

# "Boosting Sustainable Tourism Development and Capacity of Tourism SMEs through Transnational Cooperation and Knowledge Transfer"

GRO/SME/19/C/077 (COS-TOURCOOP-2019-3-01)



Name of the Project: Improving sustainability of tourism SMEs through knowledge transfer, international cooperation and multi-stakeholder engagement

Acronym of the Project: TOURISME

Proposal Number of the Project: 951103

Project Duration and start date: 30 months, 16<sup>th</sup> September 2020

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Deliverable Number: 2.3

Title of Deliverable: Compendium of Best Practices

Version of Deliverable: v1

Date of Submission of Deliverable: 15-03-2021

# Compendium of Best Practices

A brief report on sustainable tourism practices

## TOURISME

Boosting Sustainable Tourism Development and Capacity of Tourism SMEs through Transnational Cooperation and Knowledge Transfer

 Co-funded by the COSME Initiative of the European Union

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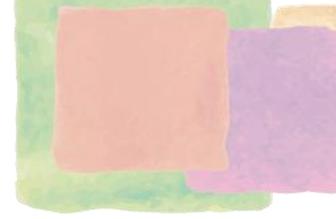
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## Improving sustainability of tourism SMEs through knowledge transfer, international cooperation and multi-stakeholder engagement

D2.3 – Compendium of Best Practices

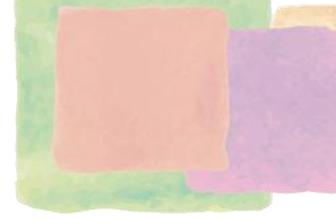
|                                   |   |                         |                 |
|-----------------------------------|---|-------------------------|-----------------|
| <b>Grant Agreement No</b>         | <b>951103</b>   | <b>Project Acronym</b>  | <b>TOURISME</b> |
| <b>Project Title</b>              | Improving sustainability of tourism SMEs through knowledge transfer, international cooperation and multi-stakeholder engagement   |                         |                 |
| <b>Deliverable No</b>             | 2.3   |                         |                 |
| <b>Deliverable Full Title</b>     | Compendium of Best Practices  |                         |                 |
| <b>Work Package No. and Title</b> | WP2 – Knowledge base and network  |                         |                 |
| <b>Lead beneficiary</b>           | SSSA  |                         |                 |
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| <b>Planned delivery date</b>      | 15.03.2021  |                         |                 |
| <b>Actual delivery date</b>       | 15.03.2021  |                         |                 |
| <b>Dissemination level</b>        | Public  |                         |                 |
| <b>Document version</b>           | v1  |                         |                 |
| <b>Project start date</b>         | 16 September 2020   | <b>Project duration</b> | 30              |
| <b>Document description</b>       | A brief report on sustainable tourism practices   |                         |                 |



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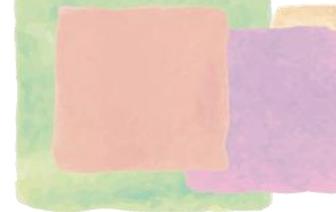
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# 1. INTRODUCTION

This report (Deliverable D2.3) was prepared in the context of Work Package 2 of a European Project – TOURISME: Improving the sustainability of tourism SMEs through knowledge transfer, international cooperation, and multi-stakeholder engagement.

Over the past decades, tourism has become one of the largest business sectors worldwide, currently employing more than 200 million people (Bohdanowicz, Churie-Kallhauge, Martinac, & Rezachek, 2001). In many parts of the world, tourism is indeed the most important source of income. According to most prognoses, the numbers of people traveling for business or pleasure will continue to increase, in some regions very rapidly. While providing a significant boost to many local and national economies, tourism has been shown to pose a significant environmental and socio-cultural threat to many of the environments in which it is developed and pursued.

In the EU, tourism is one of the major economic activities with a high impact on economic growth, employment, and social development, and thus it is a powerful means to pursue broader EU employment and growth objectives. The competitiveness of the European tourism industry is closely linked to its sustainability, which is understood as environmental, economic, and socio-cultural aspects of tourism development. Achieving sustainable tourism development can bring numerous benefits derived from the competitive advantage provided by cost savings and the improvement of the quality of the offer. In this sense, to achieve sustainability and improve competitiveness, TOURISME aims at fostering SMEs' capacities and skills to explore and uptake solutions through a reinforced transnational and cross-sectoral collaboration amongst tourism SMEs and operators in Spain, Italy, France, and Cyprus.

More specifically, the objectives of TOURISME are as follows:

- To design and implement trans-national and cross-sectoral support scheme including capacity building knowledge
- transfer and scaling-up activities to enable sustainable growth of SMEs in the tourism sector
- To support the uptake of innovative solutions for sustainable tourism
- To support the participation of SMEs in certification schemes

The scope of this report is to provide a compendium of best practices related to sustainable tourism. To this aim, the project partners not only thematically identified various practices related to sustainability within the tourism sector through a comprehensive study of both academic and grey literature but also analyzed the replication feasibility of identified practices through the expert assessment.

This report is structured as follows. [Section 2](#) briefly explains the approach used to identify and analyze various practices related to sustainable tourism. [Section 3](#) thematically analyses identified practices and highlights the best practices based on the assessment done by the expert team. [Section 4](#) provides the references used. To give a broader picture of each practice, [Section 5](#) describes all identified practices with perceived ratings and presents their benefits (wherever data available) and sources.

## 2.METHODOLOGY

To compile the compendium of best practices related to sustainable tourism, project partners adopted a two-step approach. In the first step, desk research was performed. Researchers involved in Work Package 2 prepared a list of sources (research articles, books, and reports, etc.) and then conducted a comprehensive literature review. In this way, a preliminary list of various practices was prepared or in other words, potential practices were identified. Next, researchers searched practical cases (real-world examples) for each identified practice to get further details such as potential environmental, economic, and social benefits of identified practices and how tourism organizations (hotels and similar accommodations, travel agencies, and tour operators, etc.) have adopted such practices. It is worth mentioning that researchers used a specific template to carry out that task (see [Section 5](#)). Also, project partners decided that practical cases should preferably be selected from partner countries or within the EU. The scarcity of desired data later turned out to be the main limitation for this task. Nonetheless, this limitation does not affect the objective of this report as the replication feasibility of these practices was also considered.

All identified practices, based on their underlying function, were categorized as follows:

- Energy Conservation
- Water Conservation
- Waste Management
- Green Procurement
- Green Building
- Awareness and Behavioral Change
- Sustainable Mobility
- Corporate Social Responsibility (CSR)
- Others (Collaboration, Policy, etc.).

Many practices emerged as cross-cutting i.e. they are related to two or more categories at the same time. In short, among the 106 practices identified, 38 are related to Energy Conservation, 27 to Water Conservation, 22 to Waste Management, 19 to Green Procurement, 5 to Green Building, 14 to Awareness and Behavioral Change, 6 to Sustainable Mobility, 9 to CSR, and 22 to Others (Collaboration, Policy, etc.).

In the second step, project partners nominated an “expert team” with aims at performing a ranking of the most relevant practices that interested SMEs could start focusing on when considering the implementation of any of them. The members of this expert team are as follows:

- Nicola Bellini (SSSA)
- Cira Mendoza (CE)
- Lucía Dobarro (ITC)
- Francesco Lembo (ACR+)
- Marion Tillet (L'InstParisReg)

A list of identified practices along with the completed templates (see Appendixes [1](#) to [106](#)) was sent to each member of the expert team, who then independently rated the perceived benefits (environmental, economic, and social) on a 3-point scale (1. Low, 2. Medium, 3. High) while replication feasibility on a bit different 3-point scale (1. Difficult, 2. Feasible, 3. Simple). If a practice is so complicated or requires too

much technical expertise, then it was rated as “Difficult” whilst if a practice can be replicated with required efforts then it was rated as “Feasible”. Finally, the obtained ratings (scores for each practice) from each member were then averaged, and thus top best practices in each category were identified that are discussed in the next section of this report.

## 3. THEMATIC ANALYSIS OF PRACTICES

### 3.1 Energy Conservation

The tourism industry is a significant contributor to global energy consumption and associated carbon emissions (Styles, Schönberger, & Galvez-Martos, 2013). Notably, hotels and similar accommodations use substantial amounts of energy for providing comfort and services to their guests, typically with an alarmingly low level of energy-efficiency (HES, 2011). The effects on the environment include emissions to and pollution of water resources, soil, and the air, noise, as well as the excessive use of locally available and/or imported natural and other resources. Whilst the 5.45 million hotel rooms in Europe represent half the global total number, European accommodations are estimated to be responsible for just 21% GHG emissions arising from accommodations globally (HES, 2011), suggesting better than average energy-efficiency in the European accommodations. However, energy-efficiency has traditionally represented a low priority for most accommodations, and there is considerable scope for energy savings in this sector, contributing to cost and carbon emission reductions.

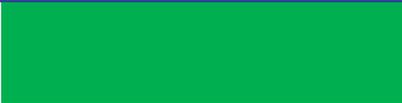
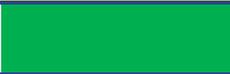
The total energy consumption for a typical hotel and the proportion of energy sourced from electricity compared with fuels such as natural gas, propane, liquid petroleum gas, and fuel oil, varies considerably across accommodations depending on the level of services offered, building design, climate occupancy, local energy infrastructure, and local regulations. Electricity accounts for approximately 40% of the energy consumed in a hotel (HES, 2011). Of this, approximately 45% is used for lighting, 26% for HVAC, 18% for other, 6% for water heating, and 5% for food services (Styles et al., 2013). Kitchens and laundries typically account for approximately 10% and 5% of energy consumption, respectively, in a large hotel, although these figures vary considerably depending on the size of the hotel restaurant and the amount of laundry that is processed on-site. Kitchens may represent up to 25% of energy consumption (Farrou, Santamouris, & Bindels, 2009). In short, there is a great potential for energy conservation across the hospitality industry. Hotels and similar accommodations may undertake several technological and non-technological practices to minimize energy consumption in guest areas, laundries, kitchens, and so on.

This report presents 26 practices that are directly related to energy conservation (see [Table 1](#)). As per the assessment done by the expert team, the top 10 energy conservation practices with reference to overall score are as follows: 1. use of CFL and LED lighting (see [Appendix 43](#)), 2. installation of solar water heating system (see [Appendix 38](#)), 3. installation of solar panels for electricity (see [Appendix 39](#)), 4. installation of combined heating and power system (see [Appendix 41](#)), 5. controlling building lights through a smart app (see [Appendix 61](#)), 6. installation of a biomass boiler to replace propane gas (see [Appendix 102](#)), 7. installation of wastewater heat recovery system (see [Table 42](#)), 8. centralized energy management system (see [Appendix 65](#)), 9. daylight harvesting (see [Appendix 47](#)), 10. use of pool covers (see [Appendix 94](#)). Nonetheless, the top 10 energy conservation practices with reference to replication feasibility are as follows: 1. use of CFL and LED lighting (see [Appendix 43](#)), 2. use of pool covers (see [Appendix 94](#)), 3. installation of motion sensors in hallways (see [Appendix 62](#)), 4. vertical garden walls (see [Appendix 51](#)), 5.

keycard systems to switch off rooms electricity (see Appendix [50](#)), 6. installation of secondary glazing windows (see Appendix [45](#)), 7. selection of efficient components for HVAC system (see Appendix [96](#)), 8. controlling building lights through a smart app (see Appendix [61](#)), 9. installation of a biomass boiler to replace propane gas (see Appendix [102](#)), 10. centralized energy management system (see Appendix [65](#)).

Table 1. Assessment of Energy Conservation Practices

| Practice Code      | Description                                       | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|--------------------|---|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">22</a> | Installation of sub-meters for kitchen            | Yellow                 | Yellow            | Red             | Yellow                  | 1.70                  |
| <a href="#">23</a> | Optimizing kitchen operations                     | Green                  | Yellow            | Red             | Yellow                  | 2.00                  |
| <a href="#">38</a> | Installation of solar water heating system        | Green                  | Green             | Yellow          | Yellow                  | 2.35                  |
| <a href="#">39</a> | Installation of solar panels for electricity      | Green                  | Green             | Yellow          | Yellow                  | 2.35                  |
| <a href="#">40</a> | Using geothermal energy                           | Green                  | Green             | Yellow          | Red                     | 2.10                  |
| <a href="#">41</a> | Installation of combined heating and power system | Green                  | Green             | Yellow          | Yellow                  | 2.20                  |
| <a href="#">42</a> | Installation of wastewater heat recovery system   | Green                  | Green             | Yellow          | Yellow                  | 2.20                  |
| <a href="#">43</a> | Use of CFL and LED lighting                       | Green                  | Green             | Yellow          | Green                   | 2.55                  |
| <a href="#">44</a> | Installation of light management control systems  | Green                  | Green             | Yellow          | Yellow                  | 2.10                  |
| <a href="#">45</a> | Installation of secondary glazing windows         | Yellow                 | Yellow            | Yellow          | Yellow                  | 2.05                  |
| <a href="#">46</a> | Installation of building automation systems       | Green                  | Green             | Red             | Red                     | 1.90                  |
| <a href="#">47</a> | Daylight harvesting                               | Green                  | Yellow            | Yellow          | Yellow                  | 2.15                  |
| <a href="#">48</a> | Zoned HVAC  | Green                  | Green             | Yellow          | Yellow                  | 2.10                  |
| <a href="#">49</a> | Installation of ERV systems                       | Green                  | Yellow            | Yellow          | Yellow                  | 2.10                  |
| <a href="#">50</a> | Keycard systems to switch off rooms electricity   | Yellow                 | Yellow            | Red             | Green                   | 2.00                  |
| <a href="#">51</a> | Vertical garden walls                             | Yellow                 | Red               | Yellow          | Green                   | 1.80                  |
| <a href="#">60</a> | Installation of smart thermostats                 | Green                  | Yellow            | Red             | Yellow                  | 1.95                  |
| <a href="#">61</a> | Controlling building lights through a smart App   | Green                  | Green             | Yellow          | Yellow                  | 2.20                  |
| <a href="#">62</a> | Installation of motion sensors in hallways        | Yellow                 | Yellow            | Red             | Green                   | 2.05                  |
| <a href="#">65</a> | Centralized energy management system              | Green                  | Green             | Red             | Yellow                  | 2.15                  |

|                     |   |  |   |   |      |
|---------------------|---|--|---|---|------|
| <a href="#">76</a>  | Using energy from own hydroelectric power station       |  |  |  | 2.00 |
| <a href="#">80</a>  | 100% wind energy power                                  |   |   |  | 1.90 |
| <a href="#">94</a>  | Use of pool covers                                      |  |  |  | 2.15 |
| <a href="#">96</a>  | Selection of efficient components for HVAC system       |  |  |  | 1.90 |
| <a href="#">97</a>  | Installation of geothermal heat pumps                   |   |   |   | 2.10 |
| <a href="#">102</a> | Installation of a biomass boiler to replace propane gas |  |  |  | 2.20 |

 Low   
  Medium   
  High

### 3.2 Water Conservation

It is reported that a tourist's consumption is usually higher than a resident's water consumption. Indeed, a European tourist consumes around 300 liters per day compared to a European resident consumption of 100 – 200 liters per day (EC, 2009; EEA, 2009). Although statistical data for water use in the tourism sector (as a whole) is lacking, it is obvious that water use in hotels and similar accommodations is the highest compared to other tourism organizations. The reasons for higher tourist water consumption in hotels and similar accommodations include maintenance of grounds (irrigation), daily room cleaning, daily laundry, maintenance of swimming pools, intensive kitchen activities, and a pleasure approach to showers and baths (Eurostat, 2009).

Although the share of tourism in global total water consumption is less than 1% (Gössling et al., 2012), since tourism is highly concentrated in destinations it contributes significantly to water stress in hotspot areas, especially the Mediterranean within Europe. It is worth noting that average tourist water consumption in European sun-holiday destinations in 2007 ranged from 149 liters per guest per night on the Spanish Balearic Islands to 450 liters per guest per night on the Greek Aegean islands, but water consumption up to 880 liters is quoted for luxury tourism in Majorca (UNEP, 2004).

Water typically accounts for approximately 10% of the utility bills in hotels but can vary considerably across different types of accommodation (Styles et al., 2013). The major areas of water consumption in accommodation are guest bathrooms, kitchens, laundry facilities, and communal toilet facilities. Swimming pools and the irrigation of green areas can contribute an additional 10 – 15% and 20 – 25%, respectively (Eurostat, 2009), and room cleaning approximately 12 – 47 liters per guest per night (Gössling et al., 2012). Employees can also contribute significantly to water use, with average water use for an office employee reported at 16 liters per day (Waggett & Arotzky, 2006). Depending on the cooling system installed, cooling towers may be responsible for a further 10 – 25% of water consumption in a hotel (Smith, Hargroves, Desha, & Stasinopoulos, 2009). In short, there is a great potential for water conservation across the hospitality industry. Hotels and similar accommodations may undertake several technological and non-technological practices to minimize water consumption in guest areas, laundries, kitchens, pool areas, cooling towers, and so on.

This report presents 16 practices that are directly related to water conservation (see [Table 2](#)). As per the assessment done by the expert team, the top 5 water conservation practices with reference to overall score are as follows: 1. installation of water-efficient bathroom fixtures (see Appendix [13](#)), 2. installation of sensor-controlled water faucets (see Appendix [69](#)), 3. collection and use of rainwater (see Appendix [14](#)), 4. optimizing laundry operations (see Appendix [17](#)), 5. selecting native plants for gardens (see Appendix [20](#)). Nonetheless, the top 10 water conservation practices with reference to replication feasibility are as follows: 1. installation of low-flush / dual-flush toilets (see Appendix [16](#)), 2. installation of water-efficient bathroom fixtures (see Appendix [13](#)), 3. installation of sensor-controlled water faucets (see Appendix [69](#)), 4. selecting native plants for gardens (see Appendix [20](#)), 5. installation of water-free urinals (see Appendix [81](#)).

Table 2. Assessment of Water Conservation Practices

| Practice Code       | Description  | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|---------------------|--|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">13</a>  | Installation of water-efficient bathroom fixtures                  | Green                  | Green             | Yellow          | Green                   | 2.45                  |
| <a href="#">14</a>  | Collection and use of rainwater                                    | Green                  | Green             | Yellow          | Yellow                  | 2.20                  |
| <a href="#">15</a>  | Recycling of greywater   | Green                  | Yellow            | Yellow          | Red                     | 2.05                  |
| <a href="#">16</a>  | Installation of low-flush / dual-flush toilets                     | Yellow                 | Yellow            | Red             | Green                   | 2.00                  |
| <a href="#">17</a>  | Optimizing laundry operations                                      | Green                  | Green             | Red             | Yellow                  | 2.20                  |
| <a href="#">18</a>  | Optimizing pool operations   | Green                  | Green             | Red             | Yellow                  | 2.00                  |
| <a href="#">19</a>  | Optimizing garden operations                                       | Yellow                 | Yellow            | Red             | Yellow                  | 1.95                  |
| <a href="#">20</a>  | Selecting native plants for gardens                                | Yellow                 | Yellow            | Yellow          | Green                   | 2.15                  |
| <a href="#">69</a>  | Installation of sensor-controlled water faucets                    | Green                  | Green             | Yellow          | Green                   | 2.35                  |
| <a href="#">74</a>  | Sustainable washbasin and WC                                       | Green                  | Green             | Yellow          | Yellow                  | 2.15                  |
| <a href="#">81</a>  | Installation of water-free urinals                                 | Yellow                 | Yellow            | Yellow          | Green                   | 2.15                  |
| <a href="#">82</a>  | Recycling water from kitchen sewage                                | Green                  | Yellow            | Yellow          | Yellow                  | 1.90                  |
| <a href="#">92</a>  | Installation of sub-meters in water-using areas                    | Yellow                 | Yellow            | Red             | Green                   | 2.00                  |
| <a href="#">93</a>  | Installation of thermostatic shower controls                       | Yellow                 | Yellow            | Red             | Green                   | 1.90                  |
| <a href="#">103</a> | Installation of a wastewater treatment plant for garden irrigation | Green                  | Green             | Red             | Yellow                  | 2.05                  |
| <a href="#">104</a> | Installation of desalination systems                               | Green                  | Yellow            | Red             | Yellow                  | 1.85                  |

■ Low    ■ Medium    ■ High

### 3.3 Waste Management

The UN has been expressing concern about environmental issues for the last few decades. Initially, the focus was on the manufacturing sector as the main culprit, but recent studies revealed a growing concern on the tourism sector whose activities also harm the environment (Bohdanowicz, 2005; Matai, 2015). Indeed, tourists may generate up to twice as much solid waste per capita as local residents (IFC, 2007). Although tourism is responsible for a small share of waste generation within Europe, contributing towards 6.7% of total waste generation in the EU (EEA, 2010). Nonetheless, the quantities of solid waste generated by tourism organizations are large in absolute terms – 35 million tonnes of solid waste per year globally (Styles et al., 2013).

Within the tourism sector, hotels and similar accommodations are the largest consumers of durable and non-durable goods resulting in large amounts of waste generated. They are also major contributors to packaging waste (Eurostat, 2010), including plastics and metals with high embodied energy that are responsible for significant resource depletion upon disposal. Waste from this sector has similar characteristics to mixed household waste, is composed of a diverse mix of materials, including organic and hazardous materials, that can give rise to significant environmental impacts upon disposal (especially through GHG emissions and leaching of toxic materials). Furthermore, waste in the tourism sector often varies seasonally and is generated in areas sensitive to littering, potentially putting pressure on waste management facilities during peak season and damaging high nature value resources. Plastic waste in the oceans poses a threat to marine life too (Styles et al., 2013).

Waste management simply refers to the activities or actions required to manage waste from its inception to its final disposal. This includes amongst other things, collection, transport, treatment, and disposal of waste together with monitoring and regulation. The EU aims at promoting waste treatment options in line with the waste hierarchy, notably favoring preparation for re-use and recycling over disposal operations such as landfilling. The hospitality industry in particular often pays little attention to their environmental responsibilities. That is, many hotels and accommodations have very little interest in reducing and/or recycling waste, believing that such activities are too expensive and time-consuming (Zorpas, Voukkali, & Loizia, 2015). It is therefore essential for the hospitality industry to develop an effective waste management system. To do so, hotels and accommodations may take the following steps. 1. characterization and quantification of waste, 2. understanding waste hierarchy so they can manage waste accordingly, 3. data analysis, 4. developing a framework and engaging stakeholders (Lawson, 2018).

This report presents 13 practices that are directly related to waste management (see [Table 3](#)). As per the assessment done by the expert team, the top 5 waste management practices with reference to overall score are as follows: 1. selling cooked leftovers through mobile apps (see [Appendix 32](#)), 2. reducing single-use plastics (see [Appendix 10](#)), 3. waste sorting bins in hotel rooms (see [Appendix 2](#)), 4. installation of a self-composting machine (see [Appendix 101](#)), 5. tracking and measuring food waste (see [Appendix 7](#)). Nonetheless, the top 5 waste management practices with reference to the replication feasibility are as follows: 1. waste sorting bins in hotel rooms (see [Appendix 2](#)), 2. installation of a self-composting machine (see [Appendix 101](#)), 3. reducing single-use plastics (see [Appendix 10](#)), 4. selling cooked leftovers through mobile apps (see [Appendix 32](#)), 5. switching to bulk-size bathroom amenities (see [Appendix 56](#)).

Table 3. Assessment of Waste Management Practices

| Practice Code       | Description   | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|---------------------|---|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">1</a>   | Turning food waste into water                           | High                   | Medium            | Low             | Medium                  | 1.95                  |
| <a href="#">2</a>   | Waste sorting bins in hotel rooms                       | High                   | Medium            | Medium          | High                    | 2.30                  |
| <a href="#">5</a>   | Buying fruits and vegetables on the demand of guests    | High                   | Medium            | Medium          | Medium                  | 1.95                  |
| <a href="#">7</a>   | Tracking and measuring food waste                       | High                   | High              | Medium          | Medium                  | 2.25                  |
| <a href="#">8</a>   | Separating organic waste to produce biogas              | High                   | High              | Low             | Medium                  | 2.10                  |
| <a href="#">10</a>  | Reducing single-use plastics                            | High                   | High              | Medium          | High                    | 2.35                  |
| <a href="#">11</a>  | Providing straw baskets                                 | Medium                 | Medium            | Medium          | Medium                  | 1.90                  |
| <a href="#">21</a>  | Installation of in-house filtered water bottling system | High                   | Medium            | Low             | Medium                  | 2.10                  |
| <a href="#">31</a>  | Donating (upcycling) textile and packaging waste        | High                   | Low               | Medium          | Medium                  | 1.80                  |
| <a href="#">32</a>  | Selling cooked leftovers through mobile apps            | High                   | High              | Medium          | Medium                  | 2.40                  |
| <a href="#">53</a>  | Recycling mattresses and box springs                    | High                   | Medium            | Medium          | Medium                  | 1.95                  |
| <a href="#">56</a>  | Switching to bulk-size bathroom amenities               | High                   | High              | Medium          | Medium                  | 2.25                  |
| <a href="#">101</a> | Installation of self-composting machine                 | High                   | Medium            | Medium          | High                    | 2.30                  |

■ Low   
 ■ Medium   
 ■ High

### 3.4 Green Procurement

The concept of green procurement stems from pollution prevention principles and activities. Green procurement implies purchasing products and services that cause minimal adverse environmental impacts. It incorporates human health and environmental concerns into the search for high-quality products and services at competitive prices (EPD, 2018).

Green procurement policies can be applied to all organizations, regardless of size or sector. Green procurement programs may be as simple as purchasing renewable energy or recycled office paper or more involved such as setting environmental requirements for suppliers and contractors (GDRC, 2015). Green procurement strongly discourages purchasing of single-use disposable items instead it encourages purchasing of products that possess the following characteristics (EPD, 2018).

- improved recyclability, high recycled content, reduced packing, and greater durability
- greater energy efficiency
- utilizing clean technology and/or clean fuels
- reducing water consumption
- Emitting fewer irritating or toxic substances during installation or use or producing less toxic substance upon disposal.

It is a misconception that green procurement is expensive. Indeed, green procurement programs reduce expenditure and waste, increase resource efficiency, protect natural resources, and enhance organizational reputation (StopWaste, 2020).

A first step to develop a green procurement program is to create a policy statement. It is beneficial to create a policy statement to inform staff about the hotel’s purchasing preferences, guide future purchasing decisions, and notify customers about the hotel’s purchasing practices (NERC, 2011). Next, it is also important to keep inventory and record the existing products purchased, including descriptions (e.g. % of recycled content in paper products, toxicity levels in cleaning products, and other chemicals used). In this way, a hotel or any organization can eliminate non-green items and it can also help in finding suppliers that offer greener choices.

It is suggested to ask the supplier for samples when deciding which green products to purchase. This is a common practice that helps purchasers and staff test a product before committing to purchasing it. It may take testing several products before finding the one that satisfies the hotel’s requirements. Again, it is important to keep a list of product purchases, purchase costs, and money saved as a result of using each product. This information will prove to be useful when making future purchasing decisions and will help hotels and other organizations to keep continue green procurement programs (NERC, 2011).

This report presents 14 practices that are directly related to green procurement (see [Table 4](#)). As per the assessment done by the expert team, the top 5 green procurement practices with reference to overall score are as follows: 1. calculated procurement of foodstuff (see Appendix [57](#)), 2. purchasing from local suppliers (see Appendix [59](#)), 3. providing meals comprised of ingredients produced in own farm (see Appendix [30](#)), 4. purchase of energy-efficient appliances for the kitchen (see Appendix [67](#)), 5. purchase of efficient electrical equipment (see Appendix [98](#)). Nonetheless, the top 5 green procurement practices with reference to replication feasibility are as follows: 1. replacing liquid soap with soap flake dispenser (see Appendix [25](#)), 2. calculated procurement of foodstuff (see Appendix [57](#)), 3. purchasing from local suppliers (see Appendix [59](#)), 4. purchase of energy-efficient appliances for the kitchen (see Appendix [67](#)), 5. purchase of efficient electrical equipment (see Appendix [98](#)).

Table 4. Assessment of Green Procurement Practices

| Practice Code      | Description   | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|--------------------|---|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">25</a> | Replacing liquid soap with soap flake dispenser               |                        |                   |                 |                         | 1.95                  |
| <a href="#">30</a> | Providing meals comprised of ingredients produced in own farm |                        |                   |                 |                         | 2.40                  |

|                    |   |      |        |     |      |
|--------------------|---|------|--------|-----|------|
| <a href="#">54</a> | Using bed linen made from recycled plastic bottles          | High | Medium | Low | 1.95 |
| <a href="#">55</a> | Using duvets and pillows made from recycled plastic bottles | High | Medium | Low | 2.00 |
| <a href="#">57</a> | Calculated procurement of foodstuff                         | High | Medium | Low | 2.55 |
| <a href="#">59</a> | Purchasing from local suppliers                             | High | Medium | Low | 2.45 |
| <a href="#">63</a> | Purchase and use of high-efficiency laundry equipment       | High | Medium | Low | 2.15 |
| <a href="#">64</a> | Purchase and use of efficient dishwashers                   | High | Medium | Low | 2.05 |
| <a href="#">67</a> | Purchase of energy-efficient appliances for the kitchen     | High | Medium | Low | 2.25 |
| <a href="#">71</a> | Using carpets produced from recycled plastic bottles        | High | Medium | Low | 1.90 |
| <a href="#">72</a> | Bathroom articles made with 100% organic materials          | High | Medium | Low | 2.05 |
| <a href="#">95</a> | Purchase of reusable plastic cups                           | High | Medium | Low | 2.15 |
| <a href="#">98</a> | Purchase of efficient electrical equipment                  | High | Medium | Low | 2.25 |
| <a href="#">99</a> | Green procurement of food and drink products                | High | Medium | Low | 2.15 |

■ Low   
 ■ Medium   
 ■ High

### 3.5 Green Building

Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation, and demolition. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high-performance building (EPA, 2016).

Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, and other resources
- Protecting occupant health and improving employee productivity
- Reducing waste, pollution, and environmental degradation

For example, green buildings may incorporate sustainable materials in their construction (e.g., reused, recycled-content, or made from renewable resources), create healthy indoor environments with minimal pollutants (e.g., reduced product emissions), and/or feature landscaping that reduces water usage (e.g., by using native plants that survive without extra watering).

Hotels and similar accommodations may feel that they might not be able to adopt the concept of green building because it will cost them too much money. However, it is simply a common misconception. While it may cost hotels and similar accommodation a bit more to get started when they decide to go green, because green materials and products can be more costly, they should imagine the type of savings that they will be able to reap.

This report presents 5 practices that are directly related to green building (see [Table 5](#)). As per the assessment done by the expert team, the top 3 green building practices with reference to overall score are as follows: 1. adapting building design for sustainability (see Appendix [26](#)), 2. improving building envelope (see Appendix [66](#)), 3. eco-renovation of old accommodations (see Appendix [29](#)). Nonetheless, the top 3 green building practices with references to replication feasibility are as follows: 1. large glass windows in building design (Appendix [52](#)), 2. adapting building design for sustainability (see Appendix [26](#)), 3. eco-renovation of old accommodations (see Appendix [29](#)).

Table 5. Assessment of Green Building Practices

| Practice Code      | Description                                      | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|--------------------|--|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">26</a> | Adapting building design for sustainability      | High                   | High              | Medium          | Medium                  | 2.40                  |
| <a href="#">29</a> | Eco-renovation of old accommodations             | High                   | High              | High            | Medium                  | 2.25                  |
| <a href="#">52</a> | Large glass windows in building design           | High                   | High              | Medium          | Medium                  | 2.10                  |
| <a href="#">66</a> | Improving building envelope                      | High                   | High              | Medium          | Low                     | 2.30                  |
| <a href="#">83</a> | Re-usable wall panels made from fertilizer waste | High                   | High              | High            | Medium                  | 2.10                  |

■ Low   
 ■ Medium   
 ■ High

### 3.6 Awareness and Behavioral Change

There are several technical measures that tourism organizations, particularly hotels and similar accommodations, may undertake for energy conservation, water conservation, waste management, and so on. However, technical measures alone are insufficient to achieve these objectives at the maximum level. Put differently, technical solutions alone cannot develop sustainable tourism since psychological and behavioral traits often undermine the viability of technical solutions (Heidbreder, Bablok, Drews, & Menzel, 2019). In short, both the technical solutions and pro-environmental human behavior are essential for developing sustainable tourism.

