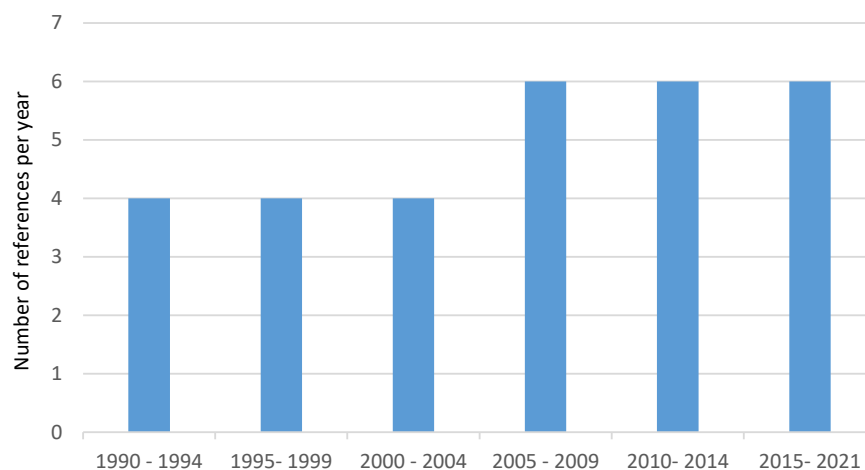


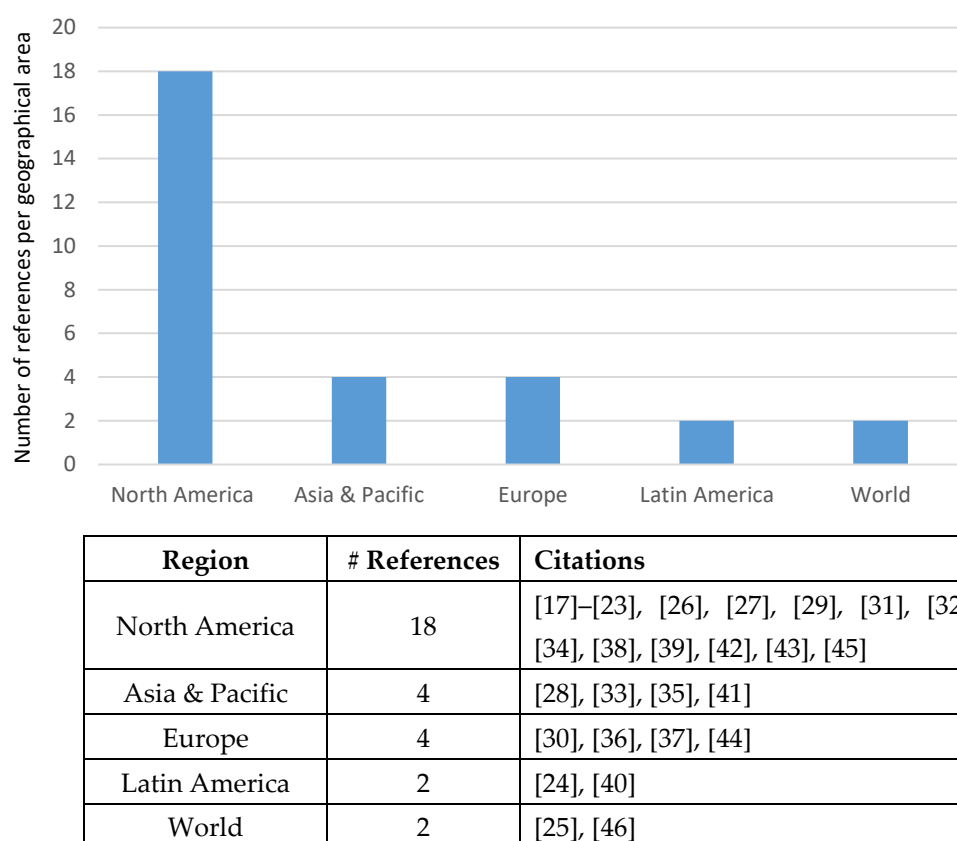
## Supplementary Material 1 - Literature Review



Years	# References	Citations
1990-1994	4	[17]–[20]
1995-1999	4	[21]–[24]
2000-2004	4	[25]–[28]
2005-2009	6	[29]–[34]
2010-2014	6	[35]–[40]
2015-2021	6	[41]–[46]

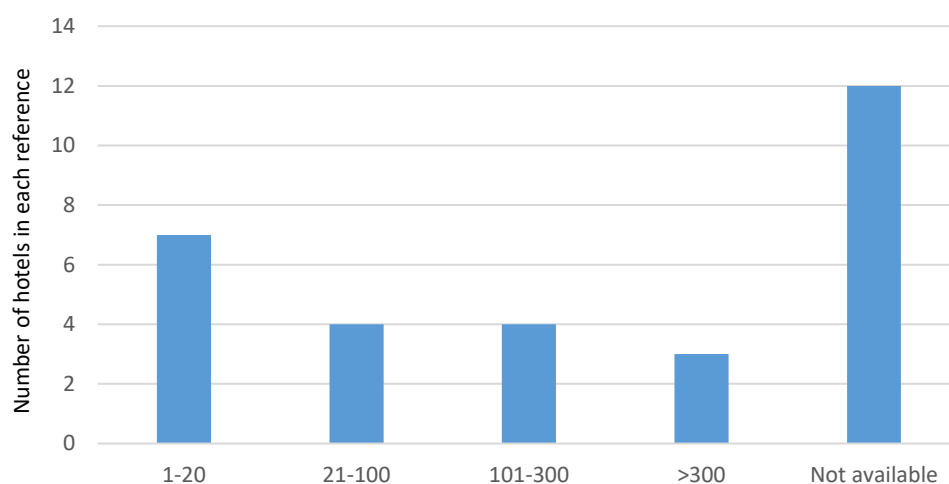
**Figure S1-1.** Number of references per year of publication.

