

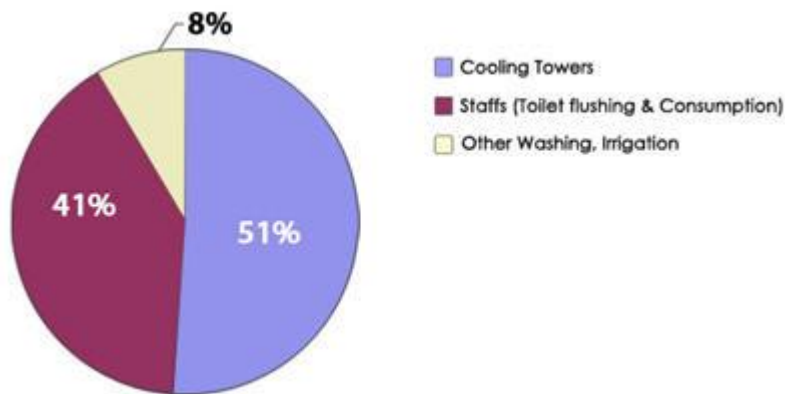


# **Water Efficiency Measures for Commercial and Government Office Buildings**

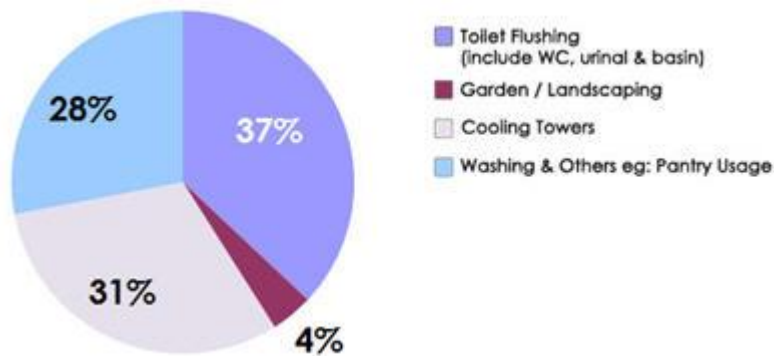
In most commercial and government office buildings, water is mostly used for cooling tower, toilet flushing and washing purposes.

Cost-effective solutions offer the opportunity to lower a government office building's water consumption and operating costs.

Below is a generic breakdown of a commercial building's water usage for reference. The two areas that use water most are staff and cooling towers.



Below is a generic breakdown of a government office building's water usage for reference. The two areas that use water most are staff and cooling towers.



Below is a list of water conservation tips for commercial and government office building.

1. Water Tank
  - Plan the hotel's cleaning schedule so that the water stored in the water tank can be used for planned cleaning and not be drained away.
  - When washing water tank, use water from another water tank scheduled for cleaning to minimise wastage.
2. Cooling Tower

Mandatory Measure

- Install drift eliminators

#### Water Efficient Measures

- Install side stream water filter, make condenser water clean
- Install anti-splash louvres or splash mats
- Install variable drive speed fans
- Consider using alternative water sources like NEWater, rainwater and condensate water
- Plan for routine visual inspection of the water cooling system to check for leaks to prevent water wastage.

### 3. Guest Room

#### Mandatory Measure

- Install constant flow regulators at wash basin taps and mixers, shower taps and mixers, bib taps as well as sink taps and mixers

#### Water Efficient Measures

- Adopt water efficient flow rate
- Install water efficient fittings with 'excellent' ratings
- Install water efficient cistern that has a dual flush low capacity and uses only 4.5 litres or less water for the flush.
- Use low flush for flushing of liquid waste
- Do not allow toilet cisterns to overflow
- Do not use the toilet's water closet suite as a trash basket
- Turn off shower while soaping
- Take quick shower
- Reuse towel whenever possible

### 4. Toilet

#### Mandatory Measures

- Install self-closing delayed action taps at wash basins and shower points
- Install constant flow regulators at wash basin mixers, shower mixers and bib taps

#### Water Efficient Measures

- Adopt water efficient flow rates
- Install water efficient fittings with 'excellent' ratings
- Install water efficient dual flush low capacity flushing cistern, which uses only 4.5 litres or less water.
- Use low flush to flush away liquid waste
- Install waterless urinals
- Reduce flush volume of urinals to 0.5 litres per flush
- Do not allow toilet cisterns to overflow
- Do not use toilet's water closet suite as a trash basket
- Display a hotline number in the toilet to allow public feedback on water leakage, defective fittings, etc.

### 5. Laundry

- Recycle rinse water from a washing machine's last cycle for first wash

- Operate washing machine only when fully loaded
- Turn off and isolate the steam supply to equipment when it is not in use.
- Choose water efficient counter-current flow continuous batch washers and steam as compared to conventional washer-extractor.

## 6. Kitchen/Cooking area

### Mandatory Measure

- Install constant flow regulators at sink taps, mixers and bib taps

### Water Efficient Measures

- Adopt water efficient flow rate
- Install water efficient fittings
- Wash vegetables and dishes in a filled sink instead of under running taps
- Do not thaw frozen food or melt ice under running water
- Use a low flow rinser for washing of dishes

## 7. Swimming Pool

- Set the operating water level in the balancing tank at appropriate level to minimize water flow
- Install pilot valve system at balancing tank to better control the water levels and help minimize water loss
- Use pool cover to reduce evaporation rate when applicable
- Set backwash duration to under 5 minutes
- Reuse backwash water for irrigation and area cleaning, etc.
- Keep pool chemically balance to prevent water quality problems

## 8. Meter Position

- Read your water meter regularly to monitor your water consumption

## 9. Water Controller

- Get employees to attend the Water Efficiency Manager Course to learn about managing a water efficient building.
- Carry out water audits and monitor the water consumption in various areas of water usage within your premises
- Install private water meters at different areas to monitor water usage
- Take meter readings regularly, i.e. daily or weekly
- Inspect the water reticulation system for leaks and repair leaks promptly.
- Educate workers/employees on water conservation through pre-work briefings, talks, discussions, publicity materials, etc.
- Liaise with PUB officers on matters pertaining to water conservation
- Work with PUB to get your building audited and certified under the Water Efficient Building Certification Programme.

## 9. Irrigation

- Use a hose with nozzle to water your plants and filed, if needed.
- Install an automated drip system (with weather sensors) for plant irrigation, if possible.
- Choose drought resistant plants or similar plant types to minimise water used.
- Use NEWater, condensate water, recycled water or rainwater, etc, for non-potable use such as watering of plants and general washing.
- Water the plants in early morning or late evening to reduce evaporation loss.

10. Others

- Wash your floor with a mop and bucket instead of a running hose or high-pressure jet.
- Instruct cleaners/maintenance crew to conserve water at all times during cleaning activities.