



Start

STORMWATER, WASTEWATER FROM HOMES, BUSINESSES, AND SCHOOLS

FOOD WASTE

Food scraps are collected from homes, schools, and businesses and processed off-site into a nutrient-rich mixture called bioslurry. This material is mixed in with the sludge to help produce more biogas during sludge digestion.

SLUDGE DIGESTION

Thickened sludge is digested by microorganisms that thrive in a low-oxygen environment heated to about 98°F. Biogas, released during this process, can be used to produce heat and electricity for the facility and also purified and distributed as natural gas for the community.

COMPOST
LAND APPLICATION
OTHER BENEFICIAL USE
LANDFILL

Output

STORMWATER

Some sewers carry stormwater runoff directly to a nearby waterway.

WASTEWATER

Wastewater, from homes, businesses, and schools, flows through sewer pipes beneath the street to one of NYC's 14 Wastewater Resource Recovery Facilities. Most sewer pipes carry a mixture of wastewater and stormwater runoff from streets, sidewalks, and rooftops.

SCREENING + PUMPING

As wastewater enters the facility, it passes through bar screens to remove leaves, twigs, and litter such as plastic bags, food wrappers, bottles, and sanitary wet wipes. Trash and debris are collected and trucked to landfills. Main sewage pumps then pump wastewater from the screens to the surface level of the facility.

PRIMARY SETTLING

Lighter solid material, such as grease, floats to the top of the primary settling tanks, while heavier solids, called sludge, sink to the bottom. Sludge is removed for thickening and digestion.

AERATION

Air is added to foster a healthy environment for oxygen-loving microorganisms. These helpful microorganisms consume much of the organic material in wastewater.

FINAL SETTLING

Remaining solids settle to the bottom of final settling tanks. Most of this activated sludge is removed and combined with primary sludge for thickening and digestion, while some is returned to the aeration tanks to help process incoming wastewater.

DEWATERING

Water is removed from solids using large centrifuges. Since not all DEP facilities have dewatering on-site, marine vessels are used to transport treated solids to facilities with dewatering capabilities. These dewatered biosolids can be composted, applied to land or further processed for other beneficial uses.

DISINFECTION

Sodium hypochlorite is added to remove any remaining disease-causing microorganisms. Clean water is then released into a nearby waterway.

NYC Environmental Protection Wastewater Treatment

- WASTEWATER ———
- STORMWATER ———
- BIOGAS - - - - -
- BIOSLURRY ~~~~~
- TRAVEL - - - - -
- PRIMARY SLUDGE ■■■■
- COMPRESSED AIR ⊙
- ACTIVATED SLUDGE ■■■■
- HELPFUL MICROORGANISMS ●●●●
- FLOATABLES

Output

CLEAN WATER
HARBOR