



HOTEL MANAGEMENT

Conserve Electricity & Water For A Better Tomorrow

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INTRODUCTION

Energy and water resources in the UAE and around the world are slowly depleting as demand increases, and it is up to us to work hard to conserve what we have. The UAE is one of the major consumers of electricity and is the world's third largest per capita water consumer after the USA and Canada.

Contrary to what many think, our resources will not last forever. So it is in every industry's domain to be responsible and do its part in helping us conserve our water and energy, so that generations after us can have what we have.

Hotels in Dubai have one of the highest rates of water and electricity consumption in the world. Here are some tips to help lower your hotel's consumption and save on water and energy costs.

We hope that these practices will prove beneficial to your hotel as well as to our resources and the environment.

CONSERVATION TIPS FOR GUEST ROOMS

Install master key-tag switches at the entrance of each guest room, which is activated by a room key tag or card. When guests leave the room and remove the key tag from the holder, lighting, heating, air conditioners, radio and television are switched off. Energy management systems such as this can reduce the electricity consumption of guest rooms by 15 to 30%



- Install efficient air conditioning units
- Use speed-changing systems with air conditioning equipment
- Set thermostats in guest rooms to 24°C
- Set thermostats in unused rooms to 28°C or switch them off completely
- Clean or replace air conditioner filters periodically. Dirty filters restrict airflow and can cause the system to run longer, increasing energy use
- Install efficient LED lights in the whole building which provide a wide range of colours & aesthetic options.
- If your hotel does not have a key card system for its guest rooms, make sure all lighting and electricity is switched off as soon as the guest checks out
- Many guests leave bathroom lights on during the night. Consider installing nightlights with small LED bulbs in the guest bathrooms
- Install a calibrated water control system for all bathrooms, that controls water pressure and flow, or fit taps and showerheads with water flow reducers or aerators. Water flow reducers on taps can save upto 30% of water
- Replace old toilets with new high-efficiency toilets that save water and have a dualflush system
- Start a towel and linen reuse program to help in water and energy savings.
- Keep a card in all the bathrooms to educate guests about it. There is a lot of water consumed in washing towels and linen that has only been used once. Provide a laundry basket so that the guests can keep used

towels which they wish to have washed instead of leaving the towels on the floor. Keep another card on the bedside tables requesting guests to inform housekeeping if they wish the sheets to be changed daily.

- Close the blinds or drapes in unoccupied rooms
- Clean lamps and lamp shades regularly
- Set the temperature of hot water heaters between 49 to 54°C
- Use high-efficiency ESMA 5-star rated appliances for in-room mini refrigerators, microwaves, coffeemakers, hairdryers and irons
- Avoid keeping equipment such as televisions, hair dryers, and lamps close to air conditioning thermostats. The heat from these appliances can affect the thermostat readings and increase energy consumption
- Install sensors inside the guest rooms to control air conditioning units to switch off the AC once the window is opened.
- Use programmable/ smart thermostats to control the operation of air conditioning units.
- Keep energy efficiency tips/instructions in the form of stickers or cards, in guestrooms.



About 30% of the heat load for a guest room is caused by solar radiation.

Consider installing solar-control window-film on the guest room windows. Solar film that has a shading co-efficient of 0.3 or less can reduce the amount of heat entering and can save air conditioning energy. Glazing specifications should be consistent with Dubai Green Building regulations

LAUNDRY

This department is one of the largest consumers of water and electricity in any hotel. The following tips will help optimise & reduce consumption to a large extent.



- Operate washing machines and dryers at the hotel's laundry area during off-peak hours, between 12 - 6 pm from May to September
- Operate washing machines only with full loads
- Use high-efficiency ESMA 5-star rated appliances (washing machines & dryers) to reduce water and electricity consumption
- Install a domestic-sized washing machine and dryer to accommodate small load washes that guests require outside of the hotel's peak washing time
- Reduce the temperature of water used for laundry from 85°C to 60°C. This will save energy and cut down on costs. Another option is to wash in cold water when possible. Use cold water detergents for cold water washing, it will greatly reduce energy consumption
- Use washing machines that have high-speed spins to reduce the maximum amount of water from the sheets before they are dried
- Always clean the lint filter in the dryer before operating. Lint buildup blocks airflow and extends drying time, and can also be a fire hazard
- Make sure that washing machines and dryers are kept clean
- Turn off lights, ventilation and air conditioning when the area is not being used
- Check insulations of hot water pipes periodically and repair or replace if necessary
- Holding tanks store the final rinse water from clothes washers, which is

reused as the wash water in the next wash. Consider installing such a tank to minimise water consumption

- Provide regular preventive maintenance to all appliances, boilers, piping and other equipment





