

INTERNATIONAL CONFERENCE

Skyward Bound: Innovating the FUTURE OF AVIATION

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Room "Castoldi", Campus Sant'Agostino, Città Alta - Bergamo



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Department
of Law



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Panel 3 Flying into the Future: Innovative and Sustainable Practices

Overview of sustainability reporting in European and Italian airports

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INTRODUCTION

The **environmental sustainability** has become an important phenomenon

- to address **the general and the sector's environmental crisis**
- to realise **the UN Sustainable Development Goals**

SUSTAINABILITY DIMENSIONS IN AIRPORTS

In airports, each major activity is linked to a particular dimension of sustainability.

SOCIAL DIMENSION:

noise management, employee development, and community investment...

ENVIRONMENTAL DIMENSION:

energy management, emissions management, water management, solid waste management ...

ECONOMIC DIMENSION:

economic contribution, passenger experience ...



Overview of sustainability reporting in European and Italian airports



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Sample of analysis

Sustainability Reporting/Integrated Reporting/DNF from 2016 to 2022

European Airports:

- ✓ Total number of passengers (*),
- ✓ One airport for each European country with the highest number of passengers (*).

Italian Airports:

- ✓ All the Italian airports of National Importance,
- ✓ Only those that publish Sustainability or Integrated report or Declaration on Non-Financial Information.

* Data referred to 2019 provided by ACI International



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Sample of analysis

Europe (17)

- Athens
- Budapest
- Brussels
- Copenhagen
- Dublin
- Heathrow
- Helsinki
- Frankfurt
- Lisbon
- Madrid (Group)
- Oslo
- Paris (Group)
- Prague
- Schiphol
- Stockholm
- Vienne
- Zurich

Italy (11)

- Alghero
- Bologna
- Florence (Group)
- Milan (Group)
- Milan Bergamo
- Olbia
- Rome (Group)
- Naples (Group)
- Trieste
- Turin
- Venice




Tradition, experience of sustainability reporting



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Analyzed reports of European airports

Aeroporto	Report Availability	Year of 1 st report
Athens	2016-2017-2018-2019-2020-2021-2022	2008 (CRR) & 2017 (Annual & Sustainability report)
Budapest	2021-2022	2021
Brussels	2016-2017-2018-2019-2020-2021-2022	2021 (1 st Comprehensive Sustainability report)
Copenhagen	2016-2017-2018-2019-2020-2021-2022	N/A
Dublin	2019-2020	2009
Heathrow	2017-2018-2019-2020-2021-2022	2017
Helsinki	2016-2017-2018-2019-2020-2021-2022	N/A
Frankfurt	2018-2019-2020-2021-2022	2018
Lisbon	2022	2022
Madrid	2016-2017-2018-2019-2020-2021-2022	2005 
Oslo	2016-2017-2018-2019-2020-2021-2022	2000 (Annual report) 
Paris	2016-2017-2018-2019-2020-2021-2022	2015
Prague	2020-2021-2022	2020
Schiphol	2016-2017-2018-2019-2020-2021-2022	2001 
Stockholm	2016-2017-2018-2019-2020-2021-2022	N/A
Vienne	2018-2021; 2022 not available	2018
Zurich	2021-2022	2021

Analyzed reports of Italian airports

Airport	Report Availability	Year of 1 st report
Alghero	2021-2022	2021
Bologna	2018-2022	2018
Firenze-Pisa	2017-2018-2019-2020-2021-2022	2015
Milan	2016-2017-2018-2019-2020-2021-2022	2010
Milan Bergamo	2018-2019-2020-2021-2022	2018
Olbia	2018, 2019-2020, 2021, 2022	2018
Rome	2016-2017-2018-2019-2020-2021-2022	2015
Naples	2016-2017-2018-2019-2020-2021-2022	N/A
Trieste	2021-2022	2021
Turin	2016-2017-2018-2019-2020-2021-2022	2014
Venice	2016-2017-2018-2019-2020-2021-2022	2015

