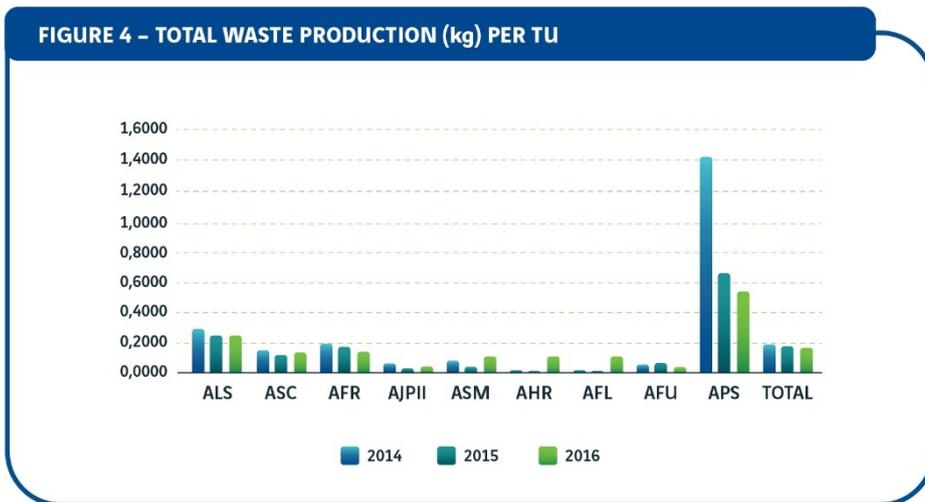


TABLE 3 - WASTE RECOVERY RATE (%)

Airports	2015	2016	Var. 15/16
AHD	86,96	92,38	6,23
ASC	93,49	92,86	-0,67
AFR	17,70	49,40	179,10
DAA	96,35	99,48	3,24
DAM	97,82	97,08	-0,76
APS	99,93	94,35	-5,58
TOTAL ANA Airports	79,18	85,21	7,62



7. Biodiversity

With a corporate strategy imbued with the valorisation and protection of the natural and human environment, ANA actively contributes to the promotion of biodiversity. For this reason, the protection and conservation of species and ecosystems, indispensable for the balance of environmental quality, is an integral part of its business plan.

The Company argues that the promotion of "flag projects" is a decisive activity to develop collective awareness for the challenges of biodiversity and to achieve the mobilization and commitment of all.

Given that airport activity is not compatible with the existence of birds at and near the airport, specific measures are taken to ensure that birds did not interfere with airplanes such as the use of bioacoustics, gas cannons or the control of plant species are implemented. However, ANA also uses falconry as a complementary measure to traditional methodologies, namely in the Lisbon and Faro Airports, where its application is admittedly more efficient.



In view of the above, the application of measures to protect biodiversity near the Airports is very limited. In this

sense, and in a compensatory way, ANA joined the Business & Biodiversity project promoted by the then Nature Conservation Institute, in the framework of which it has sponsored two wildlife recovery centres (CERVAS and RIAS), thus contributing to the conservation of biodiversity in Portugal.

In addition, since Faro Airport is in a protected area (Ria Formosa), and within the scope of its Development Plan, specific measures are implemented, namely:

_Institute of the Sea of the Coimbra University (IMAR) - Assessment of the area of influence of Faro Airport (bird censuses within a radius of 13 km from the airport) and conservation measures applied to nesting birds, in particular Chilreita (*Sternula albifrons*).

_Conduril (and subcontractor, Discoverdi) - Eradication of invasive species (especially acacias and weeping) in areas of the Ria Formosa, defined by PNRF / ICNF.

In the period under analysis, the following partnerships were also carried out with other entities, for various purposes in the scope of biodiversity conservation at Faro airport:

_Algarve University:

Centres for Scientific Research, Centre for Marine Sciences (CCMAR) and Centre for Marine and Environmental Research (CIMA) - Monitoring of surface water, aquatic ecology and phytoplankton of Ria Formosa. They constitute minimizing measures resulting from the Environmental Impact Statement of the Project "Infrastructures for ILS and Runway 10 Approach, Expansion of Platforms and Circulation Paths and Expansion and Remodelling of Faro Airport Terminal".

Ramalhete Scientific Research Station - Use of groundwater from an airport noira, with excellent characteristics, due to the mixture of fresh water with saline intrusion, being excellent for the reproduction and development of cuttlefish in aquaculture - research project scientific at world level. The use of water from this hole was authorized, under an exception regime by the authoritarian entity, since it is destined for scientific use.

PRAVI.org – Control of the wild cat population at the airport, through capture, sterilization and reintegration in the environment, promoting, as a matter of priority, adoption whenever possible.

Regional Health Administration (ARS) of Algarve / ACES Central Algarve - Control of the spread of disease vectors (different species of mosquitoes), mainly from tropical and subtropical areas.

Regional Directorate of Agriculture and Fisheries (DRAP) of the Algarve and Directorate General of

Agriculture and Veterinary (DGAV) - prosecution of harmful insects (*Diabrotica virgifera virgifera* LeConte).