Kitchens, Restaurants and C & S

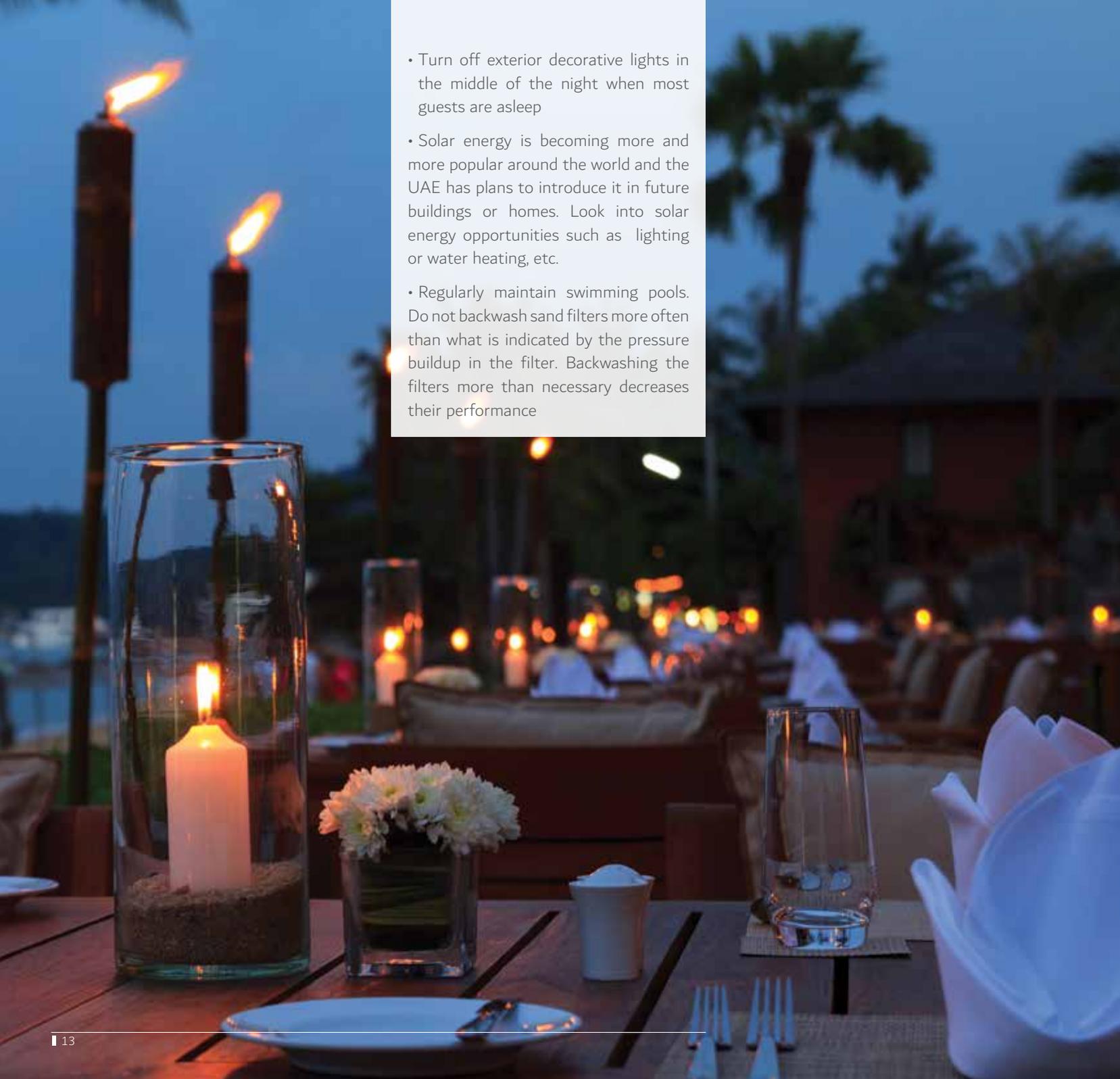
TRY TO USE STOVES THAT RUN ON GAS RATHER THAN ELECTRICITY