Several studies show that despite their declared positive attitudes towards sustainable tourism, only a few tourists act accordingly by buying responsible tourism products, choosing environmentally friendly transportation, or behaving responsibly towards destination communities (Budeanu, 2007). Hence, it is important for tourism organizations, particularly hotels and similar accommodations, to also pay attention to how to raise sustainability awareness among tourists and/or how to positively influence the behavior of their guests.

This report presents 12 practices that are directly related to awareness and behavioral change (see [Table 6](#)). As per the assessment done by the expert team, the top 5 awareness and behavioral change practices with reference to overall score are as follows: 1. training employees on sustainability practices (see Appendix [37](#)), 2. encouraging guests to explore attractions by public transport/foot (see Appendix [33](#)), 3. travel agency educating own customers (see Appendix [88](#)), 4. reuse of towels and bed linen (see Appendix [3](#)), 5. raising awareness of the visitors (see Appendix [79](#)). Nonetheless, the top 5 awareness and behavioral change practices with reference to replication feasibility are as follows: 1. encouraging guests to explore attractions by public transport/foot (see Appendix [33](#)), 2. reuse of towels and bed linen (see Appendix [3](#)), 3. encouraging guests to take away their leftover food (see Appendix [28](#)), 4. reducing the use of chemicals (see Appendix [84](#)), 5. travel agency educating own customers (see Appendix [88](#)).

Table 6. Assessment of Awareness and Behavioural Change Practices

| Practice Code       | Description  | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|---------------------|--|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">3</a>   | Reuse of towels and bed linen                                      | Green                  | Green             | Yellow          | Green                   | 2.40                  |
| <a href="#">28</a>  | Encouraging guests to take away their leftover food                | Green                  | Yellow            | Yellow          | Green                   | 2.35                  |
| <a href="#">33</a>  | Encouraging guests to explore attractions by public transport/foot | Green                  | Yellow            | Green           | Green                   | 2.55                  |
| <a href="#">37</a>  | Training employees on sustainability practices                     | Green                  | Green             | Green           | Green                   | 2.60                  |
| <a href="#">68</a>  | Sand timer for hotel showers                                       | Yellow                 | Yellow            | Yellow          | Green                   | 2.10                  |
| <a href="#">70</a>  | Smart plughole   | Yellow                 | Yellow            | Yellow          | Yellow                  | 1.90                  |
| <a href="#">75</a>  | Steam cleaning   | Green                  | Yellow            | Green           | Green                   | 2.25                  |
| <a href="#">79</a>  | Raising awareness of the visitors                                  | Green                  | Yellow            | Green           | Green                   | 2.40                  |
| <a href="#">84</a>  | Reducing the use of chemicals                                      | Green                  | Yellow            | Yellow          | Green                   | 2.30                  |
| <a href="#">88</a>  | Travel agency educating own customers                              | Green                  | Yellow            | Green           | Green                   | 2.50                  |
| <a href="#">89</a>  | Planning eco-friendly tour activities                              | Green                  | Yellow            | Green           | Green                   | 2.40                  |
| <a href="#">100</a> | Reward guests/clients/visitors for responsible behavior            | Yellow                 | Red               | Yellow          | Green                   | 2.10                  |

■ Low   
 ■ Medium   
 ■ High

### 3.7 Sustainable Mobility

The concept of sustainable mobility derives from the broader concept of “sustainable development”. The term “sustainable mobility” was first introduced in 1992, five years after the Brundtland report (EC, 1992). The objective of sustainable mobility is “to ensure that our transport systems meet society’s economic, social and environmental needs whilst minimizing their undesirable impacts on the economy, society and the environment” (EC, 1992). It is worth mentioning that all the definitions of sustainable mobility stress that it is not enough to refer to environmental aspects, although they are of primary importance, but also social and economic impacts must be taken into account (Gallo & Marinelli, 2020). Put differently, strategies to pursue the objective of sustainable mobility cannot be limited to producing/using less polluting transport systems, although this is of fundamental importance.

Sustainable mobility can play an important role in the development of sustainable tourism as tourism-related transport, especially road and air traffic, is on the rise, and contributes considerably to greenhouse gas emissions, pollution, and climate change. Developing and encouraging the use of different modes of transport with low impact on the environment, e.g. cycling, walking, car-sharing, fuel-efficient transport systems, and the use of electric vehicles is a key to reducing the tourists’ ecological footprint (DestiNet, 2020). To achieve this, consistent and innovative sustainable mobility strategies and measures need to be formulated and introduced at the destination as well as the business level (DestiNet, 2020).

This report presents 4 practices that are directly related to sustainable mobility (see [Table 7](#)). As per the assessment done by the expert team, the top 3 sustainable mobility practices with reference to overall score are as follows: 1. promote public transport in tour packages (see Appendix [87](#)), 2. renting bicycles to guests (see Appendix [34](#)), 3. providing sustainable mobility to employees (see Appendix [35](#)). Interestingly, the top 3 sustainable mobility practices with reference to replication feasibility are also the same: 1. promote public transport in tour packages (see Appendix [87](#)), 2. renting bicycles to guests (see Appendix [34](#)), 3. providing sustainable mobility to employees (see Appendix [35](#)).

Table 7. Assessment of Sustainable Mobility Practices

| Practice Code      | Description  | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|--------------------|--|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">9</a>  | Installation of an electric vehicle charging station | Medium                 | Low               | Low             | Medium                  | 1.70                  |
| <a href="#">34</a> | Renting bicycles to guests                           | High                   | Medium            | High            | High                    | 2.45                  |
| <a href="#">35</a> | Providing sustainable mobility to employees          | High                   | Medium            | High            | Medium                  | 2.40                  |
| <a href="#">87</a> | Promote public transport in tour packages            | High                   | High              | High            | High                    | 2.50                  |

■ Low   
 ■ Medium   
 ■ High

### 3.8 Corporate Social Responsibility (CSR)

Corporate social responsibility (CSR) is a type of international private business self-regulation (Sheehy, 2014) that aims to contribute to societal goals of a philanthropic, activist, or charitable nature by engaging in or supporting volunteering or ethically-oriented practices (Kotler & Nancy, 2004). CSR helps an organization be socially accountable—to itself, its stakeholders, and the public. By practicing CSR, organizations can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental. Many organizations view CSR as an integral part of their brand image, believing that customers will be more likely to do business with brands that they perceive to be more ethical. In this sense, CSR activities can be an important component of corporate public relations. At the same time, some founders or top managers of organizations are also motivated to engage in CSR due to their personal convictions.

CSR in tourism can be defined as a guiding business policy whereby tourism organizations integrate social and environmental concerns in their own business mission, strategies, and operations as well as in their interaction with their stakeholders. Simply put, CSR is a tourism organization’s contribution to sustainable development (Lund-Durlacher, 2015).

CSR was first implemented in the tourism sector in the late 1990s by international hotel corporations. Many international hotel chains have integrated CSR measures such as Marriott International with the program “Spirit to Serve Our Communities” and NH Hotel Group with the program “Street Children” (Lund-Durlacher, 2015). Today, many hotel chains publish annual CSR reports on their websites (e.g. Accor, Hilton Hotel Corporation, InterContinental Hotels, NH Hotel Group, etc.). There are many best practice examples of hotels implementing CSR into their strategies and operations, among them “the Planet 21 program” of Accor hotels and “the Spirit to Serve our Communities program” of Marriott.

In the past few years, travel agencies and tour operators have become increasingly engaged in implementing CSR measures due to growing consumer awareness and sensibility towards ecologically and socially compliant behavior. Tour operators, which typically combine different travel components such as transportation, accommodation, site visits, etc. to create a travel package, face extraordinary challenges when implementing CSR into their business as they not only have to evaluate CSR measures within their own organization but also along the value chain (Lund-Durlacher, 2015).

This report presents 7 practices that are directly related to CSR (see [Table 8](#)). As per the assessment done by the expert team, the top 3 CSR practices with reference to overall score are as follows: 1. donating unusable furniture (see [Appendix 58](#)), 2. food donation (see [Appendix 4](#)), 3. travel agencies offsetting carbon emissions (see [Appendix 24](#)). Nonetheless, the top 3 CSR practices with reference to replication feasibility are as follows: 1. donating unusable furniture (see [Appendix 58](#)), 2. distributing food amongst the staff (see [Appendix 6](#)), 3. food donation (see [Appendix 4](#)).

Table 8. Assessment of CSR Practices

| Practice Code     | Description                         | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|-------------------|-------------------------------------|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">4</a> | Food donation                       |                        |                   |                 |                         | 2.35                  |
| <a href="#">6</a> | Distributing food amongst the staff |                        |                   |                 |                         | 1.90                  |

|                    |   |      |        |        |      |
|--------------------|---|------|--------|--------|------|
| <a href="#">12</a> | Planting trees to offset carbon emissions           | High | Low    | Medium | 2.05 |
| <a href="#">24</a> | Travel agencies offsetting carbon emissions         | High | Medium | High   | 2.30 |
| <a href="#">58</a> | Donating unusable furniture                         | High | Low    | High   | 2.40 |
| <a href="#">73</a> | Calculating carbon footprint for each event         | High | Medium | High   | 2.20 |
| <a href="#">78</a> | Increasing emotional well-being during the pandemic | Low  | High   | Medium | 2.00 |

■ Low   
 ■ Medium   
 ■ High

### 3.9 Others (Collaboration, Policy, etc.)

Previous sections pointed out various practices (technological and non-technological) that tourism organizations may undertake for energy conservation, water conservation, waste management, and so on. However, some of those practices or cases require complementary actions. For instance, separating organic waste, though a waste management practice but to produce biogas a tourism organization might have to collaborate with a biogas plant. If a hotel wants to recycle bed mattresses, a waste management initiative, but this hotel cannot do this task alone and therefore it will have to collaborate with a partner having relevant expertise. However, some practices could not be purely (directly) classified into previously mentioned categories and so they are separately listed in this section. For instance, appointing a specific team, training employees, and giving compensation to employees are purely related to the policy of the organization and are not directly related to energy conservation, water conservation, waste management, and so on.

This report presents 9 practices that directly fall into a category as others (see [Table 9](#)). As per the assessment done by the expert team, the top 5 other category practices with reference to overall score are as follows: 1. formulation of a sustainability policy (see [Appendix 27](#)), 2. appointing an internal green team (see [Appendix 36](#)), 3. booking accommodation from sustainable establishments (see [Appendix 105](#)), 4. policy to encourage sustainable traveling (see [Appendix 85](#)), 5. booking eco-friendly touristic activities (see [Appendix 106](#)). Nonetheless, the top 5 other category practices with reference to replicability feasibility are as follows: 1. booking accommodation from sustainable establishments (see [Appendix 105](#)), 2. booking eco-friendly touristic activities (see [Appendix 106](#)), 3. formulation of a sustainability policy (see [Appendix 27](#)), 4. policy to encourage sustainable traveling (see [Appendix 85](#)), 5. measuring the carbon footprint of the organization (see [Appendix 90](#)).

Table 9. Assessment of Others (Collaboration, Policy, etc) Practices

| Practice Code      | Description                            | Environmental Benefits | Economic Benefits | Social Benefits | Replication Feasibility | Overall Score (1 – 3) |
|--------------------|--|------------------------|-------------------|-----------------|-------------------------|-----------------------|
| <a href="#">27</a> | Formulation of a sustainability policy | High                   | High              | Medium          | High                    | 2.45                  |
| <a href="#">36</a> | Appointing an internal green team      | High                   | Medium            | High            | Medium                  | 2.45                  |

|                     |   |        |        |        |      |
|---------------------|---|--------|--------|--------|------|
| <a href="#">77</a>  | Disinfecting swimming pools through own salt electrolysis | High   | Medium | High   | 2.05 |
| <a href="#">85</a>  | Policy to encourage sustainable traveling                 | High   | Medium | High   | 2.35 |
| <a href="#">86</a>  | Contract with or choose only green accommodations         | High   | Medium | High   | 2.25 |
| <a href="#">90</a>  | Measuring the carbon footprint of the organization        | High   | Medium | High   | 2.25 |
| <a href="#">91</a>  | Compensating employees for environmental initiatives      | Medium | Low    | Medium | 2.00 |
| <a href="#">105</a> | Booking accommodation from sustainable establishments     | High   | Medium | High   | 2.45 |
| <a href="#">106</a> | Booking eco-friendly touristic activities                 | High   | Low    | High   | 2.30 |

■ Low   
 ■ Medium   
 ■ High

### 3.10 Summary – 30 Best Practices

This section summarizes 30 best practices, irrespective of their category, that SMEs might consider for the implementation.

Table 10. 30 Best Practices by Overall Score

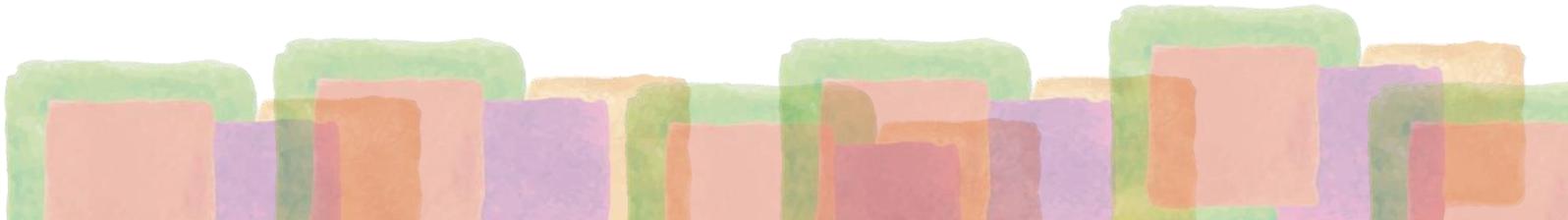
| Practice Code       | Description  | Overall Score (1 – 3) |
|---------------------|--|-----------------------|
| <a href="#">37</a>  | Training employees on sustainability practices                     | 2.60                  |
| <a href="#">33</a>  | Encouraging guests to explore attractions by public transport/foot | 2.55                  |
| <a href="#">43</a>  | Use of CFL and LED lighting  | 2.55                  |
| <a href="#">57</a>  | Calculated procurement of foodstuff                                | 2.55                  |
| <a href="#">87</a>  | Promote public transport in tour packages                          | 2.50                  |
| <a href="#">88</a>  | Travel agency educating own customers                              | 2.50                  |
| <a href="#">13</a>  | Installation of water-efficient bathroom fixtures                  | 2.45                  |
| <a href="#">27</a>  | Formulation of a sustainability policy                             | 2.45                  |
| <a href="#">36</a>  | Appointing an internal green team                                  | 2.45                  |
| <a href="#">59</a>  | Purchasing from local suppliers                                    | 2.45                  |
| <a href="#">105</a> | Booking accommodation from sustainable establishments              | 2.45                  |
| <a href="#">34</a>  | Renting bicycles to guests   | 2.45                  |
| <a href="#">35</a>  | Providing sustainable mobility to employees                        | 2.40                  |
| <a href="#">3</a>   | Reuse of towels and bed linen                                      | 2.40                  |
| <a href="#">26</a>  | Adapting building design for sustainability                        | 2.40                  |
| <a href="#">30</a>  | Providing meals comprised of ingredients produced in own farm      | 2.40                  |

|                    |   |      |
|--------------------|---|------|
| <a href="#">32</a> | Selling cooked leftovers through mobile apps        | 2.40 |
| <a href="#">58</a> | Donating unusable furniture                         | 2.40 |
| <a href="#">79</a> | Raising awareness of the visitors                   | 2.40 |
| <a href="#">89</a> | Planning eco-friendly tour activities               | 2.40 |
| <a href="#">4</a>  | Food donation                                       | 2.35 |
| <a href="#">28</a> | Encouraging guests to take away their leftover food | 2.35 |
| <a href="#">38</a> | Installation of solar water heating system          | 2.35 |
| <a href="#">39</a> | Installation of solar panels for electricity        | 2.35 |
| <a href="#">85</a> | Policy to encourage sustainable traveling           | 2.35 |
| <a href="#">10</a> | Reducing single-use plastics                        | 2.35 |
| <a href="#">69</a> | Installation of sensor-controlled water faucets     | 2.35 |
| <a href="#">2</a>  | Waste sorting bins in hotel rooms                   | 2.30 |
| <a href="#">24</a> | Travel agencies offsetting carbon emissions         | 2.30 |
| <a href="#">66</a> | Improving building envelope                         | 2.30 |

Table 11. 30 Best Practices by Replication Feasibility

| Practice Code       | Description  | Replication Feasibility (1 – 3) |
|---------------------|--|---------------------------------|
| <a href="#">2</a>   | Waste sorting bins in hotel rooms                                  | 3.00                            |
| <a href="#">3</a>   | Reuse of towels and bed linen                                      | 3.00                            |
| <a href="#">16</a>  | Installation of low-flush / dual-flush toilets                     | 3.00                            |
| <a href="#">25</a>  | Replacing liquid soap with soap flake dispenser                    | 3.00                            |
| <a href="#">28</a>  | Encouraging guests to take away their leftover food                | 3.00                            |
| <a href="#">33</a>  | Encouraging guests to explore attractions by public transport/foot | 3.00                            |
| <a href="#">43</a>  | Use of CFL and LED lighting  | 3.00                            |
| <a href="#">58</a>  | Donating unusable furniture  | 3.00                            |
| <a href="#">84</a>  | Reducing the use of chemicals                                      | 3.00                            |
| <a href="#">101</a> | Installation of self-composting machine                            | 3.00                            |
| <a href="#">105</a> | Booking accommodation from sustainable establishments              | 3.00                            |
| <a href="#">106</a> | Booking eco-friendly touristic activities                          | 3.00                            |
| <a href="#">6</a>   | Distributing food amongst the staff                                | 2.80                            |
| <a href="#">13</a>  | Installation of water-efficient bathroom fixtures                  | 2.80                            |
| <a href="#">20</a>  | Selecting native plants for gardens                                | 2.80                            |
| <a href="#">57</a>  | Calculated procurement of foodstuff                                | 2.80                            |
| <a href="#">68</a>  | Sand timer for hotel showers                                       | 2.80                            |
| <a href="#">69</a>  | Installation of sensor-controlled water faucets                    | 2.80                            |
| <a href="#">88</a>  | Travel agency educating own customers                              | 2.80                            |
| <a href="#">100</a> | Reward guests/clients/visitors for responsible behavior            | 2.80                            |
| <a href="#">87</a>  | Promote public transport in tour packages                          | 2.60                            |
| <a href="#">27</a>  | Formulation of a sustainability policy                             | 2.60                            |
| <a href="#">59</a>  | Purchasing from local suppliers                                    | 2.60                            |
| <a href="#">34</a>  | Renting bicycles to guests   | 2.60                            |
| <a href="#">79</a>  | Raising awareness of the visitors                                  | 2.60                            |
| <a href="#">89</a>  | Planning eco-friendly tour activities                              | 2.60                            |
| <a href="#">10</a>  | Reducing single-use plastics                                       | 2.60                            |

|                    |   |      |
|--------------------|---|------|
| <a href="#">67</a> | Purchase of energy-efficient appliances for the kitchen | 2.60 |
| <a href="#">75</a> | Steam cleaning  | 2.60 |
| <a href="#">94</a> | Use of pool covers                                      | 2.60 |



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## 5. APPENDIXES – DESCRIPTION OF PRACTICES

### Appendix – 1

#### 5.1 Turning food waste into water

##### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

##### ■ Description:

Tourism is responsible for a small share of waste generation within Europe, contributing towards 6.7% of total waste generation. Nonetheless, the quantities of solid waste generated by tourism enterprises are large in absolute terms. Tourists may generate up to twice as much solid waste per capita as the residents of that city. Wasted food is a major contributor to climate change because most of it ends up in landfill sites where it rots and releases methane, a damaging greenhouse gas. It is also a huge waste of the energy, water, and packaging used in its production, transportation, and storage. The hospitality sector in Germany generates an average quantity of approximately 80,000 tons of food waste per year, which corresponds to 136 g of wasted food per meal.

The Cordis Hotel in Auckland (New Zealand) has embraced a process that turns food waste into water. The system is capable of turning 1,000 kg of discarded food waste into water every 24 hours.

To do this, the Cordis Hotel uses a technique called ORCA. The method involves using a stainless-steel container with a door through which employees deposit food waste. The machine next goes on to consume waste as if it were food, mimicking the process of human digestion. This complex scientific process has the potential to become one day standard among environmentally-conscious hotels. The ORCA machine creates a perfect biological environment for microorganisms to digest food waste, a process that ultimately converts it to water which is carried away through the sewers, reducing the amount of physical waste the hotel produces.

All their food waste is being diverted from landfills, now processed on-site by the ORCA technology. This process has enabled the Cordis Hotel to eliminate the need to truck off its food waste to a landfill and thus also reduces carbon emissions by eliminating associated road use and compositing. Through the ORCA machine, the Cordis Hotel is avoiding landfill costs. The obtained water can be used and so it can save other costs too. An empirical study conducted in Germany also shows that measures to reduce food waste can lead to annual monetary savings of approximately 9000 euros per kitchen.

**■ Environmental Benefits:**

Perceived Rating: 2.80

**■ Economic Benefits:**

Perceived Rating: 2.00

**■ Social Benefits:**

Perceived Rating: 1.40

**■ Replication Feasibility:**

Perceived Rating: 1.60

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://doi.org/10.1016/j.indmarman.2020.08.008>

<http://www.greentourism.eu/en/BestPractice/Details/29>

<https://tophotel.news/waste-not-want-not-how-one-kiwi-hotel-is-turning-its-food-waste-to-water/>

<https://www.feedtheorca.com>

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## Appendix – 2

### 5.2 Waste sorting bins in hotel rooms

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Tourism is responsible for a small share of waste generation within Europe, contributing towards 6.7% of total waste generation. Nonetheless, the quantities of solid waste generated by tourism enterprises are large in absolute terms. Tourists may generate up to twice as much solid waste per capita as the residents of that city.

The Hilton Slussen in Stockholm (Sweden) has implemented sorting bins in every room so that guests can sort their waste under three different categories and contribute to the recycling process:

- Red box: hard plastics (e.g. shampoo bottles) and metal (e.g. bottle caps)
- Green box: organic waste (e.g. apple cores)
- Black box: paper (e.g. newspapers and magazines)

Through this practice more than 125 tons per month being sent to the landfill were reduced by 76%, reducing the total waste generated per guest per night up to 0.3 kg. In this way, the Hilton Slussen in Stockholm (Sweden) avoided landfill costs.

#### Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<http://www.greentourism.eu/en/BestPractice/IndexByCategory/4>

<https://www.esomar.org/uploads/public/events-and-awards/events/2014/digital-dimensions/documents/Hilton-Stockholm-Slussen-ENVIRONMENTAL-STATEMENT.pdf>

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## Appendix – 3

### 5.3 Reuse of towels and bed linen

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Bedding and towel laundry lead to significant energy and water consumption. A typical room with 4 kg of laundry requires up to 60 liters of water. Beddings and towels are normally changed every day for guests staying several days. However, such a practice could be reduced to only 1 to 2 times a week or at guests' request.

Pro-environmental appeals to encourage guests to reuse towels and bed linen is often effective to limit their indirect water consumption. Literature shows that comprehensive message designs can increase towel reuse by 6.8% and bed linen reuse by 1.2%, compared to existing in-room messages. It is also noted that when encouraged, 70% of guests adhere positively to this approach.

There are many approaches to promote the reuse of towels and bed linen to guests in a way that excites them and motivates them to take part. The three most common techniques are:

- Provide literature that emphasizes the reduced environmental impact you desire for the hotel.
- Indicate it is hotel policy, and guests must comply.
- Tell guests everyone else is doing it, so they should too!

The ACE Hotel in New York (USA) promotes the reuse of towels through a fun message.

The Yök Casa Cultura in Barcelona (Spain) explicitly requests their guests to use towels wisely and reuse them when they still can.

The reuse of towels and bed linen leads to water and energy savings, as well as reduces chemical use. If guests are convinced to use their towels and bed linen for two days rather than one day, resource use can be reduced by 50% in such hotels, representing a considerable potential to align environmental and economic benefits. Even though the laundry of bedding and towel only accounts for a small share of water use in hotels, laundry is also energy-intensive and requires the use of detergent, while towel and bed linen replacement is time-intensive. Both aspects represent additional cost factors, i.e. energy and detergent costs as well as staff working time. Empirical assessments show that the daily cost associated with providing fresh towels is estimated to be about \$1.50 per hotel room. Hotels can conserve water and save energy with guests' towel reuse activities while decreasing their detergent consumption and labor costs. It

is also worth noting that 1 in 3 people globally does not have access to safe drinking water. This simple practice can conserve water for future generations.

**■ Environmental Benefits:**

Perceived Rating: 2.40

**■ Economic Benefits:**

Perceived Rating: 2.60

**■ Social Benefits:**

Perceived Rating: 1.60

**■ Replication Feasibility:**

Perceived Rating: 3.00

**■ Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://doi.org/10.1016/j.tourman.2018.08.027>

<https://doi.org/10.1016/j.tourman.2017.08.005>

<http://www.greentourism.eu/en/BestPractice/Details/1>

<https://www.helloyok.com/reuse-your-hotel-towel/>

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## Appendix – 4

### 5.4 Food donation

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The UN estimates that 33% of the world’s food is wasted, while this number increases to 40% in the USA which could be sufficient to feed 2 billion people. Uneaten food has dire consequences: decomposing waste releases methane, a potent greenhouse gas. According to the UN, if food waste was its own country, it would be the third-largest emitter of greenhouse gas in the world, after the USA and China. It is worth mentioning that 1 in every 7 people in the world goes to bed hungry and more than 20,000 children under the age of 5 die daily from hunger.

The Hilton in Virginia (USA) announced an innovative food donation initiative to all of its managed hotels across the USA and Canada, representing one of the largest hotel food donation programs to date. It expects to donate nearly 100 tons of food over the next year — enough to feed more than 160,000 people — while also diverting millions of pounds of food waste from landfills. The Hilton is doing so by encouraging its 300 managed hotels in the USA and Canada to partner with local food rescue organizations to feed the hungry in their immediate communities. Each hotel will set a food waste diversion and donation goal for 2020 and report their progress so top performers can be recognized each month. Hotel teams will be able to select organizations to work with from a robust directory of food donation and diversion partners from across the country, as well as connect each other to share best practices.

The Stadsvilla Mout in Schiedam (the Netherlands) often donates leftover (uneaten) sandwiches from meetings at the hotel to the construction company next door.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

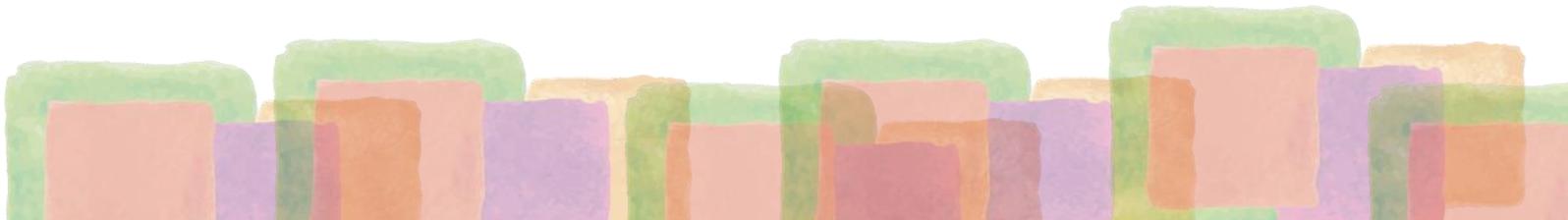
#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 3.00

#### ■ Replication Feasibility:



Perceived Rating: 2.40

### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

### ■ Source:

<https://www.ecowatch.com/food-waste-people-in-need-2649698860.html>

<https://newsroom.hilton.com/corporate/news/food-donation-initiative-reaches-nearly-300-hilton-hotels-for-holidays>

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

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## Appendix – 5

### 5.5 Buying fruits and vegetables on demand of guests

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The UN estimates that 33% of the world's food is wasted, while this number increases to 40% in the USA which could be sufficient to feed 2 billion people. Uneaten food has dire consequences: decomposing waste releases methane, a potent greenhouse gas. According to the UN, if food waste was its own country, it would be the third-largest emitter of greenhouse gas in the world, after the USA and China. It is worth mentioning that 1 in every 7 people in the world goes to bed hungry and more than 20,000 children under the age of 5 die daily from hunger.

The Yök Casa Cultura in Barcelona (Spain) aims to avoid food waste at any cost. Therefore, they buy all fruit and vegetables fresh and only upon demand. This practice not only helps Yök Casa Cultura to buy fresh fruit and vegetables but also helps in reducing their food waste.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
| Sector Activities   | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |

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79.11 - Travel agency activities

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79.12 - Tour operator activities

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79.90 - Other reservation service and related activities

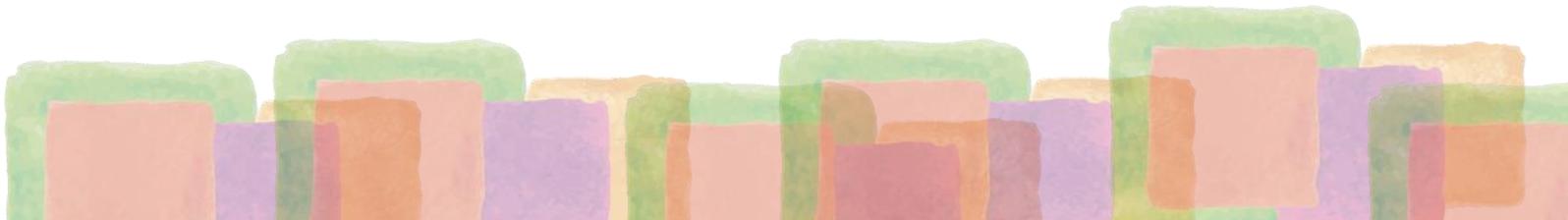
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**■ Source:**

<https://www.ecowatch.com/food-waste-people-in-need-2649698860.html>

<https://www.helloyok.com/zero-waste-lets-embrace-the-challenge/>

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## Appendix – 6

### 5.6 Distributing food amongst the staff

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

According to the UN, if food waste was its own country, it would be the third-largest emitter of greenhouse gas in the world, after the USA and China. On the other hand, 1 in every 7 people in the world goes to bed hungry and more than 20,000 children under the age of 5 die daily from hunger. Hence, food waste is a critical issue at the global level.

Although food waste could be decomposed, the Yök Casa Cultura in Barcelona (Spain) tries to avoid food waste at any cost. The Yök Casa Cultura buys all fruit and vegetables fresh and upon demand. If guests leave any food behind, The Yök Casa Cultura distribute it amongst the staff.

#### ■ Environmental Benefits:

Perceived Rating: 1.40

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.80

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |

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□ 79.90 - Other reservation service and related activities

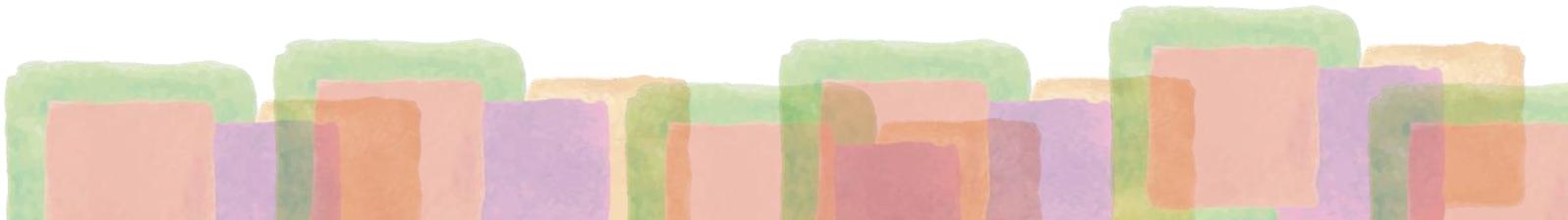
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■ **Source:**

<https://www.ecowatch.com/food-waste-people-in-need-2649698860.html>

<https://www.helloyok.com/zero-waste-lets-embrace-the-challenge/>

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## Appendix – 7

### 5.7 Tracking and measuring food waste

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Kitchens generate large quantities of organic waste, including peelings and trimmings, bones, uneaten returns from customer servings, out-of-date products, the oil used for frying, etc. Organic waste can represent 37 % of residual waste generated by accommodations and almost 50 % of residual waste generated by restaurants. It is estimated that the UK hospitality industry disposes of 400 000 tonnes of avoidable food waste per year, at a cost of almost 900 million euros.

