

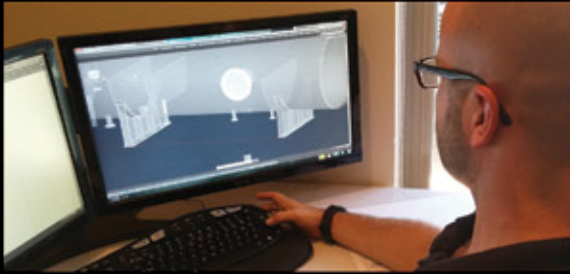


10818 W County Rd. 72 • Midland, TX 79707
P.O. Box 61447 • Midland, TX 79711
PH. (432) 563-0447 FX. (432) 463-0468

www.MorrowRenewables.com



TRANSFORMING BIOGAS FROM
LIABILITY TO RENEWABLE FUEL.

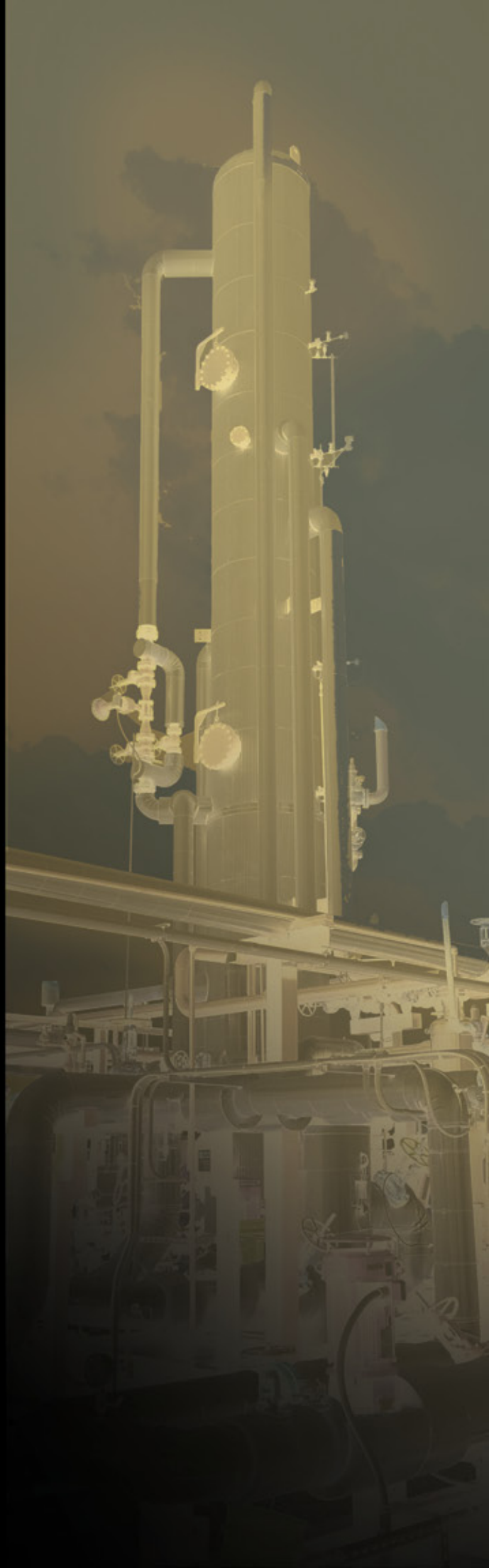


Landfill Developers
Advanced Waste to Energy Systems
Custom Engineering
Custom Fabrication
Construction & Operation
Equipment Supply
Plant Sales

www.MorrowRenewables.com

(432) 563-0447

In affiliation with MORROW
ENERGY





Morrow Renewables
Executive Team - *from left*

- Luke Morrow, *president*
- Paul Morrow, P.E. *vice-president*
- David Morrow, P.E. *senior consultant*

"Morrow Renewables is manifesting a business philosophy that heralds personal character and integrity, putting people first whether customer, partner or employee. This requires a very holistic approach to each individual relationship and/or project. Our relationships, as well as the work we produce and the ways we produce that work, are the 'bricks' in our business structure - and they are hardened with an unwavering commitment to excellence and integrity on all levels."

