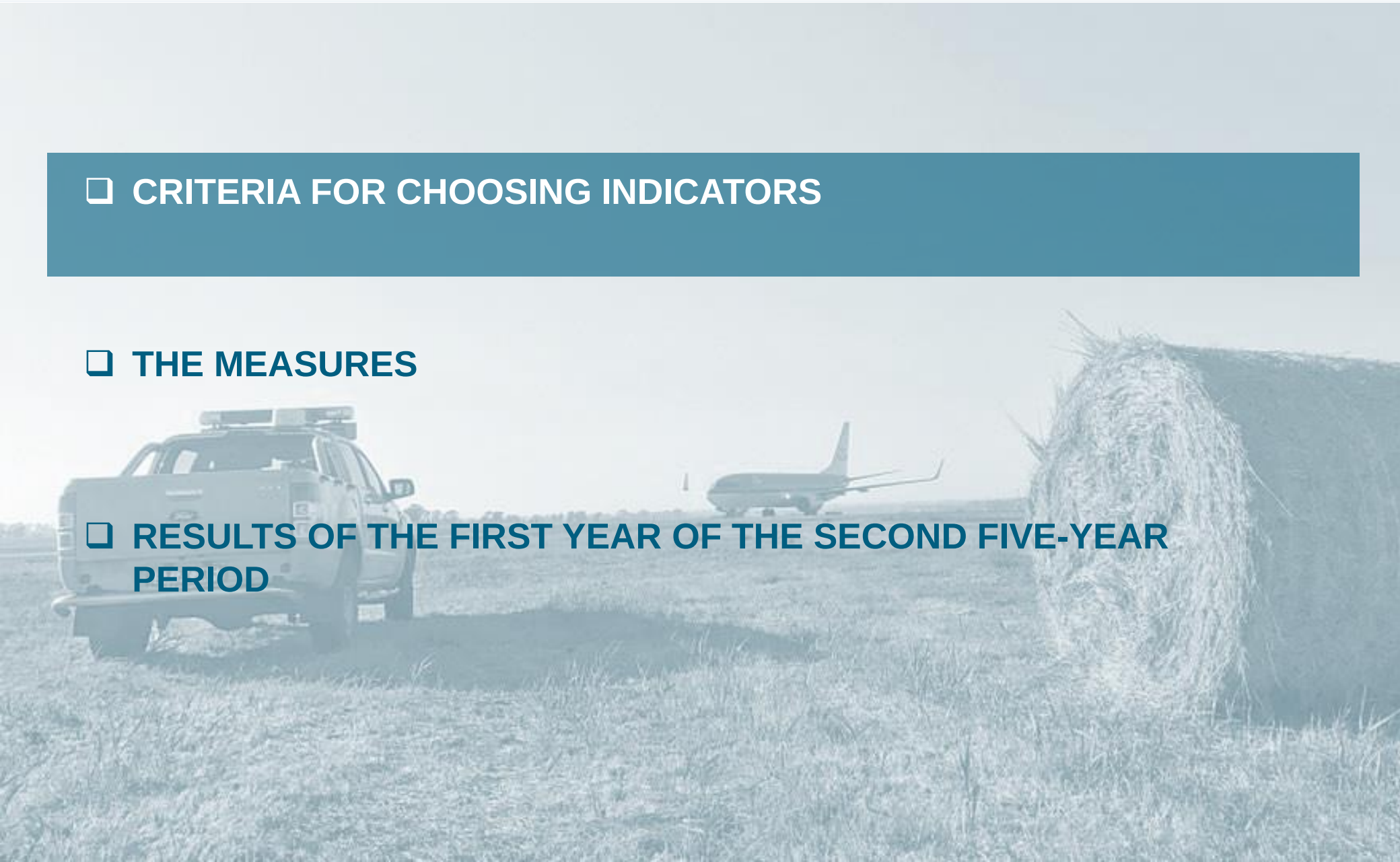
2019 Charges: Proposal

Annual Environmental indicators and Action Plan

(Yr 1 of II five-yr period)

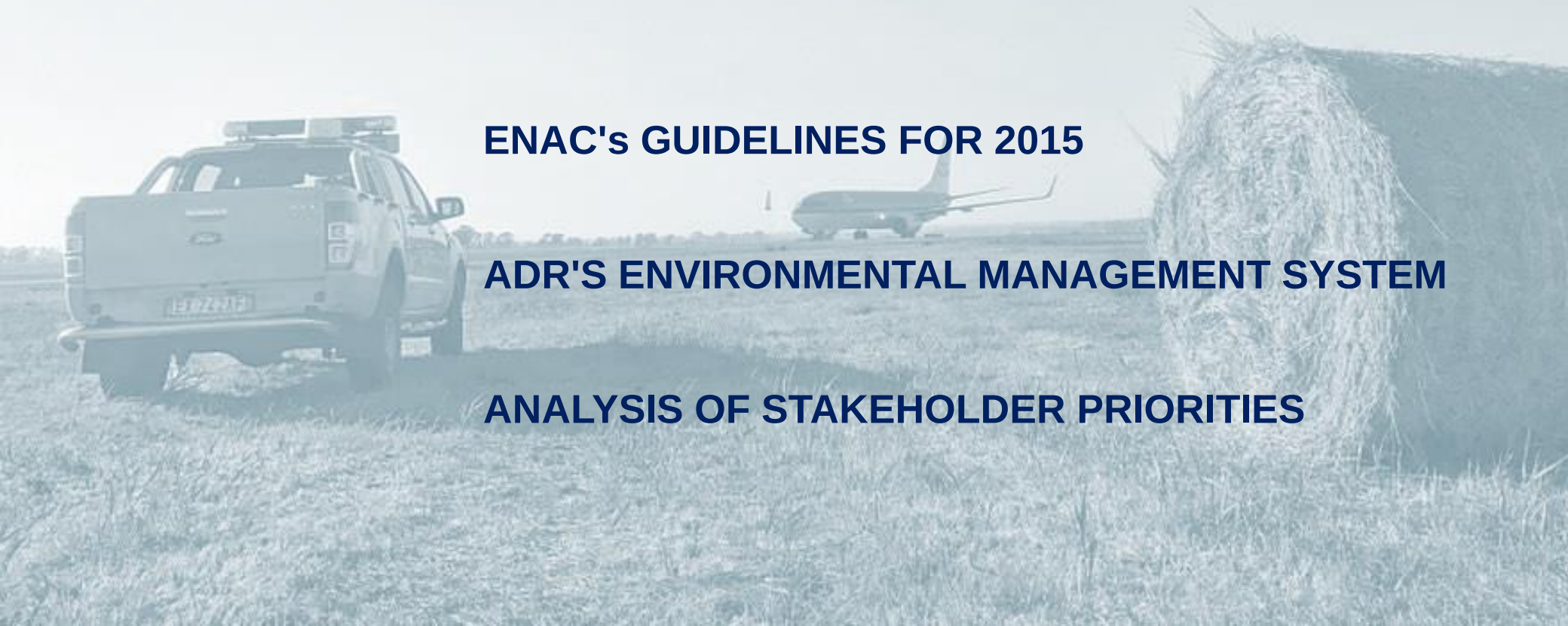
August 2018

- CRITERIA FOR CHOOSING INDICATORS
- THE MEASURES
- RESULTS OF THE FIRST YEAR OF THE SECOND FIVE-YEAR PERIOD



CRITERIA FOR CHOOSING INDICATORS

- The Planning Agreement with ENAC is an opportunity to confirm and strengthen ADR's commitment to respect the environment and to encourage sustainability in its business. To choose and define the environmental indicators to add to the 2017-2021 Planning Agreement, ADR took into account the following 3 factors:



