Landfill Gas (LFG) is a biofuel that can be a reliable source of long-term, cost-effective energy. Active landfills not only produce gas now, but typically continue producing gas for 10 to 20 years after closure. Recovered LFG can be used as a fuel for on-site engine generators (gensets) that produce electricity at the landfill—with or without waste heat recovery. It can then be sold to the local utility or other electricity consumers.

LFG can be piped to a nearby facility and used as a supplemental fuel for boilers or for other energy needs. It can also be converted to vehicle fuel, such as compressed landfill gas (CLG) or liquefied natural gas (LNG).

TRC provides many of the services required to develop and bring online fully functional LFG collection and LFGTE systems. Our proven experience includes landfill gas management services for numerous clients for more than 30 years. TRC’s projects for municipalities and large landfill companies have been associated with electrical generators powered by large reciprocating engines, as well as small microturbines. We leverage our extensive electrical engineering experience on renewable energy projects to assist with interconnect considerations associated with the local power utility, as well as deal with any upgrades that may be required for the local transmission line.

TRC has relationships with other companies to complement our extensive landfill design, permitting, and construction experience. One of these companies designs, manufactures, constructs, owns, and operates distributed energy systems. Another company provides carbon trading expertise.

In addition to generating a renewable energy source, capturing LFG in a landfill gas-to-energy (LFGTE) system provides the additional benefit of destroying methane—a greenhouse gas that is 21 times more potent than carbon dioxide.
Financing

A developer is sometimes brought in to help finance an LFGTE project, and in return, keeps a percentage of the revenue the system generates. The developer typically pays 100 percent of the costs associated with the design, permitting, construction, and operation of the LFG extraction system. The developer also helps to negotiate electric buyback rates or industrial purchase prices, and navigates the various credits and incentives available to the LFGTE project.

About TRC

A pioneer in groundbreaking scientific and engineering developments since the 1960s, TRC is a national engineering, consulting and construction management firm providing integrated services to the power, oil and gas, environmental and infrastructure markets. We serve a broad range of clients in government and industry, implementing complex projects from initial concept to operations. TRC delivers results that enable clients to achieve success in a complex and changing world.

TRC includes over 4,000 technical professionals and support personnel in more than 120 offices throughout the U.S. Our clients depend on TRC’s multidisciplinary teams to design solutions to their toughest business challenges.

Potential Benefits of LFGTE System

- **Sale of electricity to utilities**: LFGTE systems can have reasonable payback periods. Electricity buy-back rates can range from 3 to 10 cents per kilowatt-hour (kWh).
- **Premium pricing**: A state’s green power program may determine premium pricing for renewable electricity through a Renewable Portfolio Standard (RPS).
- **Tax credits**: A federal incentive pays a credit per kWh for renewable energy projects. County governments may not be eligible to monetize these credits without the involvement of a private third-party developer.
- **Greenhouse gas (GHG) credits**: Brokers look to purchase and “aggregate” credits from projects for sale to buyers.

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