



A PRACTICAL GUIDE TO BIOSOLIDS MANAGEMENT IN PENNSYLVANIA

Avoiding an Affordability Crisis

Decades Supporting Farmers and a Sustainable Future

Biosolids are nutrient-rich material produced during wastewater treatment. When returned to the soil, this valuable resource improves soil health, retains water, and recycles nutrients. Pennsylvania generates around 1.2 million tons of biosolids annually, enough to fill 55,000 tractor trailers. For decades, the Commonwealth has partnered with local farmers and landowners to recycle biosolids as a sustainable alternative to commercial fertilizers—helping to reduce costs for family farms in challenging times.

PFAS in Everyday Products and Biosolids

PFAS chemicals - including PFOA and PFOS - were used widely in manufacturing of products such as cosmetics, food packaging, pesticides, dental floss and clothing. These substances persist in the environment and accumulate in our bodies. As a result, PFAS are measurable in wastewater and biosolids, though at levels much lower than many consumer products. If the goal of a biosolids land application ban would be to reduce PFAS in the environment, forcing biosolids to landfills may not achieve that goal. According to the EPA, studies estimate that as much as 15% of mobile PFAS entering a landfill is emitted via leachate and landfill gas, while most landfills lack PFAS treatment.

Pennsylvania Already Has Effective Biosolids Regulations

Pennsylvania already regulates the safe land application of biosolids, requiring high quality standards before beneficial use. When properly managed, biosolids provide a valuable fertilizer resource for farmland, forests, and mine reclamation lands while conserving scarce landfill capacity. As Pennsylvania considers additional biosolids policy, the Commonwealth can protect public health without sacrificing affordability, agricultural value, limited landfill capacity, or climate and water-management goals. A practical approach should manage PFAS based on measured concentrations and risk, reduce PFAS at the source, and avoid blanket bans that shift costs to utilities, farmers, and ratepayers.

Consequences of Severe Restrictions or a Ban on Land Application

There are limited options for managing biosolids: (1) land application, (2) incineration, and (3) landfilling. Bans and restrictions on land application carry unintended consequences. Landfill tip fees in eastern Pennsylvania have already doubled in the past five years (to \$135 per ton, not including hauling)—a period without major changes in biosolids regulations in the state. If land application were removed as an outlet, it is reasonable to expect at least a 100% increase in costs, with examples from Maine and Florida showing increases ranging from 175% to 300% following the loss of land application outlets. For the more than seven hundred thousand tons of biosolids currently being land applied, wastewater utilities and ultimately ratepayers would be facing cost increases on the order of tens of millions of dollars annually.



Pennsylvania recycles approximately **762,000 tons of biosolids** annually, benefitting local farmers and the environment while avoiding greenhouse gas emissions **equivalent to driving 56,600 cars**.

According to Pennsylvania Department of Environmental Protection Biosolids Reports and EPA's ECHO Database



A ban or severe restrictions on land application of biosolids would **increase greenhouse gas emissions by an estimated 735%** and conflict with the Commonwealth's Climate Action Plan, Methane Reduction objectives under the Regional Greenhouse Gas Initiative, and PADEP's organics diversion guidance.

According to Climate Change Advisory Council, DEP, and Brown and Caldwell's 2026 Pennsylvania Biosolids Capacity Analysis Study

Landfills are not a Long-Term Solution

Severely restricting or banning land application in Pennsylvania would leave roughly 476,000 tons of biosolids with few, if any, viable management alternatives. This volume exceeds the Commonwealth's estimated additional landfill capacity by 167%. Biosolids would be forced out of state, where capacity is similarly limited and costs are high. With biosolids PFAS regulations under consideration across the region, including in neighboring states such as New York, reliance on out-of-state disposal is not a reliable solution.

Sending more organic material like biosolids to landfills conflicts with the Commonwealth's climate and solid waste goals, which call for increasing land application to conserve landfill space and reduce greenhouse gas emissions.