ENAC's GUIDELINES FOR 2015

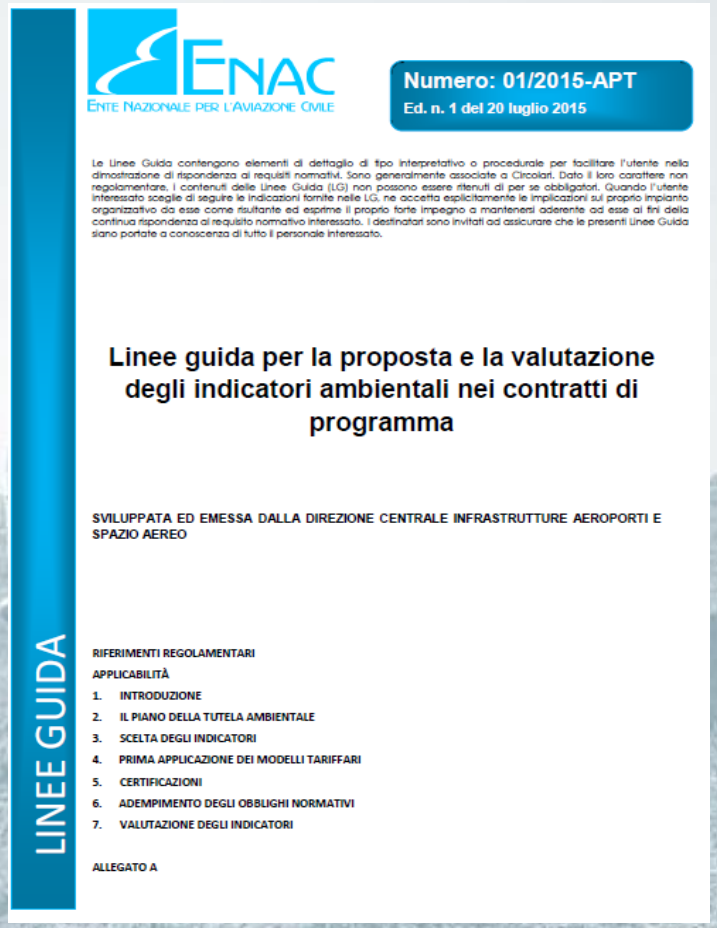
ADR'S ENVIRONMENTAL MANAGEMENT SYSTEM

ANALYSIS OF STAKEHOLDER PRIORITIES

ENAC's GUIDELINES FOR 2015

MORE EFFECTIVE AND MEANINGFUL INDICATORS

In July 2015 ENAC issued **new GUIDELINES** to define the methods to be used to prepare/assess environmental protection plans



ENAC
ENTE NAZIONALE PER L'AVIAZIONE CIVILE

Numero: 01/2015-APT
Ed. n. 1 del 20 luglio 2015

Le Linee Guida contengono elementi di dettaglio di tipo interpretativo o procedurale per facilitare l'utente nella dimostrazione di rispondenza ai requisiti normativi. Sono generalmente associate a Circolari. Dato il loro carattere non regolamentare, i contenuti delle Linee Guida (LG) non possono essere ritenuti di per se obbligatori. Quando l'utente interessato sceglie di seguire le indicazioni fornite nelle LG, ne accetta esplicitamente le implicazioni sul proprio impianto organizzativo da esse come risultante ed esprime il proprio forte impegno a mantenersi aderente ad esse ai fini della continua rispondenza al requisito normativo interessato. I destinatari sono invitati ad assicurare che le presenti Linee Guida siano portate a conoscenza di tutto il personale interessato.

LINEE GUIDA

Linee guida per la proposta e la valutazione degli indicatori ambientali nei contratti di programma

SVILUPPATA ED EMESSA DALLA DIREZIONE CENTRALE INFRASTRUTTURE AEROPORTI E SPAZIO AEREO

RIFERIMENTI REGOLAMENTARI
APPLICABILITÀ
1. INTRODUZIONE
2. IL PIANO DELLA TUTELA AMBIENTALE
3. SCELTA DEGLI INDICATORI
4. PRIMA APPLICAZIONE DEI MODELLI TARIFFARI
5. CERTIFICAZIONI
6. ADEMPIMENTO DEGLI OBBLIGHI NORMATIVI
7. VALUTAZIONE DEGLI INDICATORI

ALLEGATO A

GROUP I - PRIORITY TARGETS
- Energy saving
- Generation of electricity using renewable sources
- Reduction of emissions
- Noise abatement
- Treatment of waste water

GROUP II - NON-PRIORITY TARGETS
- Energy saving
- Renewable sources
- Waste management and treatment
- Treatment of waste water
- Soil

GROUP III – SECONDARY TARGETS
- Personnel training
- Indirect measures that impact the environment
- Efficiency of materials

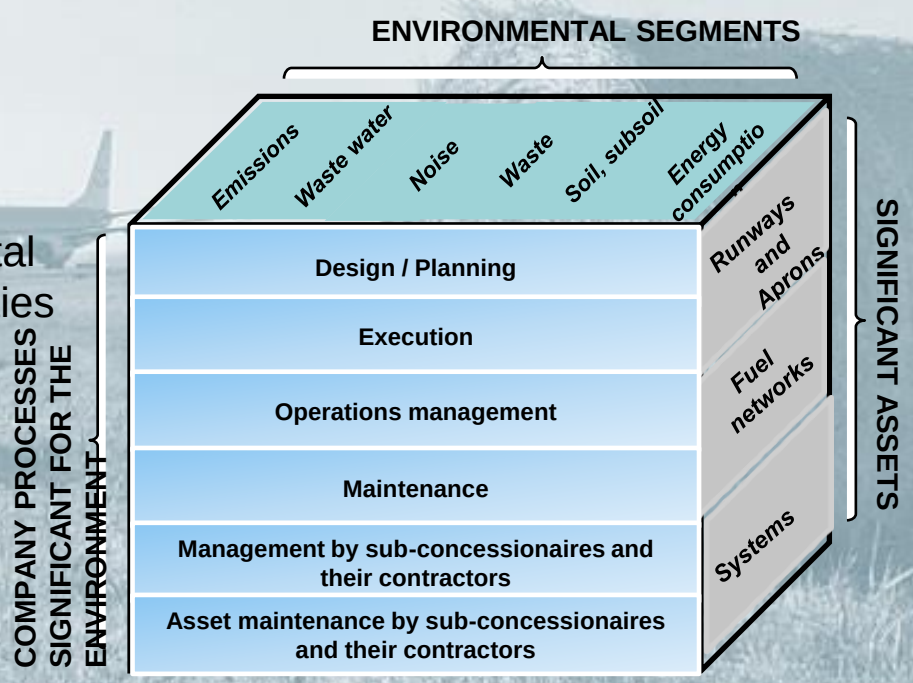
ADR'S ENVIRONMENTAL MANAGEMENT SYSTEM

UNI EN ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEM (SGA):

