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# Biosolids & PFAS Considerations
# A Utility Perspective

Engineering & Environmental Services

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1958 → 2017


# PFAS is everywhere

PFAS chemicals contained in everyday products

**Dust in Daycare Center**
142 parts per billion (ppb)

**Microwave Popcorn Bag**
68 – 167 ppb

**Fire Training Center**
695 ppb

**Foundation Makeup**
2,370 ppb

* 1 part per billion is equivalent to 1 second in 31.7 years

In addition, all kinds organic waste can contribute to low levels of PFAS found in many common soil amendments

Municipal organic waste recycling programs allow yard waste, food waste and food soiled paper (e.g., fast food wrappers)

These waste streams contain PFAS

PFAS ends up in downstream compost, fertilizers, and biosolids


Mary Wetterling named the water dispenser at her French Island, Wis., home "Aqua Maria." *Angela Major/WPR*

# DNR says bottled water companies aren't required to test for PFAS in Wisconsin

Lack of federal and state standards creates a gap in testing for bottled water


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# CONTEXT

CLEAN CARS, HIDDEN TOLL

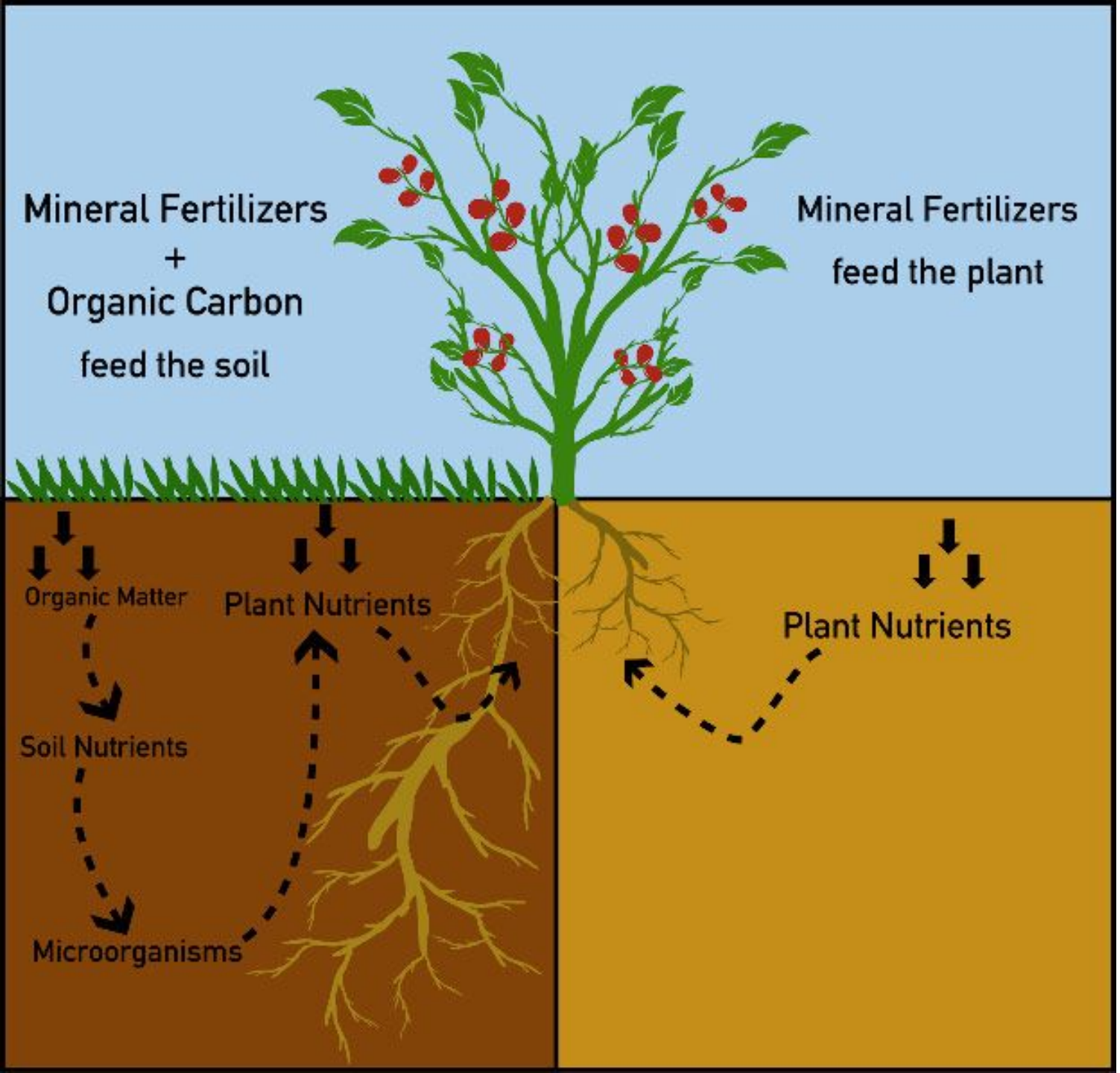
# Demand for EVs, and the bauxite they require, fuels misery in Guinea