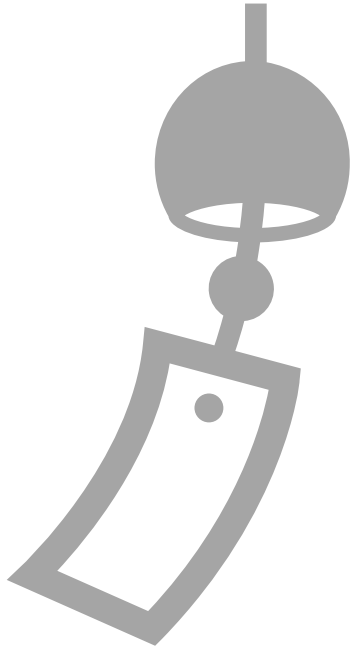
Standards in Sustainability reporting



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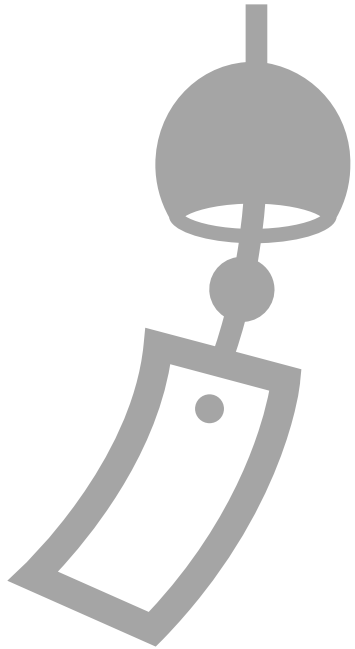
GRI Standards



Airport	GRI: Foundation 2021	GRI Sector specific
Athens	✓	✓
Budapest	✓	✓
Brussels	✓	x
Copenhagen	x	x
Dublin	x	x
Heathrow	x	x
Helsinki	✓	✓
Frankfurt	✓	x
Lisbon	✓	✓
Madrid (Group)	✓	x
Oslo	GRI Standards/Core	x
Paris (Group)	GRI Standards/Core	x
Prague	✓	✓



GRI Standards



Airport	GRI: Foundation 2021	GRI Sector specific
Schiphol	✓	✓
Stockholm	GRI Standards/Core	✓
Vienne (up to 2021)	✓	✓
Zurich	✓	✓
Alghero	GRI Referenced 2016 & following	✓
Bologna	✓	✓
Florence-Pisa (Group)	✓	x
Milan (Group)	✓	x
Milan Bergamo	x	x
Olbia	✓	✓
Rome (Group)	GRI “in accordance with” 2016 & following	x
Naples (Group)	GRI 2016	✓
Trieste	✓	✓
Turin	x	x
Venice	✓	x