To curb food wastage, InterContinental Hotels Group (IHG) has decided to use Winnow Vision AI-enabled technology, which will help its hotels achieve a 30% reduction in food waste. Through the use of an intelligent camera, smart scales, and AI-based smart meter technology, Winnow Vision analyses ingredients during food preparation, as well as plates returned to the kitchen, to assess which food items are most wasted and in what quantities. This builds up a bank of data which in turn informs buying decisions, shapes menus, and hones food preparation techniques. Winnow’s technology has been successfully installed in seven IHG hotels in its Europe, Middle East, Asia & Africa (EMEA) region.

One hotel already benefitting from this approach is IHG Fujairah Resort in UAE. In just six months, this resort has been able to reduce food waste by more than 50%. This practice can significantly reduce food waste and thus avoid greenhouse gas emissions.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 1.80

**■ Main Applicability:**

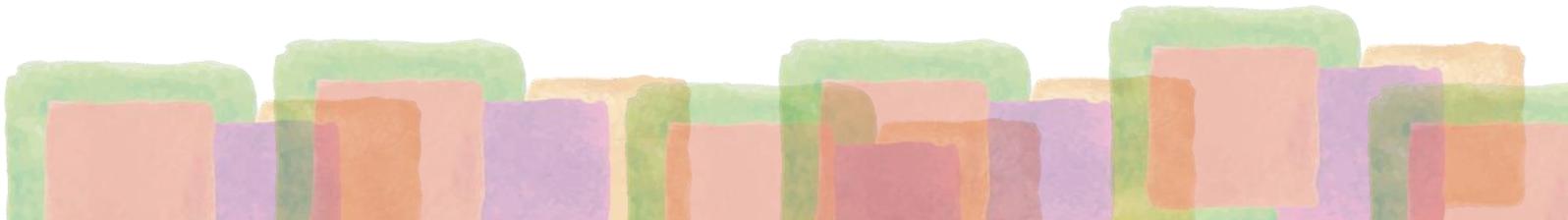
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|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-8.2-FINAL.pdf>

<https://www.ihgplc.com/en/news-and-media/news-releases/2019/award-winning-ai-technology-helps-ihg-hotels-track-measure-and-reduce-food-waste>

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## Appendix – 8

### 5.8 Separating organic waste to produce biogas

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Kitchens generate large quantities of organic waste, including peelings and trimmings, bones, uneaten returns from customer servings, out-of-date products, the oil used for frying, etc. Organic waste can represent 37% of residual waste generated by accommodations and almost 50% of residual waste generated by restaurants. It is estimated that the UK hospitality industry disposes of 400,000 tonnes of avoidable food waste per year, at a cost of almost 900 million euros.

A good practice to reduce (and to utilize) organic waste is to separate it at the source. For instance, during the food preparation, bins could be placed next to chefs to collect offcuts and peelings, etc. Similarly, food scrapings from returned plates could be separated from other waste. Separated organic waste can then be placed in large separate waste bins for collection to centralized or decentralized anaerobic digestion plants.

Huerta Cinco Lunas in Cadiz (Spain) utilizes kitchen waste for chicken feed and composting, to produce organic fruit, vegetables, and eggs on-site for guest consumption.

The Hilton Slussen Hotel in Stockholm (Sweden) has implanted this practice - segregation of organic waste at source. Indeed, this hotel has been segregating organic waste since 1997. All organic waste is sent for biogas production. The residue, which includes plant nutrients, is sent to farmers in Huddinge (outside Stockholm) for use in their fields.

Scandic (a leading hotel chain in the Nordic countries) has established a partnership with Gasum. The kitchens of the three Scandic hotels as well as Hilton Strand in Helsinki (Finland) are now preparing their food on biogas. Biogas can be used as a clean, renewable, and reliable source of energy. According to Gasum, switch to biogas will reduce these hotels' carbon dioxide emissions by 34 tonnes a year, which corresponds to the annual emission rate of around 15 cars. Stored biogas not only save costs rather turns the cost of waste management into a revenue opportunity. Moreover, biogas systems provide an opportunity to recycle nutrients in the food supply, reducing the need for both petrochemical and mined fertilizers.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

**■ Economic Benefits:**

Perceived Rating: 2.40

**■ Social Benefits:**

Perceived Rating: 1.40

**■ Replication Feasibility:**

Perceived Rating: 2.00

**■ Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

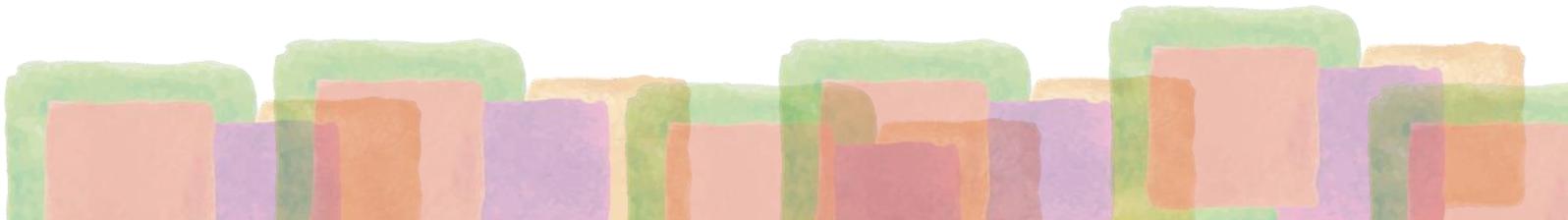
**■ Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-8.2-FINAL.pdf>

<https://www.esomar.org/uploads/public/events-and-awards/events/2014/digital-dimensions/documents/Hilton-Stockholm-Slussen-ENVIRONMENTAL-STATEMENT.pdf>

<https://www.gasum.com/en/About-gasum/for-the-media/News/2016/Scandic-kitchens-switch-to-biogas/>

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## Appendix – 9

### 5.9 Installation of an electric vehicle charging station

#### ■ Category (Tags):

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

For major hotel chains, power points that enable guests to recharge their cars on the premises are a new perk. As the EV-driving population increases, a growing number of hotels are exploring how they might accommodate guests requiring recharging facilities.

More than 3,137 EV charging stations are available and ready for use at Marriott hotels globally. Hilton, Starwood Hotels & Resorts, and Scandic have been installing EV charging stations in many of their properties. Many leading hotel companies have public sustainability goals, which have become increasingly important in guest attraction and loyalty and thus is now a matter of their corporate reputation. On the other hand, they perceive that more affluent guests (having expensive cars) are also likely to spend more money on spa services, food and drink, room services, and other hotel extras.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 1.20

#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
| Sector Activities   | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.jll.com.co/es/trends-and-insights/investor/why-hotels-are-charging-up-for-electric-vehicles>

<https://www.marriott.com/corporate-social-responsibility/electric-vehicle-hotels.mi>

<https://www.scandichotelsgroup.com/annualreports/2017/en/pdf/full.9d186c3.pdf>

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## Appendix – 10

### 5.10 Reducing single-use plastics

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Earth was not designed to digest plastic. Styrofoam and petroleum-based plastics do not decompose in the same way as organic material. Instead, they break up into a myriad of tiny pieces over time. The hospitality industry is a significant contributor to the 300 million tons of plastic produced globally every year (half of which is for single-use). Plastics do have a role to play within hospitality, but there are many instances where single-use plastics are stocked and used out of habit, rather than necessity.

Hyatt Hotels Corporation is making a concerted effort at its 875 properties in 60 countries. Larger bottles will replace smaller ones in many hotel rooms, water stations will be situated around public spaces for refilling reusable bottles, and water will be served in carafes at business meetings and corporate events in place of single-use water bottles, where water quality is not an issue. Plastic straws and drink picks are no longer automatically provided, and Hyatt Hotels are increasing the use of recyclable to-go food containers. Refillable water bottles, instead of single-use plastic bottles, are offered to guests at check-in at many of its resorts.

Holiday Inn and Kimpton hotels are moving toward removing small toiletries in their 843,000 guest rooms and switching to bulk-sized bathroom amenities to reduce the waste footprint as a brand standard. Plastic straws have already been removed.

The Hilton chain has removed plastic straws from its hotel operations, saving over 250 million straws annually; switched from plastic key cards to digital ones at several hotels, staving off 40 tonnes of plastic waste so far; and eliminated plastic water bottles from meetings and events at hotels.

The Marriott group announced that it will replace most of its hotels' single-use shampoo, conditioner, and bath gel bottles with larger ones by 2020, preventing about 500 million of the tiny plastic bottles from reaching landfills yearly—equivalent to about 770 tonnes of plastic annually and 30% of its current plastic use for amenities. Plastic straws and stirrers are also out, averting the disposal of one billion straws per year.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

**■ Economic Benefits:**

Perceived Rating: 2.40

**■ Social Benefits:**

Perceived Rating: 1.60

**■ Replication Feasibility:**

Perceived Rating: 2.60

**■ Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://www.forbes.com/sites/wendyaltschuler/2019/11/25/changemakers-these-hotels-are-ditching-small-plastic-toiletries-and-single-use-plastics/>

[https://www.radissonhotelgroup.com/media\\_press-releases&article=radisson-hotel-group-announces-global-plan-for-a-future-with-reduced-single-use-plastics](https://www.radissonhotelgroup.com/media_press-releases&article=radisson-hotel-group-announces-global-plan-for-a-future-with-reduced-single-use-plastics)

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## Appendix – 11

### 5.11 Providing straw baskets

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Earth was not designed to digest plastic. Styrofoam and petroleum-based plastics do not decompose in the same way as organic material. Instead, they break up into a myriad of tiny pieces over time. The hospitality industry is a significant contributor to the 300 million tons of plastic produced globally every year.

The Yök Casa Cultura in Barcelona (Spain) aims to avoid plastic bags. It provides guests with traditional straw baskets that they can use for shopping. It also encourages the reuse of plastic and paper bags that guests leave behind to take out the trash and recycling. The Yök Casa Cultura itself uses reusable clothes bags when they buy fruit, vegetables, and bread and uses plastic containers when they buy tea and other products in bulk.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |

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79.12 - Tour operator activities

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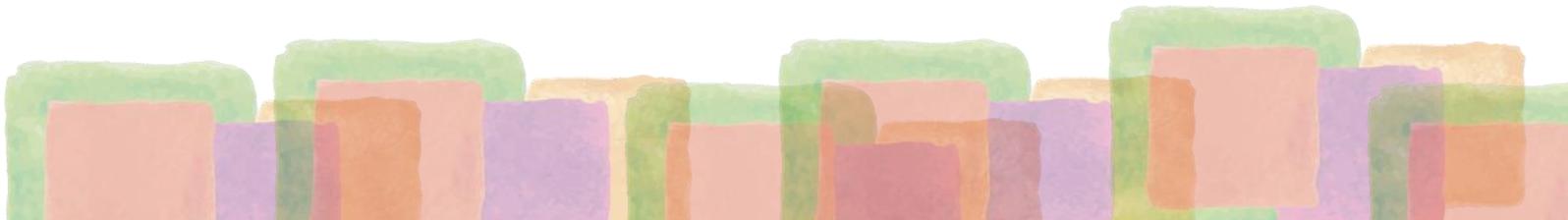
79.90 - Other reservation service and related activities

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■ **Source:**

<https://www.helloyok.com/zero-waste-lets-embrace-the-challenge/>

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## Appendix – 12

### 5.12 Planting trees to offset carbon emissions

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Yök Casa Cultura in Barcelona (Spain) believes that their business is not only about making money. They want to find a healthy balance between giving and taking and thus hoping to do the right thing for everyone in everything. In 2014, the Yök Casa Cultura has done a major eco-renovation to ensure the lowest possible impact of their business. They calculate their carbon emissions every year and then plant enough trees to offset carbon emissions that they could not avoid emitting. The Yök Casa Cultura plant trees in the Cap de Creus National Park (180km north of Barcelona) with the help of a local company named Bosques Sostenibles.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

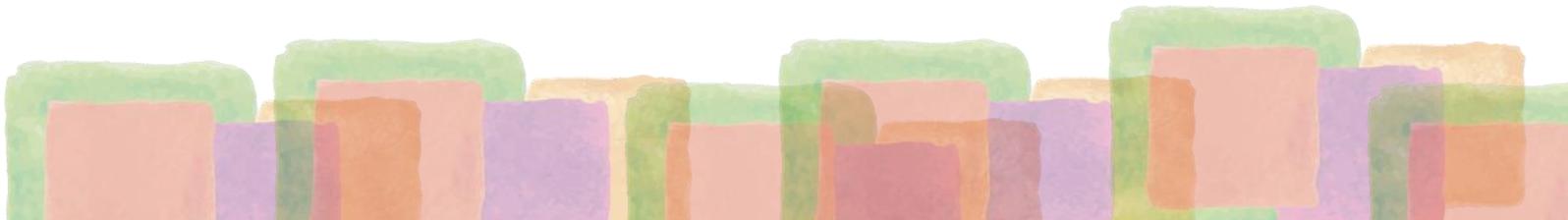
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|---------------------------------------|--|
| NACE Code - Tourism Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|                                       | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|                                       | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|                                       | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|                                       | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

---

■ **Source:**

<https://www.helloyok.com/did-you-know-that-we-offset-all-our-co2-emissions/>

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## Appendix – 13

### 5.13 Installation of water-efficient bathrooms fixtures

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotel operations — particularly the kitchen, laundry, and bathrooms are completely dependent on water for everyday operations. Several studies have documented high levels of water consumption in the hospitality industry. For instance, the hotels in European countries have an average water consumption of around 394 liters per guest per night. Hotels in Barbados have an average water consumption of 839 liters per guest per night. The average water consumption of hotels in the Australia and New Zealand region is around 313 liters per guest per night, while in the region of Hong Kong, Singapore, Indonesia, and Thailand is around 677 liters per guest per night.

Bathrooms account for about 40% consumption of water in hotels. Therefore, water conservation and efficiency measures such as the installation of water-efficient fixtures in the bathrooms of hotels and similar accommodations are crucial. The installation of water-efficient fixtures selected through green procurement is the most effective approach, owing to the high saving potential of more efficient fitting types and the relatively high frequency of replacement.

The Yök Casa Cultura in Barcelona (Spain) has installed Roca’s L20 series of showerheads and faucets. They are equipped with aerators and Cold Start, meaning the hot water is only triggered if the handle is moved to the left. Most taps fire up the hot water every time whenever the handle is lifted in the middle position, wasting energy unnecessarily. Moreover, the Yök Casa Cultura has installed toilets having a dual-flush system as it is the easiest for guests from all different cultures to understand without having to leave instructions.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.60

### ■ Replication Feasibility:

Perceived Rating: 2.80

### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

### ■ Source:

<https://doi.org/10.3390/su11236880>

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.2-FINAL.pdf>

<https://helloyok.com/greening-our-bathrooms-without-sacrificing-the-experience-of-our-guests/>

<http://www.roca.com.my/catalogue/collections/#!/faucets-collections/l20>

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## Appendix – 14

### 5.14 Collection and use of rainwater

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotel operations — particularly the kitchen, laundry, and bathrooms are completely dependent on water. Several studies have documented high levels of water consumption in the hospitality industry. Therefore, water conservation and efficiency measures are crucial for hotels and similar accommodations. Rainwater collection systems divert rainfall water into storage tanks. Run-off systems can be installed on roofs and other impervious surfaces. Harvested rainwater should ideally be used for laundry operations, but it can be used for non-potable demand such as toilet flushing, irrigation, cooling towers, or general cleaning purposes.

Although rainwater harvesting is not widely practiced, this practice can reduce total utility costs of hotels located in rainy climate areas by up to 35%. The use of rainwater in laundries minimizes or eliminates the use of water softening columns, reduces chemical consumption in laundry operations, and improves the quality of the laundry effluent, and facilitates its reuse for irrigation.

100 Accor hotels have installed rainwater recovery tanks to supply irrigation or car washing applications.

A rainwater recycling system installed in the 250-room ETAP city-center hotel in Birmingham (UK) saves up to 780 m<sup>3</sup> of potable water per year (5-10 % of consumption). This saving equates to about 6 % of best practice water consumption for this size of the hotel.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

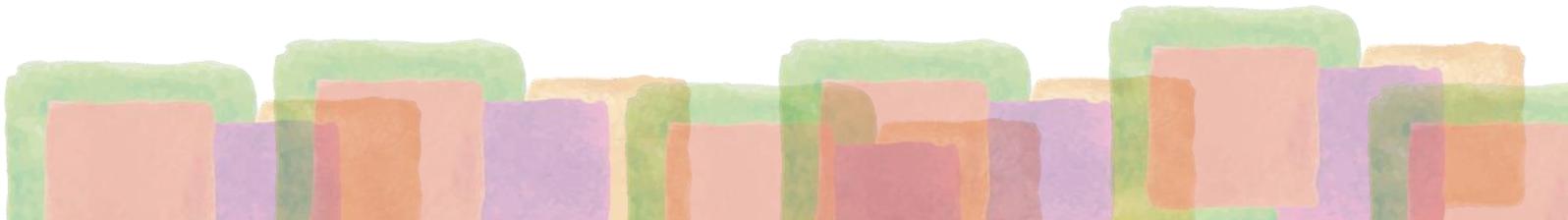
#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:



Perceived Rating: 2.20

### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

### ■ Source:

<https://doi.org/10.3390/su11236880>

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.7-FINAL.pdf>

<http://www.greentourism.eu/en/BestPractice/Details/28>

<https://core.ac.uk/download/pdf/60535473.pdf>

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## Appendix – 15

### 5.15 Recycling of greywater

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Some water applications in buildings, such as toilet flushing and irrigation, do not require the use of potable water. These applications can be responsible for a large share of total water use.

The use of water recycled from greywater collection systems can considerably reduce demand for potable water from the mains supply. Greywater is the term used to describe wastewater from activities such as bathing, showering, laundry, dishwashers, and excludes 'black water' from toilet flushing. Greywater may be collected and reused for non-potable water applications such as toilet flushing and irrigation by the installation of separate wastewater drainage systems for toilets and greywater sources.

Although usually too expensive and impractical to retrofit, water recycling systems can be installed at relatively low-cost during construction, and at reasonable cost during major renovations. Water recycling is highly visible to guests and may thus be a useful way to convey corporate environmental responsibility.

The NH Campo de Gibraltar (a 100-room hotel) in Algeciras (Spain) was opened in 2009 with a novel greywater recycling system. This hotel has been collecting wastewater separately from basins and showers, and then treating and recirculating it for toilet flushing, and so reducing its potable water consumption by 20%.

The overall environmental benefit will be highest where local (perhaps seasonal) water shortages exist, and where water is imported from other areas or desalinated. In such areas, modest reductions in water consumption may lead to significant reductions in water stress (with associated benefits, including for biodiversity), and/or energy requirements for desalination.

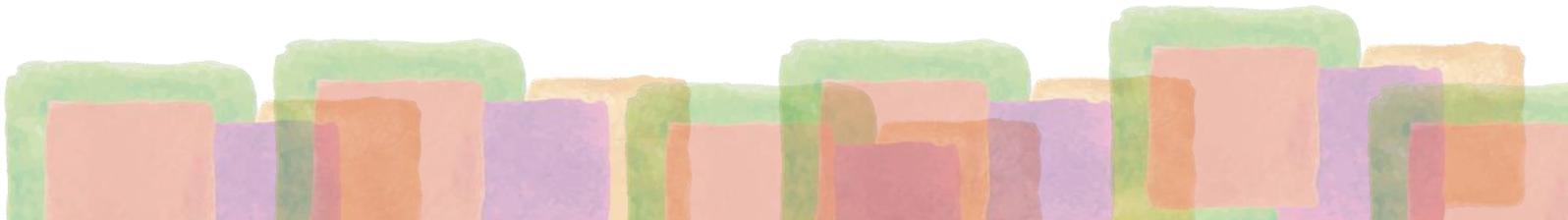
#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:



Perceived Rating: 1.80

■ **Replication Feasibility:**

Perceived Rating: 1.20

■ **Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.7-FINAL.pdf>

<http://www.greentourism.eu/en/BestPractice/Details/28>

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## Appendix – 16

### 5.16 Installation of low-flush / dual-flush toilets

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

A tourist’s water consumption is higher than a resident’s water consumption. A European tourist consumes around 300 liters per day compared with a European resident consumption of 100 - 200 liters per day, averaging approximately 150 liters. Water typically accounts for approximately 10% of utility bills in hotels but can vary considerably across different types of accommodation.

Standard gravity tank toilets are the most common type of toilet installed on accommodation premises and do not require high water system pressure. Of these, button-operated flap valve cisterns offer the lowest installation costs but are vulnerable to leakage from small particles preventing a seal and worn rubber seals. Leaks occur in up to 20% of installations and can waste considerably more water than is used in actual flushing but are difficult to detect. Low and dual flush toilets with siphons are available and may prove cost-effective when lower leakage rates are considered over the installed lifetime. Cistern displacement devices can be inserted into cisterns to reduce water volume, or the float arm may be adjusted to lower the fill level. Dual flush toilets should be clearly labeled so that guests know how to operate the low flush (e.g. which button to press).

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.2-FINAL.pdf>

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## Appendix – 17

### 5.17 Optimizing laundry operations

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

The amount of water used in laundry operations can account for up to 20% of the total volume of water consumed by a hotel and is mainly influenced by the type of equipment available and the level of training of the laundry staff. Therefore, the laundry operations may be optimized by training staff to reduce water and chemical consumption during laundry operations.

Nevertheless, large-scale professional laundry operators can provide a more efficient alternative to on-site laundry operations. Efficient large-scale and commercial laundry operations with a capacity of hundreds to thousands of tonnes of laundry per year typically achieve water use efficiencies of 5-6 liters of water per kg of linen, compared with in excess of 20 liters per kg for non-optimized small-scale laundry operations. Therefore, hotels may consider outsourcing their laundry operations.

The best practice for large hotels (over 500 rooms) and outsourced laundry providers is to operate continuous batch washers (CBW) with the counter-flow current. Another best practice is to recover energy from steam used in the drying process. Equipment-based recommendations include using front-loading washers that consume 40% less water than top-loading machines, using washers with adjustable load-size settings, and investing in a laundry water recycling system if the laundry supports more than 250 - 350 rooms. The laundry water recycling systems available on the market are generally expensive but can reduce water and energy consumed in washers by up to 50%. Typical operations-based recommendations include pre-sorting heavily stained items to minimize reprocessing, counting or weighing items to ensure that washers are loaded to capacity, tracking load sizes in a log to monitor the average loading of the laundry's washers, and consolidating loads and processing them in the largest possible washer.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.40

**■ Replication Feasibility:**

Perceived Rating: 2.00

**■ Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.5-FINAL.pdf>

<https://core.ac.uk/download/pdf/60535473.pdf>

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## Appendix – 18

### 5.18 Optimizing pool operations

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The swimming pool is often an area of a property that uses a considerable amount of water.

In terms of pool design, outdoor, unheated, and natural pools are the options with the lowest environmental impact. Where applicable, particularly for outdoor pools with a relatively short season, installation of a natural pool is best practice. Outdoor pools can be converted to natural pools relatively easily.

Drainage barriers can be installed around the pool to collect and recirculate overflow and splash water. Ozone generators or ultra-violet (UV) systems may be installed to reduce chlorine requirements. Simple solar heating tubes or a heat-pump system may be installed to heat (or pre-heat) pool water, and a heat recovery system with controlled ventilation installed to recover heat from exhaust ventilation air. Motion sensors can be installed to switch off features such as fountains when no users are present.

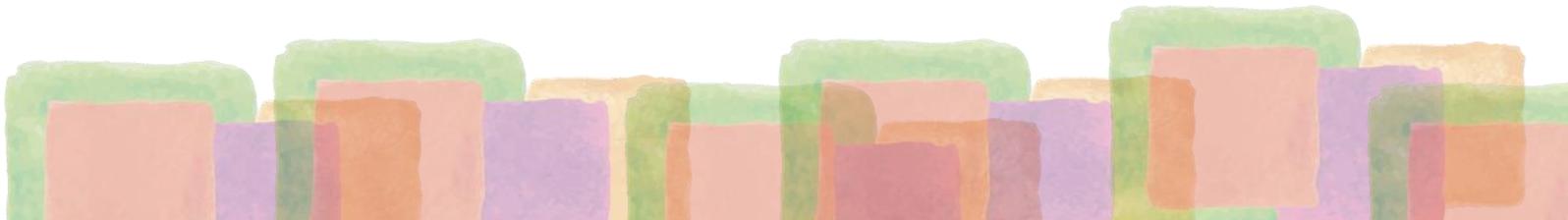
Installation of a water sub-meter to record inflow to the pool is an important measure to enable performance tracking and the identification of problems. The studies have shown that the majority of public swimming pool managers could not provide annual water consumption data. Monitoring and benchmarking of water, energy, and chemical consumption is, therefore, a key best practice measure for pool/accommodation managers.

Use of pool covers, careful regulation of temperature and chemical dosing, maintaining water at the correct level below the pool sides, and careful control of filter backwashing can all significantly reduce water and energy consumption. Backwash water can be filtered and used for irrigation. Careful (automated) control of HVAC systems for indoor pools can reduce heating energy consumption, and careful control of water circulation through filters (manually, based on usage rate, or automatically, based on water quality monitoring) can reduce energy, especially if combined with variable speed pumps. Regular sweeping of the pool area and requiring users to pass through a foot bath can reduce disinfection and backwashing requirements arising from contamination.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:



Perceived Rating: 2.40

■ **Social Benefits:**

Perceived Rating: 1.20

■ **Replication Feasibility:**

Perceived Rating: 1.60

■ **Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

<http://www.greentourism.eu/en/BestPractice/Details/14>

<https://core.ac.uk/download/pdf/60535473.pdf>

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## Appendix – 19

### 5.19 Optimizing garden operations

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Gardens are an important asset to hotels, but hotels usually do not have a specific budget for their gardens, nor they do analytical costing for the maintenance of their gardens. Most hotels do no record actual planting and irrigation and so water consumption remains unknown to them.

It is estimated that most hotels in Jamaica use 10-20% of their total water supply to irrigate their lawns and gardens. Therefore, proper garden operations are crucial to ensuring the overall water efficiency of a hotel. Standard water conservation measures in gardens include using compost and mulch to improve the water retention characteristics of the soil and reduce evaporation in garden beds, irrigating lawns and gardens in the early morning hours to minimize evaporation, and controlling sprinkler operations with the use of timers and rain gauges. Although more complex, the use of greywater from sinks, showers, and laundry for irrigation can reduce a hotel’s water consumption by up to 20%.

Some hotels are eager to run gardens for growing vegetables to enrich their kitchen. For instance, Gili Lankanfushi hotel in Malé (Maldives) cultivates vegetables and herbs in the backyard garden. Several other hotels by adopting a sustainable gardening approach are cooking several delicious meals too. Naturhotel Leithof hotel in San Candido (Italy) produces potatoes in their garden to cook a variety of meals for their guests.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.00

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

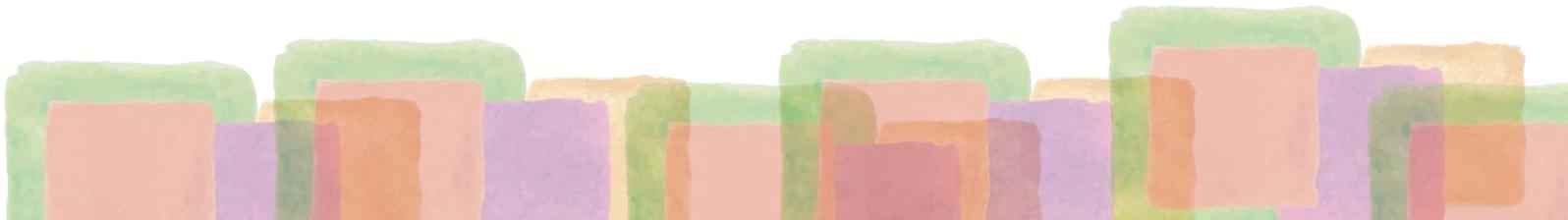
**■ Source:**

[https://csti-cyprus.org/wp-content/uploads/2013/03/BEST-PRACTICES\\_ENG-msol17042012-eri-1.pdf](https://csti-cyprus.org/wp-content/uploads/2013/03/BEST-PRACTICES_ENG-msol17042012-eri-1.pdf)

<https://core.ac.uk/download/pdf/60535473.pdf>

<https://www.greenpearls.com/blog/sustainable-gardening-vegetable-gardens-in-hotels/>

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## Appendix – 20

### 5.20 Selecting native plants for gardens

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

It is estimated that most hotels use 10-20% of their total water supply to irrigate their lawns and gardens. Plants used in a garden can make a large difference in water consumption. Therefore, plants should be chosen based on:

- Their adaptation to the zone’s climate
- The hours of sunshine required by the plant
- The water consumption (low and medium requirements)
- The resistance to disease or insect infestations
- The pollution resistance of the plant

It is recommended to select a native plant that grows naturally at the site. Since native plants evolved to grow under local conditions, they do not require that the site be changed, or soil be replaced. They do not need the life support of watering, except during establishment or regular synthetic chemicals - they do not require fertilizer beyond that provided naturally and they are not prone to the diseases of many industrial plants.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.80

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<http://www.greentourism.eu/en/BestPractice/Details/23>

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## Appendix – 21

### 5.21 Installation of in-house filtered water bottling system

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The hospitality industry is a significant contributor to the 300 million tons of plastic produced globally every year. Studies show that single-use plastic bottled systems consume up to 31 times more energy than tap water systems. These bottles are often transported long distances, sit on a shelf, are consumed, and then tossed in the recycling bin. However, around 80% of such plastic bottles might end up in the landfill anyway.

The Landmark Mandarin Oriental in Hong Kong has started producing its own eco-friendly glass bottled water. The hotel has partnered with leading Swedish freshwater specialist, Nordaq FRESH, to introduce its own in-house, filtered and purified premium bottled water into guest rooms and suites along with bars, restaurants, and spas. Nordaq’s patented filtration system removes impurities from local tap water, while retaining natural salts and minerals, making it healthy, refreshing, and balanced in flavor. This is served to guests “still or sparkling” in reusable glass bottles. Filtering and bottling on-site eliminates the need for single-use bottles and reduces carbon emissions generated by the traditional Hong Kong hotel approach of transporting bottled mineral water from Europe. When making trips out of the hotel, guests can use BPA-free compressive “Grab & Go” impact-resistant bottles or stainless-steel alternatives and are encouraged to fill their bottles at the guest lobby’s complimentary “central oasis” water dispenser.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://www.sustainabletourism2030.com/is-there-an-alternative-to-bottled-water-for-the-tourism-industry/>

<https://www.luxuryfacts.com/index.php/sections/article/The-Landmark-Mandarin-Oriental-offers-in-house-bot>

<https://nordaq.com/distributor/hong-kong/>

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## Appendix – 22

### 5.22 Installation of sub-meters for kitchen

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Despite kitchens being responsible for approximately 15% of energy consumption in a typical hotel, and a strong correlation between the number of food covers served in hotel restaurants and total hotel energy consumption, kitchen energy consumption is rarely monitored separately.

A best practice to monitor consumption is to install sub-meters for kitchen electricity and gas (and water) consumption.