It provides a clear, complete, concise and up-to-date picture of both the most relevant aspects concerning the environmental impact of the company's business, and of the most significant organizational and management aspects

2017: SGA ADAPTATION ACCORDING TO THE ISO 14001:2015 STANDARD

- Systemic approach: involvement of all the operators
- Control system by means of:
  - ✓ performing checks in the field on proper environmental management of the activities carried out by third parties operating at the FCO and CIA airports
  - ✓ documentary analysis of environmental compliance
- Risk-based structure



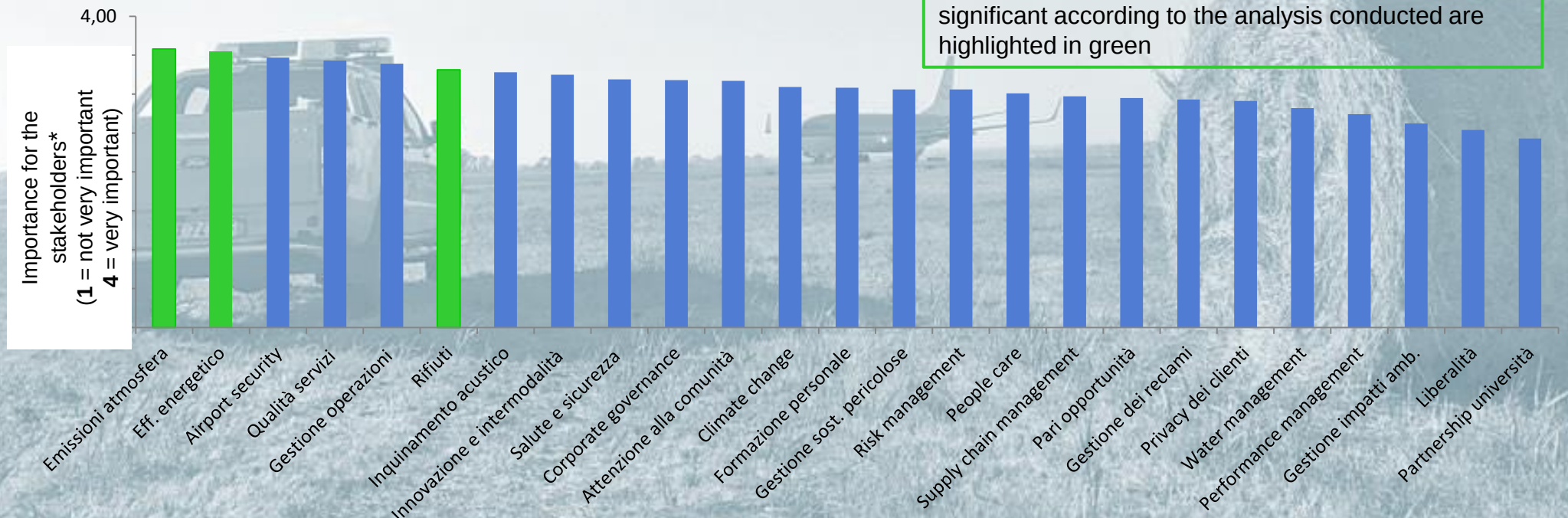
ANALYSIS OF STAKEHOLDER PRIORITIES

During the base year taken as reference for the final accounting of the indicators, we analyzed the priorities of ADR's stakeholders, by interviewing a significant cross-section of employees, local and national institutions, environmental associations and consumers.

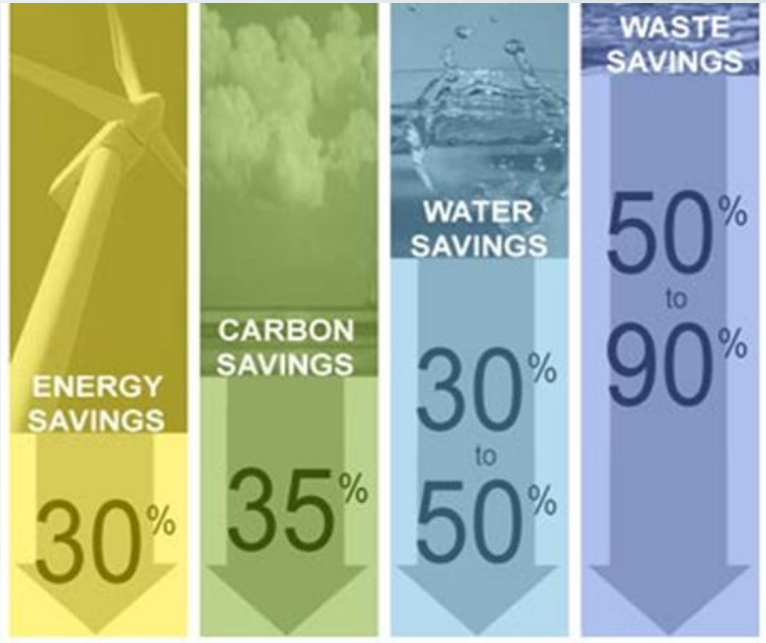
The analysis carried out on 25 factors showed that environmental issues are perceived as being particularly important.

The two areas found to be of greater importance are atmospheric emissions and improving energy efficiency. In sixth place, proper management of waste was also found to be a particularly sensitive topic.

