

*REPORT ON PERFORMANCE OF THE FIFTH YEAR
OF THE ENVIRONMENTAL PROTECTION PLAN
FOR THE ROME AIRPORTS FIUMICINO AND CIAMPINO*

INTRODUCTION

ADR is constantly committed to supplying quality services in continuous observance of the environment, aware of the need to combine increase in value and economic growth with protection of the environmental heritage. With a view to continuously improve and reduce our impacts on the environment and on the surrounding communities, the ADR Group is investing more and more to switch over from a purely regulatory compliance approach to pro-active management of environmental problems.

With the final accounting of the fifth year, the first sub-period regulated by the Economic Regulation Agreement comes to an end and an overall assessment of the results attained can be made. The performance of the environmental indicators regarding both the Fiumicino and Ciampino airports for the period July 2012 - June 2017 shows a steady growth trend and leads to a final balance that on the whole is fully above the set goals.

This performance is basically due to ADR's undertaking, as it has always aimed at the goal of doing everything possible over and beyond the targets set in the Economic Regulation Agreement. In this area, it should be remembered that defining a certain tariff context made it possible to bring about a true change in stride regarding both investments and process management.

ADR has worked on sustainability and environmental themes while also devoting itself to areas that the indicators set out in the Economic Regulation Agreement signed in 2012 do not consider. In 2016, ADR published its Sustainability Report. It was prepared following the most advanced reporting systems (GRI 4) and documented the results attained, outlined its commitments for ongoing improvement and explained the main actions taken. To this regard, it is best to spend a few words on some of the most significant aspects of ADR's environmental undertaking before analyzing the results attained and actions taken in the main environmental areas:

- the low land consumption that distinguishes Leonardo da Vinci is the result of a precise strategic orientation. Today the airport covers an area of approximately 1,500 hectares, meaning that its use of land is absolutely one of the lowest in Europe. All infrastructural works that affected the quality performance offered to passengers and recorded by ACI EUROPE's results in 2016 took place while building the airport on top of itself, without using 1 square meter more of land. ADR holds this supremacy of ratio between runways, passengers and land, which will also be retained with the building of the new runway. The ratio between land used and passengers served is extremely virtuous, coming to 0.5 m² per passenger, a figure 15% lower than the average of the other EU hubs.

- the green approach to development of new infrastructures. ADR referred to the most advanced environmental standards when designing and developing all new ADR infrastructures. The new departure area E is distinguished by its energy consumption that falls in line with the top international standards. In 2016, the new general aviation area was built adopting the LEED (Leader in Energy and Environmental Design) at gold level at the Ciampino airport; the same certification was used to design the new Pier A departure area at Fiumicino. LEED is an international standard that ensures that the new infrastructures built observe the most advanced and strictest environmental criteria in the world. For example, this means that over 95% of all waste produced by the worksite is recovered and put back into the production process. The new infrastructures will be built using at least 30% of the material coming from recycling processes, in this way reducing consumption of raw material and the impacts made by the extraction and machining processes. Most of these materials will be procured from local (regional) resources so that all impacts on the environment caused by transportation will be reduced. The most advanced environmental protocols in the world will be adopted for energy consumption as well.
- The new Environmental System ADR procured for itself is further confirmation of the emphasis given to the environmental themes. The Environmental System certification was renewed in compliance with the most advanced ISO 14001:2015 standards at the end of July 2017. The system was also entirely reviewed to ensure a “systemic” approach to the environmental themes, which is able to “regulate” and control the conduct of all key figures working inside the Rome airports. The objective is to increasingly ensure that all operators conduct themselves properly and to turn the values of sustainability and respect for the environment into guiding values for anyone who works inside the Rome airports.