#### ■ Environmental Benefits:

Perceived Rating: 1.80

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 1.00

#### ■ Replication Feasibility:

Perceived Rating: 2.00

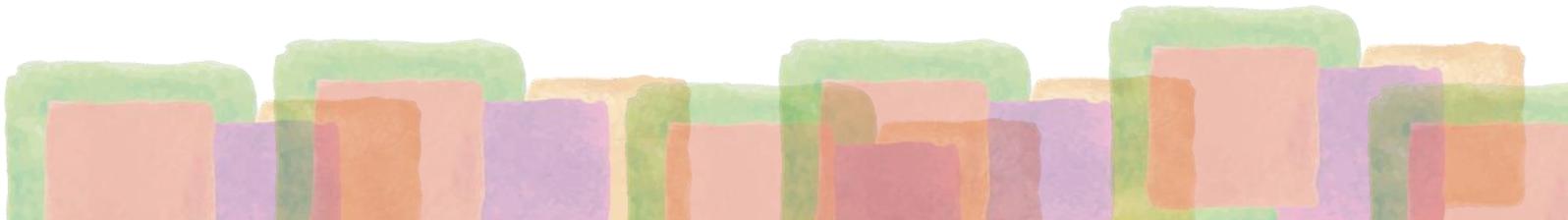
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-7-FINAL.pdf>

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## Appendix – 23

### 5.23 Optimizing kitchen operations

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The preparation of meals is a core service undertaken in many hotels and similar accommodations. Even though kitchens consume a significant quantity of water and energy, but both hotels and restaurants usually give less priority to water and energy efficiency measures in their kitchens as they primarily focus on the taste and quality of meals. It is also worth noting that kitchen supervisors usually do not have any input into equipment selection, especially in terms of water and energy efficiency, whilst the behavior of catering staff is largely determined by a need to deliver quality and service using the equipment available.

Water consumption in kitchen or bar and restaurant areas equates to approximately 15% of total water consumption. Water consumption in kitchens is dominated by dishwashing. Kitchens represent 25% of total hotel energy consumption, through demand for cooking, appliances, refrigeration, and ventilation. The following practices can be adopted to reduce water and energy consumption in kitchens.

- Upgrade dishwashers, ice machines, and steam cookers to ENERGY STAR® qualified models ( energy-efficient models) where appropriate. These models reduce water and energy use by at least 10% by reusing water throughout cycles.
- Look for efficient pre-rinse spray valves, food disposal systems, combination ovens, steam kettles, and steam cookers to use significantly less water.
- Consider replacing equipment that typically discharges water continuously, such as dipper wells or wok stoves, with more efficient models or turning this equipment off when not in use.
- Educate users on proper dishware prep and loading techniques to reduce the overall amount of water used.

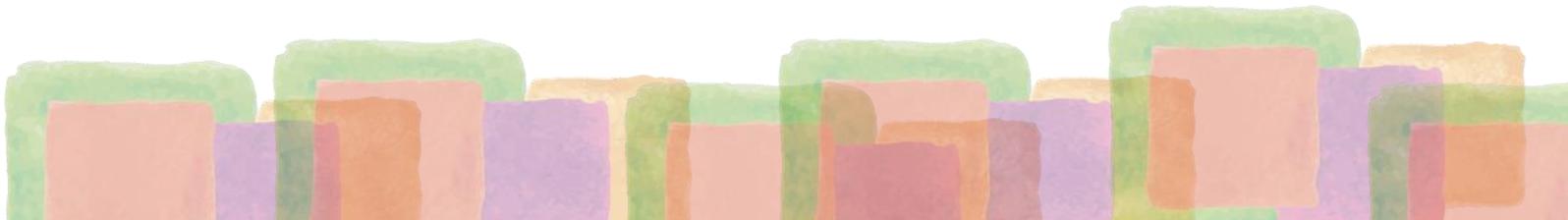
#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:



Perceived Rating: 1.40

■ **Replication Feasibility:**

Perceived Rating: 2.00

■ **Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-8-FINAL.pdf>

[https://static1.squarespace.com/static/53286fe5e4b0bbf6a4535d75/t/53e53fffe4b0db2c5ab44c24/1407533055044/hotels\\_fact\\_sheet\\_508.pdf](https://static1.squarespace.com/static/53286fe5e4b0bbf6a4535d75/t/53e53fffe4b0db2c5ab44c24/1407533055044/hotels_fact_sheet_508.pdf)

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## Appendix – 24

### 5.24 Travel agencies offsetting carbon emissions

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Travel from airplanes, cars, and other methods is a leading cause of carbon emissions. The aviation industry is responsible for roughly 3% of global carbon emissions, while just a short flight from San Diego to Cancun, for example, emits the same amount of carbon into the atmosphere that it would take 20 trees ten years to absorb.

Pangaea Travel Consultants (USA) in partnership with Carbonfund.org (USA) launched a program to provide its clients with 100% carbon natural travel. This program has been offering travelers to offset their carbon footprint and help contribute to the solution. This program was the first of its kind to offset carbon emissions for its clients' travel, start to finish, free of charge. This program includes emissions caused by air travel, hotel stays, cruises, and everything else Pangaea Travel Consultants has to offer. Donations to offset carbon emissions go to Carbonfund.org's Carbon Free program, which reduces carbon emissions through investment in renewable energy, energy efficiency, and reforestation projects around the world.

GreenHotelWorld, an online travel agency, has partnered with Expedia and lists more than 130,000 hotels in 107 countries, with detailed information on how green their practices are. GreenHotelWorld has also teamed up with myclimate to ensure all clients' stays are carbon neutral — by compensating the carbon emissions of the less eco-responsible accommodation options free of charge. GreenHotelWorld guarantees to offset 26.6 kg carbon dioxide per overnight stay booked through their website, which corresponds to the global average energy use per guest per night.

TripZero (USA), another travel agency, offers free of charge to offset its clients' carbon footprint. Goodwings (Denmark) also offers a similar service to its clients.

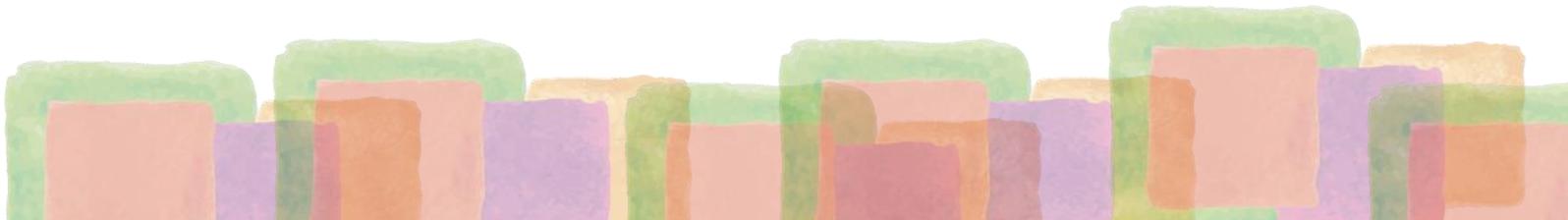
#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:



Perceived Rating: 2.20

■ **Replication Feasibility:**

Perceived Rating: 2.40

■ **Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                            |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation                  |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                                    |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

[https://www.csrwire.com/press\\_releases/19612-a-travel-company-that-offsets-all-your-travel](https://www.csrwire.com/press_releases/19612-a-travel-company-that-offsets-all-your-travel)

<https://carbonfund.org/>

<https://www.tripzero.com/>

<https://www.goodwings.com/>

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## Appendix – 25

### 5.25 Replacing liquid soap with soap flake dispenser

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation          | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Most of the hotels usually provide liquid soap, which contains a lot of water. Block soap instead is more concentrated and therefore has some ecological benefits. For instance, it does not transport unnecessary water around and uses paper packaging instead of plastic bottles. Moreover, the solid blocks can easily be piled and allow a greater space efficiency in a truck.

The Yök Casa Cultura in Barcelona (Spain) has installed the soap flake dispenser which allows its guests to enjoy bars of soaps in a comfortable way.

The Viceroy Riviera Maya (Mexico) provides a piece of locally-made soap of guests' taste hand-cut by the 'soap concierge'.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |

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79.12 - Tour operator activities

---

79.90 - Other reservation service and related activities

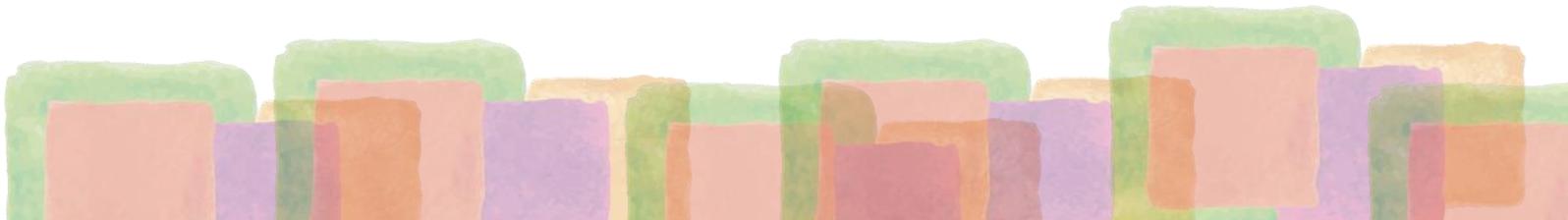
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■ **Source:**

<https://www.helloyok.com/the-soap-flake-dispenser/>

<https://www.springwise.com/mexico-hotels-soap-concierge-hand-cuts-locally-soaps/>

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## Appendix – 26

### 5.26 Adapting building design for sustainability

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement              | <input checked="" type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

According to the International Environment Agency, the construction industry accounts for about 40% of the world’s carbon dioxide emissions, with steel and concrete alone being responsible for 16%.

Hotel GSH in Bornholm (Denmark) is building an extension which they claim will be the first carbon-negative building of Denmark. Carbon-negative buildings are designed to absorb more carbon than they consume during their lifetime. The structure was designed by architecture studio 3XN and its sister studio GXN. The new wing includes 24 rooms, a conference center, and a rooftop spa.

To achieve a carbon negative structure, the extension will be built using a cross-laminated timber structure, insulated with wood fibers and clad in wooden panels. The building will use a passive design to provide ventilation – the skylight windows and open areas will eliminate the need for mechanical cooling. The building components are also designed for reuse with reversible joints, to reduce waste. Waste will also be reduced by building furniture from the wood offcuts of construction and debris from local granite quarries. Solar energy will provide heating for the water, and renewable energy will be used for power.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.80

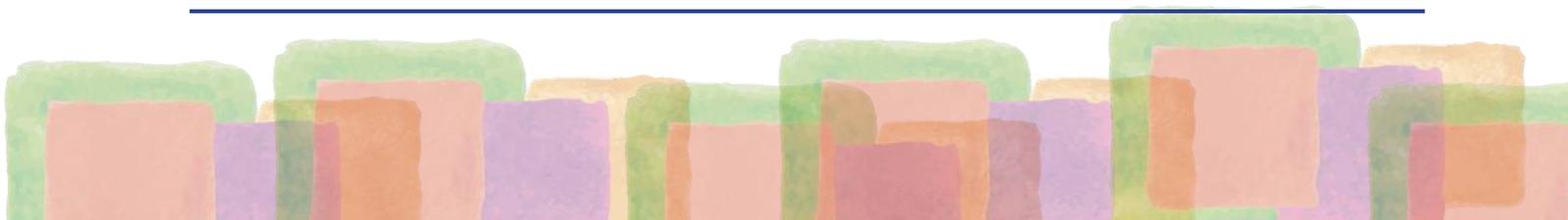
#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:



NACE Code - Tourism  
Sector Activities

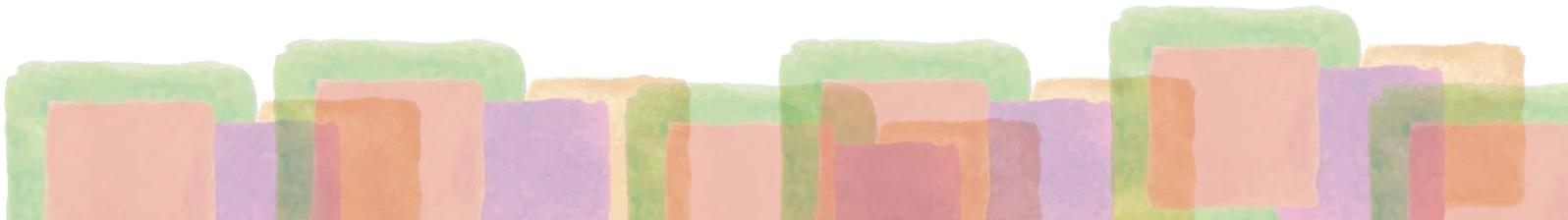
- 55.10 - Hotels and similar accommodation
- 55.20 - Holiday and other short-stay accommodation
- 79.11 - Travel agency activities
- 79.12 - Tour operator activities
- 79.90 - Other reservation service and related activities

**■ Source:**

<https://www.springwise.com/sustainability-innovation/architecture-design/3xn-carbon-negative-hotel-extension>

<https://3xn.com/>

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## Appendix – 27

### 5.27 Formulation of a sustainability policy

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

A very important step towards sustainability for an organization is the formulation of a policy or management plan. A sustainable management plan:

- Can guide decision-making, management, and the daily operations of the business.
- Can develop the business considering the environmental, socio-cultural, quality, and health & safety issues.
- Demonstrates management commitment to comply with environmental laws and other regulations.
- Develops a monitoring and audit program to ensure compliance.
- Outlines mitigation measures to minimize the impact of the business activities on the surrounding environment.
- Presents mitigation strategies and actions for the control of pollution, waste minimization, and resource conservation by effectively practicing sustainable practices.

It is worth mentioning that a concise policy (or mission statement) can help hotels navigate difficult times. As is true with many sectors of the world economy, 2009 was the worst year for the hospitality industry. Meeting planners and business travelers moved to online conferences whenever possible and overnight vacations became a luxury for many people. Despite these financial problems, hotels and their investors understand the importance of developing a sustainable product and have been investing in green technologies. The hospitality industry is currently facing difficult times due to the Coronavirus pandemic. Nevertheless, hotels with a sustainability policy and/or management plan may sustain their business.

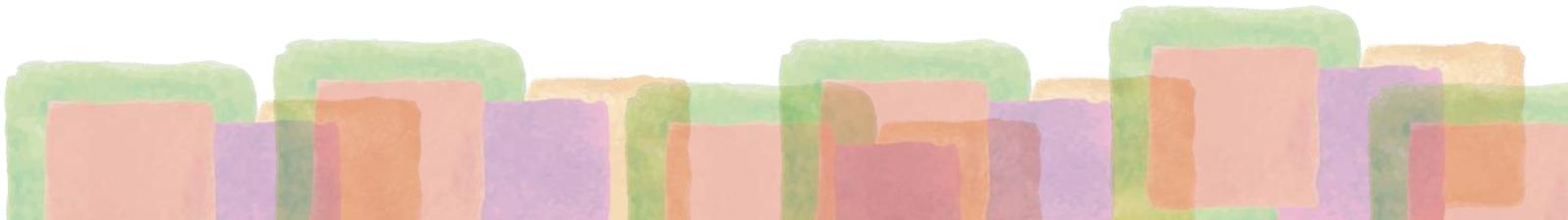
#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:



Perceived Rating: 2.20

**■ Replication Feasibility:**

Perceived Rating: 2.60

**■ Main Applicability:**

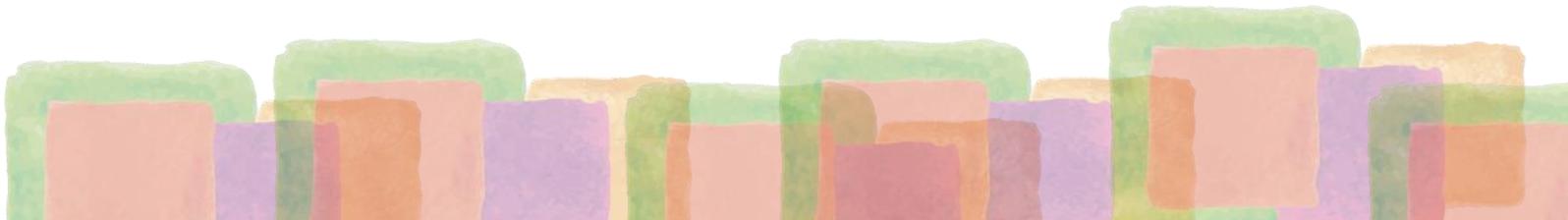
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                                    |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://www.environmentalleader.com/2010/03/environmental-mission-statements-a-list-of-hotel-sustainability-policies/>

<https://www.sofitel-dubai-thepalm.com/wp-content/uploads/sites/15/2019/02/Green-Globe-Sustainability-Management-Plan-2018.pdf>

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## Appendix – 28

### 5.28 Encouraging guests to take away their leftover food

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

According to the UN, if food waste was its own country, it would be the third-largest emitter of greenhouse gas in the world, after the USA and China. On the other hand, 1 in every 7 people in the world goes to bed hungry and more than 20,000 children under the age of 5 die daily from hunger. Hence, food waste is a critical issue at the global level.

There are always times when guests are not able to finish all the food that they have ordered, and yet, more often than not, they perceived that it might be awkward asking the staff to pack up uneaten food, and indeed many luxury hotels do not even do so. In contrast, in developing countries such as India and Pakistan, it is a normal practice that guests may take home their leftover food.

Fine Hotels & Suites in the Netherlands encourage guests to take food for their lunch from the breakfast buffet to decrease food waste.

Maison De Sushi and Yee Hwa in Qatar have adopted a stricter approach to tackle food waste. For every piece of food left after the meal is finished, guests may have to pay fines of \$1.40.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**Source:**

<https://www.hindustantimes.com/india/whether-you-can-get-leftovers-packed/story-IHz4MMqhCMNzTC2y0INRDK.html>

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

<https://www.hoteliermiddleeast.com/27748-new-qatar-restaurant-fines-guests-who-waste-food>

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## Appendix – 29

### 5.29 Eco-renovation of an old accommodation

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input checked="" type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Old accommodations were not built considering the environmental impacts. Due to the emergence of the sustainability concept, it is now very important for old accommodations to renovate themselves as per the current requirements.

The Yök Casa Cultura in Barcelona (Spain) sets a prime example for others. The Yök Casa Cultura transformed an over 100-year-old space into three eco-friendly apartments and an office while respecting all its original features.

The renovation aimed to use materials wisely, making sure that they are recyclable and cradle to cradle where possible. A special effort was made to reduce the water and energy consumption in the apartments. Moreover, they give priority to locally designed and produced materials, products, and furniture to reduce transportation, support the local economy and promote the regional culture. The trick was to create apartments in which responsible living is possible without sacrificing the experience.

The Yök Casa Cultura during the eco-renovation:

- Reused everything in the space. Leftover wooden doors were turned into headrests and old lamps were rewired.
- Restored the original features. A great effort was put into restoring and protecting the mosaic floors from 1900. New walls were put on top of the tiles so that, in case someone wants to go back to the original distribution in say, another 100 years, they can. The same goes for the decorative ceilings. All the wooden sliding balcony doors were stripped of their paint, received new railings and double glazing to save energy and reduce the noise.
- Recycled materials. Whenever possible they used recycled and recyclable materials. Their kitchens for example were made from reused pallets and an upcycled countertop by Cosentio.
- Before buying something new, they tried to find it second hand, like for example all their mirrors and bathroom sinks.
- They used only VOC-free paints and varnishes.
- They avoided PVC wherever possible. The pipes are made from PEX (cross-linked polyethylene).

- They like things that last, both technically as well as emotionally. A good example is that the light switches and plugs used are by Fontini and Font Barcelona.
- They chose a mix of second-hand and eco-designed, locally made products and furniture by Arrels Fundació, Curro Claret, AOO, Santa & Cole, and Faro Barcelona.
- They are growing a bee-friendly plant pergola.

■ **Environmental Benefits:**

Perceived Rating: 2.60

■ **Economic Benefits:**

Perceived Rating: 2.40

■ **Social Benefits:**

Perceived Rating: 2.40

■ **Replication Feasibility:**

Perceived Rating: 1.60

■ **Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                      |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://hellyok.com/yok-casa-cultura-eco-renovation-in-barcelona/>

<https://hellyok.com/meet/how-we-care-manifesto/>

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## Appendix – 30

### 5.30 Providing meals comprised of ingredients produced in own farm

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Jolie Ville Hotel & Spa in Luxor (Egypt) operates its own farm. At first, local plants were cultivated for vegetables such as potatoes, tomatoes, aubergines, carrots, and a variety of herbs. Today, they also cultivate a variety of non-local salads, herbs, vegetables, and fruits that are difficult to acquire otherwise (like sage, Italian lemon, and avocado). They do not only use these vegetables and herbs in own kitchen but also supply them to other hotels in Luxor. The average annual production is 1,430 kg of herbs, 9,170 kg of vegetables, and 4,780 kg of fruits. Moreover, the farm harvests 3500 pieces of salad annually, 65 kg of karkadeh, 175 kg of chickpeas, and even its own honey. The chefs make their own jams, flavored oils, and butter. The guests can enjoy the farm and signage on the buffet indicates which items are from the hotel garden.

Naturhotel Leithof hotel in San Candido (Italy) produces potatoes in their garden to cook a variety of meals for their guests.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.60

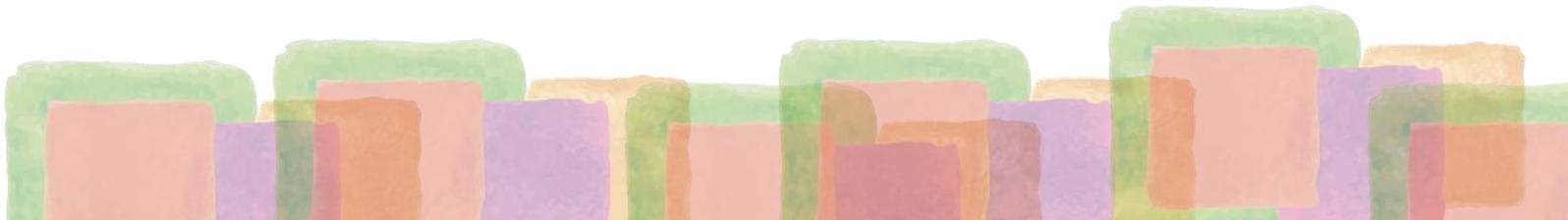
#### ■ Social Benefits:

Perceived Rating: 2.60

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:



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NACE Code - Tourism  
Sector Activities

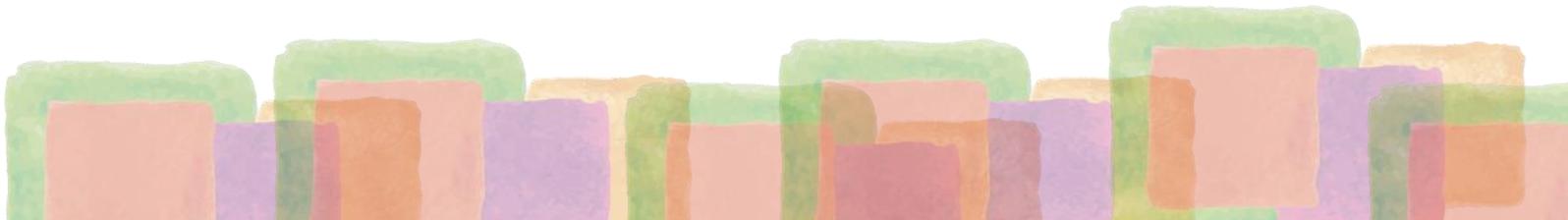
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  - 55.20 - Holiday and other short-stay accommodation
  - 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

[http://www.futouris.org/wp-content/uploads/The-Sustainable-Kitchen\\_Egyptian-Version.pdf](http://www.futouris.org/wp-content/uploads/The-Sustainable-Kitchen_Egyptian-Version.pdf)

<https://www.greenpearls.com/blog/sustainable-gardening-vegetable-gardens-in-hotels/>

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## Appendix – 31

### 5.31 Donating (upcycling) textile and packaging waste

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Paloma Hotel Group in Antalya (Turkey) shows how upcycling can be creatively used to reuse packaging waste. Staff and guests are encouraged to design usable products from packaging waste. In the mini club, packaging waste is used to produce handicrafts and toys. In addition, guests can find upcycled items such as waste bins at the front entrance of the hotel.

Another good practice is to donate textile waste (e.g. staff uniforms, old mattresses, etc.) to a company in the circular economy that will be happy to recover old textiles to give them a new life. For instance, Le Rouquin Qui Roule in France collects the waste and upcycle them into different products such as bicycle bags made from upcycled materials.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.20

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |

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79.90 - Other reservation service and related activities

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**■ Source:**

[http://www.futouris.org/wp-content/uploads/The-Sustainable-Kitchen\\_Egyptian-Version.pdf](http://www.futouris.org/wp-content/uploads/The-Sustainable-Kitchen_Egyptian-Version.pdf)

<https://www.hotelminder.com/5-actions-towards-zero-waste-in-hotels-and-restaurants>

<https://lerouquinquiroule.com/sacoches-velo-ecologiques-et-durables/#zerodechet>

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## Appendix – 32

### 5.32 Selling cooked leftover through mobile apps

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

40% of the food produced in the world is thrown away. Rather than throwing off their cooked food, now hotels and restaurants can sell their cooked leftovers at a low price on Apps such as Too Good To Go. This App is regarded as the best anti-food waste App. Anyone can simply download, log on, and get saving perfectly good, surplus food from nearby locations. This App has saved around 63.6 million meals all over the world since 2016.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.80

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:

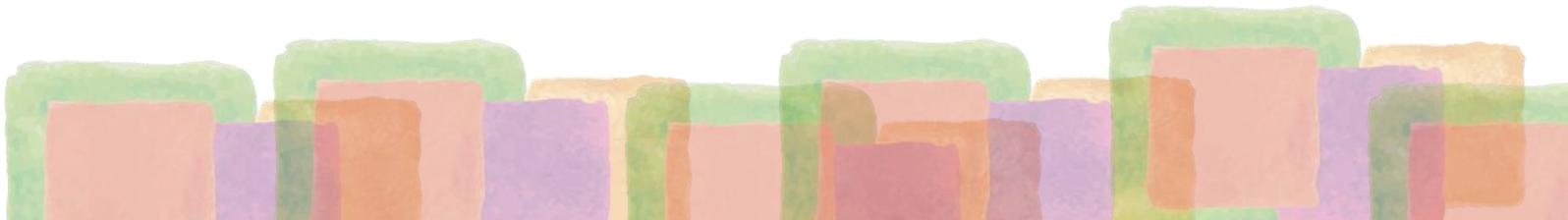
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|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                                    |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

<https://www.hotelminder.com/5-actions-towards-zero-waste-in-hotels-and-restaurants>

<https://toogoodtogo.co.uk/en-gb/>

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## Appendix – 33

### 5.33 Encouraging guests to explore attractions by public transport/foot

#### ■ Category (Tags):

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Sustainable mobility has become very important not only for residents but also for tourists to promote sustainable tourism. Hotels and travel agencies may contribute to the sustainable tourism agenda in several ways. For instance, hotels and travel agencies may encourage and guide guests on how to explore the city through public transport or bicycle or on foot.

The Stadsvilla Mout in Schiedam (the Netherlands) requests their guests to leave the car on their premises and explore the city by bike or on foot. Moreover, the hotel is located nearby multiple tram stations and, thus, very easy to reach by public transport.

AX The Victoria Hotel in Sliema (Malta) is committed to sustainable tourism and thus encourages its guests to adopt more sustainable and green mobility options.

the Hotel Ciutat de Girona (Spain) offers a 4% discount to guests who take any means of public transportation to get to their hotel.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 1.80

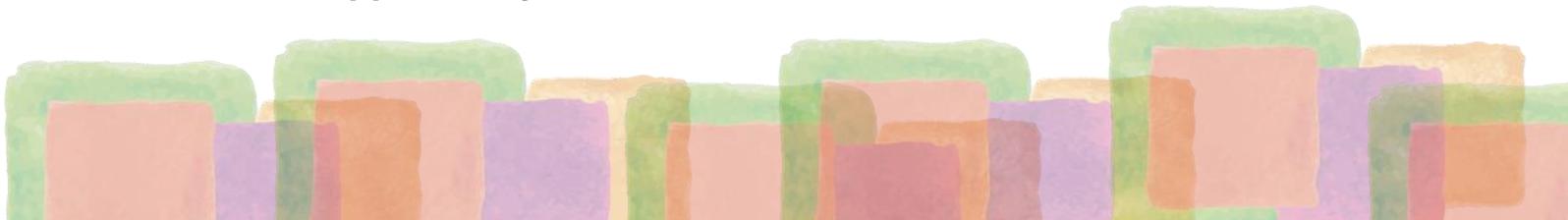
#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:



---

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

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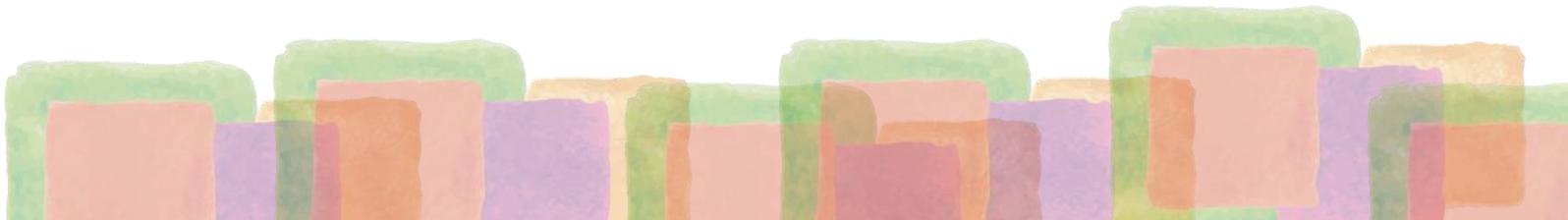
**■ Source:**

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

<https://victoriahotel.com/green-mobility/>

<https://www.hotelciutatdegirona.com/en/specialoffers/sustainable-mobility>

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## Appendix – 34

### 5.34 Renting bicycles to guests

#### ■ Category (Tags):

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

It is important to promote sustainable mobility not only among residents but also among tourists visiting the city. By promoting sustainable mobility hotels and travel agencies can contribute to sustainable tourism development.

The Stadsvilla Mout in Schiedam (the Netherlands) offers its guests the opportunity to rent bikes so that they can explore the city in a more sustainable way.

NH Hotel Group has been promoting sustainable mobility for many years. It offers mobility services such as car-sharing or bicycle hire. At present, there are more than 75 NH Hotels in the world that offer bicycle hire to guests.

To foster sustainable mobility, Hotel Molí del Mig in Girona (Spain) provides a bicycle-rental service as well as secure storage for them. Moreover, it provides information on circular routes from the hotel for cyclists and hikers.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 1.80

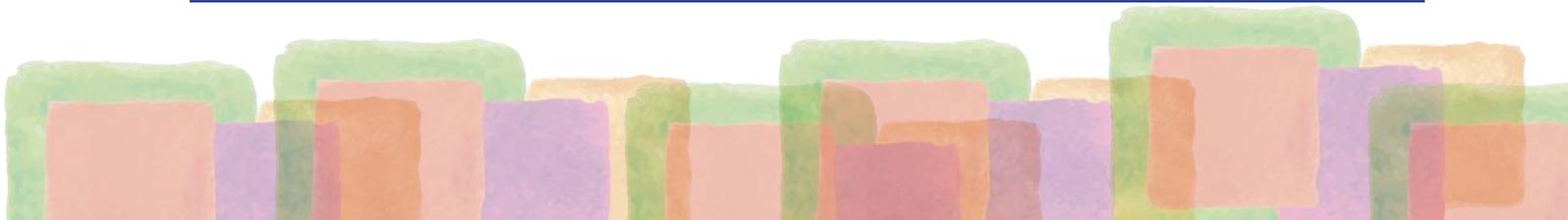
#### ■ Social Benefits:

Perceived Rating: 2.60

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:



---

NACE Code - Tourism  
Sector Activities

- 55.10 - Hotels and similar accommodation
  - 55.20 - Holiday and other short-stay accommodation
  - 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

<https://www.nh-hotels.com/corporate/responsible-and-sustainable-company/sustainability/sustainable-hotels/green-mobility>

<https://www.molidelmig.com/en/eco-friendly-hotel/>

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## Appendix – 35

### 5.35 Providing sustainable mobility to employees

#### ■ Category (Tags):

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Sustainability mobility is being promoted by many organizations in the world including enterprises in the hospitality industry. AX The Victoria Hotel in Sliema (Malta) is committed to sustainable tourism. It does not only encourage its guests to adopt more sustainable mobility options but also encourages its employees to use sustainable mobility options. AX The Victoria Hotel is fully aware of the impact that its employees can make. Therefore, it has invested in some measures to encourage alternative methods of transportation between the workplace and its employees' homes. Employees are offered to use onsite bicycle parking facilities or shared shuttle transport.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 3.00

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:

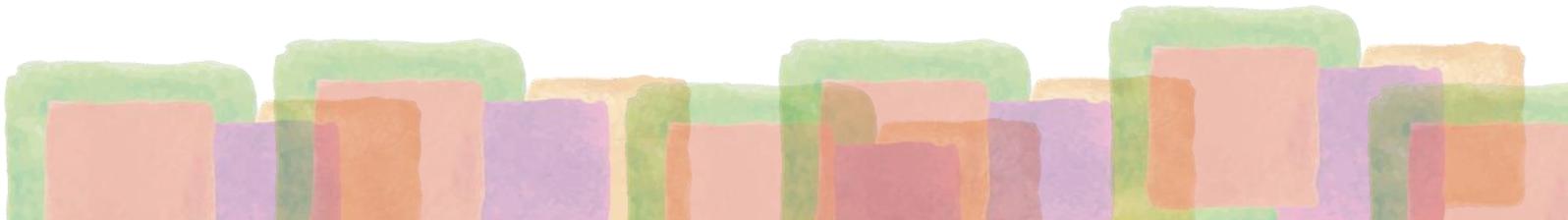
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|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

---

■ **Source:**

<https://victoriahotel.com/green-mobility/>

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## Appendix – 36

### 5.36 Appointing an internal green team

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Green teams can be invaluable during the initial phase of a sustainability programme being implemented at any hotel or other similar enterprise. Green teams can also provide continuous momentum that is necessary to create an enduring culture of sustainability.

