

# SUSTAINABILITY GOOD PRACTISE

*AIRBNB*

*Year 2022*



**Circularity**

## Foreward

This document (hereafter "Document" or "Report") has been prepared by Circularity Srl - Benefit Company (hereafter "Circularity" or "Consultant") in order to present a technical review of the hospitality sector sustainability best practices proposed by the Love Sustainability Team of Airbnb Italy Srl (hereafter "Airbnb" or "Client"). In this document, the most up-to-date interpretations available as of today are re-posted, based on the information CIRCULARITY holds.

CIRCULARITY is acting as an advisor to the CLIENT, with an advisory assignment referring to the subject matter of this Document.

The content of this Document is based on cognitive elements and information provided to Circularity by the Client's Management and/or the offices in charge of the issues dealt with. It does not belong to the object of our assignment any independent verification activities, or checks of any other kind, as well as the verification of the completeness, correctness and accuracy of the data, information or explanations provided to us and used by us for the purpose of our assistance. Such data, information or explanations remain the sole responsibility and liability of the Client. External data not provided directly by the Client are referenced as well as the methodologies applied.

The results contained in this Document are contingent upon the data and assumptions used in the preparation of the Document being effectively reflected. Consequently, the use, for whatever purpose and title, of this Document is conditional on an acknowledgement that it is based on such data and assumptions. CIRCULARITY assumes no responsibility in this regard.

This Document makes no claim to completeness and, therefore, may not include all the information necessary for a third party to validate it. The Document may be subject to changes, modification, or update.

The data, information, and opinions contained in this Document are strictly confidential; such information may not be published, reproduced, copied, or communicated to persons other than the Client or persons expressly designated by the Client and may not be used for purposes other than those for which this Document was prepared.

---

July 2023

**Daddi Martina** | *Circular Economy and Sustainability analyst*

**Leonardo Corbella** | *Sustainability and Carbon Footprint specialist*

## Summary

|  |          |
|--|----------|
| <b>1. Goals and objectives .....</b>     | <b>1</b> |
| <b>1.1. Background .....</b>             | <b>1</b> |
| <b>1.2. Purpose of the document.....</b> | <b>1</b> |
| <b>1.3. Selected initiatives .....</b>   | <b>2</b> |
| <b>1.3.1. Sustainable mobility.....</b>  | <b>2</b> |
| <b>1.3.2. Recycling.....</b>             | <b>3</b> |
| <b>1.3.3. Energy saving .....</b>        | <b>4</b> |
| <b>1.3.4. Water saving.....</b>          | <b>7</b> |
| <b>1.3.5. Responsible choices.....</b>   | <b>8</b> |

# 1. Goals and objectives

## 1.1. Background

According to data from the European Parliament, tourism constitutes the third largest economic sector in the EU; it contributes significantly to labor employment: the same estimates speak of a total of 17 million people employed in Europe, and an overall contribution to the economy close to 10% of EU gross domestic product.

The environment and tourism are closely interdependent: on the one hand, the quality of the environment is essential to the success of tourist destinations; on the other hand, tourism can be a significant source of pressure due to the environmental impacts associated with receiving activities and related services. Developing a "sustainable" tourism sector capable of protecting the environment and reducing the consumption of energy and resources appears to be an issue that is being increasingly addressed by key stakeholders such as consumers. According to Uni Verde IPR Foundation, 86% of the surveyed users are fully aware of the meaning of sustainable tourism and as many as 47%, in their "consumption" choices related to accommodation services inquire about the attention paid to the environment by the identified touristic structure.

The Airbnb ecosystem is well aware of the negative repercussions associated with the activities and services for its customers and, from some of its members, the initiative "Love Sustainability" was born: an education and communication project created by a community of Italian hosts that aims to spread good sustainable practices among hosts and guests, contributing to the reduction of the environmental impact of the sector and responding to the growing demand for a sustainable touristic market.