- Lights in areas such as coffee shops and restaurants should have flexible or separate switches so that part of the lighting system can be switched off if that area is not being used. Another good idea is to install dimmers.
- Keep the walls and ceilings of the restaurants clean for better light reflection
- Use high-efficiency ESMA 5-star rated appliances to reduce water and electricity consumption
- Switch off and unplug all appliances after their use. Electricity to power appliances and electronics are still consumed while the devices are turned off, so make sure they are unplugged
- Make sure all kitchen equipment and appliances are cleaned and checked daily
- Install aerators on all kitchen taps to reduce the water flow
- Try keeping the opening and closing of oven, fridge and freezer doors to a minimum. Every time you open the oven door to check on the food, around 25% of the heat escapes
- Turn off exhaust fans and lights when the kitchen is not being used
- Do not preheat ovens, fryers, boilers, grills and other cooking equipment for a long time
- Thaw out frozen food in the refrigerator instead of leaving it to defrost it in hot water
- Put foil under range burners and griddles. Then it will help to operate more efficiently
- Do not place hot food in the refrigerator make sure it is cooled first
- Keep the refrigerator full if possible. It takes less energy to cool a full refrigerator or freezer than an empty one. Do not jam or overload the space, though there should be enough air for circulation
- Clean the fridge condenser coils every 3 months. 25% more energy is consumed in maintaining the right temperature if dust and dirt accumulate on the coils
- Do not put items right in front of the refrigerant coils or fans in a way that would restrict air circulation
- Use flat bottom pots and pans rather than rounded ones it helps food heat quicker
- Avoid using large pans to cook small amounts of food. Choose the right size of pots and pans suited to the amount of food that needs to be cooked
- Try using the minimum number of electrical appliances. Avoid using them all simultaneously, specially during peak hours from 12 - 6 pm



LOBBY AND OTHER HOTEL AREAS

- Install efficient LEDs in the lobby area and around the hotel
- Set thermostats in busy areas of the hotel at 24°C or 76°F
- If possible, try to block complete guest floors during off-peak or low occupancy seasons
- Consider installing rotating or revolving doors if your hotel does not have them already. Rotating doors allow less cold air to escape
- Switch off or dim lights in areas that receive natural daylight during the day
- All light fittings in the hotel should be cleaned on a regular basis
- Install occupancy sensors for lighting in areas that are not used regularly such as meeting room or storage areas, walkways or corridors, basement parking areas and plant rooms.
- If you have shops at the hotel, instruct the shop keepers to reduce the amount of lighting to acceptable level in their shops and front display, as the load still affects the hotel's cooling system
- Train employees and housekeeping staff to identify and report leaking toilets or ones that are not functioning well. Leaking or malfunctioning toilets can waste gallons of water and increase costs. Provide preventive maintenance to all hotel toilets on a quarterly basis
- Insulate all windows and doors at the hotel
- Insulate water pipes and water heaters
- Insulate the roof properly
- Encourage staff to use stairs instead of using the elevator when they are going up or down a floor or two if they are not carrying heavy items or loads
- Elevators can be programmed to stay stationary on the floor they exit at instead of returning to the lobby
- During hotel off-peak periods, shut down one or two of your elevators to help save energy.
- Install timer switches which are operated manually to control equipment at the hotel's wet areas, such as jacuzzis and saunas. These timers will allow the equipment to run for short periods of time instead of working continuously throughout the day
- Install timed push-button taps in swimming pool changing areas, which will give shorter showers



- Turn off exterior decorative lights in the middle of the night when most guests are asleep
- Solar energy is becoming more and more popular around the world and the UAE has plans to introduce it in future buildings or homes. Look into solar energy opportunities such as lighting or water heating, etc.
- Regularly maintain swimming pools. Do not backwash sand filters more often than what is indicated by the pressure buildup in the filter. Backwashing the filters more than necessary decreases their performance

- Consider installing solar water heating systems for hotel pools. Use a pool cover when the area is not in use
- Heating of pools can be quite costly. Keep the temperature of the pool to 22.5°C.
- Seal and weather-strip doors and windows that leak air. Monitor external doors, windows and outside walls for gaps, cracks and unnecessary openings to minimise energy escaping
- Install automatic valves on water taps and auto flush systems in lobby and restaurant washrooms
- Install Light Emitting Diodes (LEDs) in areas where the lighting is on continuously, or for long periods, such as exit signs, other signs, stairwells, and front desks
- Install electricity and water sub-meters in each department to monitor consumption
- Operate garden and exterior lights only when there isn't enough natural light
- At the end of the workday, make sure that lights, air conditioning and office equipment are switched off in the hotel's back of house areas
- Make sure equipment is used efficiently in the hotel's office areas. Minimise paper wastage
- Check water pipes and other systems regularly for leaks and provide regular maintenance to the building's plumbing system
- For outdoor lighting, switch to LED lights. Solar powered LED lights can also be explored.
- Make sure that all electric connections around the hotel are not loose



GARDENS, LAWNS AND LANDSCAPING

Water the hotel lawns in the morning or evening when temperatures are lower and help reduce evaporation. 30% of water is evaporated if you water your lawn or plants during peak hours. Recommended watering time is before 8 am or after 6 pm