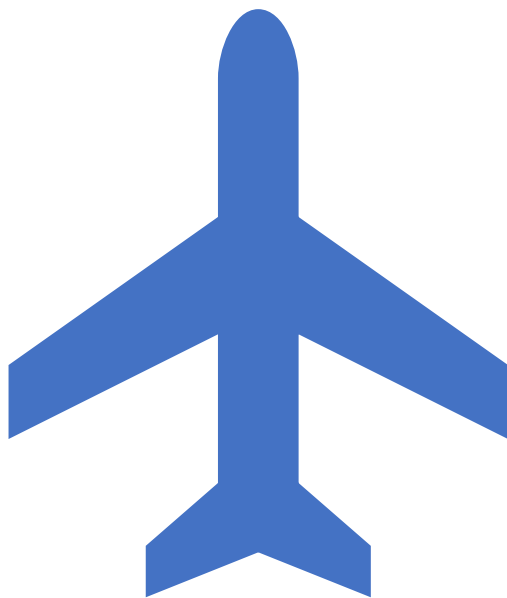
External Assurance



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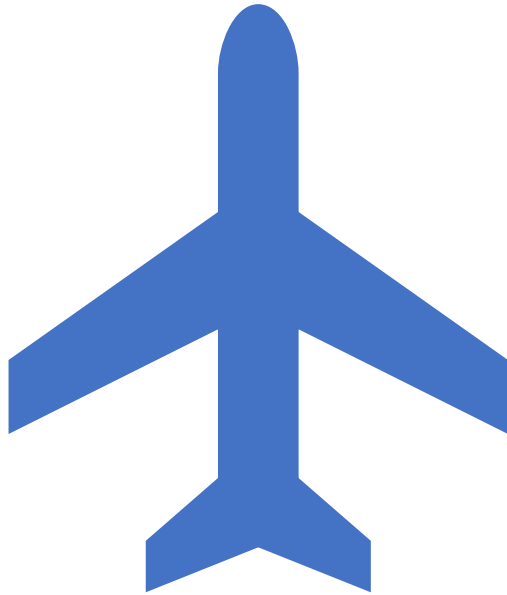
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External Assurance



Airport	External Assurance
Athens	✓
Budapest	x
Brussels	Not clear
Copenhagen	✓
Dublin	x
Heathrow	Only for GHG emissions
Helsinki	Only with reference to the Compliance to GRI
Frankfurt	✓
Lisbon	✓
Madrid	✓
Oslo	x
Paris	✓
Prague	x
Schiphol	✓
Stockholm	✓
Vienne	✓
Zurich	x

External Assurance



Airport	External Assurance
Alghero	x
Bologna	✓
Florence-Pisa	✓
Milan	✓
Milan-Bergamo	x
Olbia	x
Rome	✓
Napoli	x
Trieste	x
Turin	x
Rome	✓

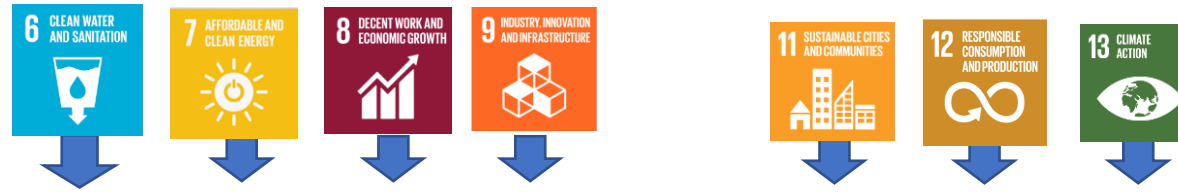
SDGs in airport sector sustainability reporting



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SDGs



SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17
Zurich	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Athens	Brussels
Rome	Madrid	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Budapest	Oslo	Budapest	Budapest	Frankfurt
	Rome	Brussels	Brussels	Brussels	Heathrow	Brussels	Brussels	Brussels	Heathrow	Brussels	Copenhagen	Copenhagen	Zurich	Heathrow	Madrid	Madrid
		Heathrow	Heathrow	Heathrow	Frankfurt	Frankfurt	Copenhagen	Copenhagen	Madrid	Frankfurt	Frankfurt	Frankfurt	Rome	Frankfurt	Schiphol	Paris
		Frankfurt	Frankfurt	Frankfurt	Madrid	Madrid	Heathrow	Frankfurt	Vienna	Madrid	Madrid	Madrid	Turin	Madrid	Vienna	Schiphol
		Madrid	Madrid	Madrid	Oslo	Oslo	Frankfurt	Madrid	Zurich	Paris	Paris	Oslo		Oslo	Zurich	Alghero
		Oslo	Paris	Oslo	Paris	Paris	Madrid	Paris	Milan Bergamo	Schiphol	Schiphol	Paris		Paris	Milan	Milan
		Vienna	Zurich	Paris	Vienna	Schiphol	Oslo	Schiphol	Rome	Stockholm	Stockholm	Schiphol		Vienna	Milan Bergamo	Milan Bergamo
		Zurich	Milan Bergamo	Schiphol	Zurich	Vienna	Paris	Stockholm	Turin	Vienna	Vienna	Stockholm		Zurich	Naples	Naples
		Alghero	Rome	Vienna	Milan Bergamo	Zurich	Schiphol	Vienna	Venice	Zurich	Zurich	Vienna		Milan	Trieste	Trieste
		Milan Bergamo	Trieste	Zurich	Olbia	Alghero	Vienna	Zurich		Alghero	Alghero	Zurich		Milan Bergamo	Venice	
		Olbia	Turin	Milan	Rome	Milan	Zurich	Alghero		Milan	Milan	Alghero		Rome		
		Rome		Naples	Trieste	Milan Bergamo	Alghero	Milan		Milan Bergamo	Milan Bergamo	Milan		Naples		
		Trieste		Trieste	Turin	Olbia	Milan	Milan Bergamo		Rome	Olbia	Milan Bergamo		Trieste		
		Turin		Turin	Venice	Rome	Milan Bergamo	Olbia		Naples	Rome	Olbia		Venice		
		Venice		Venice		Naples	Olbia	Rome		Trieste	Naples	Rome				
						Trieste	Rome	Naples		Turin	Trieste	Naples				
						Turin	Naples	Trieste		Venice	Turin	Trieste				
						Venice	Trieste	Turin			Venice	Turin				
							Turin	Venice				Venice				