## 1.2. Purpose of the document

Within this context, Airbnb's Love Sustainability Team has chosen to take advantage of the scientific and technical support of Circularity, realized in the definition of a strategy to support Airbnb hosts for the identification of best practices to reduce the environmental impacts related to accommodations, as well as to raise awareness among guests to experience more conscious and responsible stays.

Below will be the sustainability best practices jointly approved by Circularity and Airbnb intended to be included in each host's "sustainability decalogue", available within their website listing. In addition, some of the best practices will be sized with supporting environmental data, so the methodology behind the assessment will be described.

## 1.3. Selected initiatives

At the joint workshop between Circularity and Airbnb, a list of sustainability best practices suggested by the hosts community and collected by the Love Sustainability team were selected, validated, and elaborated.

The selected initiatives can be grouped into five distinct categories defined as follows:

- **Sustainable mobility;**
- **Recycling;**
- **Energy saving;**
- **Water saving;**
- **Responsible choices.**

The above categories will be analyzed in the following paragraphs, illustrating the initiatives they contain as well as the methodological references adopted for environmental sizing.

### 1.3.1. Sustainable mobility

Travel to and from accommodation destinations represents a significant item of impact, thus being central to assessments regarding the development of sustainable accommodation services. This category encapsulates the main initiatives aimed at promoting new forms of sustainable mobility, collected in Table 1.

*Table 1 - List of good practices for sustainable mobility.*

| Good practises   Sustainable mobility   |
|---|
| " I promote sustainable mobility, providing public transport timetables and/or encouraging the download of sharing-mobility apps "  |
| <b>Sizing</b><br>By moving by bus or train, for the same number of miles traveled, each passenger can save between 80% and 95% of CO <sub>2</sub> equivalent emissions compared to moving by car <sup>1</sup> .   |
| <b>Metodology</b><br>1. Consider emission factors by passenger and mode of transport (bus, train, diesel car) reported by ADEME (Environmental and Energy Management Agency); impact calculated for a travel distance of 15 km (travel attributable to tourism activities).                           |
| "I've installed an electric vehicle charging station "  |
| <b>Sizing</b><br>For the same number of kilometers travelled, the use of an electric car instead of a diesel car makes it possible to reduce CO <sub>2</sub> equivalent emissions by around 65% <sup>1</sup> ; and if you power your car with renewable energy, the emissions can be considered zero! |
| <b>Metodology</b>   |

## Good practises | Sustainable mobility

1. Comparison between the emissions associated with traveling 100 km with a diesel car ([ISPRA](#) emission factor, passenger cars, diesel, g CO<sub>2</sub>/km, total) compared to an electric car (average consumption of 13-25 kWh/100 km, [autosystem.com](#); emission factor corresponding to that of the national electricity supply, [DEFRA](#)).

"I provide bikes."

### Sizing

If you commute by bike rather than by car, you save more than 2.5 kg of CO<sub>2</sub> equivalent<sup>1</sup> for every 15 km traveled, the same emission associated with charging your smartphone more than 300 times<sup>2</sup>!

### Metodology

1. Emission factor by [ISPRA](#) (passenger cars, diesel, g CO<sub>2</sub>/km, total).
2. Equivalence carried out by <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>

## 1.3.2. Recycling

Waste disposal is a problem particularly for small towns, due to frequent management problems dictated by deficiencies in facilities and infrastructure for their treatment or disposal, compounded by significant seasonal variations in the quantity and composition of waste. Making of the reduction of waste produced and proper end-of-life management are essential elements for a sustainable stay. Table 2 shows initiatives aimed at developing proper practices for household waste management.

*Tabella 2 – List of good practices for recycling collection.*

## Good practises | Recycling collection

"I've correctly organized the waste collection, providing right instructions to put it into practice"

### Sizing

Every year, each of us is responsible for producing about 502 kg of waste<sup>1</sup> which, if not properly sorted, is the cause of more than 290 kg of CO<sub>2</sub> equivalent<sup>2</sup> emitted into the atmosphere; recycling our waste helps us to lower this impact thanks to the benefit of recycled materials, which replace the production of virgin raw materials.