A wide-angle photograph of an industrial landfill gas processing facility. The scene is dominated by several tall, vertical stainless steel towers and a complex network of pipes and walkways. In the foreground, there are several large, rectangular metal units, possibly scrubbers or compressors. The facility is situated in an open area with a dirt road and some greenery in the background under a clear blue sky.

High BTU LFG: The Future of Landfill Methane Applications

Methane (CH₄) is a greenhouse gas with a lifetime of 12 years in our atmosphere, and 21 times the global warming potential of carbon dioxide (CO₂). Forty percent of methane emissions in our atmosphere originate from natural sources such as wetlands, oceans, and hydrates. Human activity, alarmingly, accounts for the remaining sixty percent of the world's methane production, and the majority of human-induced methane can all be traced to one target area: landfills.

Morrow Renewables captures landfill gas (LFG) through existing or planned LFG gathering systems and is able to treat the gas with a cutting edge system that removes and destroys all volatile organic compounds (VOCs), heavy hydrocarbons, and hydrogen sulfide, while removing carbon dioxide to make a pipeline quality saleable gas product consisting of mostly methane. Depending on the size of the landfill and gas production, Morrow Renewables can often install and operate a system with no upfront cost to the landfill, while providing attractive royalties on gas sales.

Morrow Renewables provides an integrated, end-to-end landfill gas-to-energy (LFGTE) solution to the municipal solid waste (MSW) and digester sector. Working with landfill or digester owners, operators and waste management companies, Morrow Renewables finances, engineers, develops, permits, installs, markets renewable products, and operates projects that capture and process vented and fugitive methane to generate new revenue streams and reduce compliance risk for landfill partners.

Morrow Renewables is staffed by professionals with years of experience in waste-to-energy and gas markets around the world. Morrow Energy has extensive experience in designing, manufacturing and implementing gas treatment plants and operations from top to bottom. If you are interested in developing the most profitable long-term revenue stream from your landfill gas with a partner you can rely on, contact Morrow Renewables today. Let us help you determine if high BTU gas production is your best solution.



Natural Gas Treatment with an Eye on the Future

Morrow Renewables, formerly SouthTex Renewables, has established a reputation as one of the top firms in America for design, construction, start up, and operation of high BTU landfill gas plants. Morrow Renewables has over 12 years' experience in LFG gathering, compression, treating, and marketing, as well as CNG refueling and NSPS compliance assistance. The company also holds a patent on carbon dioxide stripping of pre-treat solvent for landfill gas applications, as well as two patents pending for deeper stripping of solvent to achieve higher methane purity in sales gas.

Adopting the Waste-To-Energy Model

Morrow Renewables, formerly SouthTex Renewables, began as an offshoot of SouthTex Treaters, a leading American manufacturer, supplier and mid-stream operator of natural gas processing plants and equipment. Since its inception in 1986, the company's ownership has held a strong desire to exhibit environmental stewardship in all of its activities, contributing innovations in gas processing technology to this end. It was not long before this desire found a natural home in biogas and LFG recovery and treatment.

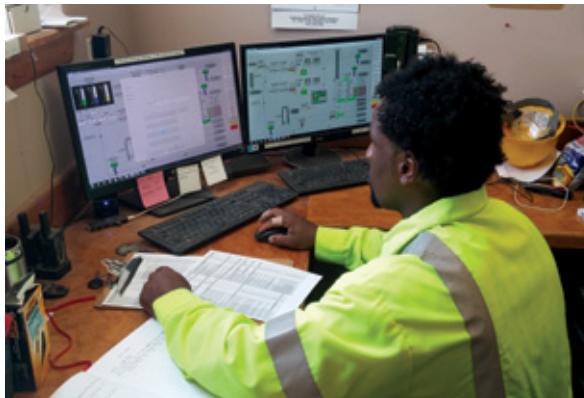
Says Luke Morrow, managing director of Morrow Renewables, "We realized very early on that, with some engineering modifications, SouthTex Treaters was uniquely equipped to meet a growing demand for renewable energy sources – by applying existing gas treatment technology to convert recovered landfill gas (LFG) to high-BTU pipeline-ready gas."

SouthTex Renewables was born in 2000 to service the rapidly growing waste to energy industry. After years of pioneering growth, the company became Morrow Renewables in 2011 with the sale of its parent company SouthTex Treaters. Now the Morrow family deliberately focuses their substantial resources and experience in natural gas and biogas treatment and processing almost exclusively on the renewable energy sector.