* the environmental themes considered particularly significant according to the analysis conducted are highlighted in green



ADDITIONAL PRIORITIES: *efficient and sustainable design*



2016

- Building of the new Departure Area E, an infrastructure of about 150.000 m2 built according to the most advanced criteria of environmental respect;

2017

- Inauguration of the general aviation area of CIA, designed, built and managed according to the LEED-Gold level standards;

2018

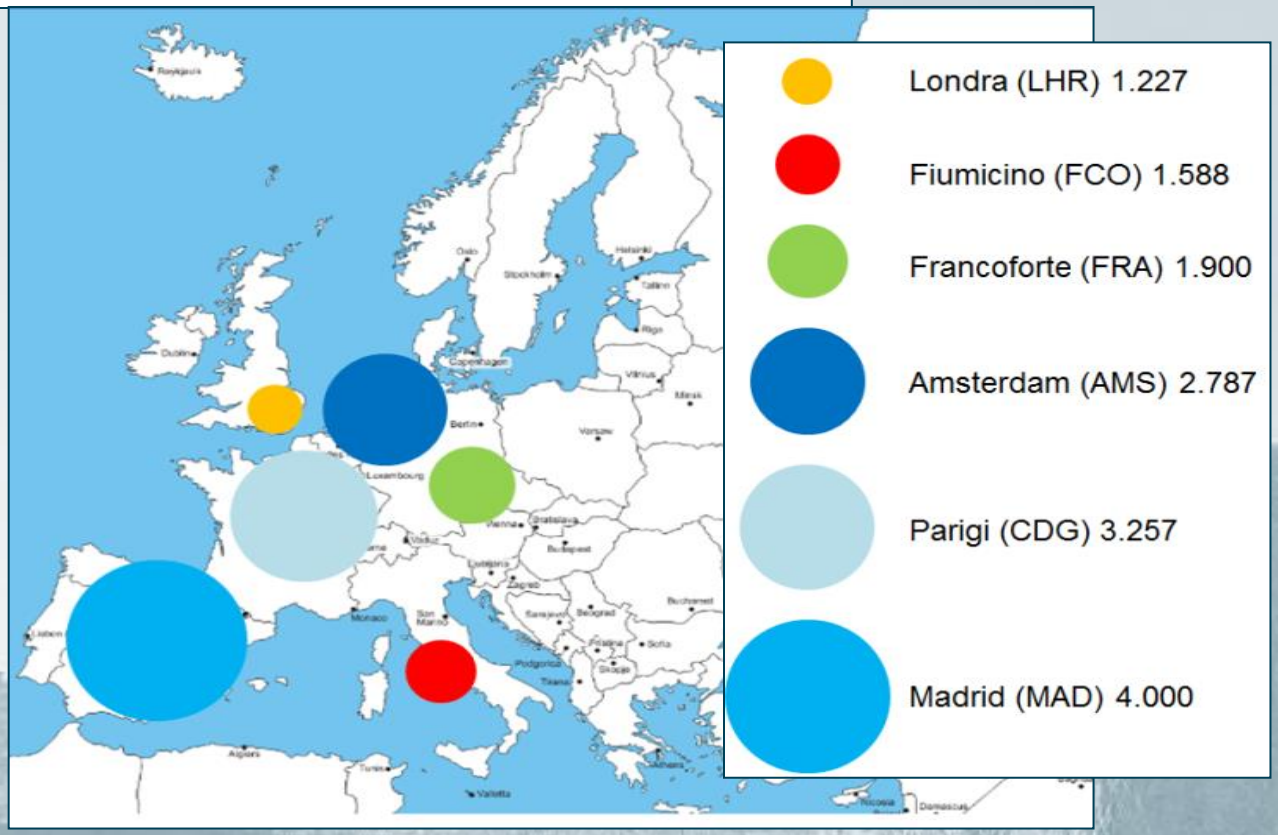
- Departure Area A - LEED-Gold level certification (work in progress);
- Business City - LEED-Gold level certification (work in progress).

- Voluntary certification programme for sustainable buildings
- It promotes the construction of environmentally friendly, energy efficient buildings, capable of integrating with the environment with the least possible environmental impact
- It allows the evaluation and monitoring of buildings during their entire life cycle (design, construction, operation)
- It ensures significant savings in terms of energy, CO2 emissions, drinking water consumption, waste production

Leader in
Energy and
Environmental
Design

ADDITIONAL PRIORITIES: *controlling land consumption*

Land occupied by the main European airports [ha]



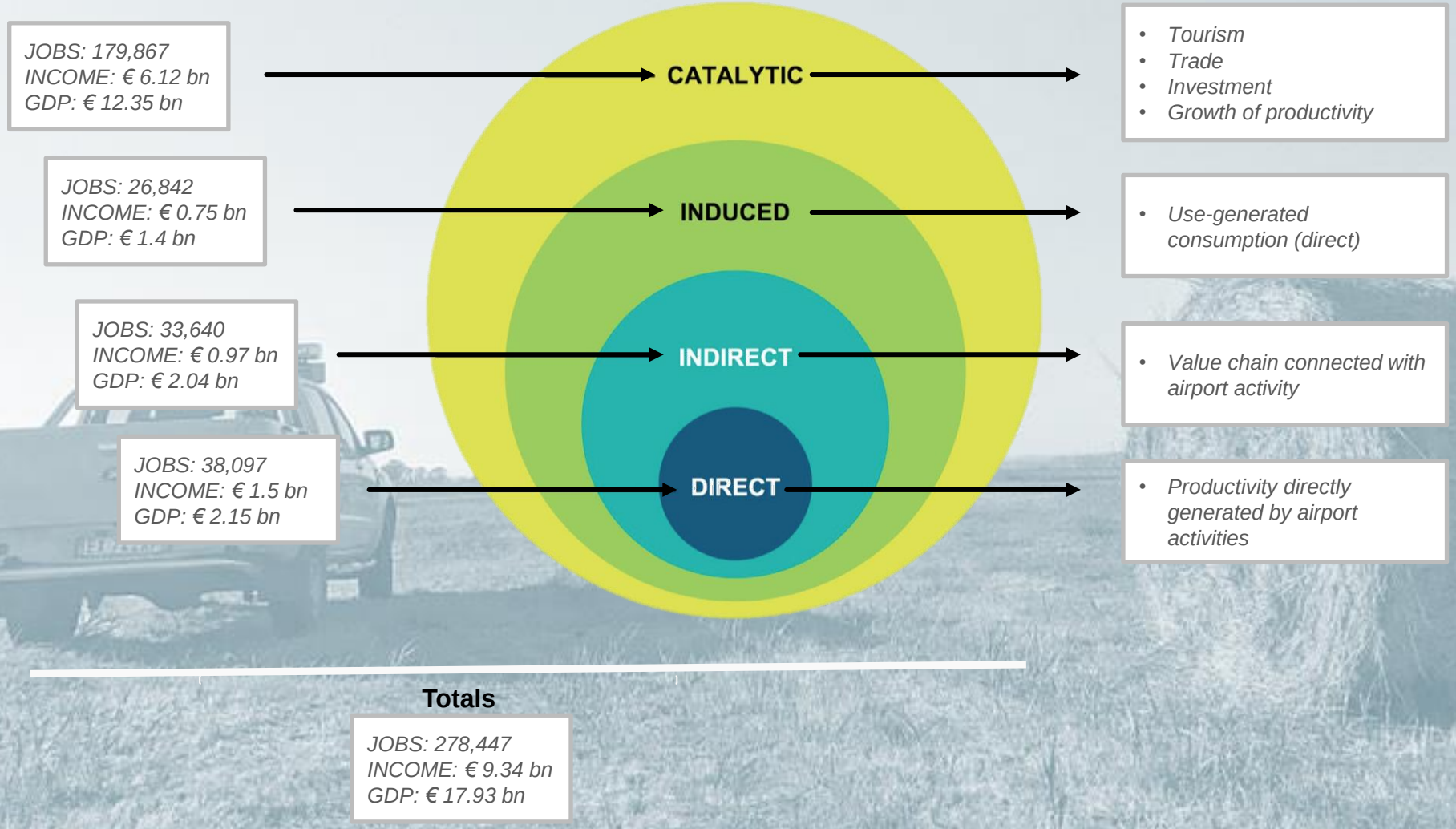
ROME FCO BEST AIRPORT 2018 — AIRPORTS COUNCIL INTERNATIONAL — WINNER

The infrastructural interventions that led to the improvement of the quality offered to passengers (as shown by the rankings of ACI Europe in 2018) ***have not required a single square meter more of land***