A green team is usually responsible for coordinating environmental audits for water, waste, energy, carbon emissions, and purchasing and monitoring of performance against established goals. The key to the success of a green team is ensuring that there is representation from all levels of seniority. The team will hugely benefit from the enthusiasm and fresh ideas of junior staff members who are closely attached to the hotel's working practices, but it must be balanced by senior staff members who have the authority to ensure that proposed initiatives are effectively implemented. A green team should have a reach that extends throughout the entire hotel. Most importantly there should be representatives from different departments such as Facilities, Housekeeping, Purchasing, Catering, and Front of House. This will make sure that the whole spectrum of the hotel's operations is considered. Senior management must stand behind the actions of a green team. This means more than just agreeing on a budget for their activities.

The Hotel Villa Magna in Madrid (Spain) established a green team, made up of all the heads of departments and hotel managers, to ensure that each department carries out its sustainability tasks. The General Director and the Operations Director lead and supervise the team, which meets once a month to continue promoting green initiatives.

Ilala Lodge Hotel (Zimbabwe) appointed a green team that has been successfully nurturing the seeds of environmental sustainability at their hotel.

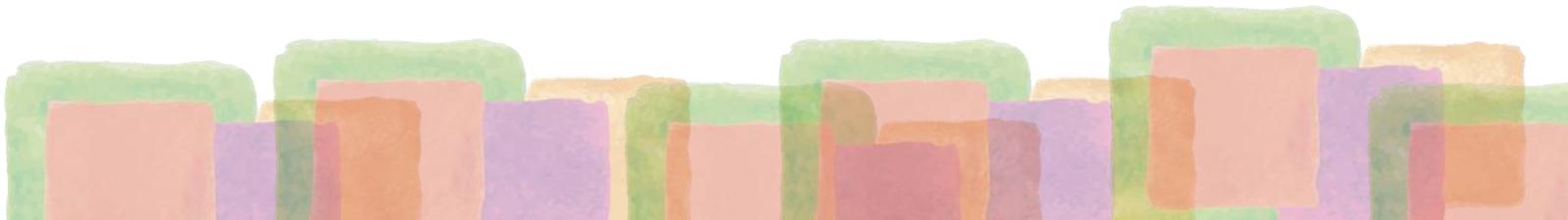
#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:



Perceived Rating: 2.60

**■ Replication Feasibility:**

Perceived Rating: 2.20

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
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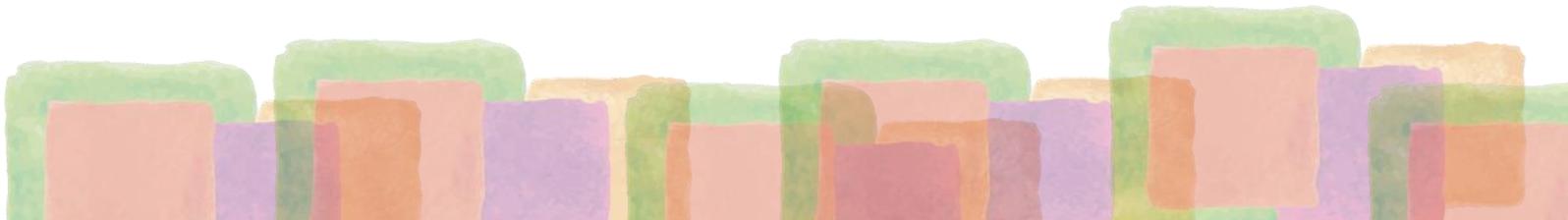
**■ Source:**

<https://www.green-steps.org/blog/harness-the-power-of-the-green-team>

[https://www.hotelvillamagna.es/assets/uploads/VillaMagna/01\\_VillaMagna/\\_level2/FeaturesandDesign/Green%20Globe/SMP%20ING%20NG.pdf](https://www.hotelvillamagna.es/assets/uploads/VillaMagna/01_VillaMagna/_level2/FeaturesandDesign/Green%20Globe/SMP%20ING%20NG.pdf)

<https://www.ilalalodge.com/blog/environmental/introducing-the-green-team-of-ilala/>

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## Appendix – 37

### 5.37 Training employees on sustainability practices

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Employees' efforts key to the successful implementation of green practices. Therefore, hotels that are looking to implement sustainable or green practices should consider the knowledge, awareness, attitudes, and behavior of their employee. Attempting to implement new policies with employees who are unwilling to change their behavior could increase staff turnover and reduce the success of the programme. Selecting the right employees and providing in-depth training on environmental issues are thus important strategies for ecologically conscious hotels.

Although some employees appreciate and derive greater job satisfaction from working for environmentally-conscious organizations, there is concern among hotel managers that the introduction of environmental policies can “result in resistance from employees” who are unwilling to change their routines. They emphasize that this resistance to change is normal, as most people prefer to stick to what they call “habitual behavior”.

Training employees on sustainability issues do not necessarily need to give ecological or chemical knowledge about substances and liquids used in a hotel. Indeed, the hospitality industry does not recycle used materials, but rather participates in the process of preparation for recycling and cleaning, or in reducing the negative effects which appear in a hotel's daily operations. In this regard, it would be more important to elaborate a proper approach towards nature, that would eventually grow into a holistic attitude and become part of the hotel's corporate culture. Such training by default should include knowledge of the dangers and risks, inherent to any activity, combined with proactive behavior to avoid or minimize the negative impacts on all concerned parties – the hotel, the guests, nature, the destination, and other stakeholders.

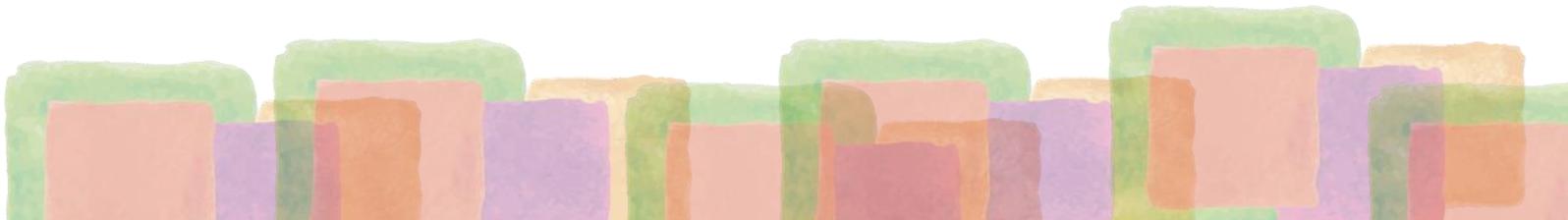
#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:



Perceived Rating: 2.80

**■ Replication Feasibility:**

Perceived Rating: 2.40

**■ Main Applicability:**

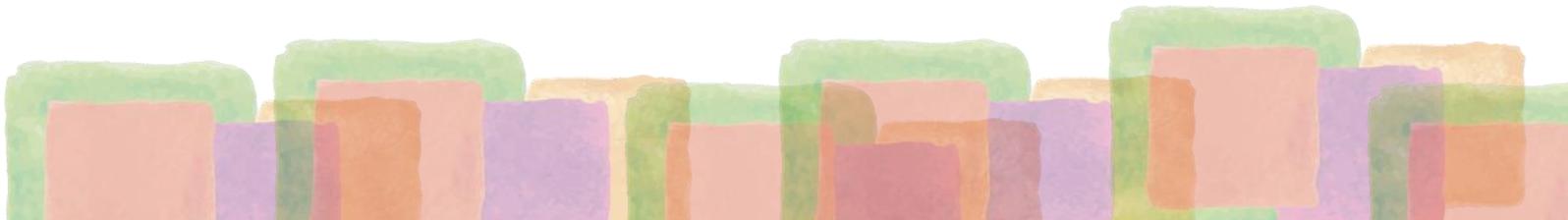
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://insights.ehotelier.com/insights/2015/06/19/hotel-employees-efforts-key-to-successful-implementation-of-green-practices/>

<https://nexttourismgeneration.eu/sustainability-and-green-skills-in-hospitality-how-to-make-a-sexy-concept-work/>

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## Appendix – 38

### 5.38 Installation of solar water heating system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotels and similar accommodations are considered one of the most energy consumers in the building sector and are thus responsible for quite large amounts of carbon emissions. The major part of this energy is utilized for water heating, space heating and cooling, and lighting.

Luxury hotels or even small hotels provide hot water every time to their guests. This requires a lot of electricity which not only affects the environment but also triggers extravagant bills. Therefore, solar water heating systems are becoming more and more important. Solar water heating system is a one-time investment, easy to install, and does not require much maintenance. They usually last longer when compared to other electrical products. The only concern is that the performance of a large solar system for heating water depends on the available solar energy in the location where it is installed. The more solar energy is available, the more thermal energy is obtained in the form of hot water.

Many hotels in the world have already installed solar energy systems to supply hot water for their hotels. For instance, the Tower Hotel in London (UK) has installed a 140 collector LaZer2 solar thermal system which provides solar-heated water to hotel guests and reduces the carbon footprint of the building. This system heats around 7200 liters of water each day for showering, washing hands, and cleaning. It is a prime example of how solar thermal technology can be used to great effect on virtually any scale provided careful consideration is applied to its integration with the existing building service.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

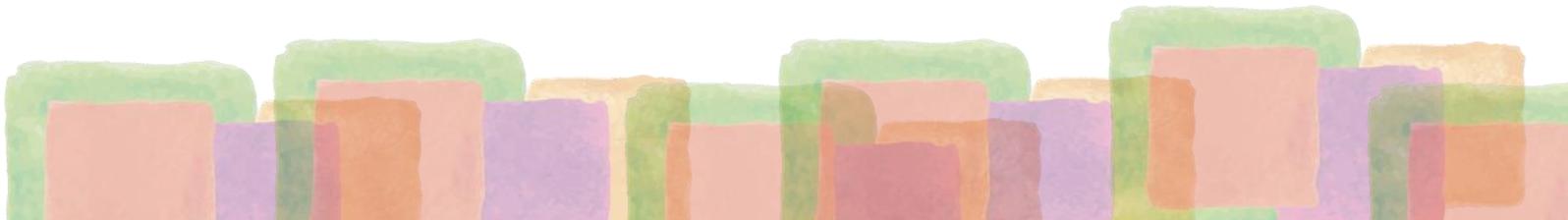
#### ■ Economic Benefits:

Perceived Rating: 3.00

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:



Perceived Rating: 1.80

### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

### ■ Source:

<https://exergia.gr/wp-content/uploads/hot-water.pdf>

<http://www.solaruk.com/case-study/commercial/towerhotelwaterheating.asp>

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## Appendix – 39

### 5.39 Installation of solar panels for electricity

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotels and similar accommodations are considered as the most energy consumers in the building sector, and indeed particularly hotels always consume a large amount of energy each day due to the number of rooms they have, and thus responsible for large amounts of carbon emissions. Renewable energy has been adopted by business owners across various industries including the hospitality industry.

By installing solar panels on rooftops or the ground, hotels can generate electricity from the panels. Moreover, the installation period is just 2 to 3 weeks. It is a relatively short process, so hotels usually do not have to shut down during the construction period. And the payback can happen as quickly as 5 years after installation. As solar technology becomes more mature, the costs of solar PVs keep decreasing year after year, making solar energy more affordable, even to small hotels.

Many hotels in the world have already installed solar panels which are proven very beneficial for them. For instance, Marriott-Lancaster (USA) installed 2700 solar panels on the roof of the nearby Greenfield Corporate Center, enough to fill two football fields. The hotel’s solar array will produce over 1.2 million kWh per year, just over the 1.18 million used by the hotel’s 133 rooms. With no utility bill, the hotel stands to see a great return on its investment. Similarly, Hampton Inn Bakersfield (USA) has been saving \$8000 per month through the installation of solar panels.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 3.00

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.80

**■ Main Applicability:**

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://coastalsolar.com/resorts-hotels-with-solar-panels/>

<https://hospitalitytech.com/first-marriott-property-be-100-solar-powered-now-operational>

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## Appendix – 40

### 5.40 Use of geothermal energy

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Geothermal energy compared to other renewable energy sources is more expensive and less popular to hotel owners. However, depending on the hotel’s location, owners could take advantage of geothermal energy. Geothermal energy is stored in hot water underground. Harnessing geothermal energy brings benefits to hotels and the environment.

While discussions on carbon footprints and environmental sustainability have recently gained traction worldwide, Novotel Lakeside Rotorua and Hotel Ibis Rotorua, both in New Zealand, have been using a clean and environmentally sustainable source of energy since they opened in 1996 and 2004, respectively. These hotels use natural geothermal resources that are, quite literally, beneath their feet. These hotels do not use any boilers that rely on diesel, coal, petrol, gas, or electricity to run the hot water and heating systems. Instead, natural resources are used which in no way harm our environment, are pollution-free, and more importantly, are sustainable.

The LaGare Hotel Milano Centrale in Italy is filled with energy-saving technologies. The LEED-certified hotel uses an innovative geothermal heating and cooling system. These energy systems make the building’s energy supply completely green.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 3.00

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.00

### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

### ■ Source:

<https://www.scoop.co.nz/stories/BU0704/S00428/geothermal-energy-brings-benefits-to-hotels.htm>

<http://greenhvacmag.com/2018/geothermal-hotel/>

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## Appendix – 41

### 5.41 Installation of combined heating and power system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Combined heating and power (CHP), or cogeneration system, captures the extra heat as hotel power systems are generating electricity. CHP units will then use that thermal energy to heat-up the facility, which reduces heating costs significantly. That thermal energy can also be used to generate more electricity with CHP units. Additionally, CHP units work especially well with tall buildings, like hotels, because they reduce the energy that the boiler system has to generate. The installation time for a CHP system is around 30 days, and its expected return on investment is between 4 to 5 years. Similar to solar energy, the CHP system is a popular option among hotel owners.

Rochestown Park Hotel in Cork (Ireland) invested in CHP to fulfill its future energy requirements. This hotel now saves around 115,000 euros annually and has the enhanced energy supply security. Rochestown Park Hotel reduces 278 tonnes of carbon emissions per annum. Rochestown Park Hotel saves around 115,000 euros annually.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

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55.10 - Hotels and similar accommodation

---

NACE Code - Tourism  
Sector Activities

---

 55.20 - Holiday and other short-stay accommodation

---

 79.11 - Travel agency activities

---

 79.12 - Tour operator activities

---

 79.90 - Other reservation service and related activities

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■ **Source:**

<https://goenergylink.com/blog/6-ways-hotels-can-take-advantage-of-renewable-energy/>

[http://www.temptech.ie/wp-content/uploads/2016/06/rph\\_case\\_study.pdf/](http://www.temptech.ie/wp-content/uploads/2016/06/rph_case_study.pdf/)

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## Appendix – 42

### 5.42 Installation of wastewater heat recovery system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Lake Louise Inn (Canada) is the first hotel in the world to install a wastewater recovery system (Piranha T10) from Sharc International Systems. The innovative process of Piranha T10 helps the hotel to cut down on its water and energy needs as well as reduce its greenhouse gas emissions. The Piranha T10 system employs a self-contained heat pump that uses a direct expansion heat exchanger to extract thermal energy.

The Piranha T10 system installed at the Lake Louise Inn collects hot water from the hotel’s laundry machines that would have been sent down the drain. The heat energy from the water will be recovered and the water will then act as a source for the heat pump which will then be used to heat incoming cold water for other loads of laundry. Using wastewater, which is an inexhaustible energy source with high thermal potential, drastically cut the hotel’s energy needs.

The Piranha T10 system is expected to cut carbon emissions by over 80 tonnes each year, which is equivalent to 17 cars off the road. It reduces the hotel’s laundry energy use by 85 % and the savings from every 100 loads of laundry can provide energy for an additional eight days. As the Lake Louise Inn runs on propane, it can expect to save about \$50,000 annually on fuel costs. The savings would be approximately \$20,000 a year if the hotel was fueled by natural gas.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.80

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.60

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://energi.media/innovation/lake-louise-inn-installs-waste-water-heat-recovery-system/>

<https://sustainablebiz.ca/sharcs-wastewater-heat-recovery-breaks-hotel-sector/>

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## Appendix – 43

### 5.43 Use of CFL and LED lighting

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Whatever time of the day, lights are usually on and shining within a hotel. Typically, lighting accounts for 15 - 45% of electricity consumption in small hotels. With so much electricity being utilized every hour, hotels could benefit by investing in LED lighting. Installing LED lights in lobbies, guest rooms, bars, and even in the basement will all yield surprising results.

LEDs have a great number of benefits – they are energy efficient (uses 75% less energy), emit low heat radiation, are dimmable, start instantly, and can provide directional light. LED bulbs will last at least 50,000 hours after being installed which denotes that a noticeable decrease in output will not happen for over 6 years. This, in turn, helps significantly cut down the maintenance costs that are connected with lighting.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                   |

---

79.12 - Tour operator activities

79.90 - Other reservation service and related activities

---

■ **Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/09-article.html>

<https://www.nogreyarea.me/blog/4-reasons-why-many-hotels-are-switching-to-led-lighting/>

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## Appendix – 44

### 5.44 Installation of lighting control system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Installation of lighting control systems can be a large energy saver in areas with intermittent use. Some options include timers and sensors for the corridor and guest rooms. Lighting control systems such as motion sensors in corridors can reduce the corridor lighting demand by around 70 percent compared to 24-hour operation.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.60

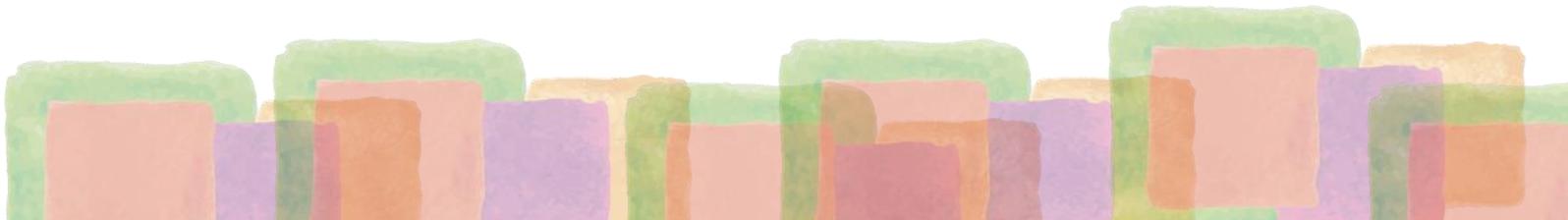
#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

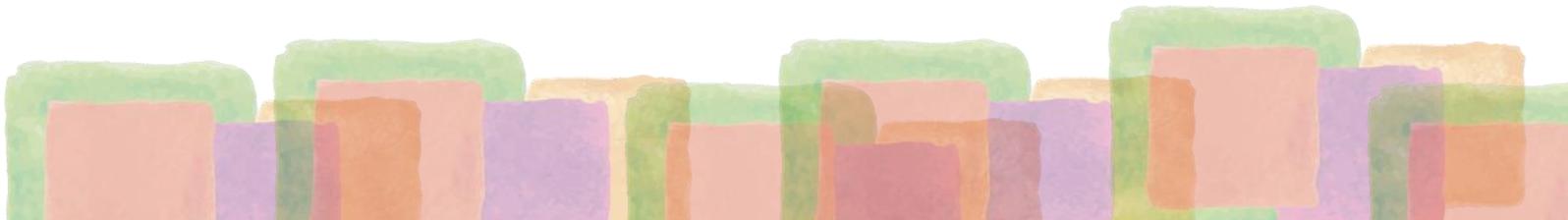
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                                    |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:



<https://ec.europa.eu/environment/emas/takeagreenstep/09-article.html>

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## Appendix – 45

### 5.45 Installation of secondary glazing windows

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Studies show that roughly half of a hotel’s energy consumption is used for heating. Many hotels and B&Bs inhabit traditional buildings with single glazed windows that provide poor thermal insulation. Also, many hotels are usually situated near a busy road or within a noisy city center and thus receive complaints from guests.

Secondary glazing has become essential for many hotels and B&Bs as it offers a wide range of benefits including enhanced thermal and acoustic insulation. Secondary glazing doesn’t just stop noise entering the building, it substantially lowers energy consumption and thus decreases heating costs. As it acts as a second barrier it prevents cold draughts from drawing warm air out of the guest rooms, it also seals in the warmth-air making hotel rooms warm up faster. This can lower the carbon footprint of the building and hotels and B&Bs can reduce annual heating costs too. Secondary glazing includes two efficient draught seals and with a low emissivity glass, heat loss can be reduced by up to 65% and noise levels by as much as 80% giving hotel guests a peaceful night’s sleep.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.00

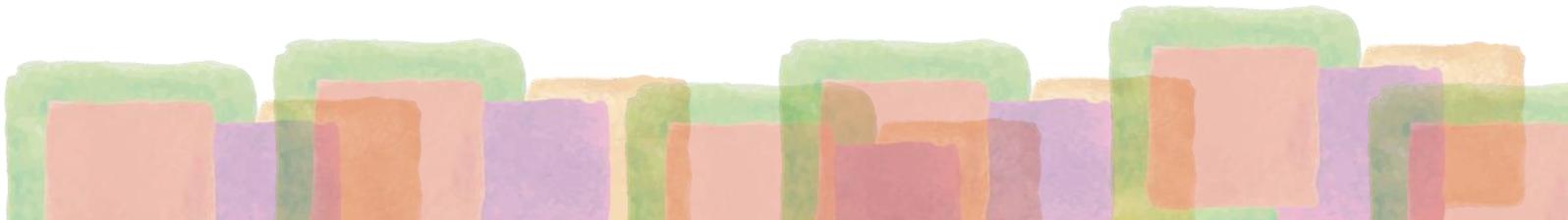
#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:



---

NACE Code - Tourism  
Sector Activities

- 55.10 - Hotels and similar accommodation
  - 55.20 - Holiday and other short-stay accommodation
  - 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.pbctoday.co.uk/news/building-control-news/secondary-glazing/70282/>

<https://www.arcticglaze.com/secondary-glazing-for-hotels/>

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## Appendix – 46

### 5.46 Installation of building automation systems

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotels use various kinds of energy systems such as boilers, and heating, ventilation, air conditioning (HVAC), which take up a huge percentage of a hotel’s operating budget. On top of high energy bills that can cripple the business, guests may experience discomfort in this kind of setup due to uneven temperatures or poor indoor air quality. Hotels usually do not have any insight into which systems or what equipment is working inefficiently or costing their business money. Without this information, hotels struggle to address energy-related problems and to find energy-efficient solutions.

A building automation system allows hotels to monitor and control their building’s systems, HVAC, and fire and flood safety systems. Hotels can monitor their building’s energy usage and adjust the systems to accommodate the energy demands of the building while making guests feel comfortable.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 1.40

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
| Sector Activities   | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://goenergylink.com/products/building-automation-systems/>

<https://www.proccircuitinc.com/blog/install-building-automation-systems/>

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## Appendix – 47

### 5.47 Daylight harvesting

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Daylight harvesting in hotels or offices is an energy management technique that reduces overhead lighting use by:

- Utilizing the ambient (natural and artificial) light present in a space
- Dimming or switching off lighting when sufficient ambient light is present or when the space is unoccupied

Daylight harvesting saves electricity costs and provides the health benefits of correct lighting. Starwood Hotels & Resorts in China following the same approach installed a wall-mounted counter that alerts guests on how much electricity they are using, allowing them to turn off lights to help the environment

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
| Sector Activities   | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |

---

 79.11 - Travel agency activities

---

 79.12 - Tour operator activities

---

 79.90 - Other reservation service and related activities

---

**■ Source:**

<https://www.leviton.com/en/products/commercial/lighting-controls/daylighting-controls>

<https://www.loytec.com/solutions/lighting-applications/daylight-harvesting>

<https://www.stamfordadvocate.com/business/article/Starwood-hits-environmental-milestone-6065115.php>

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## Appendix – 48

### 5.48 Zone HVAC

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Heating, Ventilation, Air, and Cooling (HVAC) systems are an integral part of commercial buildings such as hotels and similar accommodations. They can also be the most cost-inefficient if they are outdated. Essentially, these systems control airflow, temperature, humidity, and air quality to provide a comfortable indoor workplace environment. Radiators are used to heat the building, while air or water-cooled systems are used to provide air conditioning and stabilize humidity levels. Meanwhile, fans run to remove excess moisture from the air and force polluted air out of the facility. These are very demanding processes; as a result of running all day and night, HVAC systems can account for up to 40% of a building's energy use. Newer HVAC systems are capable of using HVAC zoning, which controls the temperature for specific “zones” or areas in a building. That way hotels don't have to cool or heat every room to the same temperature.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |

---

79.12 - Tour operator activities

---

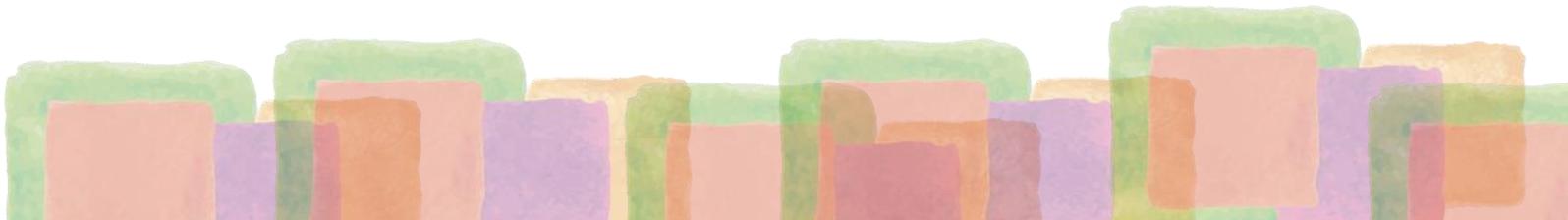
79.90 - Other reservation service and related activities

---

■ **Source:**

<https://goenergylink.com/products/commercial-hvac-systems/>

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## Appendix – 49

### 5.49 Installation of ERV systems

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Energy Recovery Ventilator (ERV) system is a type of Direct Outdoor Air System (DOAS) which more efficiently treats outdoor air brought into the building. It does this by taking the stale (uncirculated) air from inside the building, pulling it back into the installed HVAC system, and using its temperature to heat or cool the incoming outdoor air.

An ERV system first and foremost helps with complying with the indoor air quality laws since their main function is to pull in outdoor air. Having one installed will ensure that a hotel or accommodation is meeting a higher standard of air quality and providing better comfort for guests. As ERV systems reuse up to 80% of the exhaust or stale air into the building to treat the incoming outdoor air, the cost to run your HVAC system can be lowered by up to 50%. Moreover, ERV systems make it so that the HVAC system does not need to run as often, which reduces the amount of wear and tear it would normally accrue over time. They also help stop contaminants from clogging air filters or causing problems like leaky or dirty ductwork. They also can reduce HVAC system breakdowns to keep them functioning longer.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

---

55.10 - Hotels and similar accommodation

---

NACE Code - Tourism  
Sector Activities

---

55.20 - Holiday and other short-stay accommodation

---

79.11 - Travel agency activities

---

79.12 - Tour operator activities

---

79.90 - Other reservation service and related activities

---

■ **Source:**

<https://goenergylink.com/products/commercial-erv-system/>

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## Appendix – 50

### 5.50 Keycard systems to switch off rooms electricity

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Keycard systems are designed to switch off the electricity supply when rooms are not occupied, avoiding excess electricity consumption (lights, television, and air conditioner, etc.). Hotel rooms are often furnished with an interior keycard holder near the main door, which enables the electricity supply to everything in the room when guests insert the keycard and disables the electricity supply when guests remove the keycard on leaving the room.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.40

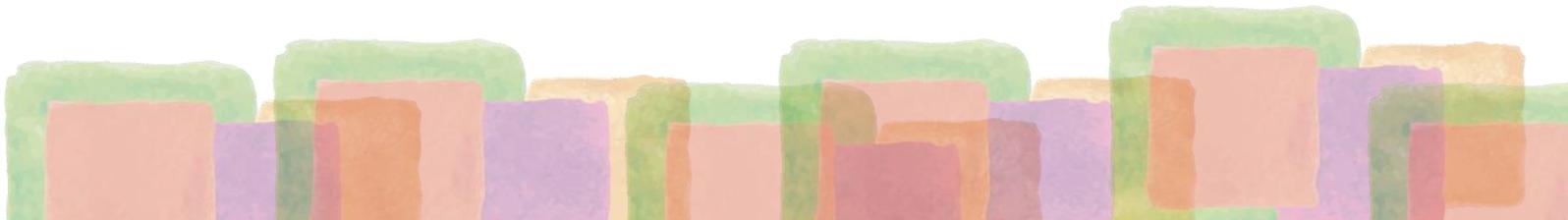
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://www.ecolabeltoolbox.com/en/solutions-techniques/key-card-systems-that-switch-off-electricity-in-rooms-61>

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## Appendix – 51

### 5.51 Vertical garden walls

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

ZAZZ Hotels & Resorts in Bangkok (Thailand) visually translates its environmental commitment into a unique environmental initiative. ZAZZ Urban Hotels feature vertical garden walls, commonly known as green walls. These walls add not only aesthetic appeal to their interior spaces but also provide several benefits. These benefits include regulated temperatures inside the hotel, which allows ZAZZ Urban Hotels to reduce energy consumption for air-conditioning and improved air quality as living plants naturally filter carbon dioxide and other air pollutants.

#### ■ Environmental Benefits:

Perceived Rating: 1.80

#### ■ Economic Benefits:

Perceived Rating: 1.20

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.60

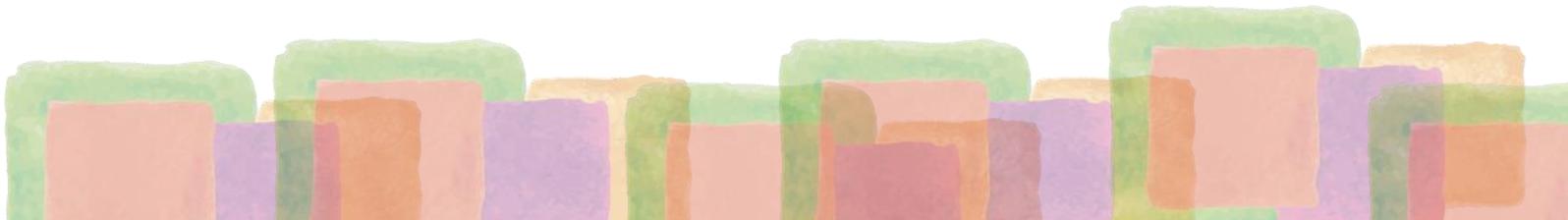
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

<https://zazz-hotels.com/zazz-hotels-resorts-eco-friendly-initiatives/>

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## Appendix – 52

### 5.52 Large glass windows in building design

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation        | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input checked="" type="checkbox"/> Green Building | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                       | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

What better way to reduce energy consumption than to utilize natural energy to provide natural light?