### Metodology

1. Per capita waste production in Italy for the year 2022: ISPRA data - Municipal Waste Report 2022).
2. Consider an emission factor associated with municipal solid waste management of 0.582 kg CO<sub>2</sub>eq/kg of waste produced (source: Ecoinvent 3.9, "market for municipal solid waste, IT").

## Good practises | Recycling collection

### "I make compost"

Sizing not available.

### 1.3.3. Energy saving

Energy efficiency plays a critically important role in the tourism sector, as it is a strategic lever to promote sustainable and responsible development. As tourism continues to increase globally, activities related to the sector require a significant amount of energy, often from non-renewable sources. Improving energy efficiency related to touristic accommodations not only reduces operational costs, but also allows to reduce environmental impact. A targeted approach to energy efficiency in the tourism sector is therefore essential to ensure a more sustainable and eco-friendly future, while preserving the natural and cultural resources that make each destination unique to guests.

Table 3 shows the initiatives identified to ensure proper energy management.

Table 3 – List of good practices for energy efficiency.

## Good practises | Energy savings

### " I have high-energy efficiency household appliances"

#### Sizing

Choosing appliances in a high energy class generates significant savings both in terms of consumption and economics; e.g. a refrigerator in A+++ class (new class D) consumes about 55% less than a refrigerator in A class (new class G), while for a dishwasher the saving is 25%<sup>1</sup>.

#### Metodology

1. Technical information reported by [ENEA](#) (2019) on the energy labels of household appliances is considered; a 300-liter freezer and a 12-cover dishwasher are considered; where present maximum and minimum consumption by energy class, average values were calculated.

### " I use LED/low energy light bulbs "

#### Sizing

For the same luminous intensity (lumens), LED technology is more efficient than others; for example, compared to a classic 60-watt incandescent bulb, a LED bulb consumes up to 87% less power<sup>1</sup>.

#### Metodology

1. Data source: [Sorgenia](#), 2022 data.

### " I use multi-socket power strips to avoid standby consumptions "

#### Sizing

## Good practises | Energy savings

In Europe, the average annual consumption of standby appliances is about 305 kWh per household, corresponding to 11% of total household consumption<sup>1</sup>; this means about 100 kg of CO<sub>2</sub> equivalent emitted each year<sup>2</sup>!

### Metodology

1. Data from [Enel](#).
2. We consider a national average emission factor of 0.3069 kg CO<sub>2</sub>eq/kWh ([DEFRA](#)).

## " I recommend the correct use of thermostats on radiators "

### Sizing

These devices regulate the flow of hot water in radiators, allowing not to exceed the maximum temperature set and helping to reduce consumption by up to 20%<sup>1</sup>!

### Metodology

1. Data source: [ENEA](#).

## "I've installed solar/PV panels."

### Sizing

Solar photovoltaic panels can cover as much as one-third of our residential energy needs<sup>1</sup>, with an emission saving of about 500 kg of CO<sub>2</sub> equivalent per capita<sup>2</sup>.

### Metodology

1. Data source: [Rapporto statistico solare fotovoltaico 2021, GSE](#); consider an average installed power of 5.3 kW (p.48) to be able to fully cover household energy needs and a self-consumption rate of 35% of gross production (p.47).
2. Value calculated on the annual average per capita electricity consumption (data source [ISTAT](#)) and emission factor associated with the national average energy mix (source DEFRA).

## "I've recently improved the thermal insulation of the house "

### Sizing

Energy efficiency improvements allow you to enhance your home energy performance index, namely the annual consumption required to heat your home in winter, cool it in summer, ventilate and light it, and produce hot water; on average, by upgrading to a higher energy class, you can reduce your consumption by about 20%<sup>1</sup>.

### Metodology

1. Average reduction in energy performance index between two classes (calculated for each couple of class from G to A4); source: [Allegato 1, Linee guida nazionali per l'attestazione della prestazione energetica degli edifici](#)); where present minimum and maximum value by class, the average value was calculated.