Today, the airport occupies just over **1,500 hectares**, with a per-passenger use of land area among the lowest in Europe in absolute terms. The ratio between the land area used and the passengers served is virtuous, equal to **0.39 m2 per passenger**, 15% lower than the average of the other EU hubs. This is an indicator that ADR intends to keep at the best EU levels even after building the new runway

ADDITIONAL PRIORITIES: *airport economic impact on the country system*

One of ADR's priorities/opportunities is to contribute to the development of the country with development of the airport area, paying maximum attention to the respect of the environment and sustainability.



Source: ERGO processing of 2017 traffic figures given by: Economic Impact of European Airports - A Critical Catalyst to Economic Growth

DEFINITION OF INDICATORS

Taking into account the Environmental Analysis, the guidelines set by ENAC and the priorities highlighted, ADR has identified 5 indicators on which it concentrates its commitment:

1. **Saving energy and reducing emissions into the atmosphere**
2. **Maximizing the percentage of separate collection in the terminals**
3. **Replacing company vehicles with low-emission vehicles**
4. **Reduction of consumption of drinking water**
5. **Checking the observance of the environmental clauses included in contracts**

- CRITERIA FOR CHOOSING INDICATORS
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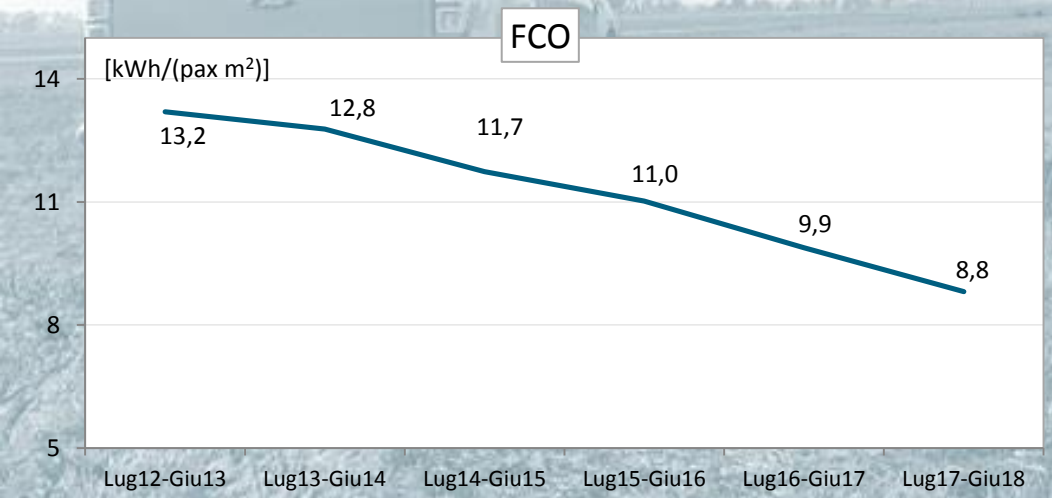
1.a – Energy saving

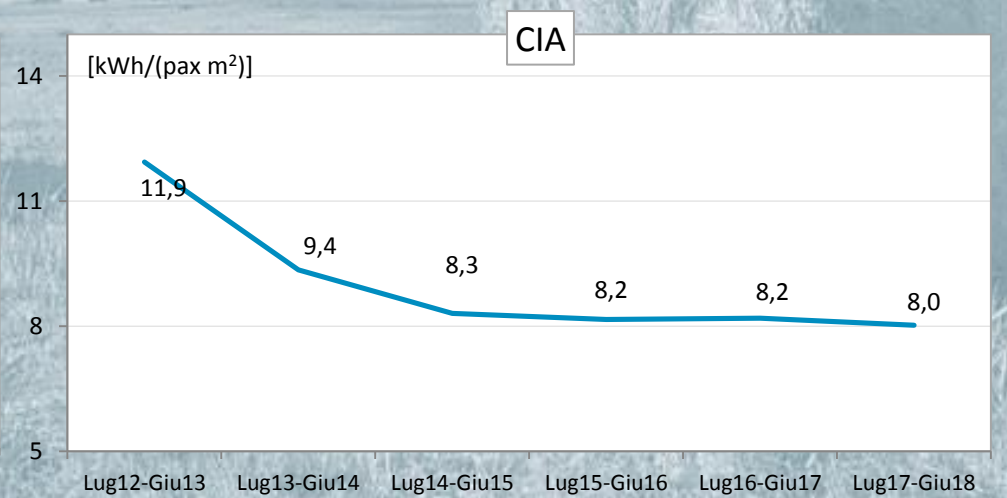
FIUMICINO

- replacement of the conventional lighting units with ***LED*** technology units in many terminal areas, on the outside roads and in the lighthouse towers (air side);
- introduction of FDD software that predicts malfunctioning of the air conditioning systems with AI logics;
- installation of inverters;
- replacement of the refrigeration units and absorbers with **high efficiency units**

CIAMPINO

- replacement of the conventional lighting units with ***LED*** technology units;
- installation of inverters on the UTAs;
- implementation of the ***free-cooling*** system in the air conditioning system, which uses air coming from outside and considerably reduces energy consumption associated with the system;
- installation of an air conditioning and heating **monitoring** system to provide automated management;





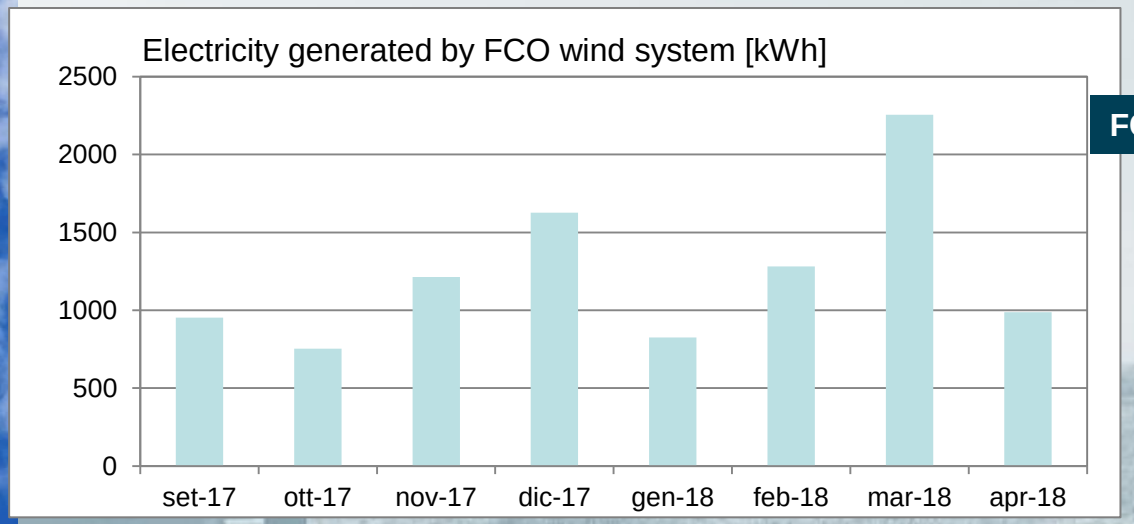
1.b - Reducing emissions into the atmosphere

FCO - MINI WIND SYSTEMS

FIUMICINO

- Concentrating photovoltaic systems (20 kWht);
- 10 kW mini wind turbine;
- 3 kW mini wind turbine.