STORY BY RACHEL CHASON
PHOTOGRAPHY BY CHLOE SHARROCK
IN KAGBANI, GUINEA

# Benefits of land applied biosolids

- Locally sourced, renewable nutrient source (N & P)
- Low-cost alternative to commercial fertilizers
- Conditions soil with organic carbon

# THE PHOSPHATE INDUSTRY THREATENS OUR WATER



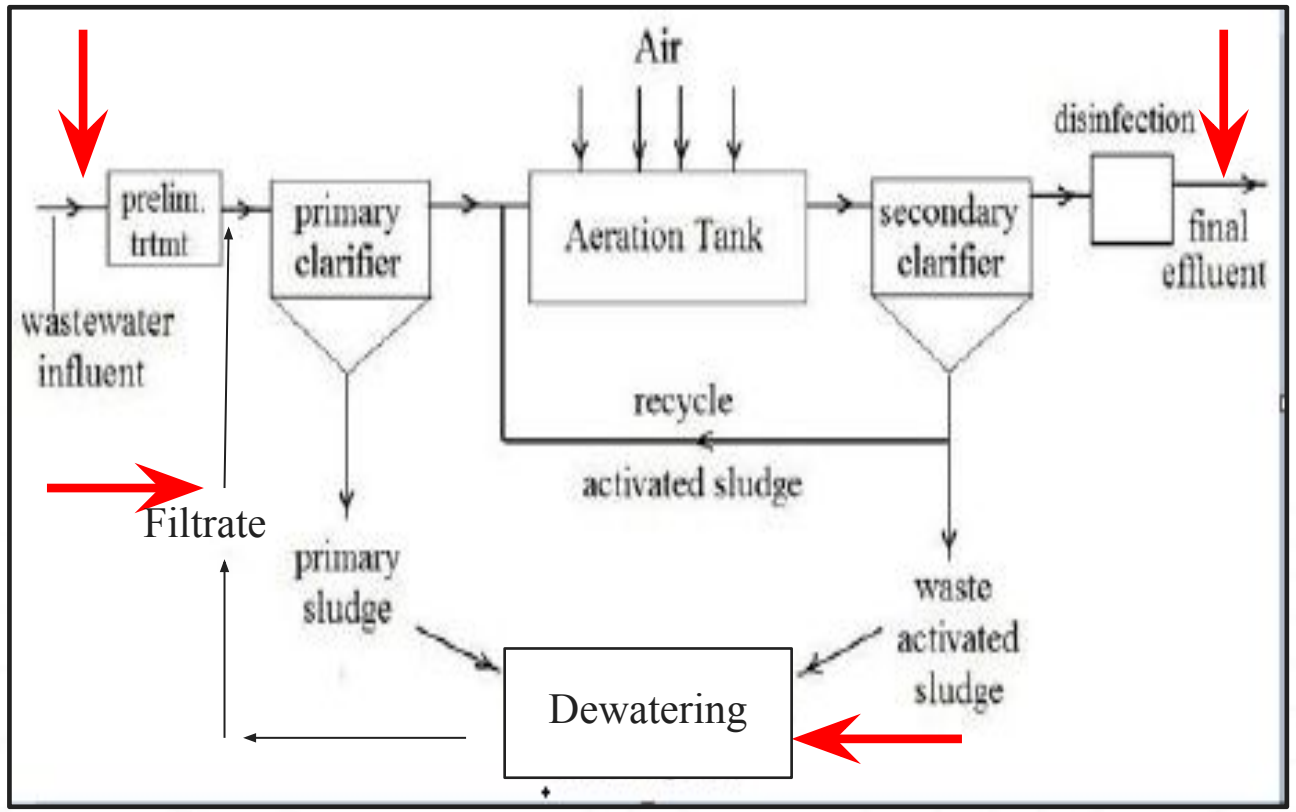

## 40-60%

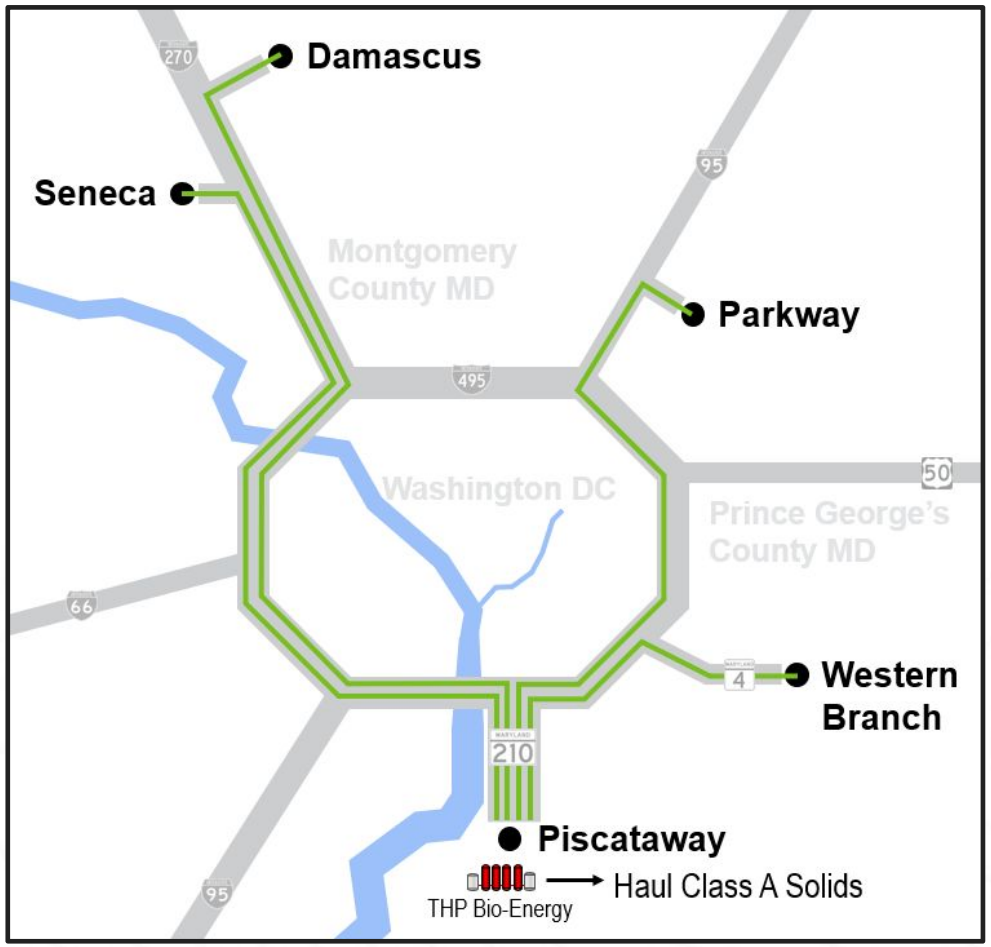
In the last century, many of our agricultural soils have lost 40-60% of the basic building block that makes them productive – organic carbon.

SOIL HEALTH INSTITUTE


SAND

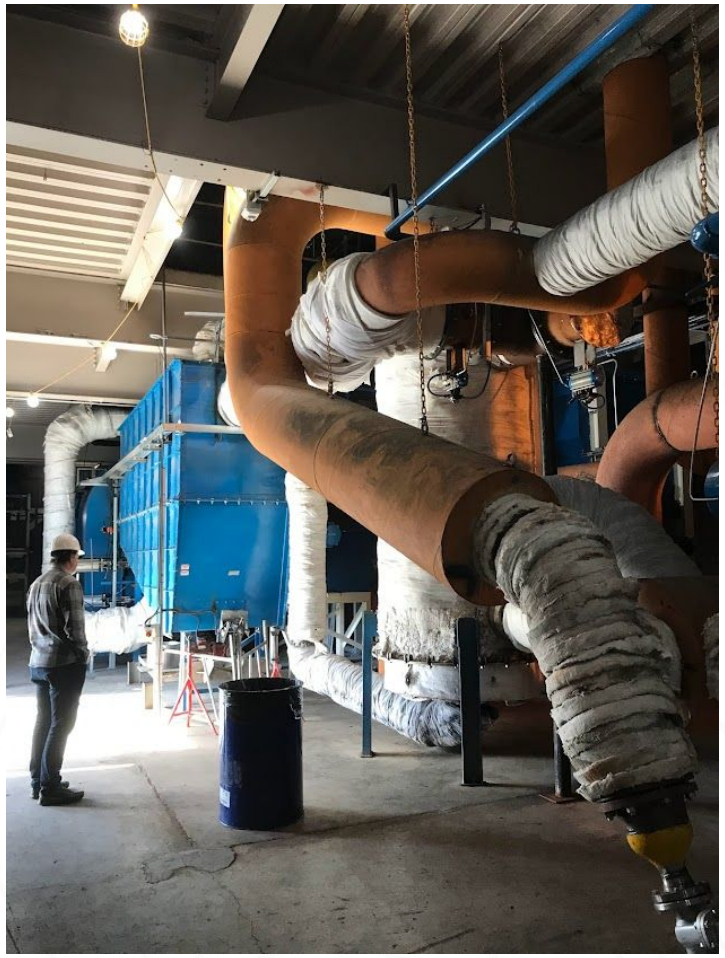
# PFAS Monitoring & Source Tracking



# Research & Collaboration
# Natural Resource Conservation Service (NRCS)

# Research – Water Research Foundation (WRF) Understanding Pyrolysis for PFAS Removal



# Water / Wastewater Industry Task Forces and Workgroups

- Northwest Biosolids Association -Research Committee
- Water Environment Federation - PFAS Task Force
- Mid Atlantic Biosolids Association - PFAS Focus Group
- Midwest Biosolids Association - Emerging Contaminants Committee
- Water Research Foundation – Funding for PFAS removal / treatment studies
- New York Water Env. Association Emerging Contaminants Task Force
- Northeast Biosolids Research Association -Research Committee

Responsible reporting on efforts to end land application of biosolids should provide context including the ubiquitous nature of PFAS throughout society, the benefits of land applied biosolids, industry research efforts and the consequences and costs of prohibition

# QUESTIONS?

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