IS YOUR LANDFILL SUITABLE FOR SOLAR?

Travis Fultz
OVERVIEW

• Basics of Solar
• Advantages/Challenges of Landfill Solar
• Design Options
• Construction Considerations
• Re-Powering America Initiative
• Examples of Successful Projects
SOLAR 101
SOLAR 101-CON’T
WHERE SHOULD WE BUILD A SOLAR FARM?
HOW ABOUT HERE?
LANDFILL SOLAR – ADVANTAGES & CHALLENGES

Advantages
• Large, Open Space
• Ease of Access
• Limited Shading
• New Use for Unusable Land
• Increased Site Monitoring
• Existing Interconnection

Challenges
• Permitting Restrictions
• Cap Restrictions
• Settlement Issues
• Topography
• Distance to Interconnection
• System Design
SOLAR DESIGN CONSIDERATIONS

- Maintain Landfill Integrity
- Settlement and Stability
- Landfill Gas Management
- Storm Water Controls
- Monitoring and Maintenance

Public Health, Safety, Environment
SETTLEMENT & STABILITY

Why is it important?

- Load
- Biodegradation
- Compression
- Creep
- Settlement
GAS MANAGEMENT

- Prevent Release
- Prevent Odors
- No Unacceptable Health Risks
STORM WATER CONTROLS

• Prevent Erosion
• 25 Year Events
• 100 Year Events
MONITORING

- Worker Safety
- Pre-existing Water Monitoring
- Post Closure Risk Assessment
DESIGN OPTIONS
DESIGN OPTIONS

FOUNDATIONS

Ballasted System

Geomembrane
DESIGN OPTIONS
GROUND COVER OPTIONS
CONSTRUCTION CONSIDERATIONS
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RE-POWERING AMERICA

• Encourages Renewable Development

• As of 2016
  – 38 States
  – 179 Projects
  – 171 Contaminated lands, landfills, mining sites
CANTON, MA

- 15-Acres
- Ballasted Racking System
- 19,800 Solar Modules
- 5.74MW DC
HICKORY RIDGE

Closed in 2006

9,000,000 cubic yards of waste

Geomembrane covers 48-acres

7,000 Modules

2012 - Grand Award, Engineering Excellence Awards, American Council of Engineering Companies of Georgia

Hickory Ridge Landfill, Atlanta GA
WASCO, CALIFORNIA

- Former Brownfield Site
- Ballasted Racking System
- Ballasted Fencing System
- 5,400 Solar Modules
THANK YOU