FCO - CONCENTRATING SOLAR POWER



CIAMPINO

- Photovoltaic system (General Aviation).

1.b - Reducing emissions into the atmosphere

EUROPE

Europe remains by far the most active region of Airport Carbon Accreditation. It comes as no surprise given that the story of the programme began here in June 2009. Each passing year has seen more airports – of all sizes – get involved. The most recent development was the massive entry of 17 airports implemented by EDEIS Group, which brought the total number of accredited airports in Europe to 133. There are now 35 carbon neutral airports in the region. The most recent upgrades to this level were made by Brussels, London Stansted, Rome Ciampino, Treviso and TAG Farnborough Airports. Well done!

MAPPING	REDUCTION	OPTIMISATION	NEUTRALITY
Carbon footprint measurement	Reduction of the airport operator's carbon footprint	Engaging others on the airport site to reduce their CO_2	Offsetting any residual CO_2 emissions from the airport operator

LEVEL 1	+ MAPPING Footprint measurement	80 LEV 1
LEVEL 2	+ REDUCTION Carbon management towards a reduced carbon footprint	74 LEV 2
LEVEL 3	+ OPTIMISATION Third party engagement in carbon footprint reduction	40 LEV 3
LEVEL 3+	+ NEUTRALITY Carbon neutrality for direct emissions by offsetting	44 LEV 3+

238 tot airports certified worldwide

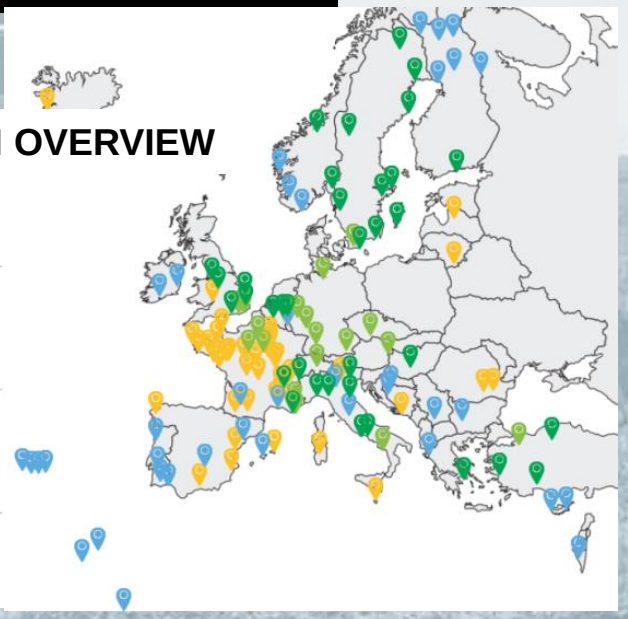
2018 EUROPEAN OVERVIEW

40 airports mapped their carbon footprints

42 airports actively reduced their CO_2 emissions

18 airports reduced their CO_2 emissions & engaged others to do so

35 carbon neutral airports



2018 WORLD OVERVIEW

44 airports have achieved carbon neutrality. These airports represent 8.1% of global air passenger traffic

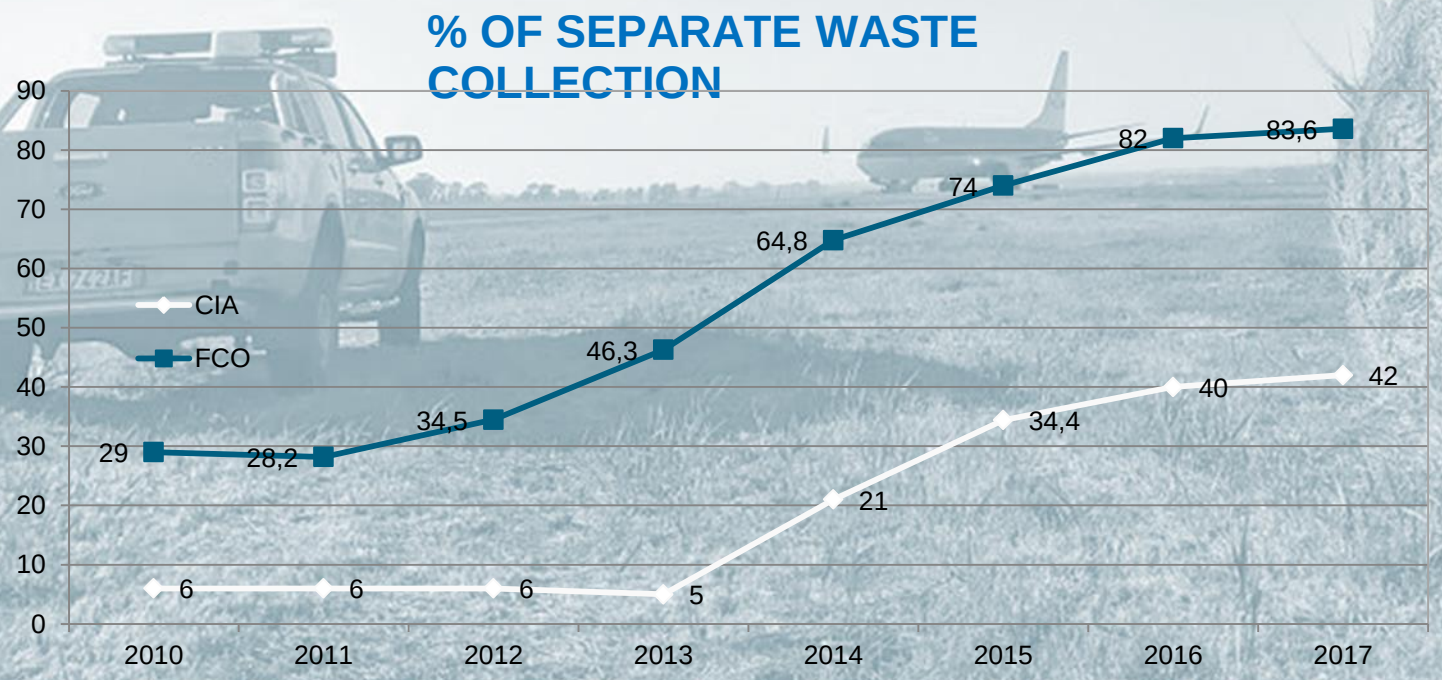
FCO and CIA are globally two of the few airports to have achieved the level of neutrality (3+) under the ACA emission certification system

airport carbon accreditation

2 - Optimal Management of Waste

THE MEASURES

- Tariffs for separated waste collection based on incentives
- Strengthening the control system by defining an analytical system to determine the fraction of waste collected with the "door to door" method, in order to optimize the different recycling lines
- Development of culture by means of periodic meetings with the sub-licensees
- Optimization of the waste disposal structure
- Rationalization of the waste collection service



2 - Increased separate collection in the terminals

- Introduction of "Door to door" collection.