Restrictions Risk Affordability for Ratepayers and Farmers

A ban or severe restriction on land application of biosolids would further strain utilities struggling to maintain affordable services for their customers. According to a study conducted by Policy Navigation Group on behalf of Association of Metropolitan Water Agencies, water utilities and ratepayers across the country are already facing an estimated \$6.4 billion in compliance costs to meet emerging PFAS regulations. According to a biosolids management company active in Eastern Pennsylvania, landfill tip fees have doubled (to \$135/wet-ton, not including hauling) in the past five years—a period without major changes in biosolids regulations in the state. A ban or severe restriction on land application would also raise farmers' costs, swapping a reliable, nutrient-rich soil amendment for costly manufactured fertilizers.

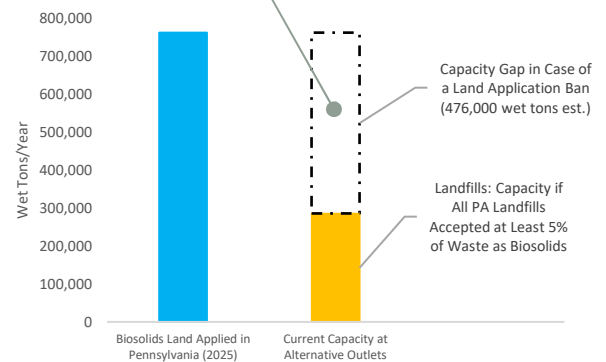
Pennsylvania plays a critical role in biosolids management for the Northeast and Mid-Atlantic regions. Utilities, farmers, contractors, landfills, processors, and haulers rely on an interconnected network of in-state and out-of-state management options. Severe restrictions or a ban on land application would reduce regional capacity, increase competition for disposal outlets, raise costs for ratepayers, and push biosolids farther from their source. With neighboring states also facing capacity constraints, Pennsylvania policy plays an important role in avoiding a regional bottleneck and supporting coordinated, data-based biosolids management approach.

A Responsible Path Forward

Pennsylvania can continue to protect public health and the environment without sacrificing sustainability or affordability. Legislators and regulators can advance responsible management of PFAS in biosolids through the following:

1. **SUPPORT DATA-DRIVEN PERMIT UPDATES:** Advance practical PFAS monitoring and concentration-based management requirements for biosolids through DEP permits, rather than blanket prohibitions.
2. **MANAGE PFAS AT THE SOURCE:** Reduce PFAS entering wastewater systems by addressing industrial, commercial, residential, and landfill leachate sources.
3. **PROTECT FARMERS AND RATEPAYERS:** Avoid policies that abruptly eliminate recycling and beneficial use and force utilities into high-cost landfill or out-of-state options. Help keep family farmers in business and farm land in production through the higher yields and lower costs provided by biosolids.
4. **INVEST IN INNOVATION AND TREATMENT:** Fund research, pilot projects, source-control programs, and technologies that reduce PFAS before biosolids are generated or beneficially used.
5. **MAINTAIN RELIABLE REGIONAL BIOSOLIDS MANAGEMENT:** Biosolids management operates across state lines. Pennsylvania policy decisions have implications for regional capacity, costs, and unintended impacts on utilities, farmers, and neighboring states.

A ban on land application of biosolids would leave 476,000 wet tons of biosolids with nowhere to go in Pennsylvania



Alternatively, Michigan's data-driven policies successfully **reduced PFAS concentration in biosolids by 95%** without creating unnecessary economic hardships for public utilities and ratepayers.

According to the Michigan Department of Environment, Great Lakes, and Energy (EGLE)

Maine's land application ban caused costs to **increase by 175% on average.**

According to the Maine Water Environment Association



Learn More

For additional information on PFAS and Biosolids Management, scan the QR code above to visit the Mid-Atlantic Biosolids Association.

www.mabiosolids.org