- Use drip irrigation system controlled by timers for shrubs and trees so that water goes straight to the roots, preventing run-off
- Install soil moisture sensors to monitor the lawns and plants that need to be watered
- Group plants that require similar amounts of water together, so that some plants are not over-watered or others under-watered
- Try planting plants that are drought-resistant or ones that do not require watering very often
- Install control nozzles on hoses
- While mowing the lawn, don't cut the grass shorter than 2.5 cm, so that it is protected from the blazing sun and reduces evaporation
- Use TSE water provided by Dubai Municipality to water gardens, lawns and plants around the hotel
- Compost your yard trimmings. Compost is a valuable soil conditioner that releases nutrients to your garden and decreases the amount of fertiliser that is needed. Compost also retains moisture in the soil so you will not need to water as much
- Regularly check your sprinkler system valves for leaks
- To help plants retain moisture, spread a layer of organic mulch around them. This will save water, time and money
- Aerate the soil in your garden area at least once a year so as to help it to retain moisture
- Consider using garden lights that are powered by solar energy

GENERAL TIPS

- Educate all hotel staff on water and electricity conservation. Draw up a checklist for all hotel staff to remind them of water and electricity conservation practices. This checklist should be posted at all areas of the hotel
- Little stickers or notes should be put up in specific areas to remind staff. For example, a note that reads Switch off all appliances after use in the kitchen areas
- Supply each guest room with a bin for recyclable materials (glass, paper, plastic, cans, etc.). Or keep a recycling container near the elevators on each floor or at the end of each walkway
- Donate used or worn out items that the hotel wants to throw away but are still usable (such as sheets, blankets, glassware, food, soap pieces, furniture, draperies, etc.) to charitable organisations
- Regularly conduct house inspections of all departments to make sure that energy and water conservation methods are being followed
- Provide newspapers to guests only on request. Place a sign or card in the guestrooms asking guests to inform the hotel if they require newspapers every day
- Allow toilet rolls to be used completely before replacing them with new ones. Or you may use the half-used rolls in staff washrooms
- Review DEWA monthly bill to detect any abnormal consumption
- To install Guest Room Management Systems and increase the room temperature of the un occupied room to 27 deg. C.

PREFERRED ROOM TEMPERATURES FOR HOTELS

Lobby and hall areas	22°C - 24°C
Guest bathrooms	26°C - 27°C
Guest rooms	20°C - 22°C
Restaurants	22°C - 24°C
Laundry room	24°C - 26°C
Other areas	24°C - 26°C

EXAMPLES OF SOME HOTEL CONSERVATION INITIATIVES FROM AROUND THE WORLD



- **The Al Maha Desert Resort & Spa in Dubai** has incorporated energy-saving construction materials that reduce air conditioning needs. It has 100% water recycling programmes and uses of biodegradable cleaning products
- **The Al Qasr Hotel at the Madinat Jumeirah Resort in Dubai** has installed treatment plants called “Grease Guardians” in this kitchens. The grease removal equipment traps and removes it quickly, and the system conserves energy and costs
- **The Holiday Inn Resort Sharjah**, winner of the first Conserve Our Planet Award, has installed energy-saving light bulbs, controlling lighting in public areas and making sure appliances are switched off when not in use. These also installed an automatic irrigation system, grow native plants and uses compost pits made from food and garden

waste as natural fertilizers. It use treated wastewater for this waterfalls and plant beds, and has changed the make-up of the hotel's cooling tower. It also has an active recycling programme in place and engages in other environmental practices

- **Marriott International** Conducted a group “Re-Lamp” campaign which fitted 450,000 fluorescent light bulbs in 2006. This initiative saved 65% on overall lighting costs and energy usage in guest rooms
- **The Gaia Napa Valley Hotel & Spa, in American Canyon, California**, has kiosks with ‘green touch screens’ that show guests how much water and electricity the hotel is saving and how much carbon dioxide is being emitted
- **The Fairmont Olympic Hotel in Seattle, USA**, composts as much food waste as

possible. They separate it and send it to a plant where it is composted. The wet waste is broken down into usable products like mulch

- **The Hilton Americas in Houston** has installed light dimmers in its meeting rooms, which are controlled from the energy management computer in this engineering office. A large number of hotels of the Hilton Hotel chain also follow the towel and linen re-use programme for its guests and this measure saves 12 million gallons of fresh water a month while also reducing energy costs as well as detergent and chemical use
- **The Maple Hill Farm Bed and Breakfast in Maine, USA**, has installed solar panels as well as wind turbines to generate electricity and has also installed solar electric water heaters

- **A hotel in South Korea** has installed an ultrafiltration wastewater reusing system that helps the hotel reuse wastewater from guestroom baths and basins. That water is channeled and reused to flush toilets in the guest rooms and public areas in the hotel. This measure has been saving the hotel USD109,090 a year in water, electricity and other maintenance costs
- **Red Lion Hotel in Oregon, USA**, installed a microfiltration system in its laundry facility. This system uses a number of filters and a membrane that filters out solids and oils from laundry wastewater. This wastewater is recycled and reused for heat recovery and other purposes



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