



Water Optimising Homes

Problem

Water shortage in the future due to increasing population, climate change and pollution.

Vision

Create a sustainable household with a low water footprint.

Aim

Educate people on the current water crisis and improve technologies.

Suggestions

Toilet

Toilets are able to flush using greywater, which is an easy way for it to be recycled. In the future, toilets with low water levels and vacuum pumps will be incredibly efficient when it comes to saving water.



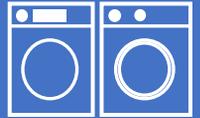
Shower



A future technology, currently being developed, is the idea of splitting the water into millions of tiny droplets, creating a sort of mist that replaces the stream of water used for cleaning the body. Using this technology, a larger area of the body can be showered at once, whilst reducing the amount of water used by up to 70%.

Washing Machine

In the future, liquid carbon dioxide can be used in washing machines. As long as the CO₂ is kept at a low temperature it will behave like a liquid. After the cycle is done the CO₂ can be returned to the tank and reused.



Kitchen

A more efficient dishwasher could use carbon dioxide snow cleaning. The liquid CO₂ is propelled at the dirty dishes and upon impact it vaporizes which forces the food off the plate.

Low flow taps are one of the most effective ways to prevent water waste as it reduces usage by up to 50%.



Garden

Greywater from household appliances can be easily used for garden maintenance, along with rain water that can be collected using various products; such as rain barrels, permeable paving and storm water swales.



Human Behavior

People's behaviour towards water consumption and wasting water has a direct influence on the crisis the world is facing. Therefore, raising awareness and educating people on the importance of water availability will make a great impact on reducing the amount of wastewater generated per person. People must also be convinced to accept and adopt new systems and technologies that come into place to help them reach the common goal we humans have of providing water for all.



The Project

This project was carried out as part of the summer school "Engineering Visions 2018 – Smart Solutions" in Enschede, The Netherlands. The program consists of a short two-week project, focused around developing visions for the future and promoting international cooperation.

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