

# How does a waste water treatment plant work?

**Stage 1** - Wastewater from people's homes and businesses flows via sewers to the pumping station.

**Stage 2** - The pumping station receives the wastewater and starts the cleaning/ treatment process.

**Stage 3** - Stormwater storage and settlement tanks hold any excess water during times of heavy rainfall.

**Stage 4** - Any large objects and nondegradable items (such as nappies and face wipes) along with any accumulated grit is removed.

**Stage 5** - The solid waste is separated from the water for sludge treatment.

**Stage 6** - Once visible sludge has been removed, the wastewater is treated further to remove any harmful bacteria and bugs.

**Stage 7** - After secondary treatment, the wastewater is again filtered to remove any remaining sludge, which also goes for sludge treatment.

**Stage 8** - Tertiary treatment then removes additional nutrients, ammonia or solids.

**Stage 9** - The treated wastewater is sent to a pumping station to be put back into the environment.

**Stage 10** - The treated wastewater can then be returned to the River Cam.

**Stage 11** - Sludge left as a by-product of the wastewater treatment process and from imports elsewhere, is collected in this tank.

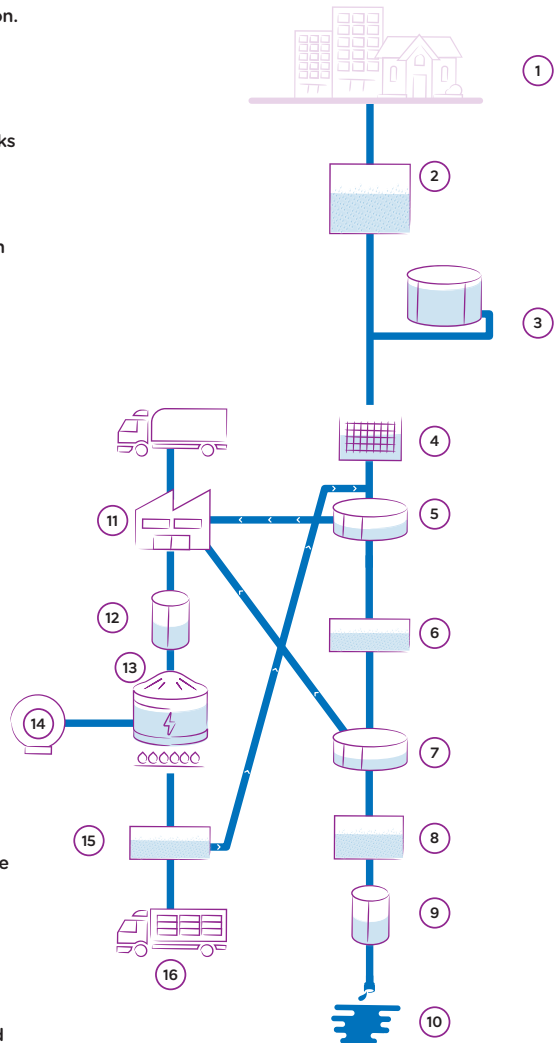
**Stage 12** - The pre-digestion treatment readies the sludge to be decomposed into stable substances.

**Stage 13** - The sludge now undergoes anaerobic digestion, which involves heating and breaking down the sludge.

**Stage 14** - The biogas that is generated as part of the anaerobic digestion process can be harnessed and used as energy.

**Stage 15** - At the post-digestion phase, the molecules are broken down and separated further. This includes removing any excess water before final disposal.

**Stage 16** - After treatment is complete, the remaining sludge is stored, with part of it being used for biofertilizer to provide soil nutrients.



## Fact

We use the biogas produced by anaerobic digestion to power the Cambridge Waste Water Treatment Plant. We can also export power to the grid to provide green energy for others.