Company Culture: Innovation, Integrity & Sustainability

According to Luke Morrow, "What Morrow Renewables does is more than natural gas treatment, and even more than converting waste to energy. The recovery of landfill gas that would otherwise have escaped not only enables a new revenue stream, but has a significant impact on eradicating pollution and purifying the air we breathe. At Morrow Renewables, we feel strongly that sustainability of the earth's natural resources should be the driving factor behind ethical global commerce."

Privately owned and financed by David, Paul and Luke Morrow of Midland, Morrow Renewables has kept the



company mission and objectives undivided by outside interests. According to Paul Morrow, managing director Morrow Renewables, "The continuity of ownership, leadership and experience at Morrow Renewables has helped us to create a culture of ethics, teamwork and personal excellence that shows in everything we produce. Our operations have very little turnover, with employees and customers alike, and an environment of innovation that has already led to some new patented technologies."

The first cow manure-to-pipeline gas plant of its kind in the world was designed and built by Morrow Renewables' predecessor, SouthTex Renewables, in 2006. The company has developed the use of landfill plant service vehicles powered by compressed natural gas (CNG), holds a patent on carbon dioxide (CO2) stripping of pre-treat solvent, and a patent for deeper stripping of solvent to achieve higher methane purity in sales gas.

Landfill Gas (LFG) Operation

Landfills are large areas of decomposing waste, and they produce alarming amounts of certain greenhouse gases, commonly referred to as landfill gas (LFG), every year. LFG is produced when microorganisms break down organic material in a landfill. When left uncollected, these gases are devastating to the environment, climate, and earth as a whole, contributing to atmospheric smog and ozone depletion.

Untreated LFG is composed of approximately 50-60 percent methane (a byproduct of anaerobic decomposition) and 40-50 percent carbon dioxide. At most landfills in the United States, a portion of these greenhouse gases seep back into our environment, while the greater portion is extracted from landfills by drilling wells, and then using a blower or vacuum system to route this gas into a central gas-collecting station. LFG is then burned off, or “flared”, in order to meet strict requirements imposed by the EPA. For landfill owners, this flaring requirement demands capital outlay for some type of collection and flaring system, while providing absolutely no return on investment once LFG is eliminated.

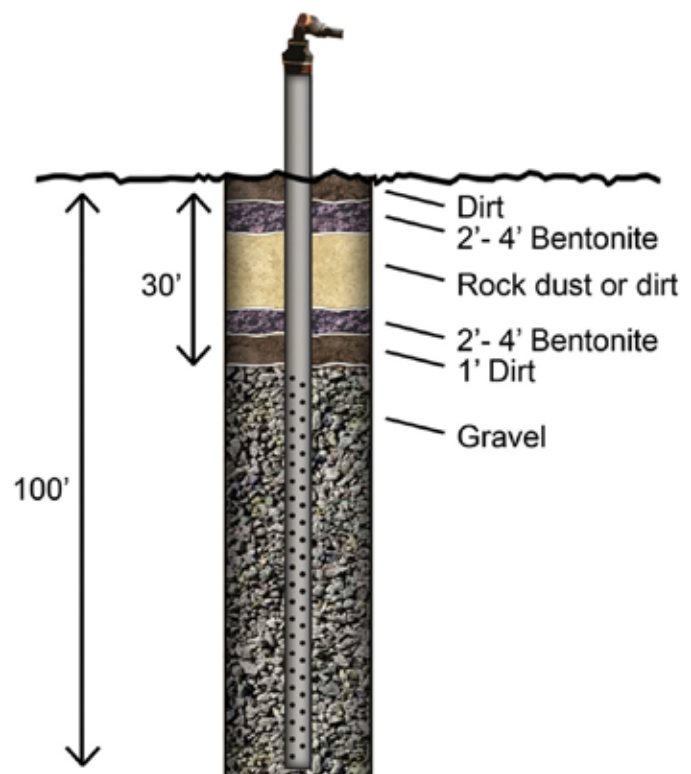
If LFG is properly treated after being gathered, then LFG can be repurposed to become a profitable, long-term renewable source of energy. After it is treated to high BTU specifications, LFG consists of about 95% methane, 4% nitrogen, and 1% carbon dioxide. All contaminants and VOCs have been removed. From there, the gas can be sold into a natural gas pipeline, offsetting the world's shrinking fossil fuel reserves in gas pipelines all over the world, and helping to eliminate the environmental consequences of solid waste decomposition.