CIAMPINO

FIUMICINO

- Positive competition between users for ongoing improvement;
- Strengthening the control system by defining an analytical system to determine the fraction of waste collected with the "door to door" method, in order to optimize the different recycling lines.

The following activities were also started up at both Rome airports:

- Monitoring of the waste delivery method of users;
- Development of culture by means of periodic meetings with the sub-licensees;
- Change in separate waste tariff based on rewarding mechanisms.

3 -Replacement of company vehicles

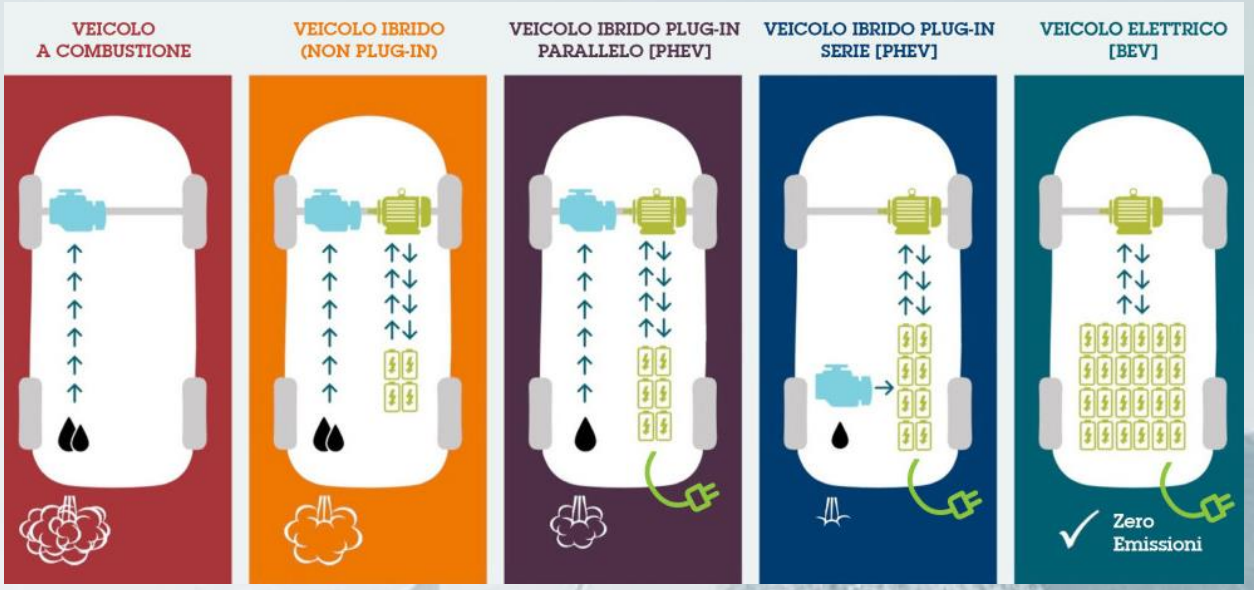
TOYOTA YARIS HYBRID

Consumption 32.3 km/l*

Emissions 123 gCO2/km**

** Toyota website*
*** Altroconsumo website*

The efficiency of the Full Hybrid system is achieved from the synergy between the gasoline-powered engine and the electric motor, from energy recovery when braking and from the Atkinson-cycle internal combustion engine, which guarantees greater performance than the traditional Otto-cycle engine.



CITROEN C-ZERO

0 emissions

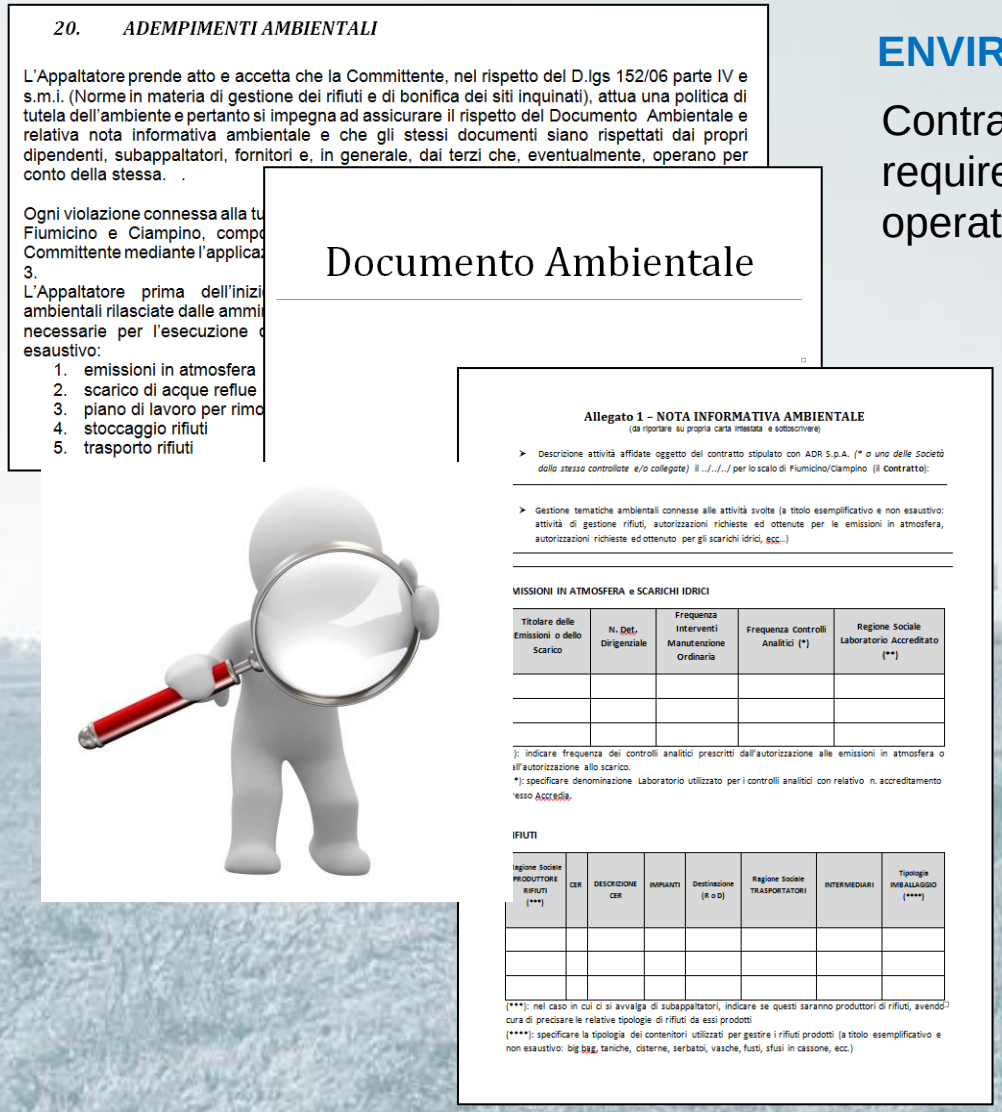
Citroën C-ZERO has a 49 kW electric motor powered by a lithium-ion battery with a 14.5 kWh capacity. This battery supplies the energy necessary for powering the engine, for the air conditioning and for the heating.