SUSTAINABILITY DIMENSIONS IN AIRPORTS

Almost all the SDGs can have a correlation with airport sustainability initiatives, some of them have a stronger correlation:

SDG 6 Clean water and sanitation

SDG 7 Affordable and clean energy

SDG 8 Decent work and economic growth

SDG 9 Industry, innovation and infrastructure

SDG 11 Sustainable cities and communities

SDG 12 Responsible consumption and production

SDG 13 Climate action

Attention to picking up processes: when airports tend to fit their activities under almost all SDGs



UN Sustainable Development Goals

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all



International sample:

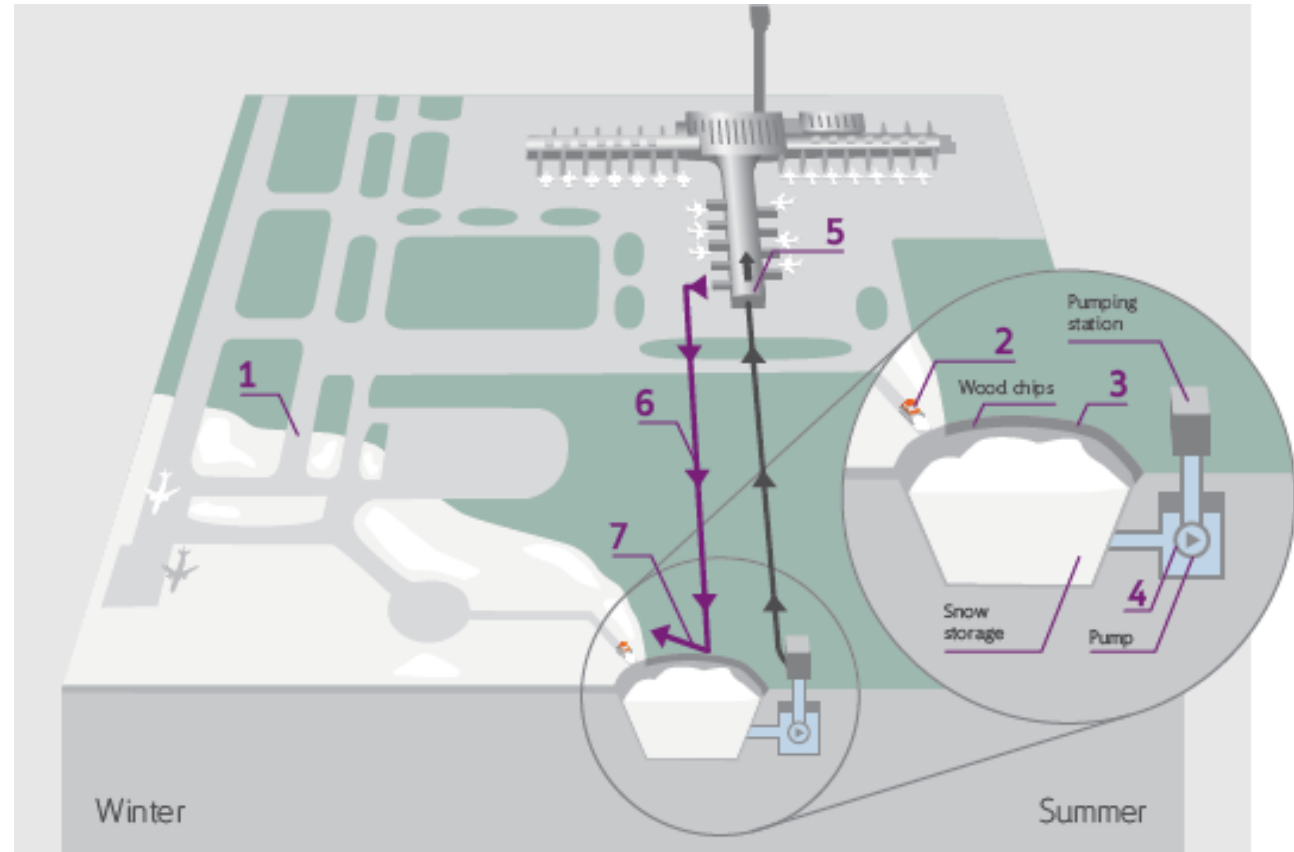
Athens; Budapest, Brussels; Frankfurt; Madrid; [Oslo](#); Paris; [Schipol](#); Vienna; Zurich (10 on 17)

