Waste Sites & The Environmental Paradox

Thousands of contaminated properties and industrial waste sites in the United States cause air, water and soil pollution. Yet, operation of groundwater remediation systems (GWR) can contribute to greenhouse gas emissions. Power systems, necessary to ensure effectiveness of the systems, can also contribute to greenhouse gas emissions.

Project Goal

Assist MassDEP in promoting renewable energy through solar power and energy efficient waste site remediation techniques for contaminated locations that utilize groundwater remediation systems.

What We Did

1. We investigated how the GWR systems in selected waste sites can be more energy efficient.

2. We examined the plausibility of using solar power as a renewable energy source for GWR systems.

3. We identified waste sites in MA actively utilizing GWR systems that are vulnerable to flooding and storm surge.

What We Found

• Renewable energy (solar power) is applicable to waste sites through state-funded programs that grant rebates on solar installations.

• Solar energy may not be applicable to certain waste sites due to location, time, or funding restrictions.

• The EPA and others have created best management practices (BMPs) for LSPs and site managers to utilize which can reduce energy consumption and increase GWR system efficiency.

• GWR system components are specific to each waste site so it is hard for MassDEP to recommend which parts to upgrade.

Recommendations for MassDEP

1. MassDEP should utilize the gathered remedial monitoring reports (BWSC108 and Phase IV) to assist in gathering future information on the problems LSPs and site managers may encounter with waste site remediation.

2. MassDEP should utilize and distribute the factsheets created by the EPA to promote renewable energy and energy efficient methods to LSPs and site managers.

3. MassDEP should consider promoting other renewable energy options for waste sites with different locations and available spaces.

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