ZAZZ Hotels & Resorts in Bangkok (Thailand) has designed the building in such a way and incorporated large glass windows that bring natural light into their indoor areas. With this approach, they are not only able to save energy costs but are also able to save substantial energy.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.80

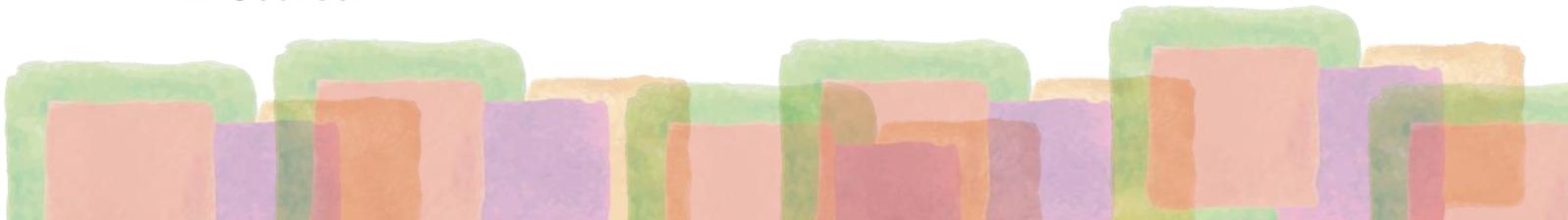
#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

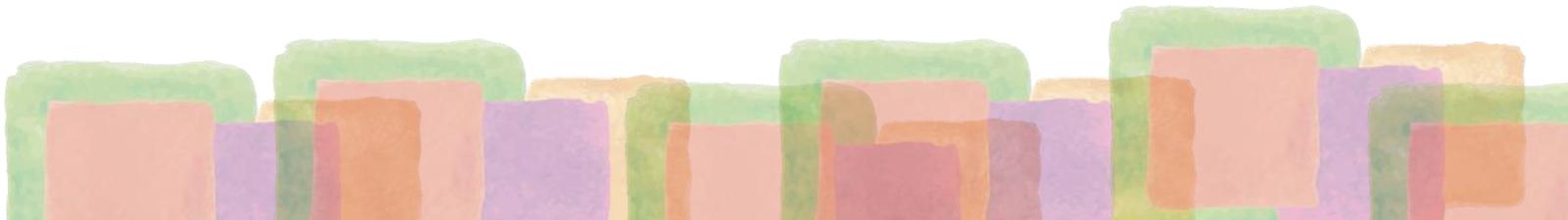
|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:



<https://zazz-hotels.com/zazz-hotels-resorts-eco-friendly-initiatives/>

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## Appendix – 53

### 5.53 Recycling mattresses and box springs

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hilton (USA) has been recycling 85% of its mattresses and box springs into various products, such as the following, rather than being diverted to a landfill.

- Steel Springs: Tools, Automobiles, Construction Materials
- Wood: Tempered Flooring, Particle Board Shelving and a variety of Pressed Wood Products
- Cotton Fibers: Oil Filters, Mats, and Stuffing
- Quilt Scrap: Carpet Padding

Hilton is doing it in partnership with DH Hospitality who is a single source turnkey provider offering recycling, installation, liquidation, transportation, and warehousing services. DH Hospitality ensures that all components of the mattress and box springs are being recycled, not resold or re-covered, by requiring recycling centers to provide a certificate of recycling. Hilton expects 50% cost savings by recycling mattresses instead of sending them to landfills.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:

---

55.10 - Hotels and similar accommodation

---

NACE Code - Tourism  
Sector Activities

---

 55.20 - Holiday and other short-stay accommodation

---

 79.11 - Travel agency activities

---

 79.12 - Tour operator activities

---

 79.90 - Other reservation service and related activities

■ **Source:**

<https://newsroom.hilton.com/corporate/news/hilton-worldwide-announces-mattress-recycling-program>

<https://earth911.com/business-policy/hotel-mattress-recycling/>

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## Appendix – 54

### 5.54 Using bed linen made from recycled plastic bottles

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

W Hotels Worldwide is using a range of bed linen, created by the company Ekocycle, made from recycled plastic bottles. Each king-size sheet set utilizes approximately 31 recycled 20-oz. plastic bottles, which translates to more than 268,000 plastic bottles across all W Hotel beds in the USA. The Ekocycle recycled plastic range of bed linen and fashion wear is a design label created through a partnership between Coca-Cola and musical artist Will.i.am.

In the UK, the Ritz Hotel, the Grosvenor House Hotel, the Landmark Hotel, and the Wellesley Hotel have been also using bed linen, supplied by Mitre Linen, made from recycled plastic bottles. Mitre Linen claims that its products are made from recycled plastic bottles which are extruded into soft, non-allergenic fibers. Most importantly, the process produces around 70% less carbon dioxide emissions, uses 70% less water and 40% less energy compared to standard fiber production.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
| Sector Activities   | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.hotelbusiness.com/w-hotels-worldwide-rolls-out-linens-made-from-recycled-plastic/>

<https://www.travindy.com/2015/05/ekocycle-recycled-plastic-bed-linen-destined-for-w-hotels/>

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## Appendix – 55

### 5.55 Using duvets and pillows made from recycled plastic bottles

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

InterContinental Hotels Group (voco Hotels) has been using duvets and pillows that are filled with 100% recycled materials (plastic bottles). The supplier (Vision) takes single-use plastic bottles that have been discarded and repurposes them in its eco-factory to become plush, cozy filling inside the duvets and pillows for voco guest rooms all over the world.

Vision has developed and supplied duvets and pillows made from recycled plastic bottles to voco hotels across the world, from the UK to Dubai and as far as Australia, equating to over 530,000 bottles that have been reused and recycled. On average, a soft pillow is made from around 33 bottles whilst a firm pillow is made from 43 bottles. A single duvet is made from 80 bottles, whilst a double duvet is made from 131 bottles.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:

---

55.10 - Hotels and similar accommodation

---

NACE Code - Tourism  
Sector Activities

---

55.20 - Holiday and other short-stay accommodation

---

79.11 - Travel agency activities

---

79.12 - Tour operator activities

---

79.90 - Other reservation service and related activities

---

■ **Source:**

<https://www.greenbiz.com/article/turning-plastic-bottles-plush-hotel-bedding>

<https://corp.visionlinens.com/news/vision-recycles-3-million-plastic-bottles-voco-bedding/>

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## Appendix – 56

### 5.56 Switching to bulk-size bathroom amenities

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

InterContinental Hotels Group (IHG) is one of the world’s leading hotel companies. IHG has been switching to bulk-size bathroom amenities in all its hotels of almost 843,000 guest rooms. This initiative makes IHG the first global hotel company to commit all brands to remove bathroom miniatures in favor of bulk-size amenities. Switching to bulk-size bathroom amenities across more than 5,600 hotels around the world would allow IHG to significantly reduce its waste footprint and environmental impact.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 2.20

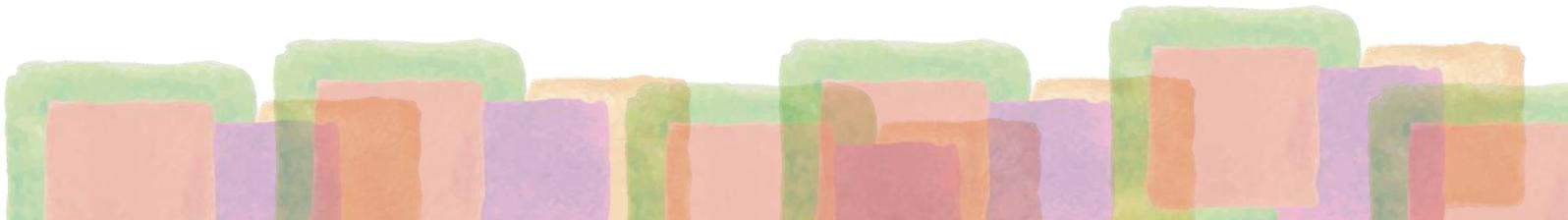
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://www.ihgplc.com/en/news-and-media/news-releases/2019/end-of-the-road-for-bathroom-miniatures-as-ihg-opts-for-bulk-size--amenities-to-reduce-plastic-waste>

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## Appendix – 57

### 5.57 Calculated procurement of foodstuff

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Food waste is a serious problem. To avoid food waste, Fine Hotels & Suites in the Netherlands follow a very decent approach. It estimates and procures almost an exact amount of foodstuff (fruits, vegetables, cooking ingredients, drinks, and other items) needed for guests. It even calculates, when replenishing the breaking buffet, the exact amount of food needed for guests.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 2.80

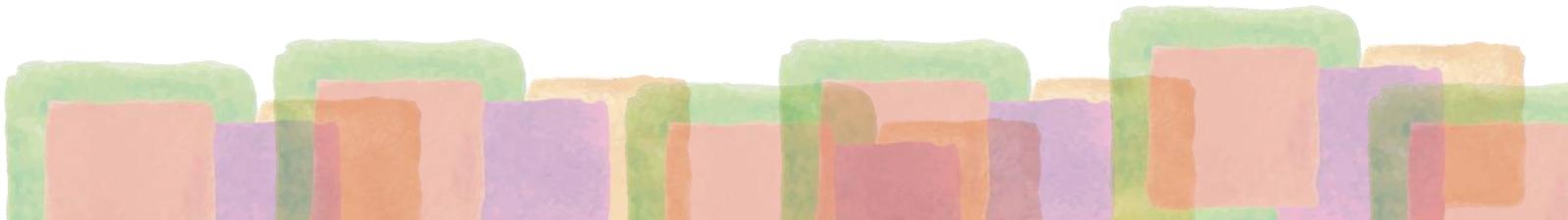
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

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## Appendix – 58

### 5.58 Donating unusable furniture

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Fine Hotels & Suites in the Netherlands aim to minimize waste. It ensures that any unusable furniture is either handed down to employees, offered for free through the internet, or donated to charitable organizations or thrift shops.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.80

#### ■ Replication Feasibility:

Perceived Rating: 3.00

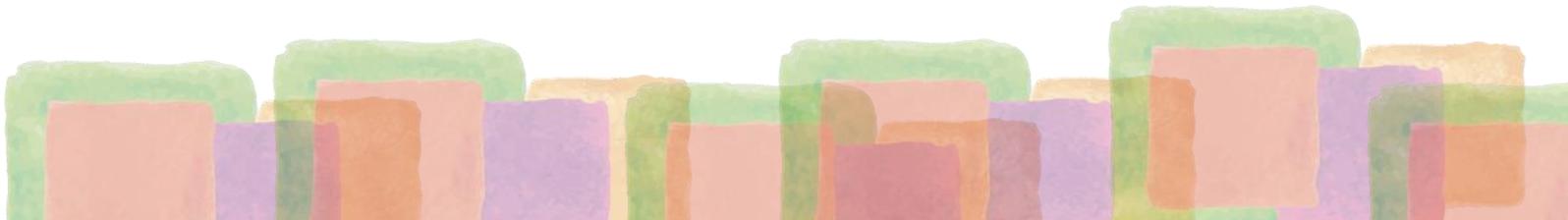
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

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## Appendix – 59

### 5.59 Purchasing from local suppliers

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Procurement of luxury or branded items from far locations do impact the environment. A good practice to avoid, or reduce carbon footprint, is to procure items from local suppliers. Fine Hotels & Suites in the Netherlands purchase required materials or items from local suppliers and entrepreneurs where possible. For instance, it acquires old cheese and chocolate from neighbors, and catering for meeting facilities is done by a local business. In this way, this hotel supports local entrepreneurs and decreases carbon emissions. It is suggested that all tourism SMEs should purchase materials from local suppliers where possible.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.80

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:

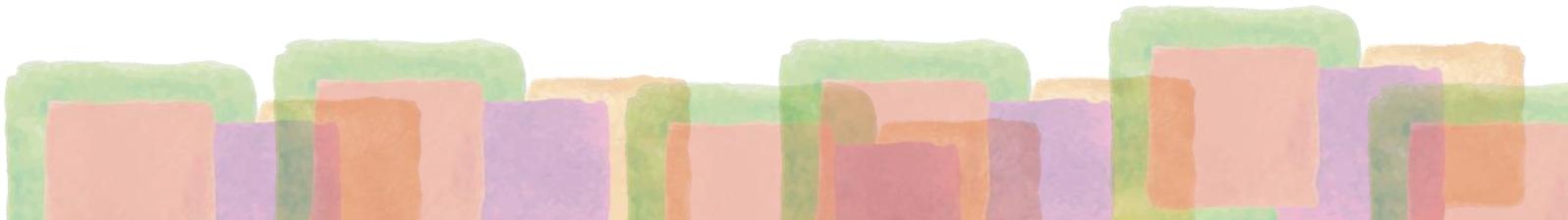
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|---------------------------------------|--|
| NACE Code - Tourism Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|                                       | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|                                       | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|                                       | <input type="checkbox"/> 79.12 - Tour operator activities                                    |
|                                       | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

---

■ **Source:**

<https://www.finehotelsandsuites.com/media/fine-hotels-and-suites-sustainability-policy-stadsvillamout.pdf>

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## Appendix – 60

### 5.60 Installation of smart thermostats

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Guests are more likely to return for another stay when they can customize their room temperature to suit their preferences. However, this may increase energy costs. Therefore, it is a challenging issue for hotels and similar accommodation. Although the concept of energy management is not new – housekeepers have been turning down thermostat dials for decades, but improvements in technology have created sophisticated systems that can reduce unnecessary guestroom consumption by between 40-60% which can translate to as much as 20% reduction on a hotel’s total energy bill. For most hoteliers, this translates into tens of thousands of dollars per year. Smart thermostats work by using motion and/or heat sensors to detect occupancy in a room. When guests leave the room during the day, the thermostats allow the HVAC unit to “setback”, or drift away from the temperature the guest left it at while the room was occupied. When guests return to their rooms, the units quickly recover to the desired temperature.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

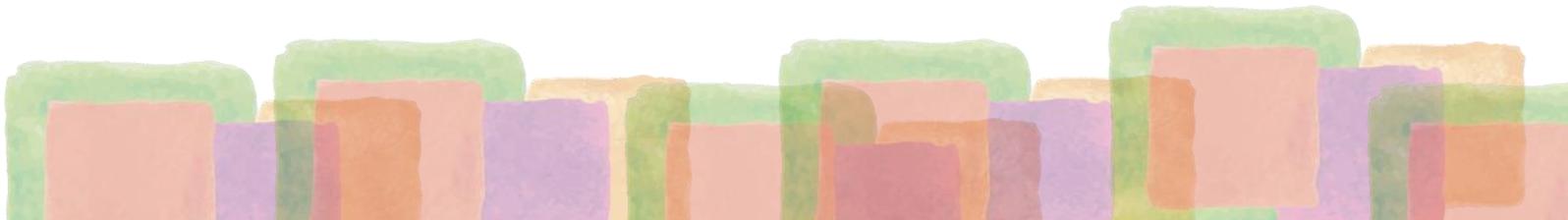
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|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
| Sector Activities   | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://glSCO.com/2017/03/06/energy-management-thermostats-for-hotels/>

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## Appendix – 61

### 5.61 Controlling building lights through a smart App

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The areas that required lighting in the hotels include the reception area, corridors, dining area, guest rooms, entertainment halls, and event/conference/seminar rooms, etc. Smart lighting control systems are becoming popular in the hospitality industry as they do not only provide comfort to guests but also reduce significant costs. A smart lighting control system, correctly specified, installed, and maintained, provides programmable control of all exterior and interior lighting, and creates an atmosphere that attracts repeat guests for dining, entertainment, and accommodation.

Ramada Hotel in Delhi (India) installed a smart lighting control system that enables it to control lighting through a smart App. That is, the facility manager can control building lighting using a smartphone or a desktop computer. In particular, the facility manager can do Master ON/OFF; Zone-based Dimming; Mood or Profile based Dimming, Scheduling, and so on.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

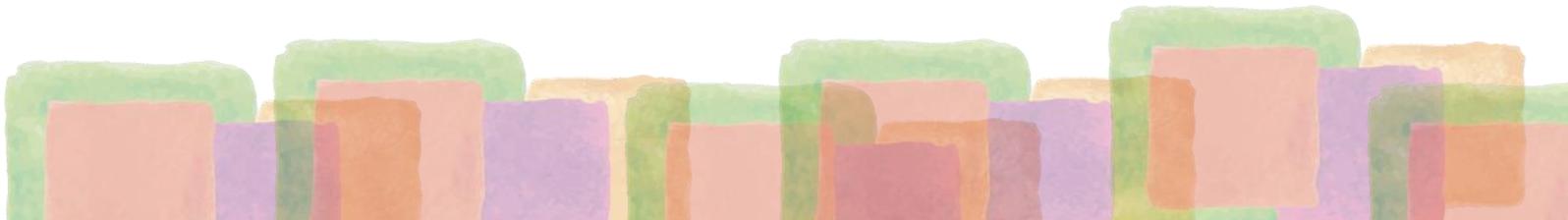
|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
| Sector Activities   | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.buildtrack.in/news/lucknows-ramada-hotel-adopts-centralized-lighting-control-buildtrack-banquet-halls/>

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## Appendix – 62

### 5.62 Installation of motion sensors in hallways

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Luxury resorts and small motels alike benefit financially from being energy efficient. Cutting energy usage is good for the planet, it helps the economy, and it puts money in hotels' pockets. Installation of motion sensors in hallways and guestrooms is a simple and cost-effective approach.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.60

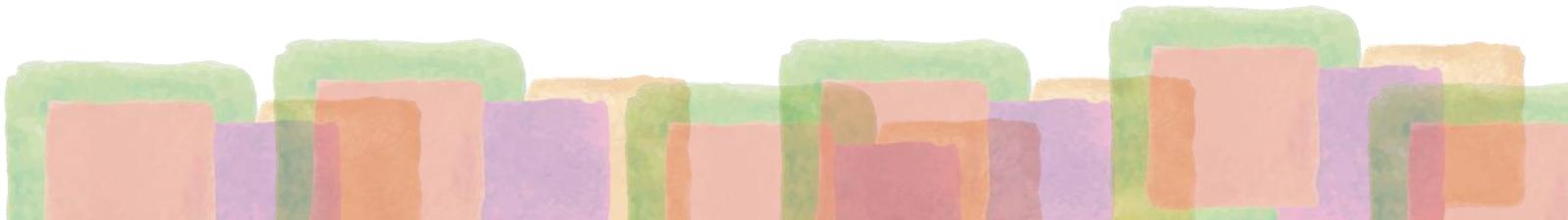
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://challenge.abettercity.org/toolkits/emissions-reduction-toolkits/energy-efficiency/office-design/?toolkit=224>

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## Appendix – 63

### 5.63 Purchase and use of high-efficiency laundry equipment

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement   | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Energy efficiency rating labeled washing machines and dryers use less electricity and water than conventional equipment without sacrificing performance. Because less water is used, about half as much detergent is required. On average, energy efficiency rating labeled washers reduce energy and water bills by using 50% less water and electricity, while such dryers use 20% less energy. These savings translate into a significant reduction in greenhouse gas emissions compared to the energy strain that would have been put on the grid. Procurement of high-efficiency laundry equipment is a one-time investment and provides long-term benefits.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

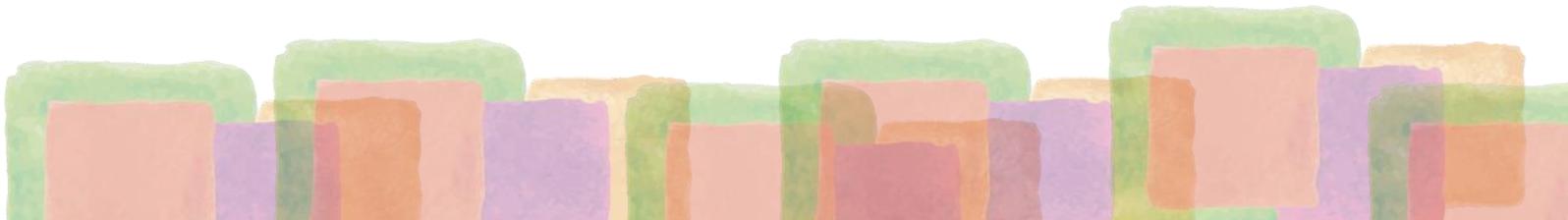
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

---

■ **Source:**

<https://challenge.abettercity.org/toolkits/emissions-reduction-toolkits/energy-efficiency/hotels>

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## Appendix – 64

### 5.64 Purchase and use of efficient dishwashers

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement   | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

There are many efficient dishwashers on the market today. Purchase and use of such dishwashers can be very beneficial. Efficient dishwashers incorporate various technologies. For instance, they have built-in Soil Sensors to test dirtiness throughout the wash and adjust the cycle to achieve optimum cleaning with minimum water and energy use. They have Improved Water Filtration to remove waste from the wash water, allowing more efficient use of water and detergent. Last but not least, they have more Efficient Jets and Innovative Dish Rack designs to situate the dishes for optimized cleaning. Following are some tips for efficient use of dishwasher(s):

- Run dishwashers only when full
- Turn off dishwasher when not in use
- Use the eco-friendly cycle settings
- Purchase dishwashing liquid or powder that is natural and biodegradable
- Turn down steam heat

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.40

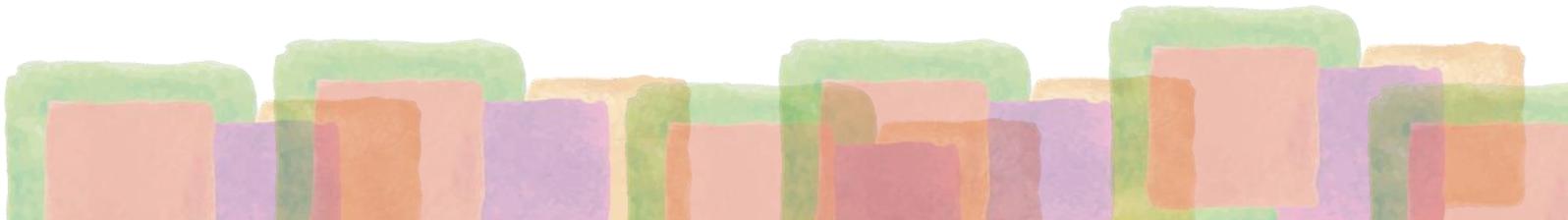
#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:



---

NACE Code - Tourism  
Sector Activities

- 
- 55.10 - Hotels and similar accommodation

---

  - 55.20 - Holiday and other short-stay accommodation

---

  - 79.11 - Travel agency activities

---

  - 79.12 - Tour operator activities

---

  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://challenge.abettercity.org/toolkits/emissions-reduction-toolkits/energy-efficiency/appliances?toolkit=217>

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## Appendix – 65

### 5.65 Centralized energy management system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

A centralized energy management system uses a central controller that can operate all HVAC and heater fans, ducts, and appliances. The system relies on strategically placed door and window sensors, system arming stations, and system-controlled thermostats to make energy management decisions. It can implement intelligent energy practices such as shutting down air conditioners in rooms with open windows or shutting down heating units based on room occupancy and the status of windows/doors. It can reduce utility costs and greenhouse gas emissions.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.00

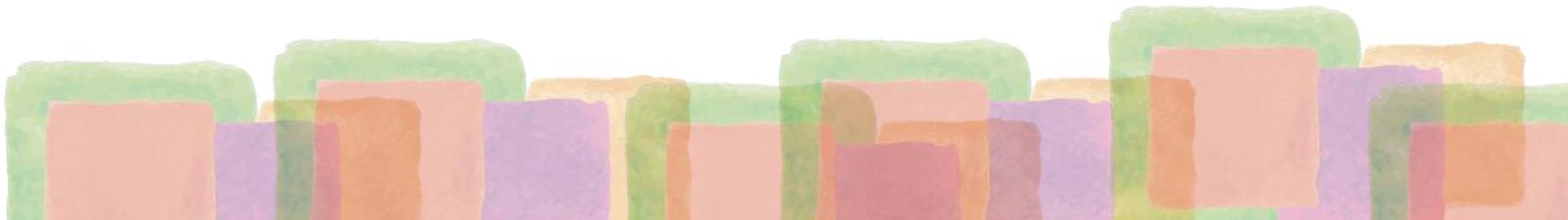
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://challenge.abettercity.org/toolkits/emissions-reduction-toolkits/energy-efficiency/energy-systems>

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## Appendix – 66

### 5.66 Improving building envelope

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation        | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input checked="" type="checkbox"/> Green Building | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                       | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The building envelope, the boundary between the interior and exterior of a building, performs several tasks including exterior protection (e.g. protection from the elements) and preservation of internal space requirements (e.g. thermal, light, and acoustic comfort, humidity conditions). The use of a range of building technologies to create an energy-efficient building envelope reduces both the thermal energy lost to the building’s surroundings and the amount of energy needed to heat and cool the building. Heating, cooling, and ventilation are responsible for huge utility costs. The technologies deployed can address several sources of energy loss such as air leakage, wet insulation, and thermal bridging.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.80

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 1.40

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

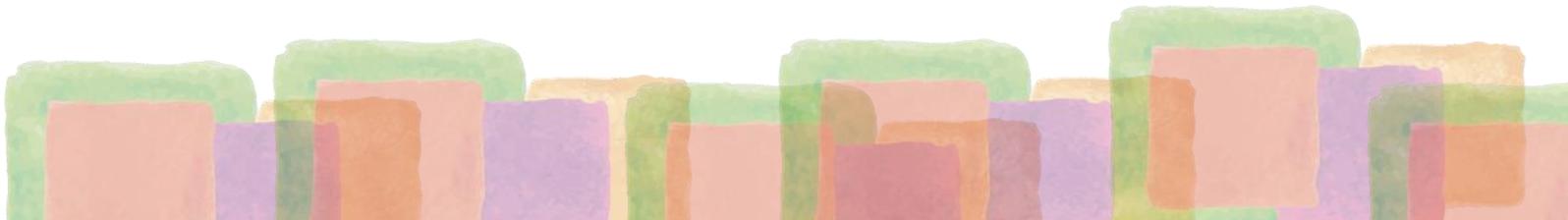
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■ **Source:**

<https://sustainablebuildingsinitiative.org/toolkits/emissions-reduction-toolkits/energy-efficiency/office-design/>

<https://facilityexecutive.com/2017/02/maximizing-the-building-envelope/>

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## Appendix – 67

### 5.67 Purchase of energy-efficient appliances for the kitchen

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement   | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The kitchen can be the biggest energy-wasting area in a hotel or a restaurant. With appliances working continuously to prepare breakfast, lunch, and dinner guests every day, the final electricity bill can be quite discouraging. Therefore, the purchasing of energy-efficient appliances such as refrigerators, induction cooktops, convection ovens, microwaves, and dishwashers can decrease energy consumption. Also, a contemporary dual-fuel range cooking station would cut down energy consumption while delivering better performance.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:

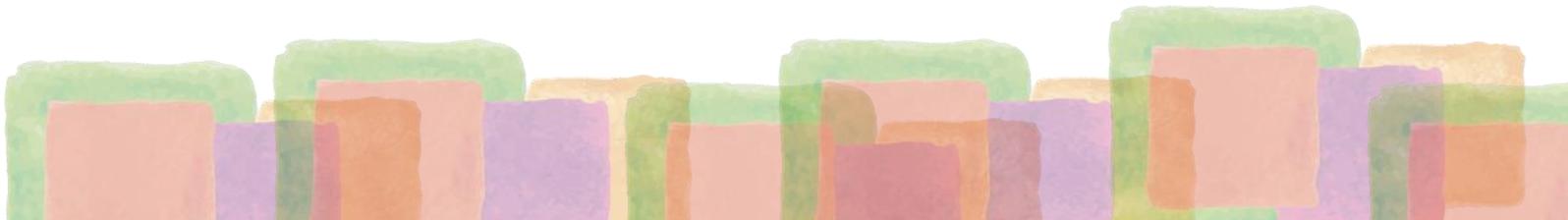
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|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ Source:

<https://www.hospitalitynet.org/opinion/4085486.html>

<https://www.monogram.com/kitchen-design/energy-efficient/>

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## Appendix – 68

### 5.68 Sand timers for hotel showers

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

The Yök Casa Cultura in Barcelona (Spain) requests guests, to minimize water consumption while bathing, in a very creative and fun way. They installed a sand timer in their hotel shower to induce a behavioral change amongst guests or shower users.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.80

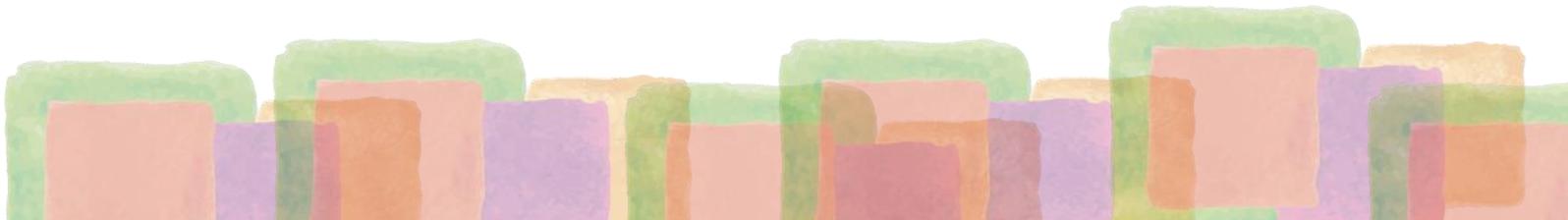
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://www.helloyok.com/sand-timer-for-hotel-showers/>

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## Appendix – 69

### 5.69 Installation of sensor-controlled water faucets

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

An automatic faucet or tap (also known as a hands-free faucet) is a faucet equipped with a proximity sensor that automatically turns on the water when the user’s hands are within the sensor’s range and turns off when they have been removed. Installation of sensor-controlled water faucets can save water up to 60%.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.80

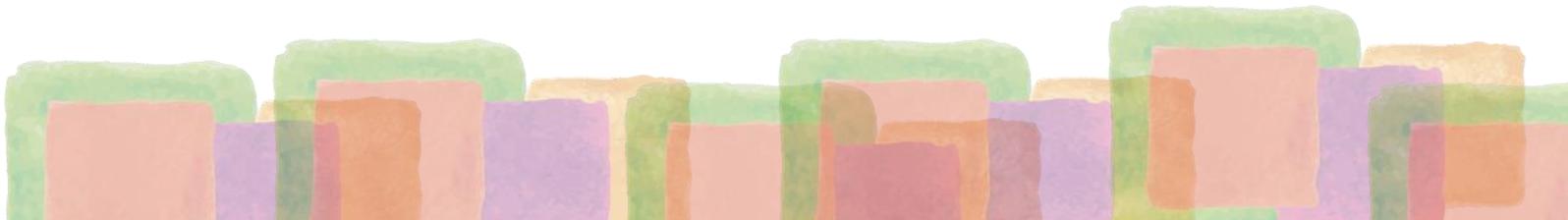
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://www.duq.edu/assets/Documents/green-industries/Conserving%20Water.pdf>

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## Appendix – 70

### 5.70 Smart plughole

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Roca, the world leader in sanitary ware and accessories for the bathroom, is at the forefront and innovation. Roca has presented a unique idea to reduce water consumption. It has designed a smart plughole that shows how many liters of water run past it down the drain. By installing this smart plughole, hotels and similar accommodations may influence guests' behaviors and reduce water consumption. There are also other similar products available in the market to influence guest behaviors towards water consumption.

