OCCUPORTUNITIES AND BARRIERS TO ADAPTATION TO CLIMATE CHANGE IN THE TOURISM SECTOR
APPLICATION TO THE HOSPITALITY SECTOR

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

CONTENTS

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

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
  - 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

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:
  - ~46% of accommodation establishments
  - 60% of total n. of bed places in hotels
  - 60% of total n. of tourist nights in hotels (2009-2013)

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
TRENDS IN THE HOTELITY 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* and 5*, respectively)
  - Lisbon is a typically urban region
  - Algarve focus on sun and beach tourism segment

WATER AND THE HOTELITY SECTOR

- Typical uses
  - Food and beverages
  - Accommodation units, toilets
  - Laundry
  - Heating and cooling systems
  - Cleaning and maintenance activities
  - Leisure and outdoor uses

- 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

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METHODOLOGICAL APPROACH

- Setting-up a tailored auditing method
- Selecting a performance assessment matrix composed by a set of management and operational objectives, criteria and target ranges to support decision making
- Undertaking audits in a set of previously selected hotels
- Identification of CC adaptation measures and assessment of their potential
- Proposal of an integrated framework for CC adaptation, taking into account climate scenarios
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

**Barriers** include:
1. Lack of specific labelling of water use devices and equipment in the market
2. Poor knowledge on systems layout, inefficient measurement and control devices (sectors not implemented)
3. Despite acknowledgement of customers 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

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
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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