**Geographical location** - North America has led the research on water consumption analysis and the implementation of water efficiency measures and conservation. Figure S1-2 clearly shows this leadership as more than half of the references analysed in this work studied the water consumption of hotels in that region.



**Figure S1-2.** Number of references per continent.

**Number of hotels audited** - Not all the bibliographical references examined have the same scope, detail, and accuracy. As depicted in Figure S1-3, there is a significant disparity in the number of hotels studied in each reference. It ranges from one single hotel surveyed up to more than three hundred. Some of these documents covering many establishments, corresponding mainly to recommendations or regulations by public organisations, publish the final results of the research but not the detailed work conducted or the assessment procedure behind it. However, such disparity should be considered and related to the analysis methodology followed in each case. While complex engineering approaches can cover only a few hotels, survey approaches may deal with a much greater number of hotels in minor detail.



#Hotels per reference	# References	Citations
1-20	7	[18], [19], [24], [26], [27], [35], [37]
21-100	4	[22], [28], [31], [40]
101-300	4	[21], [23], [30], [34]
>300	3	[17], [20], [46]
Not available	12	[25], [29], [32], [33], [36], [38], [39], [41]–[45]

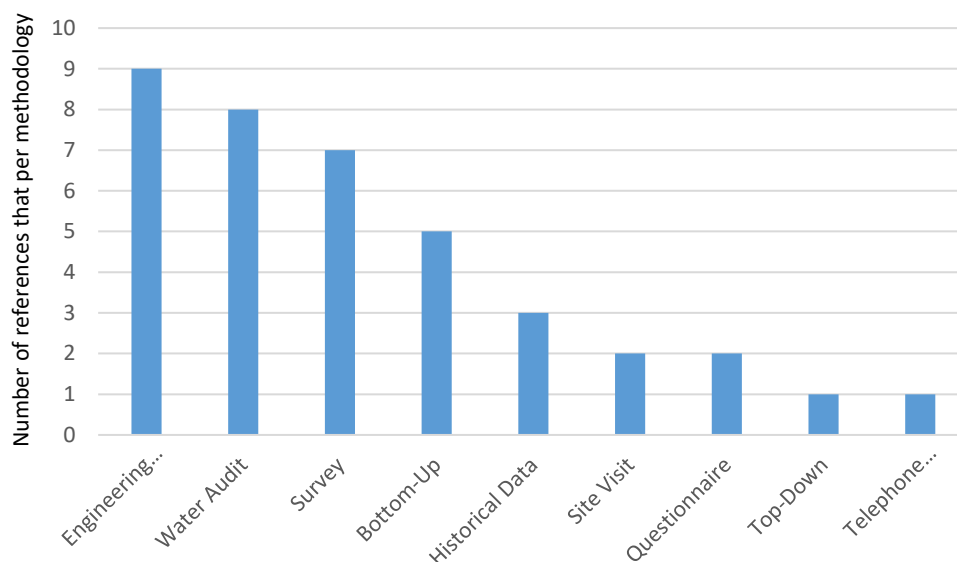
**Figure S1-3.** Number of hotels audited per reference.

**Methodologies used to analyse water consumption** - A final key aspect of the literature review conducted refers to the research methodology followed in each reference. The variety of approaches found is considerable. In total, nine different strategies have been identified:

- **Survey:** A survey is to carefully review and report the amount of water consumption and its usage.
- **Engineering Approach:** An engineering approach refers to an analytical and logical approach to problem-solving to define, analyse and solve issues.
- **Water Audit:** A water audit, similar to an energy audit, is a method of quantifying all the volumes of water delivered within a system to understand its usage, reduce losses and improve water conservation.
- **Historical Data:** This method uses the historical record of water consumption over a defined period.
- **Top-Down Approach:** Top-down analysis generally employs comprehensive factors as a basis for decision-making. The top-down approach seeks to identify the big picture of water usage and distribute the volumes among the components.
- **Bottom-Up Approach:** Bottom-up approach tracks water usage from the individual micro-components and provides detailed process-based analysis that can identify the actual magnitude of each one of them.
- **Questionnaire:** A set of questions that allows a preliminary evaluation of the water usage from estimating the water consumption through the answers provided to those questions.

- Telephone Interviews: Interviews remotely conducted by experts and other key stakeholders to assess the current water consumption status. From the answers collected, it is possible to propose improvements related to water-consuming behaviour.
- Site visits: A physical inspection or tour of an establishment conducted by an auditor or assessment team to evaluate potential inefficiencies, gaps and areas of improvement.

Because of the differences in research approaches, the identified methodologies are not necessarily mutually exclusive but can be compatible, or even complementary, to each other. Consequently, as expected, some of the examined studies use more than one methodology in their research. For this reason, it is not straightforward to prepare a precise classification of the approaches followed in the reviewed studies. Instead, Figure S1-4 shows the number of times each research methodology was used to assess water consumption in hotels. This analysis directly indicates their applicability to the case of hotels.



Methodology	# References	Citations
Engineering Approach	9	[25], [27], [34], [36]–[39], [41], [43]
Water Audit	8	[22]–[24], [26], [27], [33], [35], [40]
Survey	7	[18], [20], [24], [27], [32], [42], [46]
Bottom-Up	5	[17], [28], [29], [31], [42]
Historical Data	3	[21], [28], [30]
Site Visit	2	[19], [20]
Questionnaire	2	[17], [24]
Top-Down	1	[31]
Telephone Interview	1	[20]

**Figure S1-4.** Number of times each methodology has been employed in the references.