Morrow Renewables, formerly SouthTex Renewables, is a leader in U.S. landfill waste-to-energy projects. With over 12 years in renewables, and over 20 years' experience as a major natural gas processing plant manufacturer and midstream operator, Morrow Renewables is continuously targeting opportunities to develop projects for processing LFG to pipeline-grade natural gas. Morrow Renewables is capable of providing a complete solution to recover valuable methane gas for delivery into a nearby natural gas pipeline or for the production of compressed natural gas (CNG), creating numerous benefits for the landfill owner and the surrounding community.

Morrow Renewables will work with you to determine if your landfill is a candidate for a LFG to high BTU gas facility, and can provide complete services for an all-inclusive turnkey renewable energy solution.



Typical Landfill Gas Collection Well



Current Plant Operations

Greenwood Farms Landfill

Tyler, Texas

The Greenwood Farms (City of Tyler) Landfill in Tyler, Texas is home to a high BTU LFG modified physical solvent plant, constructed by Morrow Renewables in 2009. The plant is designed to treat 3.6 MMSCFD of raw landfill gas, with an initial flow rate of 1.5 MMSCFD (1050 scfm). Morrow Renewables retrofitted the existing perimeter system into a complete gathering system by adding headers and approximately 85 wells. Morrow Renewables also installed a CNG refueling station onsite in 2010. Morrow Renewables is voluntarily minimizing the negative impacts of greenhouse gases at this non-NSPS site.



JDP Landfill

Jefferson Davis Parish, Louisiana

Morrow Renewables completed this high BTU LFG modified physical solvent plant on the Jefferson Davis Parish Landfill in March 2008. Morrow Renewables began treating approximately 1.15 MMSCFD (800 scfm), and has since increased volumes to 2.6 MMSCFD (1800 scfm) with the installation of new wells and the re-drilling of old ones. Morrow Renewables works closely with the landfill owner and operator to provide required documentation and information crucial for NSPS compliance.

City of Fort Smith Landfill

Fort Smith, Arkansas

Morrow Renewables designed, manufactured and constructed a high BTU LFG modified physical solvent plant for the City of Fort Smith Landfill in May 2005, and has since operated the project with a runtime efficiency over 98 percent. The Fort Smith plant was initially designed to handle 3.6 MMSCFD, and with simple modifications will be able to treat much more raw LFG as the landfill grows. The Fort Smith facility is currently treating approximately 2.6 MMSCFD (1800 scfm) of landfill gas, with growth expected over the 70-year life of the project.



“The EPA has spoken, and high Btu landfill gas is to be a crucial part of the country’s ongoing renewable energy mix. As an industry we must lead the way in creating and sustaining a market for our renewable resource that is stable, transparent, and comprehensive so that more projects may be built to fit the growing demand for renewable energy.”

LUKE MORROW
President



Turkey Creek Landfill

Alvarado, Texas

This Morrow Renewables' landfill gas to energy (high BTU) project is south of Ft. Worth, Texas at the Turkey Creek Landfill, owned and operated by IESI. The plant is designed to treat up to 4 MMSCFD of raw landfill gas, with initial flows of 2 MMSCFD of raw landfill gas. The pipeline quality biogas is being purchased by Shell Trading for the California RPS market. Morrow Renewables is using a modified physical solvent process with patented enhancements along with catalytic oxygen removal for the treating. Morrow has added and is operating 128 wells, and has re-directed the flow in the gathering system along with new headers to accommodate future flows from the landfill.

Fort Bend Landfill

Needville, Texas

Morrow Renewables' sixth landfill gas to high btu project was commissioned in June of 2013 on the Ft. Bend Landfill near Needville, Texas just outside of Houston. Morrow is currently treating approximately 2,000 scfm of landfill gas, which is being used by GHI Energy in the transportation fuel markets. In the Ft. Bend facility, Morrow is removing trace components, sulfur compounds, carbon dioxide, oxygen, and water vapor to meet the stringent pipeline specifications of Energy Transfer. The treatment facility is designed for 3,500 scfm, and will be expanded as needed to accommodate the increasing gas volumes. The Fort Bend project is a partnership between Morrow Renewables and Enerdyne Power Systems.



