



OPPORTUNITIES AND BARRIERS TO ADAPTATION TO CLIMATE CHANGE IN THE TOURISM SECTOR

APPLICATION TO THE HOSPITALITY SECTOR



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INTRODUCTION

- Climate change - **challenge** for the **tourism** sector
- Potential effects on tourism
 - impacts on the **territory** (e.g. floods, droughts, rising average sea level)
 - effects on **tourism demand** (changes in attractiveness of destinations; impacts on welfare and health of tourists)
 - effects on **assets** (e.g. damages to tourism establishments) and **quality of service**
 - increased **operation and maintenance costs** (e.g. use and availability of water and energy)
 - increased **pressure** on natural resources
 - impact on **water availability** and **increased consumption** (e.g. long periods of drought, increased air temperature)
- Challenge for **hospitality managers**, tourism sector managers, water utility managers

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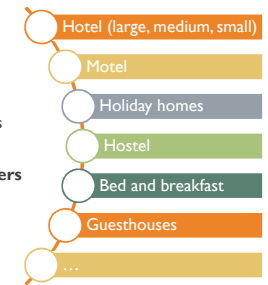
- Introduction
- Trends in the hospitality sector in Portugal
- Water and the hospitality sector
- Methodological approach
- Opportunities and barriers to adaptation
- Final remarks



INTRODUCTION

HOSPITALITY SUBSECTOR

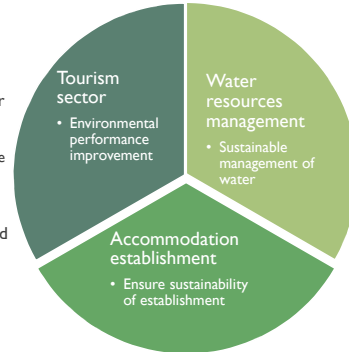
- Large **variety of tourism accommodation establishment** types
- Water and energy **consumption varies widely** depending on several factors including installation type and target customer
- Most accommodation establishments are **large water and energy consumers**
- Mechanisms currently adopted in hospitality sector often do not take into account the impact of AC on amenity and **water** and energy efficiency of buildings



INTRODUCTION

WATER

- Action to foster adaptation to CC and resilience needs to consider
 - evaluation of performance in water use
 - identification of opportunities for action to promote efficient water use and the adoption of measures to increase the resilience
 - different decision making points of view and roles
- Procedures to promote periodic water audits and adoption of good practices for the efficient use of resources are required



INTRODUCTION

Project AC:T objectives

- Promote **adaptation to climate change in the tourism sector**, specifically in **hospitality**, focusing on **water**, energy and organizational dimensions
- Propose a **methodological approach** to assess performance, including resilience to CC, and to support adaptation planning and organizational capacity building
- Apply and validate the approach in 8 hotels (4* and 5*)
- Assessment of measures for increasing resilience to climate change



INTRODUCTION

WATER

- Evaluation of performance and vulnerability must be supported by effective diagnosis of current situation in terms of water consumption based on
 - standardised procedures and methods
 - systematic classification and identification of water uses
 - performance of technologies and systems
 - behaviours and practices
 - implementation of global and sectorial water balance
 - identification of efficiency levels in water use
 - assessing the effectiveness of measures implemented

Approach is not currently included in regulatory instruments and current management

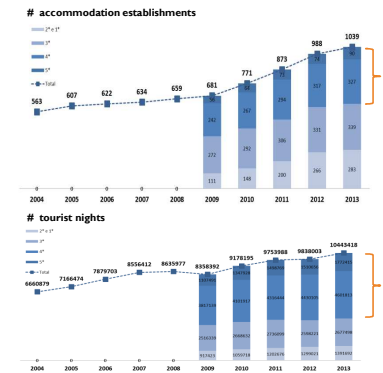
TRENDS IN THE HOSPITALITY SECTOR IN PORTUGAL

■ Significant growth in the tourism sector (2004-2013) namely

- n. of accommodation establishments > 85 %
- n. of bed places > 50 %
- n. of tourist nights > 57 %

■ 4* and 5* hotels (TP, 2015) correspond to

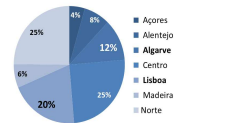
- ≈ 40% of accommodation establishments
- 60% of total n. of bed places in hotels
- 60% of total n. of tourist nights in hotels (2009-2013)



TRENDS IN THE HOSPITALITY SECTOR IN PORTUGAL

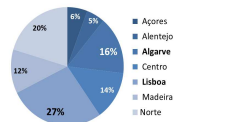
Regional distribution (2013)

- higher n. of accommodation establishments: Centre, North, Lisbon
- higher n. of 4* and 5* accommodation establishments: Lisbon, North, Algarve



AC:T project looks at 4* and 5* hotels in Lisbon and Algarve regions

- High number of units - 114 and 66 (4* e 5*, respectively)
- Lisbon is a typically urban region
- Algarve focus on sun and beach tourism segment