4 – Reduction of consumption of drinking water

- Optimization of utilization by identifying the uses that can be served by non-drinking water
- Optimization and upgrade of distribution networks
- Installation of continuous meters connected to the airport remote control platform
- Precise monitoring of the pressure and flow rate parameters
- Detection of concealed leaks and malfunctioning by studying the measured parameters

5 – Checking the observance of environmental clauses

ENVIRONMENTAL CLAUSES INCLUDED IN THE CSAs



20. ADEMPIMENTI AMBIENTALI

L'Appaltatore prende atto e accetta che la Committente, nel rispetto del D.lgs 152/06 parte IV e s.m.i. (Norme in materia di gestione dei rifiuti e di bonifica dei siti inquinati), attua una politica di tutela dell'ambiente e pertanto si impegna ad assicurare il rispetto del Documento Ambientale e relativa nota informativa ambientale e che gli stessi documenti siano rispettati dai propri dipendenti, subappaltatori, fornitori e, in generale, dai terzi che, eventualmente, operano per conto della stessa. .

Ogni violazione connessa alla tu
Fiumicino e Ciampino, compo
Committente mediante l'applica
3.
L'Appaltatore prima dell'inizi
ambientali rilasciate dalle ammi
necessarie per l'esecuzione
esaustivo:

1. emissioni in atmosfera
2. scarico di acque reflue
3. piano di lavoro per rimo
4. stoccaggio rifiuti
5. trasporto rifiuti

Documento Ambientale

Allegato 1 – NOTA INFORMATIVA AMBIENTALE
(da riportare su propria carta intestata e sottoscrivere)

➢ Descrizione attività affidate oggetto del contratto stipulato con ADR S.p.A. *(* o una delle Società dalla stessa controllate e/o collegate)* il ../../../ per lo scalo di Fiumicino/Ciampino (il **Contratto**):

➢ Gestione tematiche ambientali connesse alle attività svolte (a titolo esemplificativo e non esaustivo: attività di gestione rifiuti, autorizzazioni richieste ed ottenute per le emissioni in atmosfera, autorizzazioni richieste ed ottenuto per gli scarichi idrici, ecc..)

MISSIONI IN ATMOSFERA e SCARICHI IDRICI

Titolare delle Emissioni o dello Scarico	N. Det. Dirigenziale	Frequenza Interventi Manutenzione Ordinaria	Frequenza Controlli Analitici (*)	Regione Sociale Laboratorio Accreditato (**)

): indicare frequenza dei controlli analitici prescritti dall'autorizzazione alle emissioni in atmosfera o all'autorizzazione allo scarico.
*): specificare denominazione Laboratorio utilizzato per i controlli analitici con relativo n. accreditamento presso Accredia.

IFIUTI

Regione Sociale PRODUTTORE RIFIUTI (***)	CER	DESCRIZIONE CER	IMPIANTI	Destinazione (R o D)	Regione Sociale TRASPORTATORI	INTERMEDIARI	Tipologia IMBALLAGGIO (****)

(***): nel caso in cui ci si avvalga di subappaltatori, indicare se questi saranno produttori di rifiuti, avendo cura di precisare le relative tipologie di rifiuti da essi prodotti
(****): specificare la tipologia dei contenitori utilizzati per gestire i rifiuti prodotti (a titolo esemplificativo e non esaustivo: big bag, taniche, cisterne, serbatoi, vasche, fusti, sfusi in cassone, ecc.)

ENVIRONMENTAL DOCUMENT

Contractual document containing the environmental requirements addressed to third-party companies operating in the Rome airport areas.

ENVIRONMENTAL BRIEFING NOTE

Contractual annex requiring third-party companies to declare how they manage any environmental impacts before starting up their activity.

ENVIRONMENTAL BEHAVIOR VERIFICATIONS

Verification that the environmental clauses have been implemented in the field

VENDOR RATING

Tool for encouraging the certification and assessment of companies registered on the Suppliers List, aimed at assessing performance

- CRITERIA FOR CHOOSING INDICATORS
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FCO - RESULTS OF YEAR 1 (Jul 17 – Jun 18)

FIUMICINO INDICATORS	WEIGHT	PARAMETER DESCRIPTION	Year 1	ERA's Objective	Status
Reduction of electricity consumption at terminals	0,235	Reduction of energy consumption (in kWh) compared to base year	**81.920.630**	83.650.912	OK
Electricity generation by installing photovoltaic systems	0,19	MWh generated by traditional sources (not renewable) compared to the MWh consumed	**99.84%**	100%	OK
Replacement of car-pooling vehicles with low emission vehicles	0,10	% of non-low emission vehicles compared to the ADR vehicle fleet	**85%**	94%	OK
Separated waste collection of non-hazardous waste	0,235	% of separated waste at the passenger transit areas	**56%**	51%	OK
Reduction of consumption of drinking water	0,19	% reduction of consumption of drinking water per pax	**14%**	**1%**	OK
Verification of environmental clauses included in contracts	0,05	% of contracts not verified	**81%**	90%	OK

CIA - RESULTS OF YEAR 1 (Jul 17 – Jun 18)

CIAMPINO INDICATORS	WEIGHT	PARAMETER DESCRIPTION	Year 1	ERA's Objective	Status
Reduction of electricity consumption at terminals	0,29	Reduction of energy consumption (in kWh) compared to base year	**10.750.602**	10.627.527	KO
Electricity generation by installing photovoltaic systems	0,24	MWh generated by traditional sources (not renewable) compared to the MWh consumed	**100%**	100%	OK
Replacement of car-pooling vehicles with low emission vehicles	0,13	% of non-low emission vehicles compared to the ADR vehicle fleet	**80%**	90%	OK
Separated waste collection of non-hazardous waste	0,29	% of separated waste at the passenger transit areas	**54%**	35%	OK
Verification of environmental clauses included in contracts	0,05	% of contracts not verified	**67%**	90%	OK