WASTE MANAGEMENT

“Separate waste treatment” was an absolute priority for ADR during the five-year period that has just elapsed. This was particularly true for the Fiumicino airport, whose performance not only allowed the set goal to be achieved for the fifth year, but which places the “Leonardo da Vinci” airport among the most virtuous in Europe. As proof of the importance that the Group assigns to the waste issue, in October 2014 the operational stage of the new “porta a porta” (door to door) separate waste collection service called “la raccolta differenziata



vola” (separate waste flies) was started at the Fiumicino airport. By implementing integrated management, the initiative requires that all waste produced at the airport (coming from activities regarding the commercial services, sub-concessionaires, institutional bodies, ADR offices, etc.) be collected by a single party at the production point using special equipment placed at the users' premises (containers, plastic and wooden cases, bags). A fee varying according to the amount and type of waste produced and the type of service the user selects (collection frequency: large, medium or small) was associated with the “door to door” collection service in order to make airport users aware of the issue and to reduce waste production.

The goals of the project are:

1. increase the percentage of separate collection;
2. reduce the non-separate waste sent to disposal;
3. improve the product quality of the collected waste.

Because of the attention that ADR pays to the waste management issue, the percentage of separate collection at Fiumicino fully met the goal set at the end of the five-year period.

With the intention of continuing the path taken to increase the percentage of waste sent for recycling, the collection and disposal process management was optimized in 2016 and 2017, and the areas set aside for the delivery of waste by third parties were renovated. Ever increasing attention paid to optimum management of the waste collection and disposal put the Ciampino airport as well in a position to pursue constant improvement in the percentages of separate collection, and in the first half of 2017 it reached the percentage of 40% of properly separated waste.

WATER QUALITY

With reference to the waste water (COD, BOD5 and SST) quality indicators, the performance recorded fully meets the goals set out in the Economic Regulation Agreement so that observance of the corresponding legal limits was guaranteed with very broad margins.

ADR's commitment in reducing the impact of airport activities in the local environs is also demonstrated by the presence of four oil extraction plants whose purpose is to purify the rainwater runoff of the runways and aprons from any pollutants before putting it into the receiving body of water. In 2015, 13 additional stormwater plants were also built, resulting in enhanced effectiveness of the rainwater treatment system.

CO2 EMISSIONS

As confirmation of the pro-active approach that the company adopts, which goes beyond simply observing the indicators proposed in the current regulations, since 2011 ADR has voluntarily subscribed to the certification system called Airport Carbon Accreditation (ACA) promoted by ACI Europe (Airport Council International).

This certification system envisages four increasing accreditation levels depending on the mapping and quantification of the emissions produced and the relevant actions taken to reduce them:

- “1 MAPPING”: verification of emissions under the direct control of the airport operator;
- “2 REDUCTION”: in addition to the level 1 requirement, creation of a plan to reduce emissions in order to continuously improve emission levels;
- “3 OPTIMIZATION”: in addition to levels 1 and 2, calculation of the emissions produced by the airport stakeholders and their involvement in the reduction plans;
- “3+ NEUTRALITY”: in addition to levels 1, 2 and 3, attainment of the “Carbon Neutrality” goal for emissions under the direct control of the airport operator.



As early as 2014 the Fiumicino airport obtained the maximum accreditation level, “3+ Neutrality”, by compensating the direct emissions with the purchase of “carbon credits” coming from renewable energy production projects, reduction of greenhouse gas emissions and implementation of energy saving lighting systems.



In 2015, the Ciampino site reached accreditation level 3 (“Optimization”), which comprises the measurement of all direct and indirect emissions and demonstration of the absolute or relative performance improvements achieved.

