

DataChem News

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Can Landfill Gas be Utilized?

Landfills date back to 500 B.C. when city officials in Athens, Greece prohibited public dumping within one mile of the city. Up until the last few decades landfills were simply centralized dumping grounds with no attempt to cover the trash or regulate the site. Modern landfills are constructed with many safeguards and are much more sanitary than landfills of the past. As bacteria decompose organic matter various gasses are released. Landfills are the largest contributor of United States methane emissions. Methane is a greenhouse gas, twenty-one times more powerful at warming the environment than carbon emissions. Methane is also a potential source of alternative energy which, when captured for alternative energy, reduces emissions into the atmosphere.

What are we putting into our landfills?

Most studies suggest:

- 40% - paper products
- 20% - yard waste
- 9% - metal
- 9% - food
- 8% - glass
- 7% - plastic

Landfill gas is comprised of approximately 50% methane and 50% carbon dioxide with trace amounts of other gasses. Nearly thirty volatile organic compounds are also released in uncontrolled landfill gas. Recovering methane for energy began in the 1970's. Over the past thirty years the technology for its collection and use has continued to develop. However, many factors go into deciding which landfills are optimal sites for recovering methane.

Methane release in high enough volume to be recovered only occurs during a portion of time during the course of a landfills life. This window can be 10 years or 100 years long depending upon the specifics of the landfill itself. When methane gas is in a high enough concentration to be recovered it can be extracted from landfills using a series of wells and a vacuum system which then directs the gas to a point to be processed. Landfill gas can be used for a variety of purposes including heat and electricity. Using EPA method TO-15 and EPA method TO-17 DataChem screens for target analytes in both indoor and outdoor environments.

Analysis of the Month

TO-15 / TO-17

For the month of May, DataChem is offering **VOC Analysis using TO-15 or TO-17 for \$200.**

For a complete list of our Salt Lake lab services [click here.](#)

To take advantage of the offer simply refer to the newsletter in your analytical request. Discount is only available at our Salt Lake facility.



There are nearly 300 landfill gas recovery facilities in the United States with many more under construction.

Methane Recovery

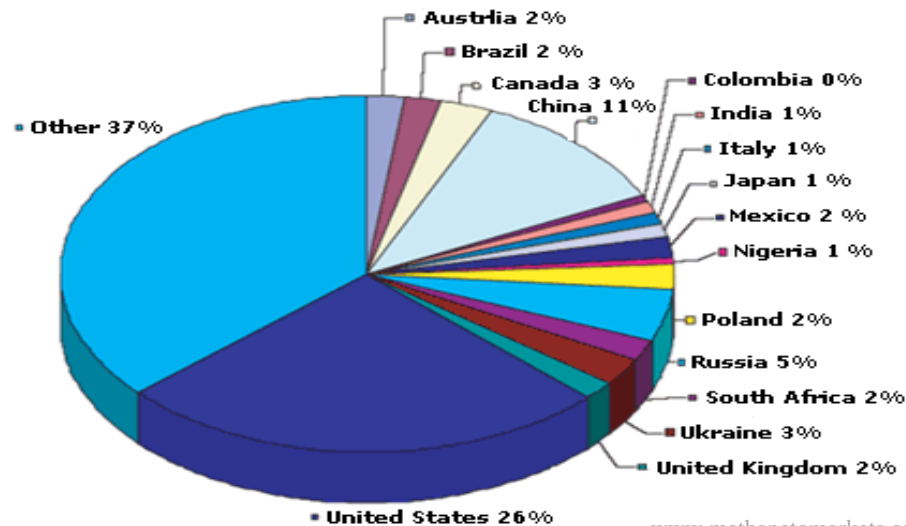
Benefits

- Reduces emissions of methane, which is a potent greenhouse gas.
- Reduces the need to use non-renewable resources such as coal, oil, or natural gas
- Offsets emissions of carbon dioxide (CO2) and pollutants such as sulfur dioxide particulate matter, nitrogen oxides, and trace hazardous air pollutants.

Drawbacks

- Landfills only generate sufficient volumes of methane during a portion of their life
- Not all landfills are potential sites for methane recovery
- Landfill gas electricity is more expensive to generate than common sources like coal.

The graph below is a representation of the global landfill methane emissions by country for the year 2000.



www.methanetomarkets.org

DataChem Service Survey

Thanks to all who provided feedback through our DataChem service survey. You should have received an email summarizing all the results. Ten percent of the entries were randomly chosen to receive a \$50 gift certificate to Hammacher Schlemmer. All winners have been notified. If you would like to see a copy of the survey results please email me at bachtell@datachem.com

Upcoming Tradeshows, Conferences and Course Training

- [SAME Joint Engineering Education and Training Conference & Expo, May 1-4, 2007, Philadelphia, PA](#)
- [Methamphetamine History, Sampling and Analysis, May 23rd at DataChem](#) For more info. on this course email bachtell@datachem.com
- [AIHce 2007 Meth Lab Symposia, June 3, 2007, Philadelphia, PA](#)
- [AIHce 2007, June 4-6, 2007 Philadelphia, PA](#)—will you be attending this year? Visit us at www.datachem.com/gift.pdf to claim your free gift!

Do you have a topic you would like to see covered? Email me at bachtell@datachem.com.

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