

# What is Municipal Water Resource Recovery?



South Austin Regional Wastewater Treatment Plant

Municipal water resource recovery refers to the physical, biological, and chemical processes to remove pollutants from wastewater before discharging into a waterbody, along with the recovery of resources during those processes. Water Resource Recovery Facilities (WRRFs) and their treatment processes are critical to prevent waterborne diseases, contamination, algal growth, and other adverse impacts on our lakes, rivers, and oceans.

Resource recovery is essential to Texas' sustainability. It's an economically and environmentally sound way to safely manage and utilize water resources.

**Nearly 3,000** active WRRFs in Texas that treat municipal wastewater

**Billions of gallons** of wastewater cleaned for safe discharge into Texas waterways every day

**“Resource recovery is an emerging societal need globally. Due to the ever increasing pressures on progressively limited resources such as water, nutrients, and energy, it is critical to recover these resources from wastestreams.”**

**– Water Environment Federation (WEF)**

## Did You Know?

Aside from cleaning water so it can be safely returned to the environment, WRRFs have the potential to recover **water** (for reuse), **nutrients** (for soil amendments) and **energy** (for biogas and electricity).

WRRFs remove **nutrients** such as nitrogen and phosphorus from wastewater so effluent won't pollute the waterbodies it enters. These are also the ingredients in many fertilizers, so nutrients can be recovered for reuse in soil to improve plant growth.

After being cleaned by the WRRF, the **water** (known as “effluent”) can be reused for many things including irrigation, firefighting, and industrial processes. In places that don't have reuse programs, the water is returned to lakes, rivers, and oceans.

The treatment processes that isolate nutrients also generate **energy** in the form of methane gas. This biogas can be used to supply electricity, heat, and fuel to the treatment facility, making it more sustainable while saving on operating costs.