#### ■ Environmental Benefits:

Perceived Rating: 1.80

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:

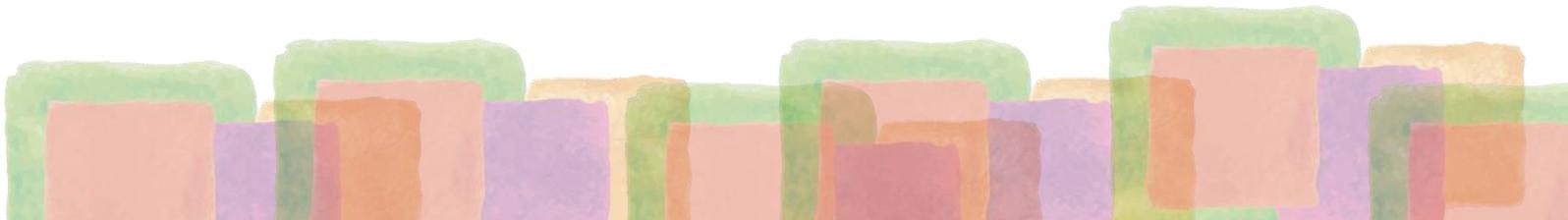
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<https://www.helloyok.com/how-to-reduce-water-with-a-smart-plughole/>

<https://www.h2ouse.net/10-best-gadgets-help-save-water/>

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## Appendix – 71

### 5.71 Using carpets made from recycled plastic bottles

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

InterContinental Hotels Group (IHG) has been using carpets produced from recycled plastic bottles and fishing nets. IHG purchased these carpets from carpet supplier Ege considering green procurement criteria. 1 m2 of the carpet backing is made using 18 half-liter plastic bottles, keeping these materials in circulation rather than disposing of them as waste.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.20

#### ■ Social Benefits:

Perceived Rating: 2.40

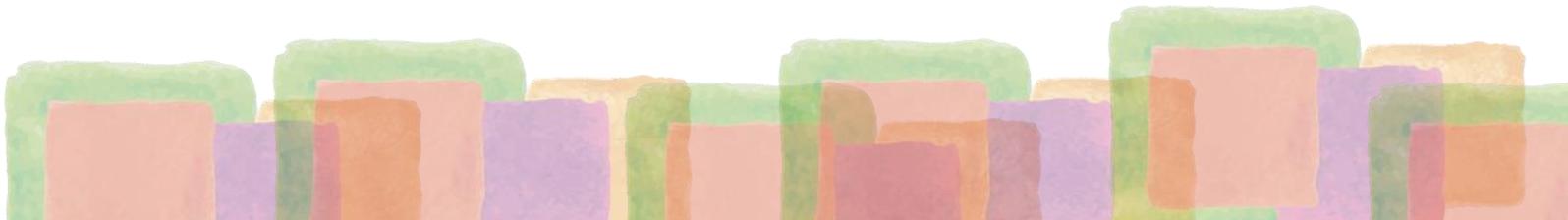
#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

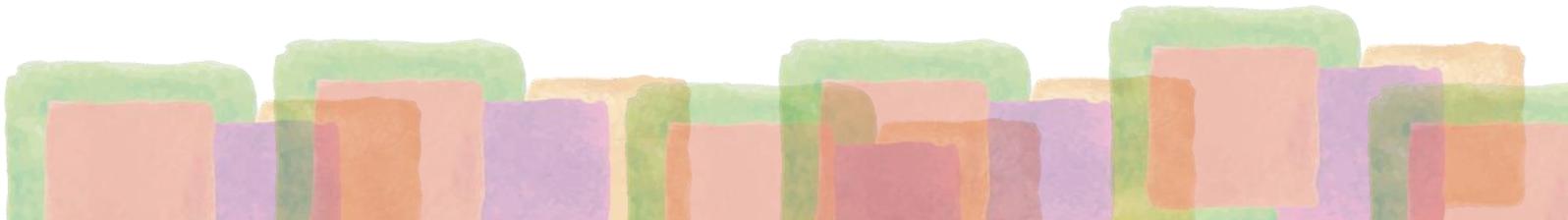
#### ■ Source:



<https://doi.org/10.3390/su11205665>

<https://www.egecarpets.com/sustainability/the-green-thread/carpets-made-from-waste>

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## Appendix – 72

### 5.72 Bathroom articles made with 100% organic materials

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Meliá Hotels & Resorts wants to reduce its environmental footprint without compromising the quality of services and experience for guests. For this reason, Meliá Hotels & Resorts have replaced bathroom articles (brushes, combs, etc.) with ecological alternatives made with 100% organic and compostable materials and packaging made from recycled cardboard.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.20

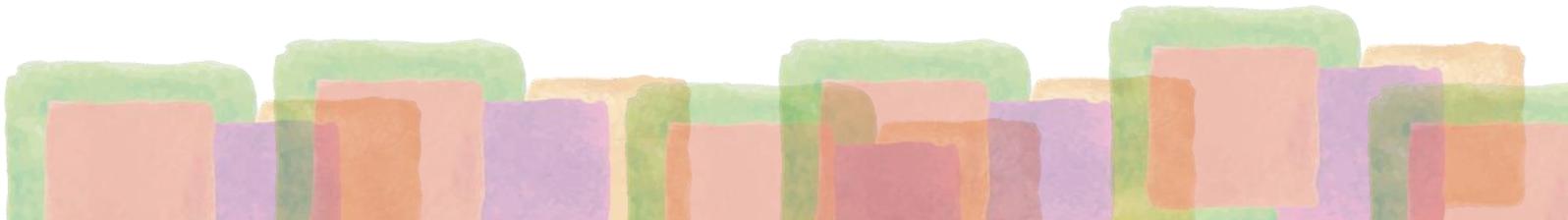
#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

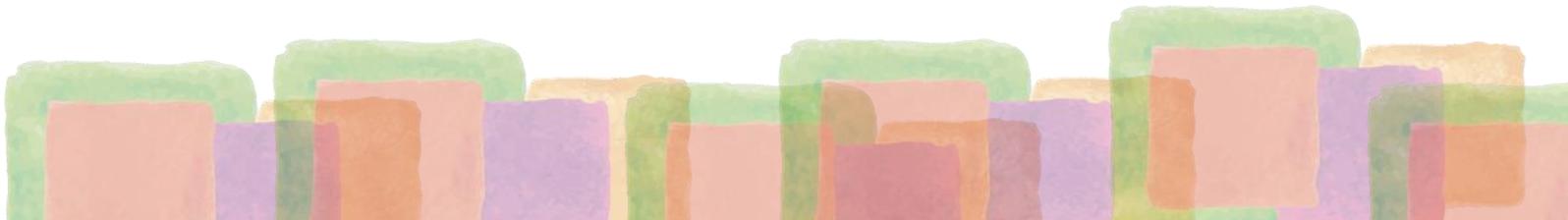
#### ■ Source:



<https://doi.org/10.3390/su11205665>

<https://www.hospitalitynet.org/news/4095581.html>

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## Appendix – 73

### 5.73 Calculating carbon footprint for each event

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Meliá Hotels & Resorts aims to sensitize and promote awareness among clients of the need for responsible use of resources and the environmental impact of their activities. It calculates and informs the carbon footprint for each event to clients, so the impact could be reduced in the future. Nevertheless, all of the materials used are recycled, such as notebooks, pens, markers, flipcharts, and coasters, and efficient use of resources is promoted, e.g. through use of glass pitchers instead of plastic bottles, low-consumption lights to save electricity, computer, and audiovisual equipment with an energy rating of “A” and selective collection of waste.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 2.20

#### ■ Main Applicability:

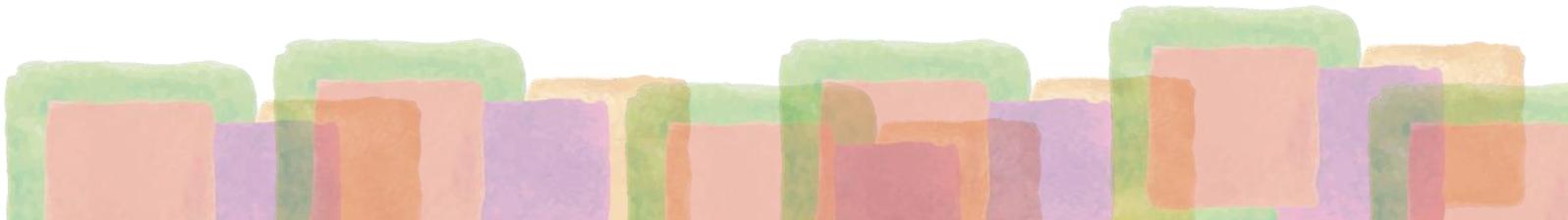
|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

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■ **Source:**

<https://www.esmadrid.com/mcb/en/news/melia-launches-ecotouch-promote-sustainable-meetings/>

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## Appendix – 74

### 5.74 Sustainable washbasin and WC

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Roca has designed a cleverly positioned washbasin, integrated seamlessly on top of the WC tank, allowing its internal system to capture the washbasin water as it drains away. The water collected from the basin is then saved, filtered, disinfected, and used to fill up the tank so it can be reused to flush the toilet, making it completely sustainable. There is also an option to simply discard the washbasin water when needed and here the cistern will fill from the mains water just like a conventional WC. Combining contemporary and stylish design with a greywater recycling system, the W+W makes it possible to reduce water usage by 25%, without compromising on the look of the bathroom. Hotels and similar accommodations by installing it can reduce water usage.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.60

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |

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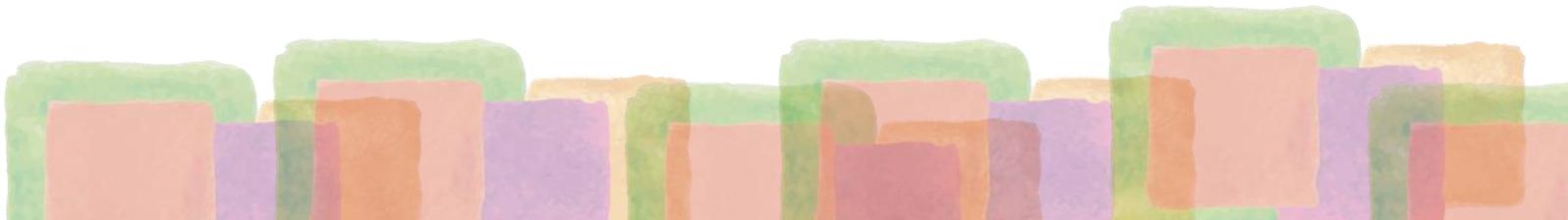
79.90 - Other reservation service and related activities

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**■ Source:**

<https://www.uk.roca.com/rocalife/discover-the-water-saving-ww>

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## Appendix – 75

### 5.75 Steam cleaning

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Hygiene is key in the hospitality industry, particularly in kitchens, guestrooms, bathrooms, and gardens, not only for obvious hygiene and regulatory reasons but also for commercial reasons. The attractiveness and comfort of a place are linked to its cleanliness. For cleaning purposes, chemical-based floor cleaners and other products are widely used, but they can have adverse effects on human health and the environment. According to a study, 84% of European citizens are concerned about the impact on their health of chemicals present in everyday consumer products. Also, many chemicals end up in the environment either because they are used directly in gardens or because they are released into the wastewater system. Once released into the environment, they can take a considerable amount of time to break down and become inactive. Some of these chemicals are known to accumulate in plants and animals and have long-term adverse effects.

It is therefore suggested to use steam cleaning because it only uses water to disinfect a surface. In this way, hotels and similar accommodations may avoid chemical cleaners. There are several steam cleaners available in the market for the hospitality industry.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:

---

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

---

**■ Source:**

<https://www.hotelminder.com/5-actions-towards-zero-waste-in-hotels-and-restaurants>

<https://www.bhg.com/homekeeping/house-cleaning/surface/why-use-a-steam-cleaner/>

<https://dupray.com/blogs/what-to-clean/hospitality>

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## Appendix – 76

### 5.76 Using energy from own hydroelectric power station

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Landal Resort Maria Alm in Austria is entirely heated through its own hydroelectric power plant. The Landal Resort Maria Alm is situated next to the small river Urslau and was built as a project of the Jägerbau GmbH. As part of this project, an area that has previously been used as a sawmill has been redesigned. To run the sawmill, its owners (family) have already since 1906 relied on hydropower. In 2012, the owners began to convert and modernize the hydropower plant, now supplying the entire resort, with a capacity of approximately 550 beds with electricity and heat (about 800,000 kWh heat per year). During absolute peak times, the biomass power plant, which is also located in Maria Alm and the Salzburg AG, the regional energy- and infrastructure supplier additionally provide heat and energy.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 3.00

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                    |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                    |

---

79.90 - Other reservation service and related activities

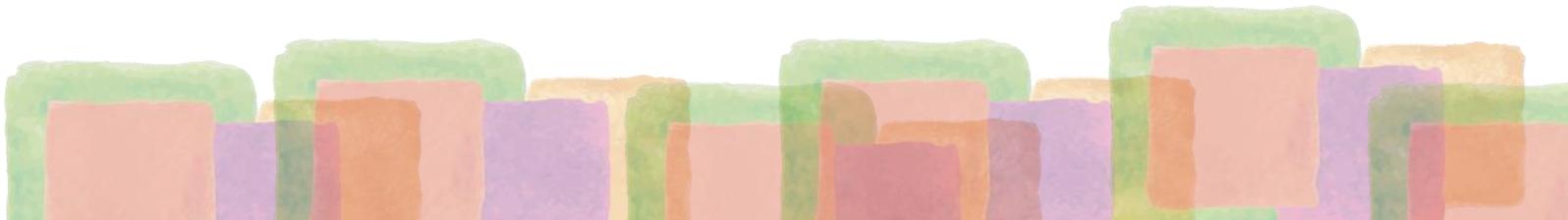
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**■ Source:**

<https://www.greenkey.global/stories-news-1/category/Best+Practices>

<http://www.landal.at/parks/resort-maria-alm>

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## Appendix – 77

### 5.77 Disinfecting swimming pools through own salt electrolysis

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Reducing the use of chemical agents is essential due to environmental impacts and health reasons. Water in swimming pools is usually disinfected through chlorine. However, this is not an environment-friendly practice. Therefore, Landaal - Hof Van Saksen in the Netherlands is now producing its own chlorine through salt electrolysis. In this way, it is consuming a high-quality but 75% less chlorine in a swimming pool compared to conventional chlorine. Furthermore, it produces chlorine as per the number of swimmers and thus reducing water and energy consumption per swimmer.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                    |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                    |

---

79.90 - Other reservation service and related activities

---

■ **Source:**

<https://www.landal.at/nachhaltigkeit/gesunde-natur/wir-setzen-immer-weniger-chemische-mittel-ein>

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## Appendix – 78

### 5.78 Increasing emotional well-being during the pandemic

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Coronavirus pandemic does not only hit the hospitality industry economically but also has negative effects on the mental health and well-being of the employees within the sector.

The management and employees of the Fiesta Inn Monterrey Fundidora (in México) did brainstorm on how to counteract the decreasing physical and emotional well-being. They found an innovative way to fight the stress and negative influence of the pandemic and so created a personal oasis on the rooftop of the hotel.

Initially, one employee presented the idea of installing a rooftop garden and relaxation area on the 7th floor of the hotel. All employees were then immediately excited about it and started to come up with different possibilities. As a result, the employees of the hotel collectively contributed to the creation of the beautiful oasis. The management was happy to see that all the employees designed the garden with lots of love and hope and with the prospect of being able to welcome back the hotel's guests to a beautiful garden that can then also be enjoyed by them. Besides the sense of ownership and team-spirit that has been generated through the collective construction of the garden, planting new green areas and gardening are additionally beneficial to handling stress during difficult times. To ensure the sustainability of the area, the flower boxes, the furniture, and all other necessary equipment were built from recycled materials, and the area is being lit through LED lighting. The towel basket has, for example, been made out of an old vacuum cleaner. Also, guests can enjoy a wonderful view of the eastern Sierra Madre while sitting down in a wooden swing. Finally, all the herbs and fruits that are harvested in the garden are used to flavor different dishes in the kitchen of the hotel.

#### ■ Environmental Benefits:

Perceived Rating: 1.40

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 3.00

**■ Replication Feasibility:**

Perceived Rating: 2.20

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**<https://www.greenkey.global/stories-news-1/category/Best+Practices>[Back to List](#)

## Appendix – 79

### 5.79 Raising awareness of the visitors

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input checked="" type="checkbox"/> CSR     | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

The Water Park Hidrodoe in Herentals (Belgium) has been awarded the Green Key (certification) ten times in a row due to their actions of reducing energy and water, sorting waste, and procuring green products, etc. One of their most significant contribution to sustainable tourism development is their educational programme. Through workshops and experiments, visitors of the attraction learn about biological water quality, production of drinking water, water cycle. Moreover, the establishment offers water walks and gives useful tips on how to use precious water and thus contributes to the reduction of visitors' water footprint. Besides the educational activities related to water, the establishment has added three hundred thousand extra employees. By the installation of six beehives, located at the water production center of the water company Pidpa next to Hidrodoe, the center added approximately 50,000 bees and one queen per hive to their team. With these hives, Hidrodoe, therefore, contributes to saving bees and preserving biodiversity. This is particularly important as the world's bee population is declining dramatically, mainly due to climate change, pesticides, habitat loss, and diseases

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 2.80

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:

---

55.10 - Hotels and similar accommodation

---

NACE Code - Tourism  
Sector Activities

---

55.20 - Holiday and other short-stay accommodation

---

79.11 - Travel agency activities

---

79.12 - Tour operator activities

---

79.90 - Other reservation service and related activities

---

■ **Source:**

<https://www.greenkey.global/stories-news-1/category/Best+Practices>

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## Appendix – 80

### 5.80 100% wind energy power

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Willard Intercontinental in Washington D.C. (USA) has been running on 100% wind energy power resulting in a 12% decline in energy consumption over the past five years. Pepco Energy Services, a subsidiary of Pepco Holdings, Inc. and a leader in renewable electricity, supplies the 332-room landmark hotel with 100 percent wind renewable energy credits, making Willard the first urban luxury hotel in the USA to be fully supported in this sustainable manner. Wind energy is particularly effective in reducing greenhouse gases because there are no air emissions associated with operating wind generators.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.20

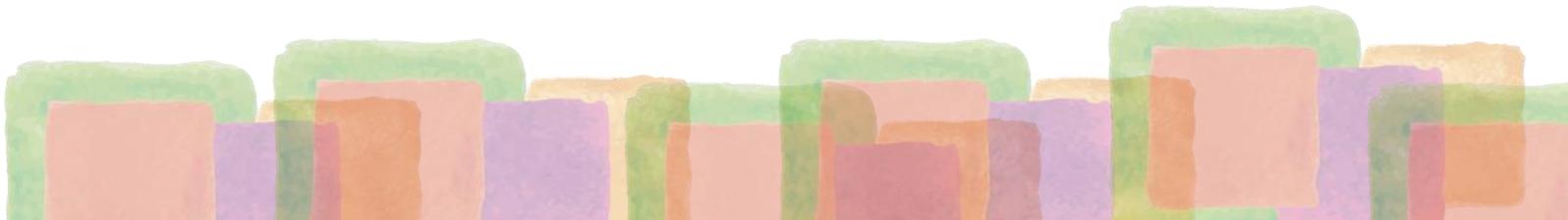
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ Source:

<http://green.hotelscombined.com/Pages/MainGreen/Downloads/green-hotel-whitepaper.pdf>

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## Appendix – 81

### 5.81 Installation of water-free urinals

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Urinals use about one to 1.5 gallons of water per flush. Older units can use as much as 4 gallons per flush. Considering that the average urinal is flushed about 2,000 times per month, this means that just one urinal can use more than 35,000 gallons of water per year.

Many facilities, new and old, including hotels, are installing urinals that require no water. For instance, the Royal Hotel in Sydney (Australia) installed waterless urinals in all of their common area men’s restrooms. There are several reasons for the growing interest in waterless urinals, especially in hotels. Although waterless urinals need to be connected to a drain, there is no need to install the plumbing that carries water to the drain, which can be a sizable saving. Additionally, electronic sensors, batteries, and other components of a traditional flush urinal are unnecessary. The Willard Intercontinental in Washington D.C. (USA) implemented water-free urinals resulting in savings of 95,000 gallons of water in 2005.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
| Sector Activities   | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<http://green.hotelscombined.com/Pages/MainGreen/Downloads/green-hotel-whitepaper.pdf>

<https://www.waterless.com/blog/why-hotels-and-other-facilities-like-waterless-urinals>

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## Appendix – 82

### 5.82 Recycling water from kitchen sewage

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Otani Hotel in Tokyo (Japan) constructed a water recycling plant, which produces 1,000 tons of recycled water daily from kitchen sewage to be utilized in gardens or staff lavatories.

The Keio Plaza Hotel in Tokyo (Japan) houses a wastewater recycling plant on the basement floor that takes in about 100 tons of kitchen wastewater per day and purifies it using biological methods. This water is then reused within the hotel for flushing toilets and other tasks

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.60

#### ■ Replication Feasibility:

Perceived Rating: 1.80

#### ■ Main Applicability:

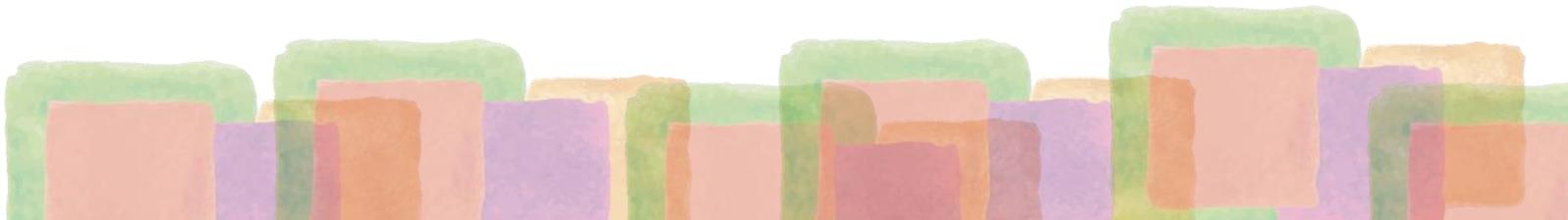
|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

■ **Source:**

<http://green.hotelscombined.com/Pages/MainGreen/Downloads/green-hotel-whitepaper.pdf>

<https://www.keioplaza.com/csr/ecology.html>

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## Appendix – 83

### 5.83 Re-usable wall panels made from fertilizer waste

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation        | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input checked="" type="checkbox"/> Green Building | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                       | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Green building practices are increasingly being used in new and retrofitted developments, mainly for energy and water efficiency and to reduce hazardous waste.

The Orchid Hotel in Mumbai (India) is a prime example of a “green” hotel that attracts upscale clientele and provides state-of-the-art technology and luxury in an environment-friendly context. The hotel is made of re-usable wall panels made from fertilizer waste and environment-friendly cement called “Portland Pozzolana Cement” and “Autoclaved Aerated Concrete” to deplete the topsoil and provide thermal insulation, which both use a large percentage of fly ash. The Orchid Hotel positioned some of their rooms to avoid facing external cement to prevent heat load, constructed ceilings to invite natural light into the building, in addition to a rooftop swimming pool to protect the building from heat.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 1.60

#### ■ Main Applicability:

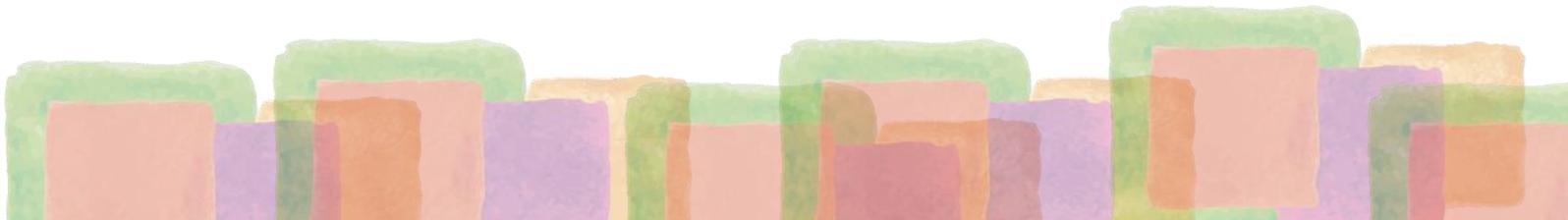
|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
| Sector Activities   | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<http://green.hotelscombined.com/Pages/MainGreen/Downloads/green-hotel-whitepaper.pdf>

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## Appendix – 84

### 5.84 Reducing the use of chemicals

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Guest room and bathroom cleaning is a major source of chemical consumption within accommodation establishments and a significant source of water consumption. Chemical use can be minimized through: (i) appropriate dilution of cleaning agents usually purchased in concentrated form, (ii) efficient cleaning technique, (iii) use of microfiber cloths. Regular staff training on chemical handling is very important, from a health and safety and environmental perspective. Selection and green procurement of less environmentally harmful cleaning agents, such as those that have been awarded an ISO Type-I ecolabel (e.g. EU Ecolabel, Nordic Swan), can significantly reduce the impact of cleaning.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

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■ **Source:**

<https://ec.europa.eu/environment/emas/takeagreenstep/pdf/BEMP-5.3-FINAL.pdf>

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## Appendix – 85

### 5.85 Policy to encourage sustainable traveling

#### ■ Category (Tags):

|  |   |  |
|--|---|--|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Travel agencies and tour operators can play an important role in boosting sustainable tourism development. A good approach is to do choice editing before offering travel packages to clients. It is important not to offer flight packages where convenient alternatives exist.

A good example to implement the above-mentioned practice is that tour operators in Germany must comply with specific criteria. Otherwise, tour operators cannot be a member of the Forum Anders Reisen (an association). According to the mandatory criteria, no flights are offered up to 700 km and flights are offered between 700 km to 2000km only if the client stays in the destination for more than 8 days.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 1.60

#### ■ Social Benefits:

Perceived Rating: 2.60

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities        |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                   |

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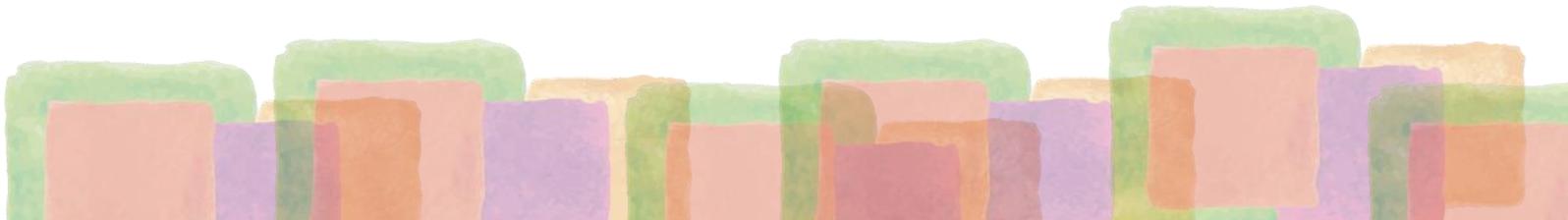
79.90 - Other reservation service and related activities

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**■ Source:**

[https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP\\_0.pdf](https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP_0.pdf)

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## Appendix – 86

### 5.86 Contract with or choose only green accommodations

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Travel agencies and tour operators can play an important role in boosting sustainable tourism development. Travel agencies can influence the change both on the demand and supplier side. That is, on one hand, they may encourage clients to be more responsible towards the environment and on the other hand, they can indirectly push accommodations for green measures. A good practice is that travel agencies should only choose or do business with those accommodations that are adopting sustainability measures.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 2.20

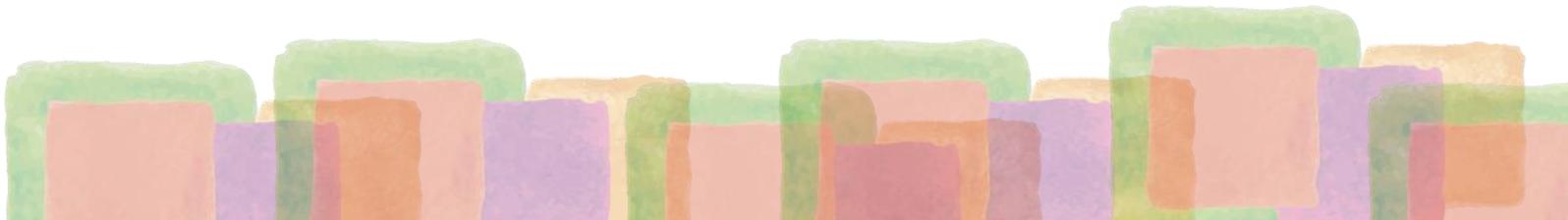
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities              |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

[https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP\\_0.pdf](https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP_0.pdf)

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## Appendix – 87

### 5.87 Promote public transport in tour packages

#### ■ Category (Tags):

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Energy Conservation             | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement               | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input checked="" type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Travel agencies and tour operators should promote public transport at any cost. In particular, travel agencies may do so by giving some special offers or discounts to clients. For instance, TUI Deutschland provides all air package holiday clients with a second-class rail ticket for travel to and from airports in Germany that includes the use of all public transport in twelve major German public transport associations. Travel agencies or tour operators may also promote public transport by highlighting money-saving options or promotional offers available at the chosen designation. For instance, Bensbus offers low-cost transfers from Grenoble airport to many major resorts in the French Alps by grouping everyone and putting them all on one big bus.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 2.60

#### ■ Replication Feasibility:

Perceived Rating: 2.60

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities        |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities        |

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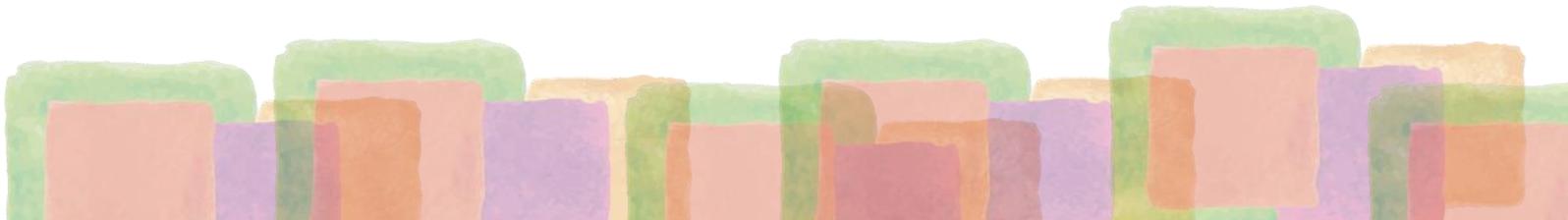
79.90 - Other reservation service and related activities

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**■ Source:**

[https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP\\_0.pdf](https://susproc.jrc.ec.europa.eu/product-bureau/sites/default/files/inline-files/TourismBEMP_0.pdf)

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## Appendix – 88

### 5.88 Travel agency educating own customers

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                           |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.)       |

#### ■ Description:

Virtuoso’s management has pledged to follow sustainable practices. Virtuoso is committed to educating travelers about the positive impact that comes from traveling in more mindful ways – from saving endangered species to supporting community development projects. Virtuoso works closely with travel advisors to develop eco-tourism itineraries.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.80

#### ■ Replication Feasibility:

Perceived Rating: 2.80

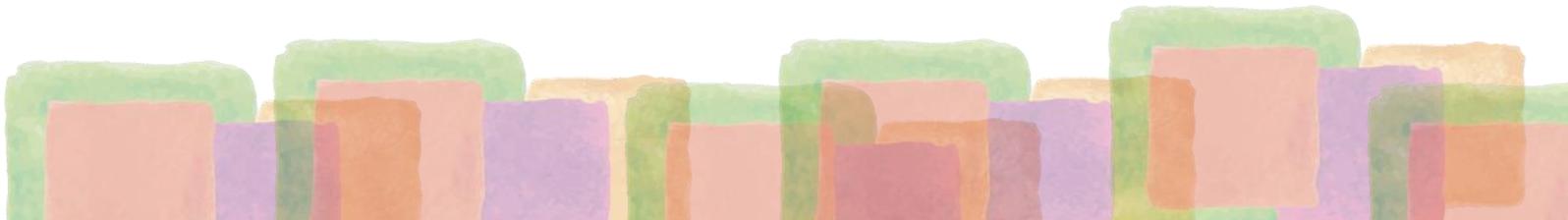
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:

<https://www.travelpulse.com/news/features/these-travel-companies-are-leading-the-way-on-sustainable-tourism.html>

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## Appendix – 89

### 5.89 Planning eco-friendly tour activities

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Tour operators may influence the behavior of tourists. Tour operators considering their responsibility should plan their tour activities in an environmentally friendly manner. For example, they may avoid touring to places where tourism causes environmental damage. By advertising sustainability criteria, they will encourage destinations to meet them and attract new customers.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 2.60

#### ■ Replication Feasibility:

Perceived Rating: 2.60

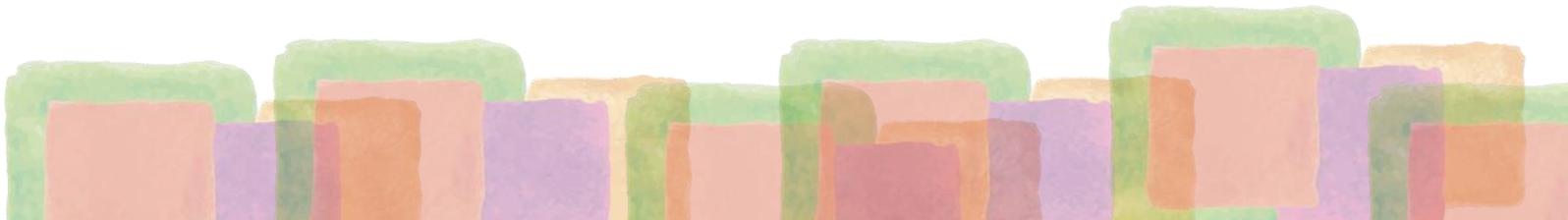
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:

<https://www.eldis.org/document/A46223>

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## Appendix – 90

### 5.90 Measuring the carbon footprint of the organization

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

To progress towards more sustainable development, more understanding is necessary. To reach this understanding, concise measurement is necessary. If an organization has a clear view of where the problem is, then that organization may effectively strive to mitigate the associated impacts. Therefore, measuring the carbon footprint is important.

