





Green Pipeline Natural Gas

Landfill Gas Injected into Pipelines
and Delivered to your Facility



GovEnergy
www.govenergy.gov



Traditional Landfill Gas Projects

- Direct Use or Medium BTU Gas Projects
 - Gas is collected, limited processing, piped via dedicated pipeline to the end user
- Landfill Gas to Electricity Projects
 - Gas is collected, limited processing, used as fuel for engines or turbines to make electricity.



Pipeline Quality Landfill Gas

Inject Processed Landfill Gas into the
Local Distribution or Transmission
Natural Gas Pipeline



What's the Process

- Collect the Landfill Gas
- Remove Unwanted Constituents
H₂S – H₂O – VOCs – Co₂ – O₂ – N₂ - Siloxanes
- Inject the Processed Gas into a Pipeline
50 – 1200 PSI



It's Being Done Now

- McCarty Road Landfill - Houston, TX
Center Point Gas
- McCommas Bluff Landfill - Dallas, TX
Atmos
- Rumpke Landfill - Cincinnati, OH
Duke
- Fresh Kills – Staten Island, NY
Key Span
- Monroeville Landfill – Monroeville, PA
Equitable Gas
- Johnson County Landfill – Shawnee KA
Kansas Pipeline



ESG Plant Under Construction

Live Oak Landfill – Atlanta, GA
Atlanta Gas Light
Operational 1/1/09



JUL 22 2008



JUL 22 2008



JUL 17 2008



Landfill Requirements

- Large Gas flows
 - Active Landfill Gas Collection System
 - 3000 - 4000 SCFM Gas flow
- High Quality Gas
 - Good CH₄ content
 - Low N₂ content
- Friendly Gas Pipeline Company
 - Flexible gas specifications
 - Looking for “Green” gas for its customers



Consumer Opportunities

- Bilateral agreements can be set up between producers and consumers
- Natural Gas Marketers are the logical sellers of this product
- Renewable or Green gas can be shipped via pipeline(s) to consumers



Landfill Gas Industry Strategy

- Technology Advancements
- Pipeline Operators & Producers Group
 - Identify Issue
 - Determine Gas Specifications
- Promote legislation supporting these projects
 - Tax Credits
 - Renewable Incentives



You Can Get Involved

- Ask your gas marketing company for Green Gas
- See if your pipeline delivery company has access to Green Gas
- Promote Tax Credits for Green Gas
- Let landfill owners and developers know you want Green Gas



Would you like to know more about this session?

- Dennis Bollinger
- Energy Systems Group, LLC.
- Newburgh, Indiana
- 812-492-3704
- dbollinger@energysystemsgroup.com
- www.energysystemsgroup.com
- Don't forget to fill out and drop off your session evaluations.