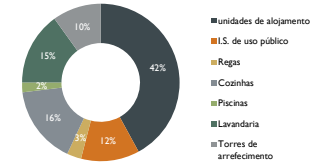


WATER AND THE HOSPITALITY SECTOR

Consumption per uses or sectors varies widely

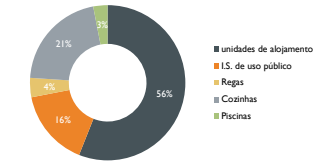
Most relevant consumption components (% of total consumption)

- Accommodation units – 25% to 60 %
- Cooling and heating systems – 10% to 40%
- Swimming pools – 15% to 20%
- F & B – 15% to 20%
- Water losses can be very relevant



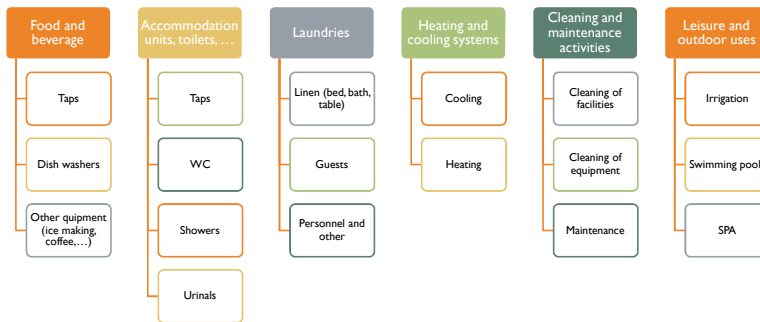
Factors influencing consumption include

- number of guests
- establishment characteristics
- services provided
- climate

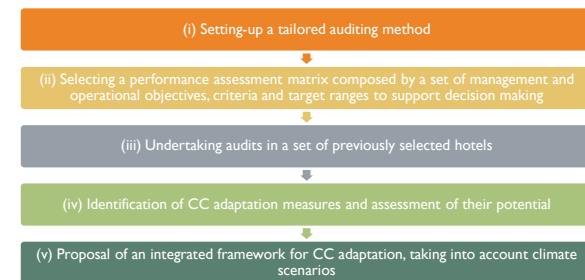


WATER AND THE HOSPITALITY SECTOR

Typical uses



METHODOLOGICAL APPROACH

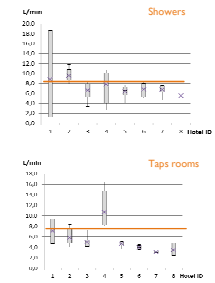


OPPORTUNITIES AND BARRIERS TO ADAPTATION

- **Measures** identified (28 in total) for efficient use of water were adapted from the National Program for the efficient use of water, were classified in sets
 - Property water supply systems
 - Building systems and installations
 - Similar to residential uses and specific collective use of facilities
 - Cleaning activities of floors, containers and vehicles
 - Indoor swimming pools, outdoor and SPA components
 - Outdoor uses in green spaces

OPPORTUNITIES AND BARRIERS TO ADAPTATION

- **Opportunities** identified include
 1. Upgrading of **technology**: replacement of water use devices and equipment
 2. Improvement in **procedures and behaviour** in operation and maintenance activities (e.g. filters backwash)
 3. **Staff** generally **motivated**
 4. Tourism **stakeholders value environmental performance**
 5. **Metering** by water utilities generalised
 6. Water efficiency **impacts positively** on establishments budget
 7. Water efficiency generally **reduces energy consumption**

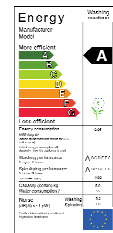


OPPORTUNITIES AND BARRIERS TO ADAPTATION

- Effective implementation of the measures requires actions of different sorts
 - Construction, rehabilitation, replacement
 - Measurement and control
 - Information and education
 - Training, technical support and documentation
 - Regulations and good practices

OPPORTUNITIES AND BARRIERS TO ADAPTATION

- **Barriers** include
 1. Lack of specific **labelling** of water use devices and equipment in the market
 2. **Poor knowledge** on systems layout, **insufficient measurement** and control devices (sectors not implemented)
 3. Despite acknowledgement of **costumers** awareness, perception of little margin for behaviour change
 4. Water efficiency not a strong driver to investment, **return on investment** is a key criteria
 5. Water costs have **small impact on costs**
 6. **Regulations** often limit use of water sources alternative to drinking water
 7. **Data available is inconsistent**, often with poor accuracy, insufficient information
 8. **Lack of an adequate performance assessment** system for hospitality, limiting benchmarking



FINAL REMARKS

- Hospitality consumption can have a significant effect on demand to drinking water supply systems in Portugal
- External context is favorable to improvement of efficiency in use of water in hospitality
- Decision makers are aware of relevance even if not directly associated with climate change
- Appropriate legislation, technical regulations and standards are essential for effective application of measures to promote the efficient use of water in hospitality
- Comparison of performance (benchmarking) should be carefully carried out given the inaccuracies associated with data, large variation of consumption through the year (seasonality) and lack of common approach for auditing

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