NATIONAL BIOSOLIDS DATA PROJECT

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WEST VIRGINIA

BIOSOLIDS MANAGEMENT 2018 - STATE SUMMARY

This summary, a dashboard of state statistics, & further data are at www.biosolidsdata.org

Biosolids Management & Oversight

West Virginia (WV) – The Mountain State, with scattered, isolated cities and towns – is known for mining, energy (coal), chemical production, biotech, other manufacturing, and tourism. Its population of 1.8 million relies on landfills and land application for wastewater solids management. Both large and small communities land apply, with the larger ones, such as Morgantown, using anaerobic digestion (AD) to make Class B biosolids, and the smaller ones relying on aerobic digestion. Charleston, Huntington, and many other communities of all sizes send their wastewater solids to landfills. In 2018, there was no incineration of WV wastewater solids.

The WV Department of Environmental Protection (WV DEP) regulates the state's "municipal sewage sludge (MSS)... in two ways: through the issuance of National Pollutant Discharge Elimination System (NPDES) permits, and by defining wastes that can be disposed of in solid waste facilities under Section 4.13.h. of the DEP's Title 33 Series 1 rules. The issuance of NPDES permits is the responsibility of the Division of Water and Waste Management (DWWM) of the WV DEP and is the primary method of regulating MSS disposal. When a wastewater treatment facility applies for an NPDES permit, a certain method of MSS disposal is chosen. Individual treatment facilities are free to choose from a total of four permissible disposal options… landfilling, land application, marketing of the sludge, or a catch-all 'other' option."

Major Water Resource Recovery Facilities (WRRFs)

Charleston, West Virginia's capitol and largest city (population ~45,000), treats an average of 10 million gallons per day (MGD) with the only pure-oxygen secondary treatment process in the state. Solids are anaerobically digested and dewatered with belt filter presses before being transported to a landfill owned and operated by Waste Management. The solids contribute some to methane generation in the landfill, much of which is captured and used as an alternative energy fuel.

Huntington, the state's 2nd largest city (~43,000 people) was facing a challenge in 2018: much of its solids were sent to a landfill in Ohio. But, because of odor complaints, that landfill stopped accepting the sludge, leaving only one other landfill option - and that landfill required alkaline addition before disposal. So the Huntington WRRF was looking at increased costs for lime of $40,000 - $80,000 a year.

Morgantown, the 3rd largest city in WV (population ~30,000), was building a major upgrade in 2018 – 2022, including installation of membrane bioreactor technology for wastewater treatment and a third anaerobic digester (AD) for solids management. In 2018, 1,134 dry metric tons (dmt) of Morgantown biosolids were land applied for agriculture.

Parkersburg is the 4th largest city in WV (~28,000 people), and its Utility Board operates water and wastewater services, including land application of 386 dmt of AD biosolids on agricultural lands in 2018.

Wheeling, the state's 5th largest community (~26,000 population), treats ~8 MGD of wastewater and sends its anaerobically-digested solids to landfill – 1,811 dmt in 2018.

Fairmont WWTP (~6 MGD) land applied 386 dmt of anaerobically-digested, belt-filter-press-dewatered Class B biosolids on agricultural land in 2018. This moderate-sized facility also provided additional critical service to the surrounding communities by taking in and treating 2.815 million gallons of septage and 1.986 million gallons of landfill leachate. Managing these challenging liquid wastes is an important function for all communities working to protect public health and the environment.

Weirton, the 7th largest municipality in the state, with an average daily wastewater flow of 3.5 MGD, sent its 237 dmt of solids to landfill in 2018.

Martinsburg, the 8th largest city, also landfills its solids: 439 dmt in 2018. It is part of the Berkeley County Public Service Sewer District, the state's largest sewage district, which operates four major WRRFs.

Beckley (population ~15,000) treats up to 6.5 MGD of wastewater. In 2018, it sent 49 dmt of its Class B biosolids to some of the city's 70 acres of permitted agricultural land, where it helped grow grass for animal feed. The remaining 242 dmt of that year's solids went to landfill.

Links:

WV DEP:
https://dep.wv.gov/WWE/permit/general/Pages/default.aspx