## "I have a high-efficiency heating/air-conditioning system "

### Sizing

As with all household appliances, it is important to choose an energy-efficient air conditioner; on average, for each additional energy class, cooling efficiency can increase by 14% while heating efficiency can increase by as much as 19%<sup>1</sup>!



**Metodologia**

1. Data source [ENEA](#) with reference to a split air conditioner; average of energy performance index reduction between two classes (calculated for each couple of class from G to A+++); where present minimum and maximum value per class, average value was calculated.

" I've installed home automation systems "

Sizing not available.

"I set the Domestic Hot Water (DHW) boiler temperature at 45°C "

**Sizing**

Setting the boiler at a temperature that optimizes its efficiency allows you to save up to 8% of your energy consumption<sup>1</sup>!

**Metodology**

1. Data source: [IEA](#).

"I recommend the correct use of household appliances (e.g. full-load and best time slots) "

**Sizing**

Starting appliances by avoiding peak energy demand allows not to overload the national power grid; moreover, using your dishwasher and washing machine at full load, you can save between 8 and 11 thousand liters of water per year<sup>1</sup>!

**Metodology**

1. Data source: [Gruppo CAP](#).

"I recommend the correct use of lights and systems when leaving the house and/or at check-out"

Sizing not available.

"I report the correct temperature to be set in the house in summer and winter."

**Sizing**

Lowering the temperature of the thermostat by just one degree in winter<sup>1</sup> and raising that of the air conditioner by just one degree in summer<sup>2</sup> saves up to 10% in energy consumption.

**Metodology**

1. Data source: [ENEA](#).

2. Data source: [IEA](#).

"I suggest how to ventilate and shield the house to preserve the internal temperature during day and night"

Sizing not available.

### 1.3.4. Water saving

Tourism requires and consumes fresh water for a variety of purposes, ranging from the necessary water provisioning of toilets, showers, kitchens, and clothing cleaner equipment to the consumption of ancillary services such as swimming pools, cooling facilities, and irrigation systems for gardens. Although overall water consumption for tourism is generally low, concentration in areas or seasons characterized by water scarcity may cause significant impacts on local resources.

Table 4 shows the initiatives identified to ensure the protection and sustainable management of water resources.

Table 4 -List of good practices for water saving.

| Good practises   Water saving   |
|---|
| <b>"I've installed water-saving aerator taps "</b>  |
| <b>Sizing</b><br>Installing a water-saving aerator tap allows to save up to 50% of water, namely between 6 and 8 thousand liters per year <sup>1</sup> .  |
| <b>Metodology</b><br>1. Data source: <a href="#">Gruppo CAP</a> .   |
| <b>" I recommend the responsible consumption of tap water "</b>   |
| <b>Sizing</b><br>Turning off the water when you don't need it can save up to 5 thousand liters a year <sup>1</sup> ! For example, if you shorten the time you keep the shower running by just 2 minutes, you can save about 40 liters of water <sup>2</sup> . |
| <b>Metodology</b><br>1. Data source: <a href="#">Gruppo CAP</a> .<br>2. Data source: <a href="#">ENEA</a> , from council number 05, elaborate as the difference between a 5-minute shower and a 3-minute shower.  |
| <b>"I collect and reuse rainwater."</b>   |
| Sizing not available.   |
| <b>"I've installed a dual push button toilet flush."</b>  |
| <b>Sizing</b><br>Thanks to the dual-flush system, you can save up to 50% of water per flush <sup>1</sup> , with an annual saving between 10 and 30 thousand liters <sup>2</sup> !   |
| <b>Metodology</b><br>1. Data source <a href="#">Grohe</a> .<br>2. Data source: <a href="#">Gruppo CAP</a> .   |

### 1.3.5. Responsible choices

One of the evaluation criteria of hosts in the choice of supplies and services must be favoring the adoption of sustainable practices by guests. Therefore, consumers should be enabled to make a concrete contribution to reducing the impacts of their stay. Table 5 shows the identified initiatives involving both owners and guests respectively in proposing and implementing responsible choices.