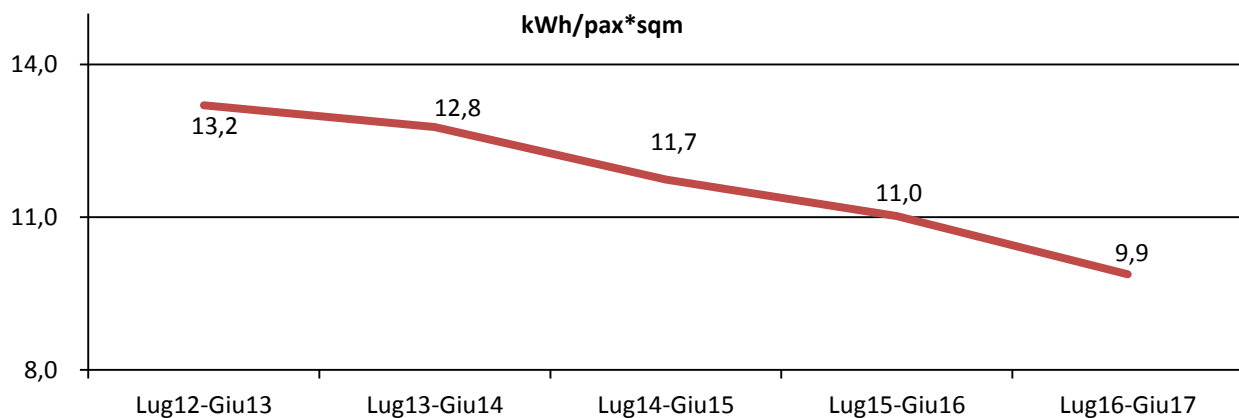
The reports that ADR drew up to get these certifications were validated by an external inspector recognized by the international body that supervises their issue.

ENERGY CONSUMPTION

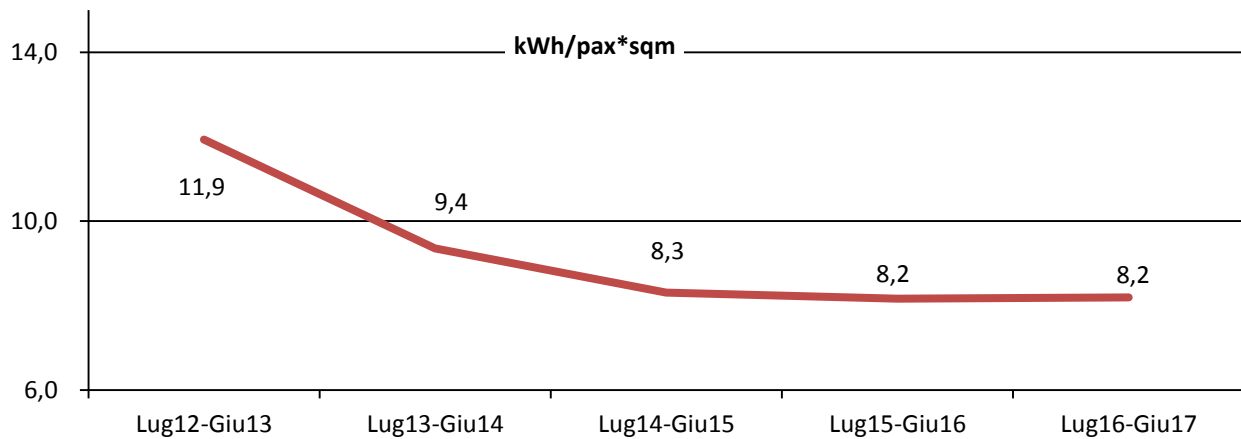
A decreasing energy consumption trend has been recorded at Fiumicino in the last few years due to significant action taken to improve energy efficiency, implemented on an on-going basis over the years. On a consistent basis with previous years, activities continued for the replacement of the lighting units using LED technology in numerous areas of the terminal and on runways and aprons; work also continued for the replacement of the motors with the high-efficiency ones of the electromechanical installations and the baggage sorting system, as well as the installation of inverters and extraordinary maintenance work on the refrigeration units and the cooling towers.

At Fiumicino, the airport infrastructures of the passenger terminals were increased by about 30% in terms of area served, with the opening of the new Pier E, the front building and its BHS, in addition to the new T1 BHS, in 2016.

The kWh/(passenger*m2) indicator dropped by 25% compared to the first year of the Economic Regulation Agreement. This result was made possible by the efficiency measures described above and by a highly efficient energy profile at the new buildings.



Energy efficiency activities continued in the departures area and the external areas at the Ciampino airport by replacing the conventional light bulbs with new technology, high-efficiency LED technology installing inverters in the air-conditioning system on the air treatment units and implementing the so-called freecooling system that, by using outside air, reduces energy consumption of the air-conditioning system. A system was also installed to monitor air-conditioning and heating at the airport in order to allow for the automated management. Owing to the interventions described, the kWh/(passenger*m2) indicator dropped by 31% compared to the first year of the Economic Regulation Agreement.



