Toward a More Sustainable Frederick County

Next Evolution in Waste Management

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Chris Voell

- 23 years in Frederick County
- 30 years in waste management and renewable energy
  - Municipal solid waste
  - Anaerobic digestion/manure/food waste
  - Biogas to energy
- Current member of Sustainability Commission and “What’s Next” Committee – former SWAC member
- Married – three kids

Integrated Municipal Solid Management System

Waste Sources
- Residential
  - Single family, townhomes, apartments
- Business/Commercial
  - Restaurants, retail, lodging
- Institutional
  - Government agencies, hospitals, schools

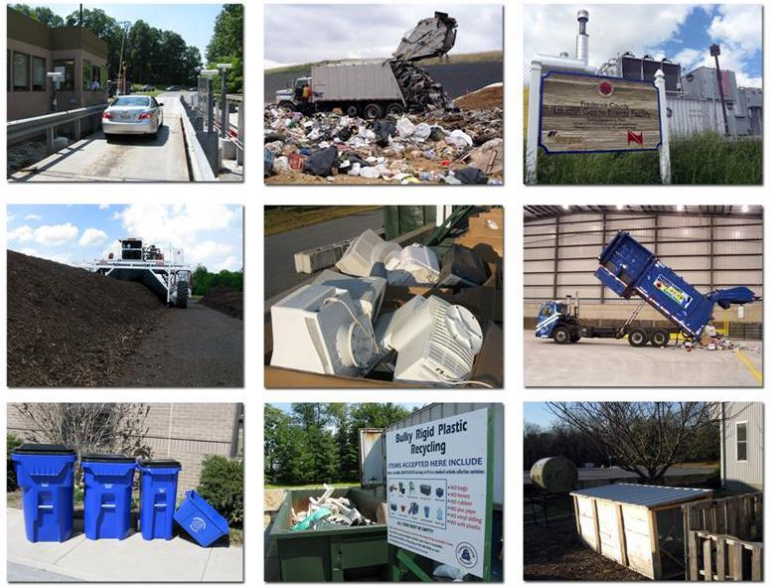
Materials Processing
- Mixed MSW v. segmented streams
- Materials recovery facility (paper, plastic, glass, metals)
- Composting and Digestion
  - Organics - yard waste, food waste, ag residues
- Advanced conversion (e.g., feedstock, gasification, pyrolosis)

Material Pre-Sorting
- Co-mingled v. separated
- Source separated organics
- Business v. citizens
- County authority?

Collection/Transfer
- Open market v. franchise
- Technology – split vehicles, automation
- Citizen drop-off centers
- Pay as You Throw (PAYT)
- Trucks v. rail

Residuals Management
- Local, regional or distant landfill

Frederick County Waste Infrastructure



Residents' Guide to Solid Waste Management in Frederick County

Including Information on Services and Programs for Waste Reduction, Recycling, Composting and Disposal

Outreach Newsletter

Waste Transfer Station

Landfill Gas Energy

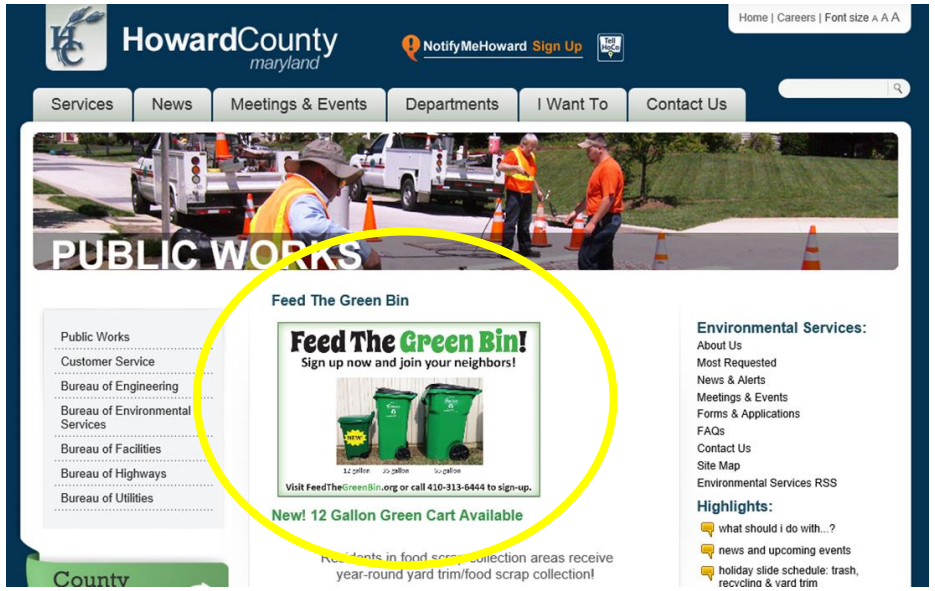
Yard Waste Composting and Mulch

Household Blue Bin Recycling

Adjacent County Programs

Montgomery County Green Waste Composting

Montgomery County Green Business Certification



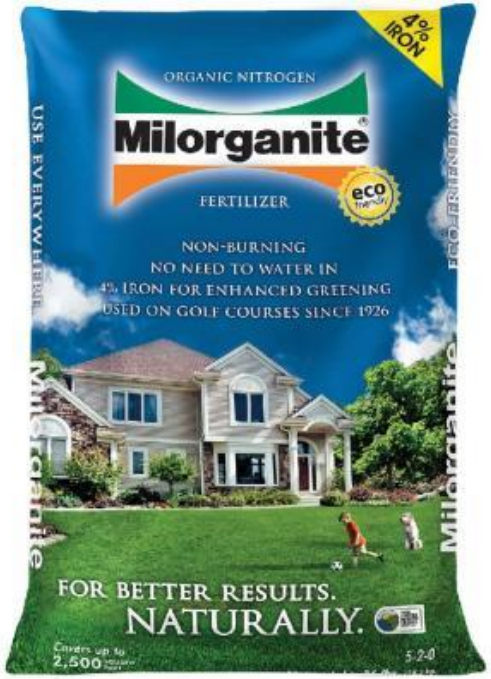
Howard County Food Waste Collection Pilot Project

I don’t know if that’s true – we can aim for it. We must be prepared for a lot of ingenuity, collaboration and time.

Organic horticulture products from ‘waste’

Food Waste

Dairy Manure



Municipal Wastewater Biosolids

Food Waste and Wastewater Treatment Digesters

Newtown Creek WWTP, NYC, NY

Food Waste Collection

Food Waste to Vehicle Fuel (CNG)

Sacramento, CA

Alternate Fuel Waste Collection

Renewable Natural Gas

Hybrid Electric

Natural Gas

In-House Food Waste Management

Solar on Closed Landfills

Large and Small-Scale Organic Waste Systems

San Jose, CA (90,000 tons/year)

Monterey, CA (3,000 tons/year)

Summary

- Attention to water and climate helping drive change
- Waste management is very complex
- Need citizen input and feedback
- Opportunity to include sustainable practices

Questions? Thanks!

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