

From Wastewater to Clean Water

AlexRenew completes the water cycle by transforming wastewater into clean water and renewable resources.



1 Where your water goes

From your showers, laundry, sinks, and toilets, dirty water flows down the drain and through the sewer to AlexRenew.

2 Take out the trash

Screens remove a variety of objects that go down the drain – from food scraps to toys to wipes. This waste cannot be reused and must go to the landfill.

3 Separate the solids

Our settling tank is like a giant pool where we separate water from grease and solids. Grease is light and rises to the top of the tank. Heavier solids, like dirt, fall to the bottom.

4 Put bugs to work

Microbes, also called bugs, may be small but they play a big role in cleaning wastewater by eating pollution and using it to fuel their bodies.

5 Separate the bugs

In the second settling tank, bugs – heavy from their meal of water pollution – fall to the bottom of the tank, separating from the water. Active bugs return to work (step 4) while others go to the digesters (step 7).

6 Purify the water

Filters purify the water and ultraviolet light destroys bad bacteria to protect your health. We reuse some clean water; the rest is returned to the Potomac River via Hunting Creek.

7 Digest the solids

Just like water, we transform our solids. New microbes break down the pollution-eating bugs, releasing methane gas that we use for energy.

8 Remove the water

We remove water from the solids until they are as thick as dirt. The water goes back into the process for further cleaning. The solids are taken to farm fields, returning vital nutrients to the soil to help plants grow.