Many hotels in the world have been measuring their carbon footprint and accordingly taking necessary measures to mitigate the environmental impacts of their business. For instance, AccorHotels launched a project in 2010 to measure its environmental footprint in order to create a precise and complete map of the environmental impacts of its activities. The final report allowed them to evaluate the impact of their carbon emissions, water and energy consumption, and waste production. This was one of the very first projects in the hotel industry and it positioned AccorHotels as a pioneer in management-oriented environmental impact assessment. AccorHotels chose to quantify 5 priority impacts across 11 activity areas: water consumption and waste, on-site energy consumption, hotel air climate control, waste management, external laundry services, restaurants, construction and renovation, room furniture, cleaning products, office supplies, and employee transportation.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 2.00

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

---

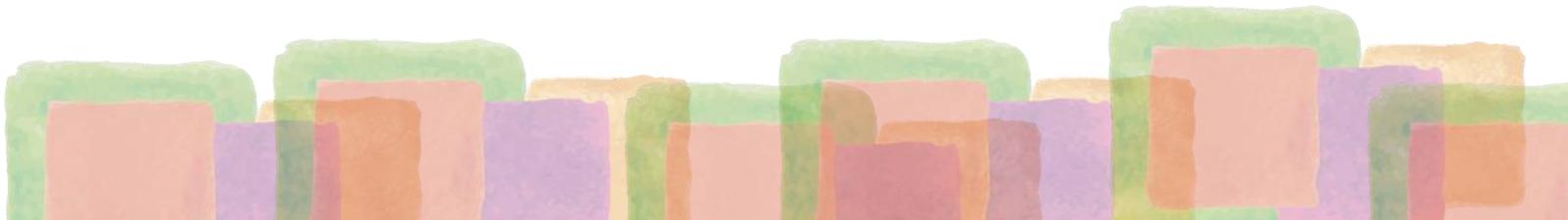
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|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

---

**■ Source:**

<https://press.accor.com/press-releases/>

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## Appendix – 91

### 5.91 Compensating employees for environmental initiatives

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotels and similar accommodations may adopt a policy to compensate employees who adopt responsible behavior and/or contribute significantly in reducing the carbon footprint. This practice will help them in gaining long-term environmental and economic benefits. For instance, they may announce bonuses or extra holidays to compensate employees for their environmental initiatives.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 2.40

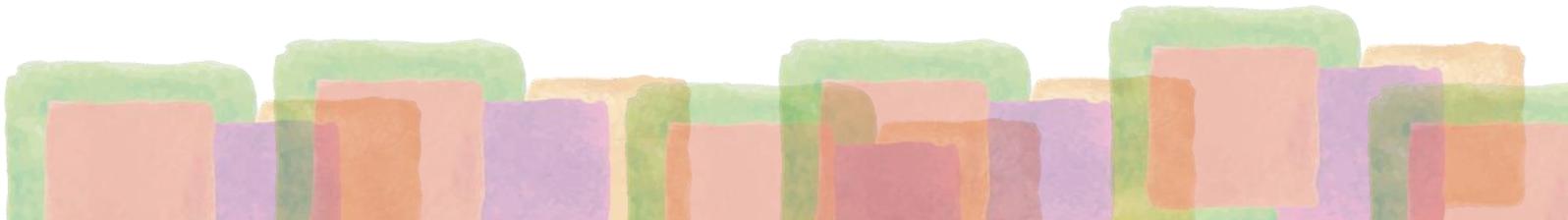
#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:

<https://doi.org/10.1016/j.jclepro.2016.10.010>

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## Appendix – 92

### 5.92 Installation of sub-meters in water-using areas

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Hotels and similar accommodations are heavily dependent on water for everyday operations. Several studies have documented high levels of water consumption in the hospitality industry. For instance, the hotels in European countries have an average water consumption of around 394 liters per guest per night. Hotels in Barbados have an average water consumption of 839 liters per guest per night. The average water consumption of hotels in the Australia and New Zealand region is around 313 liters per guest per night, while in the region of Hong Kong, Singapore, Indonesia, and Thailand is around 677 liters per guest per night.

The major areas of water consumption in hotels and similar accommodations are guest bathrooms, kitchens, laundry facilities, and communal toilet facilities. Swimming pools and the irrigation of green areas can contribute an additional 10 - 15% and 20 - 25%, respectively, and room cleaning approximately 12 - 17 liters per guest per night. Employees can also contribute significantly to water use. Depending on the cooling system installed, cooling towers may be responsible for a further 10 - 25% of water consumption in a hotel. For these reasons, it is recommended to measure water consumption by installing sub-meters in important water-using areas and benchmarking.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 2.20

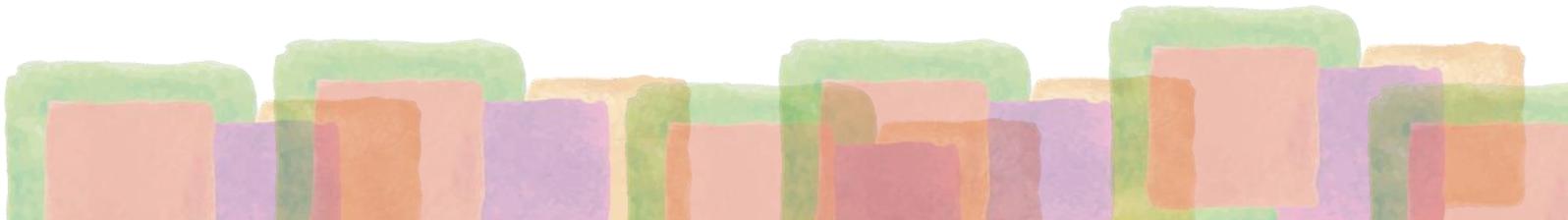
#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:



|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

**■ Source:**

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 93

### 5.93 Installation of thermostatic shower controls

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The major areas of water consumption in hotels and similar accommodations are guest bathrooms, kitchens, laundry facilities, and communal toilet facilities. Bathrooms account for about 40% consumption of water in hotels. One good practice among others to achieve water and energy efficiency in guest bathrooms is the installation of thermostatic shower controls.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.80

#### ■ Social Benefits:

Perceived Rating: 1.40

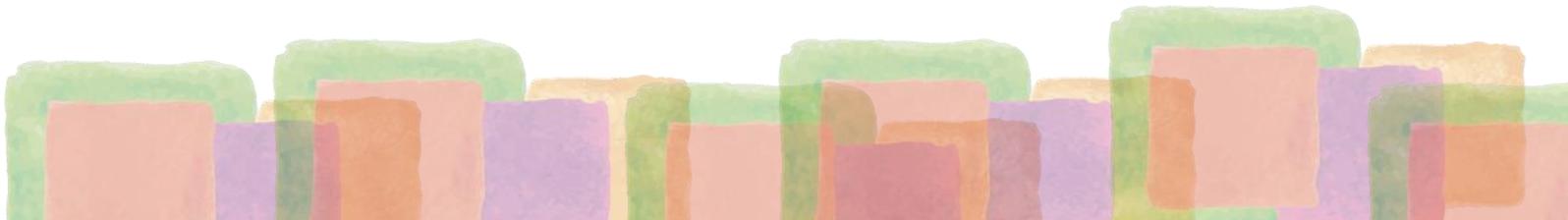
#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

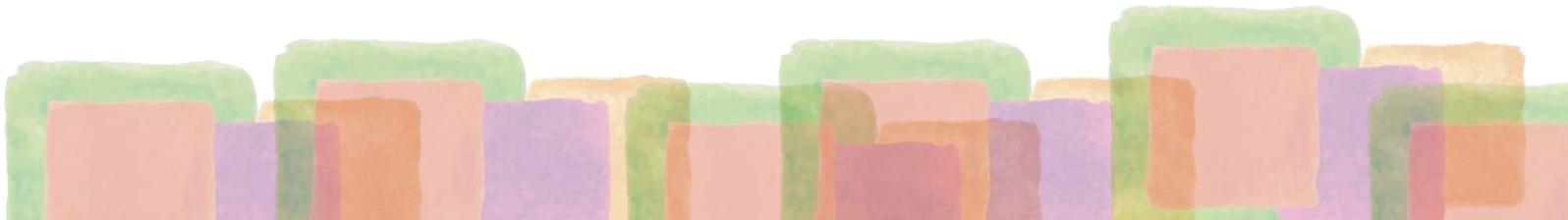
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|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:



<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 94

### 5.94 Use of pool covers

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Swimming pools can contribute to 10 - 15 % water consumption in hotels. Swimming pools lose energy in a variety of ways, but evaporation is by far the largest source of energy loss. Evaporating water requires tremendous amounts of energy. It only takes 1 Btu to raise 1 pound of water 1 degree, but each pound of 80°F water that evaporates takes a whopping 1,048 Btu of heat out of the pool. Indoor pools are not subjected to the environment, but they still can lose a lot of energy from evaporation. They even require room ventilation to control indoor humidity caused by a large amount of evaporation. The ventilated air also must be conditioned, which adds to the energy costs.

Pool covers minimize evaporation from both outdoor and indoor pools. Covering a pool when it is not in use is the single most effective means of reducing pool heating costs. Savings of 50 - 70% are possible. Pool covers on indoor pools not only can reduce evaporation but also the need to ventilate indoor air and replace it with unconditioned outdoor air. Also, exhaust fans can be shut off when an indoor pool is covered, which saves even more energy. Besides offering energy savings, pool covers also provide the following benefits:

- Conserve water by reducing the amount of make-up water needed by 30 - 50%
- Reduce the pool's chemical consumption by 35 - 60%
- Reduce cleaning time by keeping dirt and other debris out of the pool.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.20

#### ■ Replication Feasibility:

Perceived Rating: 2.60

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

<https://www.energy.gov/energysaver/swimming-pool-covers>

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## Appendix – 95

### 5.95 Purchase of reusable plastic cups

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Replacing single-use products with durable alternatives can often generate substantial cost savings. A good practice among others to avoid single-use products is to purchase reusable plastic cups.

The Ascos Beach Hotel in Paphos (Cyprus) invested 867 euros to purchase 3,000 reusable plastic cups to replace disposable plastic cups and stopped using plastic bin liners in guest rooms. The Ascos Beach Hotel during the first year avoided the disposal of 100,000 plastic cups and saved almost 2,000 euros. Furthermore, 50% fewer bin liners were disposed of and thus further save 300 euros.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.20

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 2.40

#### ■ Main Applicability:

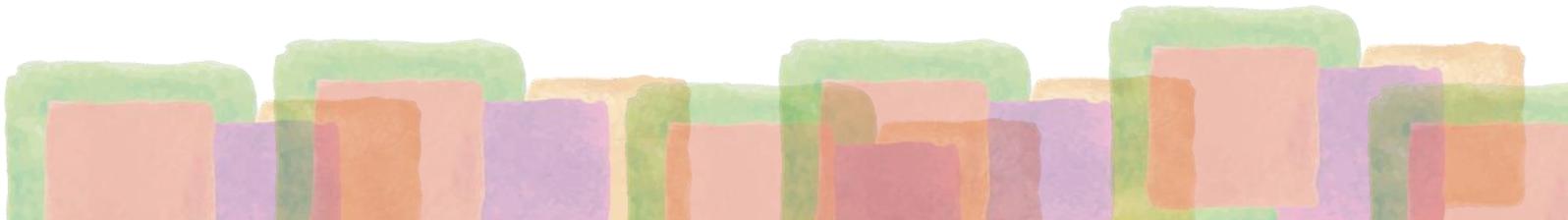
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|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

---

■ **Source:**

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 96

### 5.96 Selection of efficient components for HVAC system

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement   | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The HVAC system is based on various components and so the selection of efficient models or individual components may optimize the overall efficiency. The efficient HVAC components include the items listed below.

- Gas and oil-fired boilers and individual room air-conditioning units do not represent best practice with respect to heating and cooling sources. However, where they are installed, the highest seasonal energy efficiency ratio, for example, reflected in an ‘A’ rated European Energy Label, should be sought for all new appliances. Moreover, the information should be sought on full and part load efficiency.
- Variable speed drive motors are electric motors whose speed is controlled via the power supply in accordance with demand, reducing energy consumption by up to 40% compared with standard motors operating at one (full) speed.
- Direct drive pumps and fans require less energy than belt-driven versions.
- Pressure-independent control valves ensure the correct rate of flow through the cooling and heating systems, irrespective of system pressure variations. Installing these valves at critical points in the HVAC system can reduce energy consumption by facilitating a more accurate control of HVAC systems.
- Compressors are the main draw of energy for standard cooling systems. It is important to specify the most efficient compressors available. For example, variable speed compressors are more efficient than single-speed compressors for variable load applications. In addition, some newer compressor designs incorporate magnetic bearings instead of lubricating oil, with claimed energy-efficiency benefits of 35 - 50%.
- A significant amount of heat is released by compressors used for cooling, and this can be recovered for DHW heating.

#### ■ Environmental Benefits:

Perceived Rating: 2.20

#### ■ Economic Benefits:

Perceived Rating: 2.00

**■ Social Benefits:**

Perceived Rating: 1.20

**■ Replication Feasibility:**

Perceived Rating: 2.20

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>[Back to List](#)

## Appendix – 97

### 5.97 Installation of geothermal heat pumps

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Deep groundwater maintains a relatively constant temperature of 4 - 10 0C throughout the year and provides a useful source of cooling for building HVAC systems. Geothermal cooling is simple to implement, comprising a borehole sufficiently deep to extract cool groundwater, a pumping system, and a heat exchanger. Extraction of cool water during summer is sufficient to provide 100% of cooling demand, and the return of warmed water through a sink well results in localized warming of the groundwater during the summer. This slightly warmer water may then be pumped up in winter to provide heat to the HVAC system via a heat-pump. Examples of this system include the Hotel Victoria in Freiburg (Germany) and the Crowne Plaza Copenhagen Towers Hotel (Denmark).

Crowne Plaza Copenhagen Towers was built in 2009, has a floor area of 58,000 m2, and incorporates 366 rooms, a conference room section, kitchen, restaurant, and ancillary office building. Geothermal heat pumps were installed based on the aquifer thermal energy storage (ATES) technique that utilizes groundwater as a heat source and heat sink. Cold groundwater is pumped up during the summer and directed to the hotel’s basement where it cools down the water in the internal HVAC system. The groundwater is then returned into the ground, where the water accumulates heat during the summer for use in the winter. During winter, the water which was heated during the summer is pumped up again and heat energy is sent through two heat pumps which raise the temperature to heat the hotel HVAC system.

NH Laguna Palace Hotel (Italy) comprises 384 hotel rooms and a convention center and has a total cooling capacity of 3,200 kW provided by decentralized water-to-water compact heat pump units and packaged water-to-air roof-top units. These units also provide heating for the hotel and use river water extracted via a pre-existing underground duct as a stable heat source/sink. The installed system avoids the need for boiler heating of the HVAC system in winter and cooling tower cooling in summer.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.20

**■ Social Benefits:**

Perceived Rating: 1.60

**■ Replication Feasibility:**

Perceived Rating: 1.60

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 98

### 5.98 Purchase of efficient electrical equipment

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement   | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The procurement of efficient electrical equipment, especially mini-bar refrigerated cabinets and television sets, can significantly reduce electricity demand. The highest “A” rated appliances according to the EU Energy Label, or Energy Star labeled appliances, should be selected.

#### ■ Environmental Benefits:

Perceived Rating: 2.80

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.40

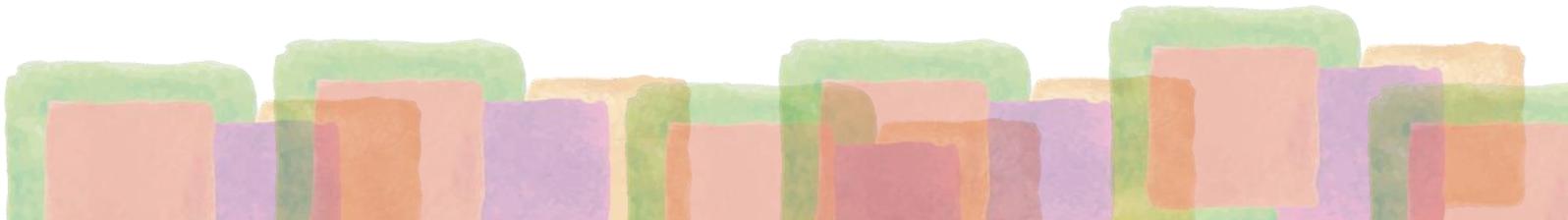
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

#### ■ Source:

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 99

### 5.99 Green procurement of food and drink products

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation          | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input checked="" type="checkbox"/> Green Procurement | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility         | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The product category “food and alcoholic beverages” is the largest contributory group to major environmental pressure arising from production and consumption in the EU, accounting for 30% of EU environmental pressure, and 58% of eutrophication pressure. The upstream environmental impacts associated with the production of food and drinks consumed on accommodation and restaurant premises may be considerably greater than direct environmental impacts arising from on-site operations. Green procurement based on the selection of lower environmental impact products is therefore an important mechanism for accommodation managers to leverage environmental improvement. Although the environmental benefits of green procurement are often not reflected in environmental reporting, green procurement can be conveyed to clients as an important indicator of social responsibility and added value of the service provided.

Procurement personnel may seek the most sustainable brands or suppliers of the required main ingredients. The key criteria include environmental certification, organic labeling, country or region of origin. The technical report for Retail Trade refers to relevant certification standards for the green procurement of various food products. An important component of best practice is the marketing of “green” food and drink, in advertising so that clients choose such products and are willing to pay any associated price premium.

#### ■ Environmental Benefits:

Perceived Rating: 2.60

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 2.40

### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation           |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                              |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities      |

### ■ Source:

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 100

### 5.100 Reward guests/clients/visitors for responsible behavior

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input checked="" type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

A good practice to induce pro-environmental behavior among guests/clients/visitors is to feature signs and pictograms that could show them how to save water, electricity, and heat. If they act responsible behavior and generate savings, then establishments should reward them. For instance, establishments may give them discounts on future or actual booking, in hotel's extras (spa, buffet, etc.) or tour activities. In this way, guests/clients/visitors will follow the responsible behavior in the future too.

#### ■ Environmental Benefits:

Perceived Rating: 2.00

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.20

#### ■ Replication Feasibility:

Perceived Rating: 2.80

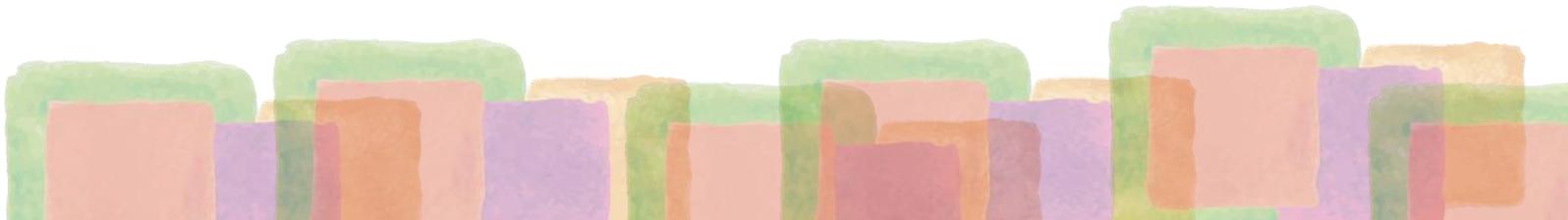
#### ■ Main Applicability:

|  |  |
|--|--|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input checked="" type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input checked="" type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input checked="" type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:

<https://susproc.jrc.ec.europa.eu/activities/emas/documents/TourismBEMP.pdf>

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## Appendix – 101

### 5.101 Installation of self-composting machine

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input checked="" type="checkbox"/> Waste Management          |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Hotel Tigaiga in Tenerife keeps an accurate and daily control of all waste, which helps them to set targets aimed at the progressive reduction in the generation of organic matter. This is why they have installed a self-composting machine, as the regional regulations require the waste food to be thrown away. The machine processes about 40 kilos per day, approximately 1,200 kilos per month, and the complete cycle of transforming the waste into compost take about three weeks. It is a completely natural process that does not use any external additives but is based on the fermentation of the products themselves.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 1.80

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

[https://www.hosteltur.com/128810\\_el-autocompostaje-llega-a-los-hoteles-de-canarias.html](https://www.hosteltur.com/128810_el-autocompostaje-llega-a-los-hoteles-de-canarias.html)

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## Appendix – 102

### 5.102 Installation of biomass boiler to replace propane gas

#### ■ Category (Tags):

|   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> Energy Conservation | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement              | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility           | <input type="checkbox"/> CSR                | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The Cordial Mogán Playa Hotel installed a biomass boiler fueled by pellets in order to save energy and eliminate the use of propane gas for water heating. Installations supplied with biomass in its different forms are environmentally friendly as they have a reduced emission of pollutants into the atmosphere and do not contribute to the greenhouse effect as they have a neutral CO<sub>2</sub> balance (since the CO<sub>2</sub> emitted during combustion is equal to the amount fixed during its growth). This last characteristic helps to comply with climate change agreements.

In the past, this hotel could heat 35,000 liters of domestic hot water (DHW) with a propane gas boiler at a cost of approximately 400€ per day, but now with a biomass boiler, it can heat approximately 1,000,000 liters of water for only 100€ per day. Another reason for using biomass is the lower price compared to other fuels and its greater stability, as it does not depend on external fluctuations, although the initial investment cost of the equipment is normally higher than that of equipment using conventional fuels.

#### ■ Environmental Benefits:

Perceived Rating: 3.00

#### ■ Economic Benefits:

Perceived Rating: 2.40

#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:

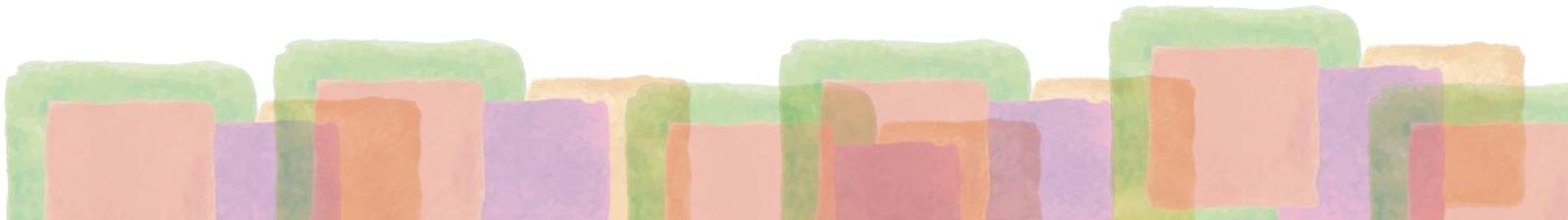
|                     |  |
|---------------------|--|
| NACE Code - Tourism | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation |
| Sector Activities   | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation  |

- 
- 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

<https://www.arlangton.com/wp-content/uploads/2015/08/Caldera-de-Biomasa-en-el-Hotel-COrdial-Mog%c3%a1n-Playa.pdf>

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## Appendix – 103

### 5.103 Installation of wastewater treatment plant for garden irrigation

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

The use of water in hotel establishments can become a significant environmental and economic problem when the number of places offered in a territory is very high and there are problems of water scarcity. The Hotel Botánico de Tenerife aims to avoid, or at least reduce the negative impact associated with the following aspects:

1) Water consumption: impact associated with the use of natural resources. 2) Purified and reused water: impact associated with soil contamination, has been implementing, since 2008, a series of measures associated with water management, including the purification and reuse of water for urban and recreational use. There is a treatment plant for the purification of wastewater for irrigation and with the authorization of the Tenerife Island Water Council. The water is analyzed and checked to ensure that it complies with the legal parameters established for urban garden irrigation. There has been a 31.8% reduction in consumption, an improvement directly related to the consumption of treated water.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.40

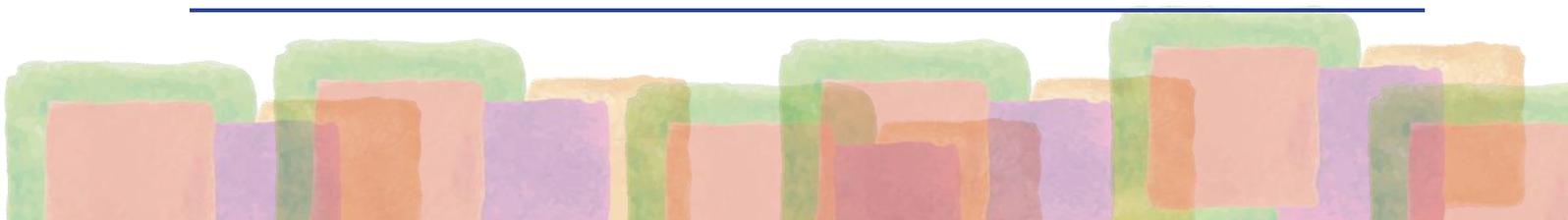
#### ■ Social Benefits:

Perceived Rating: 1.40

#### ■ Replication Feasibility:

Perceived Rating: 2.00

#### ■ Main Applicability:



---

NACE Code - Tourism  
Sector Activities

- 55.10 - Hotels and similar accommodation
  - 55.20 - Holiday and other short-stay accommodation
  - 79.11 - Travel agency activities
  - 79.12 - Tour operator activities
  - 79.90 - Other reservation service and related activities
- 

**■ Source:**

[https://hotelbotanico.com/wp-content/uploads/2020/01/2019-DECLARACION%20ACN\\_AMBIENTAL\\_2018\\_Andoni-Mur.pdf](https://hotelbotanico.com/wp-content/uploads/2020/01/2019-DECLARACION%20ACN_AMBIENTAL_2018_Andoni-Mur.pdf)

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## Appendix – 104

### 5.104 Installation of desalination systems

#### ■ Category (Tags):

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Energy Conservation  | <input checked="" type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                     |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building                | <input type="checkbox"/> Awareness and Behavioral Change      |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                           | <input type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

One of the areas suffering from a high shortage of freshwater is the Canary Islands. Insufficient annual rainfall in the islands causes significant water stress and favors desalination processes to produce drinking water. Freshwater is crucial for its inhabitants and more than 15 million annual visitors, as well as for hotels, restaurants, transport, and leisure facilities. Due to the lack of this resource, some hotels resort to seawater desalination in order to have high-quality water for their operations. This is the case of the Gran Meliá Hotel, a luxury hotel located on the island of Tenerife.

- Today, the Canary Islands have some 330 desalination plants, and on the islands of Lanzarote and Fuerteventura, 100% of water consumption comes from desalination.
- The Gran Meliá hotel treats more than 1,600 liters of water a day. 40% of the treated liters are converted into drinking water.
- The Gran Meliá is supplied with seawater and desalinated using Dow Water & Process Solutions' DOW FILMTECTM and DOW FILMTECTM SEAMAXXTM hybrid design elements.
- The resulting water has multiple uses, such as swimming pools, kitchens, showers, or spa centers.
- DOW FILMTEC™ ECO reverse osmosis elements are designed for industrial water demineralization and wastewater reuse, helping to reduce energy consumption by up to 30% and salt retention by up to 40% compared to standard reverse osmosis elements. In addition to providing greater resistance to fouling, flow performance and salt rejection in industrial waters, the use of this new technology means less environmental impact and greater simplicity in the process.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 1.00

■ **Replication Feasibility:**

Perceived Rating: 2.00

■ **Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input checked="" type="checkbox"/> 55.10 - Hotels and similar accommodation      |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input type="checkbox"/> 79.11 - Travel agency activities                         |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

■ **Source:**

<https://www.iagua.es/noticias/espana/dow-water-and-process-solutions/14/08/21/la-gestion-del-agua-de-hoteles-en-zonas-de>

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## Appendix – 105

### 5.105 Booking accommodation from sustainable establishments

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Many online travel agencies have adopted a business model based on the principles of sustainability. They offer sustainable options to their customers.

Ecobnb is the community of sustainable tourism, a journey undertaken to change the way we travel and promote a kind of tourism that respects nature, the economy, and the local communities. Using this online booking website people select environmentally-friendly accommodations, also with highly ranked eco-labels, like Green Key, and book bio hotels, tree houses, bed & breakfast, organic farmhouses, glamping, or green apartments. The website shows travelers all the eco-friendly actions of each accommodation and the CO2 saved during the stay, giving them an easy way to travel more sustainably and the possibility of let reviews about sustainability experienced. Ecobnb is a small social enterprise with 0% CO2 emissions and 100% Clean Energy.

BookDifferent.com is an online booking website that uses hotel data from Booking.com. People using this online booking website will be able to select environmentally friendly accommodation from highly ranked certification systems and eco-labels, like Green Key, giving them an easy way to travel more sustainably. The entity behind the online booking website is the non-profit Foundation BookDifferent.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 2.00

#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 3.00

**■ Main Applicability:**

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

**■ Source:**

<https://ecobnb.com/>

<https://www.bookdifferent.com/en/>

<https://www.greenkey.global/web-partners>

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## Appendix – 106

### 5.106 Booking eco-friendly touristic activities

#### ■ Category (Tags):

|   |   |  |
|---|---|--|
| <input type="checkbox"/> Energy Conservation  | <input type="checkbox"/> Water Conservation | <input type="checkbox"/> Waste Management                                |
| <input type="checkbox"/> Green Procurement    | <input type="checkbox"/> Green Building     | <input type="checkbox"/> Awareness and Behavioral Change                 |
| <input type="checkbox"/> Sustainable Mobility | <input type="checkbox"/> CSR                | <input checked="" type="checkbox"/> Others (Collaboration, Policy, etc.) |

#### ■ Description:

Many online travel agencies offer sustainable tourism activities to their customers. Responsible Travel, a travel agency, offers sustainable tour packages. It aims to support communities and preserve nature. It manually screens each tour package and publishes the evidence on every holiday page.

#### ■ Environmental Benefits:

Perceived Rating: 2.40

#### ■ Economic Benefits:

Perceived Rating: 1.40

#### ■ Social Benefits:

Perceived Rating: 2.40

#### ■ Replication Feasibility:

Perceived Rating: 3.00

#### ■ Main Applicability:

|  |   |
|--|---|
| NACE Code - Tourism<br>Sector Activities | <input type="checkbox"/> 55.10 - Hotels and similar accommodation                 |
|  | <input type="checkbox"/> 55.20 - Holiday and other short-stay accommodation       |
|  | <input checked="" type="checkbox"/> 79.11 - Travel agency activities              |
|  | <input type="checkbox"/> 79.12 - Tour operator activities                         |
|  | <input type="checkbox"/> 79.90 - Other reservation service and related activities |

#### ■ Source:

<https://www.responsibletravel.com/>

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# TOURISME

Boosting Sustainable Tourism Development and Capacity of Tourism SMEs through Transnational Cooperation and Knowledge Transfer

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San'Anna  
SARDEGNA

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 ANEL  
National Development Agency