Italian sample:

Alghero; Bologna; Milan, Milan-Bergamo; Naples; Olbia; Rome; Trieste; Turin; Venice (10 on 11)

SDG 7 Affordable and clean energy: **Oslo**

THE FIRST AIRPORT IN THE WORLD TO BE COOLED WITH SNOW



1. Snow is collected from the whole airport area
2. Deposited in a snow storage
3. During spring the snow is covered by wood chips
4. During summer the snow will melt and the melt water is filtered and pumped to terminal 2
5. A heat exchanger transfer the cold water to the airport central cooling system
6. Return water is transferred back to the snow storage to keep the melt process going.
7. Excess water is spread over terrain (or infiltrated to the ground)



SDG 7 Affordable and clean energy: **Schiphol**

By 2030, increase substantially the share of renewable energy in the global energy mix



- Schiphol Group operates on **100% renewable wind energy**
- **Green gas** usage of the Group is 14.46% of total gas purchases and 100% of gas used by Eindhoven Airport

UN Sustainable Development Goals

Goal 12. Ensure sustainable consumption and production patterns



International sample:

Athens; Budapest; Copenhagen; Frankfurth;
Madrid; Paris; Schipol; Vienna; Zurich

Italian sample:

Alghero; [Bologna](#); Milan; [Milan-Bergamo](#);
Olbia; Rome; Naples; Trieste; Turin; Venice (10
on 11)

SDG 12 Responsible consumption and production: **Bologna**



Circular economy:

In 2021 the Bologna Airport has signed **agreements** with a number of **food operators** present at airport and **Hera company** for the **collection of Waste Vegetable Oil**.

The collected oil is **destinated to the production of BIODIESEL** within the partnership between Hera & Eni.

This project has been started in 2022.



SDG 12 Responsible consumption and production: **Milan-Bergamo**

“Plastic challenge - Reduction, recycling, reuse: sustainable practices for Bergamo and its airport”

Plastic bottle compacting machines were installed to separate the liquid fraction and convey it to the sewer

Significant contribution both to the reduction in the volumes of undifferentiated Municipal Waste, and to the increase in plastic collection.



SUSTAINABILITY REPORTING IN AIRPORTS: CHALLENGE AND OPPORTUNITY

Reporting is improving over the years ... but there is **still work to do**

Environmentally sustainable practices receive greater attention than social and economic initiatives

Best practices of an airport often stimulates other airports ... but it is not enough:
Further progress is required to ensure that each airport systematically considers **all relevant sustainability indicators, taking into account regional and supply-chain impacts**

Academic research can support airports in **the development of quantifiable indicators or performance metrics**

Research and practice interaction is opportunity to increase stakeholders involvement, to incorporate life-cycle assessment, to link environmental impacts with operational outcomes:



this can help airports to address their roles in major global challenges

