

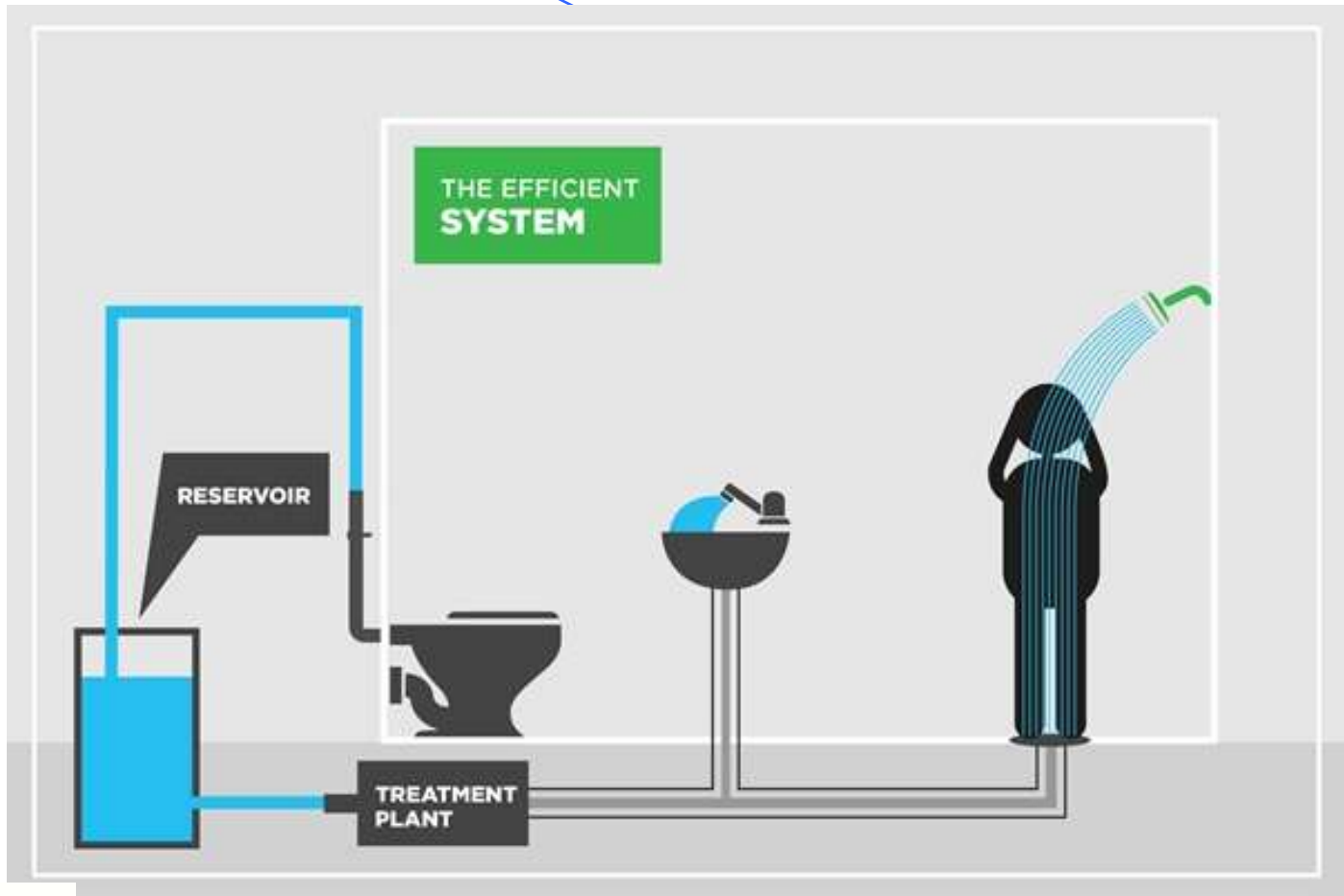


Greywater Recycling

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Greywater Recycling

- Greywater recycling refers to the separate collection of greywaters, and the treatment of same for use as an alternative source of 2nd class water.
- Greywaters include wastewater from showers, baths, wash hand basins generally, but also laundry wastewater and sometimes wastewater from kitchens.



Greywater Recycling

There are various greywater recycling systems on the market but all have the following factors in common:

- Separate collection of greywater and black water (toilet water)
- Temporary storage of untreated greywater
- Treatment
- Temporary storage of treated greywater (normally with an odour inhibitor/suppressant and disinfectant)
- Distribution to 2nd class water users through a dedicated water distribution system

Greywater Recycling

- There are no universal standards on the quality of 2nd water but water to be used for toilets/urinals is to be free from solids, and have no colour and no smell.







Greywater Recycling

- 2nd class water used for landscaping should be free from chlorine and organics.

Greywater Recycling

Requirements:

- An adequate supply of grey water (minimum 25 cubic metres per day)
- An adequate demand of 2nd class water
- Separate collection of greywater and black water (toilet water)
- Separate distribution system/pipework for 2nd class water and 1st class water
- A space of 25 m² (and 4m high) can be found at basement/ground floor level within the premises (for a 25 cubic metre/day system)

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Greywater Recycling

Pros:

- Sustainable, inexpensive source of adequate- quality water that can be used as 2nd class water (estimated cost of recycled greywater, including depreciation - €0.30/cubic metre)
- Reduces vulnerability to water tariffs; cost of production depends on electricity and chemical costs – but electricity costs significantly lower than for seawater RO
- No specialised technical expertise required for operation/maintenance, unless it is a membrane process.
- Demand generally matches supply, reducing the storage requirement

Greywater Recycling

Cons:

- Requires some/significant capital investment, depending on the choice of technology
- Requires some space
- May require replumbing of drain and water supply pipework
- May result in poor quality water if the system is not adequately designed, operated and maintained

Greywater Recycling

Most suitable:

- For situations where a separate distribution system for 2nd class water already exists (e.g. a hotel currently using seawater for the flushing of toilets)
- For situations where the consumer is paying a high price of water, or is using an illegal source of water (seawater, or borehole water) for the flushing of toilets
- 2nd class water demand is high

Greywater Recycling

Most suitable where:

- Rainwater harvesting is not an option, or does not provide sufficient amounts of 2nd class water
- Bowser water imports are difficult/inconvenient
- Water consumers that are not close to the coast and therefore cannot make use of desalination (RO) as a source of 2nd class water

Breakdown of water consumption