Table 5 – List of good practises for responsible choices.

| Good practises   Responsible choices  |
|---|
| <b>"I encourage the use of tap water providing glass bottles and/or the map of drinking water filling points in my municipality"</b>  |
| <b>Sizing</b><br>In 2021, around 13.7 billion liters of water were consumed in Italy, of which 81% in PET bottles <sup>1</sup> ; this potentially translates into about 222 thousand tons of single-use plastic placed on the market in a single year <sup>2</sup> ! By drinking tap water, you can contribute to reduce this impact. |
| <b>Metodology</b><br>1. Data source: Acquitalia report 2022-2023.<br>2. An average weight of 20 g is assumed for a 1-liter PET bottle (10 g/500 ml, source <a href="#">International Bottled Water Association</a> ).   |
| <b>"I avoid the use of disposable products, preferring bulk or durable goods."</b>  |
| <b>Sizing</b><br>The consumption of single-dose bubble bath can cause the release into the environment of almost 2 kg of plastic for each guest, in one year <sup>1</sup> ; using dispensers and refills, characterized by reusable, larger and proportionally much lighter packaging, this impact can be significantly reduced.      |
| <b>Metodology</b><br>1. The use of 30 ml single doses is assumed, with an estimated weight of 10 g and an average consumption of 1 single dose every two days, per guest.   |
| <b>"I chose renewable energy suppliers."</b>  |
| <b>Sizing</b><br>By opting for 100% renewable electricity supply, you can offset the impact of about 1.4 tons of CO <sub>2</sub> equivalent per year <sup>1</sup> .   |
| <b>Metodology</b><br>1. The average per capita electricity consumption of 4,630 kWh (data source <a href="#">ISTAT</a> ) and the emission factor associated with the national average energy mix on DEFRA data source are considered.   |
| <b>"I choose ecological cleaning products (e.g. of natural origin, ecolabel, etc.)"</b>   |
| <b>Sizing</b>   |

## Good practises | Responsible choices

The chemicals contained in the detergents that we release through wastewater have a direct impact on the health of ecosystems. In Italy, 60-70% of water bodies are not in a good ecological status<sup>1</sup>; by using products with high biodegradability standards, therefore less persistent in the environment, you can help reduce this impact.

### Metodology

1. Data source: [EEA](#).

"I propose purchases from local producers."

### Sizing

Transporting just one ton of food goods for a 100 km journey can cause the emission of about 10-12 kg of CO<sub>2</sub> equivalent into the atmosphere<sup>1</sup>; by buying from local producers, you can contribute to reduce this impact.

### Metodology

1. [DEFRA](#) emission factors are considered corresponding to refrigerated (0.1248 kg CO<sub>2</sub>eq/ton\*km) and unrefrigerated (0.1065 kg CO<sub>2</sub>eq) heavy transport.

"I provide fabric shopping bags."

Sizing not available.

"I recover food for donation in food banks"

### Sizing

Every year, every Italian wastes an average of 27 kg of food<sup>1</sup>; through donations to food banks or charitable organizations you can help improve the social well-being of your community and reduce this waste.

### Metodology

1. Data source ([WWF](#)).

"I provide the change of linen (sheets, towels) only for long stays or on request"

### Sizing

Every time you avoid a washing cycle in the washing machine, you can save on average between 40 and 50 liters of water<sup>1</sup>; wash only when necessary!

### Metodology

1 Data source: <https://www.mondoelettrodomestici.com/magazine/quanta-acqua-consuma-una-lavatrice/>; <https://www.lg.com/it/magazine/2021-04-consumo-acqua-come-ri-durlo#:~:text=Al%20giorno%20d'oggi%20le,litri%20di%20acqua%20per%20ciclo.>

" I select and value my collaborators in my local community"

Sizing not available.



✉ [info@circularity.com](mailto:info@circularity.com)  
🌐 [www.circularity.com](http://www.circularity.com)

📍 *Via Bensi 12/5  
Milano*