At this airport, the report of the "Bird Strikes Risk Assessment in AFR" was also carried out, based on the last 5 years of records of this type of occurrence (June 1, 2011 to May 31, 2016), which was disclosed Airlines operating in the AFR. As a result of this evaluation, AFR was informed that, although the AFR is located in an area of enormous ecological and, above all, ornithological richness, it still presents the lowest risk category for this type of occurrence (Level 1). In view of this category of risk and in accordance with the recommendations of the International Bird Strike Committee, existing practices at the airport should be maintained for local wildlife management (gas cannons, bioacoustics, visual dispersion techniques and habitat and bird management of prey in free flight - Falconry).

At the Lisbon airport, surveys were conducted during 2016 for swallows and swifts, in addition to the "Study to assess the situation of pigeons on the outskirts of the airport and reduction of food availability in the runway areas".

The implementation of the action plan included in the study of Evaluation of the Interaction between Avifauna and Airport Operations at the Madeira and Porto Santo Airports was completed, which was concluded in 2015, with the objective of closing the existing gap in knowledge and understanding of the use of Madeira and Porto Santo Airports by the birds, seeking to ensure the safety of aeronautical operations.



8. Environmental Management of Works

In 2016, an Environmental Management Plan was implemented in the Company, in force since 2004, with the objective of ensuring the implementation of environmental requirements / measures to minimize environmental impacts through the timely definition of functions, responsibilities and procedures in the phases of Environmental Impact Assessment, Execution Project, Contest Process and Execution of the Work.



9. Environmental Awareness

ANA is committed to environmental awareness as a key tool to promote behaviour change, developing several actions, either informational or requesting the active participation of its employees, tenants, customers and / or neighbouring community.

In 2016, at the cooperative level we highlight the participation in the event "Bike to Work day", linked to the theme of sustainable mobility, as well as the dissemination of news on the intranet on World Environment Day. Locally, airports also promote various initiatives. The commemoration of the World Environment Day was an example of this at the Lisbon Airport, linked to the theme of reducing consumption and delivering it to plant workers. In turn, Porto Airport participated in the European Waste Prevention Week 2016, with the dissemination of exposure and video allusive to the theme at the airport. Also in the terminal of this airport were announced monthly the results of the water analysis and information on environmental management of the airport. In addition to the "Environment at the Airport" Exhibition published in the public areas of the Terminal (departures and arrivals), in the scope of the World Environment Day, this year also included actions to raise awareness of waste destined for catering concessionaires and cleaning service providers. And the beginning of the operation of Organic Vegetable Garden for employees of Porto Airport.

At Faro Airport, different awareness actions were carried out, namely: the celebration of the World Environment Day, in partnership with RIAS, with the theme "Fight against illegal trade in wild fauna and flora", with the distribution of didactic games built with Recycled materials. The International Biodiversity Day was also celebrated at this airport, also in partnership with RIAS, with the release of a round-winged eagle. The results of the "Birdstrikes Risk Assessment in AFR" study, developed based on the registration of this type of occurrence between 1 June 2011 and 31 May 2016, were also disclosed to airlines.

Already at the Azores airports, World Environment Day was celebrated with the promotion of the "Reuse solidarity" campaign with the invitation to the community to donate articles or material goods in good condition (clothing and shoes for children or adults, books and school supplies, childcare items, toys, etc.), promoting the implementation of the 4 Rs policy (reduce, reuse, recycle and recover). The materials collected were donated to social solidarity institutions on each of the islands of ANA airports. The results of the control of water quality for human consumption at the airport of Ponta Delgada were also disseminated, informing all workers, concessionaires, service providers and customers of the quality of the water distributed in the airport network. In addition, awareness-raising actions were carried out for internal employees and service providers on good environmental practices, focusing on waste management and spill action. Once again, the Azores airports participated in the SOS Cagarro Campaign between October and November.

At Madeira and Porto Santo airports, awareness-raising actions were carried out on the theme of reducing water consumption and waste production. The awareness campaign was also held with the theme "Sustainability, do your part", with bottle distribution for the use of drinking water from the network, dissemination of environmental performance indicators to employees and improvement of environmental awareness / control of third parties with the provision of a platform for the exchange of environmental information between them and the management of the airports of Madeira and Porto Santo.

At all airports, awareness-raising actions were carried out for service providers, customers and concessionaires regarding waste management, management of hazardous products and reduction of water and energy consumption through environmental monitoring visits.



10. Conclusions

In summary, the environmental performance of the airports in 2016 allows us to infer a clearly positive balance of the company's environmental management system, which is the result of the various environmental actions that are included in structured plans by the environmental areas, as a way of guaranteeing the due monitoring and follow-up by the various stakeholders.

The year 2016 posed increasing environmental challenges as traffic increased exponentially, imposing an increase in the number of occurrences and activities to be developed in order to minimize possible impacts and minimize consumption, betting in parallel with successive gains in environmental efficiency. It was from this effort that it was possible to reduce the average consumption of energy, water and even waste by TU, in addition to the significant increase in the rate of recovery of waste achieved globally by the company.

Also noteworthy is the important constructive changes underway at Faro airport, which introduced greater pressure on the management of environmental matters, in addition to the continuous changes in the terminal area of Lisbon Airport.

In any case, it is important to highlight the importance of local and corporate environmental actions to reduce energy consumption, CO₂ emissions, water, waste reduction, noise emissions and gaseous emissions, as well as related compensation actions with the promotion of biodiversity and environmental awareness actions of all airport stakeholders.

Lastly, due to what is foreseen for 2017, actions to maintain and increase the efficiency in the management of environmental matters at ANA, in articulation with the various units, of a local and corporate character, are now in the pipeline.

