



The Hotel Industry Sector and climate change mitigation



Business tourism and recreation will remain a fundamental component of the global economy, it is therefore an urgent need to adopt a series of policy measures that foster a truly sustainable tourism, that reflects the “quadruple bottom line” in the environmental, social, economic and climate.

Tourism sector must respond quickly to climate change and gradually reduce their emission of greenhouse gases (GHGs) to grow sustainably; it will be necessary to take measures in energy efficiency, in particular in transport and accommodation activities. A key point will be seeking the financial resources to assist poor regions and countries

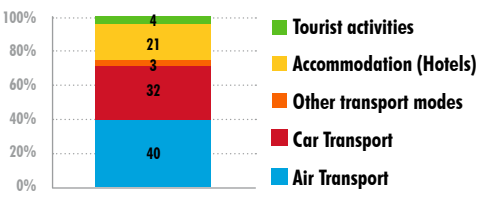
To reduce GHG emissions will have to Combine several strategies. Also all stakeholders must be involved: starting with the tourists themselves, continuing by hotel chains, tour operators, airlines, and so on.

Tourism and Climate Change

Global emissions from tourism in 2005 and contributions by subsector:

Tourism sector projected emissions

Action	CO ₂ (Mt)
Air transport	517
Other transport modes	468
Accommodation (Hotels)	274
Tourist activities	45
Total emissions on tourism	1.307
Total emissions of the planet	26.400
Contribution of tourism to the total emissions	4,95%



Strategies for reducing emissions

- Make a rational use of energy, minimizing energy consumption.
- Improving energy efficiency.
- Increase the use of renewable energy.

Proposal of mitigation alternatives of gas emissions with greenhouse effect in the hotel sector

KITCHENS

- Use of energy efficient equipment, and replacement of old equipments for new and efficient ones.
- Let new dishwashers dry with the door opened.
- Keep electrical appliances' doors closed.
- Do not let frost in the refrigerator.
- Turn equipment off when not in use.
- Cover cooking pots.
- Good ventilation of the electrical and gas appliances.
- Do not use water or heat to defrost the electrical appliances and food.

LAUNDRIES

- Use of energy efficient equipments, and replacement of old equipments for new and efficient ones.
- Reduce the wash temperature.
- Turn equipment off when not in use.
- Use the washing machines with full load.
- Keep the filters clean.

HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS

- Improve the building external thermal insulation.
- Use of steam pumps.
- Implement regulation and control systems.
- Identification and reparation of air escapes in windows and doors.
- Ensure that furniture does not obstruct the air inlets.
- Periodic maintenance of the installation.
- Keep the air conditioning at a temperature between 25 °C and 26 °C in summer, and 20°C and 21 °C in winter.

LEISURE FACILITIES

- Installation of presence detectors to switch-off the lights when nobody is there.
- Turn equipment off when not in use.
- Establish an adequate lighting in every case.
- Establish an adequate temperature in every case.
- Cover swimming pools to avoid temperature losses during the night.

LIGHTING

- More rational use of energy.
- Use of low energy light bulbs.
- Use of compact fluorescents.
- Implementation of a regulation and control system of lighting:
 - Timed on-off.
 - Installation of presence detectors.
 - Photocell installation.
 - Switches located, shutting off phases of the hotel that are not in use.
 - Card activation system in rooms.
- Good design in the different hotel areas:
 - Take advantage of sunlight.
 - Well located switches.
 - Well located luminaries.
- Avoid an excessive outdoor lighting in gardens, facades, car parks and road accesses.

OTHER EQUIPMENT

- Elevators:
 - Use electric motors.
 - Use them to optimize the loads and the stops.
 - Not oversize it.
 - Revolving and double doors, to avoid losses of heat and cooling.

BOILERS

- Use of low temperature or condensation boilers.
- Installation of solar photovoltaic panels to heat the domestic hot water up.
- Isolation of pipes and canals.
- Temperature Control Systems.
- Periodic maintenance of the installation.
- Periodic tests of the boilers atmosphere emissions.

CROSS-SECTIONAL MEASURES

- Staff training.
- Staff awareness about the energy saving.
- Periodic and preventive maintenance of facilities and equipments.
- Regular cleaning of facilities and equipment.
- Guests awareness.
- Incorporate an energy manager in the hotel staff.
- Measuring consumption around and make a track to detect improvement opportunities.



Case study: Hotel Caravan Serail, Nefta (Tunisia) (Source: MedClean-62)

Hotel Caravane Serail is a 50-employee, 399-bed hotel located at Nefta, Southern Tunisia, at the gateway to the Sahara Desert. Approximately 300,000 guests per year stay at the hotel, 95 per cent of whom come from outside Tunisia.

The area in which the hotel is located is faced by a major problem of water scarcity. In this respect, water charges to be paid by the hotel represented 43% of the total utility expenditures (water, electricity, fuel). Therefore, water conservation was seen as a need from both the environmental point of view and the economic point of view.

GENERAL MEASURES TO REDUCE EMISSIONS

- Reduce electric consumption:
 - Development of a preventive maintenance program.
 - Turn equipment off when not in use
 - Using energy saving equipments.
- Reduce propane gas consumption:
 - Gas escapes reparation.
 - To turn-off stoves and washing machines when not in use.

RESULTS

Measures	Environmental benefit
Development of a preventive maintenance program	Efficient operation of hotel equipment
Turn equipment off when not in use	Energy Conservation
Using energy saving equipment	Energy Conservation
Repair leaks	Reduced consumption of propane
Turn off stoves and washing machines when not in use	Reduced consumption of propane

INVESTMENT COST AND AMORTIZATION

Action	Investment (€)	Economic savings (€/year)	Recovery period
Development of a preventive maintenance program	None	Not quantifiable	Immediate
Turn equipment off when not in use	Not quantifiable	1.828	Not quantifiable
Using energy saving equipment	Not quantifiable		Not quantifiable

The investment for pollution prevention and energy conservation involve unquantifiable economic cost therefore can reduce pollution without a high cost. Depreciation is not quantifiable due to the reduced cost of investment.