With a view to making it business increasingly sustainable, ADR started the pilot project Smart Grid in 2014. It involves the creation of an energy island that accumulates electricity from systems having renewable sources (photovoltaic and micro-mini wind). The project came to a positive conclusion and the further developments will contribute to reducing energy consumption and to mitigating environmental impact.

NOISE POLLUTION

Airport noise has continued to be monitored at both Fiumicino and Ciampino, in compliance with the text of the Economic Regulation Agreement and legal requirements. The relevant indicators, “Noise detection central units” and “Noise monitoring network uptime”, have revealed performance at both airports in line with the objectives stated in the ERA.

In order to curb the environmental impact in terms of noise pollution, in 2016 ADR, with the collaboration of La Sapienza University of Rome, created a simulation model that predicts the acoustic “climate” with a good level of approximation and, as a result, allows the steps necessary to prevent or mitigate the onset of airport noise impact problems to be promptly planned. Use of the system activated extremely productive interlocution with the company’s operating structures and with ENAV that led to carrying out helpful actions to mitigate the acoustic impact of the operations when there is a greater peak in operations.

In 2016, the number of operational central units rose to 19 (of which two are repositional) at Fiumicino and ten (of which two repositional) at Ciampino in order to further improve the noise monitoring system’s performance.

ENVIRONMENTAL INDICATORS July 2016 - June 2017

		FIUMICINO	
		Performance July 2016 / June 2017	Objective
1) Noise detection central units #	No. fixed detection central units for noise/aircraft movements x 100,000	6.06	6.05
2) Noise monitory network uptime #	% time operating out of airport opening hours	93.14%	93.00%
3) Separate waste treatment #	100 kg units of waste collected separately/total 100 kg units of waste	80.0%	36.0%
4) a. Waste water treatment - COD (mg/L of O2) #	% compliance with the Legal Limit (125 mg/L) of the average annual concentration of oxygen necessary for the chemical oxidation of the organic and inorganic compounds in the waste water samples of the treatment plants	22.6%	45.0%
4) b. Waste water treatment - BOD5 (mg/L of O2) #	% compliance with the Legal Limit (25 mg/L) of the average annual concentration of oxygen necessary for the biochemical oxidation of the organic compounds in the waste water samples of the treatment plants	26.5%	64.0%
4) c. Waste water treatment - Total Suspended Solids (mg/L) #	% compliance with the Legal Limit (35 mg/L) of the average annual concentration of total suspended solids in the waste water samples of the treatment plants	19.2%	22.0%
5) Energy efficiency #	KWh of energy used in the terminal / m3 of terminal	131.75	162.0
6) Use of renewable energy sources **#	KWh of energy not produced by renewable sources/kwh of energy used by the airport	1.000	0.990

** value "0" at base year – the unit of measurement was reversed as to the one set out in the ENAC guidelines agreed on with ENAC in order to remedy the "leverage effect".

ENVIRONMENTAL INDICATORS July 2016 - June 2017

		Ciampino	
		Performance July 2016 / June 2017	Objective
1) Noise detection central units #	No. fixed detection central units for noise/aircraft movements x 100,000	18.11	17.87
2) Noise monitory network uptime #	% time operating out of airport opening hours	93.6%	93.0%
3) Separate waste treatment # (1)	100 kg units of waste not collected separately/total 100 kg units of waste	62.0%	85.0%
4) Waste water treatment #	% average annual concentration of oxygen necessary for the chemical oxidation of the organic and inorganic compounds in the waste water samples of the treatment plants	100.0%	100.0%
5) Energy efficiency #	KWh of energy used in the terminal / m3 of terminal	124.37	155.00
6) Use of renewable energy sources #	KWh of energy not produced by renewable sources/kwh of energy used by the airport	1.00	1.00

¹ value 1% at base year – the unit of measurement was reversed as to the one set out in the ENAC guidelines agreed on with ENAC in order to remedy the “leverage effect”.