City of Edinburg Landfill

Edinburg, Texas

Morrow Renewables' seventh landfill gas to high BTU project is on the City of Edinburg Landfill in Edinburg, Texas. Morrow is partnering with Shell Energy to utilize the treated LFG in the transportation fuel markets. In the Edinburg facility, Morrow is removing trace components, sulfur compounds, carbon dioxide, oxygen, and water vapor to meet the stringent pipeline specifications of the Enterprise Pipeline system. The treatment facility is designed for 3,000 scfm, and will be expanded as needed to accommodate the increasing gas volumes. The landfill gas gathering system is maintained and operated by Morrow and is currently comprised of 72 vertical collection wells including an approx. 12,000ft of 18 inch header tying the gathering system to the treatment facility. The landfill is owned and operated by the City of Edinburg and receives over 2,500 tons per day of MSW from the Rio Grande Valley area.

At Morrow Renewables, LLC, there's nothing new about renewables.

For over fifteen years we have been building, installing, operating, and reliably moving high BTU product from our facilities into high BTU pipelines both domestic and international. No surprises here – we know the ropes from extensive experience. In fact, Morrow is the only biogas capture and treatment company that manufactures ASME code facilities in house, has patented reliable processing methods, has a proven installation record, delivers excellence on time, and both sells and operates our high-efficiency designs.

Morrow Renewables is an industry pioneer and has refined biogas treatment plant production and operating processes to a cutting edge industry solution. Depending on the size of the project and gas production, Morrow can often install and operate a system with no upfront cost to the landfill, while providing an attractive royalty on gas sales. We also sell the equipment we operate to biogas project developers, and offer a full range of services from FOB sale to complete operation.

Why LFG to Pipeline?

Instead of maintaining the equipment and operation of flaring LFG away to nothing, there are a few different procedures that make it possible to harness the energy potential of LFG for profit – and these represent areas of investment and increased returns for municipalities and landfill owners. Not every procedure is the most suitable for every landfill, but each procedure does involve cleaning or conditioning the gas to some degree, depending on the final application and its required gas composition.

While there are many different applications for treated LFG, there are three primary methods for utilizing landfill gas: electric power generation, the development of medium-BTU industrial fuels, and injection of high-BTU gas into utility company pipelines.

At Morrow Renewables, we believe the LFG-to-pipeline production model is usually the best all-around solution for landfills managing a quarter million tons of waste or more each year, particularly those in areas where the difference between the cost of fuel to produce electricity and the price of that same unit of electricity (known as the “spark spread”) is considered low. A high BTU gas project may be more viable in these areas where a power plant would not.

Generally speaking, a high BTU gas project offers many distinct advantages over an on-site electric generation project. These include:

- Shorter development time, allowing for earlier payment of royalties. Morrow Renewables can build a facility within 9 months of a notice to proceed, compared to over 2 years for a power project.
- Delivering the gas into a nearby pipeline for distribution so that electric generation can be maximized off-site, utilizing a high efficiency combined cycle power plant.
- Lower noise levels and emissions than an electric generation plant, thereby creating greater community support.
- Less permit requirements due to negligible air emissions.
- Processed gas can be transported to higher priced REC markets in most cases, offering much better economics to the landfill owner.



LFG-to-Electricity

Initially, nearly all LFG facilities were designed to produce high-BTU pipeline quality gas for injection into natural gas supply and distribution lines. Soon, plants were also being built to produce medium-BTU gas for use as an industrial fuel, but it was not until the early 1980's that LFG began to be used for the on-site generation of electricity.

While the LFG-to-electricity production model has become a popular solution for landfill waste-to-energy projects, it has proven to be a much less dynamic alternative for landfills with over a quarter million tons of waste each year, particularly those geographically situated in a way that limits direct-use energy partnerships, or landfills in an area where the purchase price of electricity is very low.

Contributing to the popularity of electricity generation as a renewables solution, there is relatively little processing, engineering or operations experience required to make collected LFG ready as fuel for powering the turbines that eventually produce electricity. While this usually means less up-front investment, it also means greater amounts of diesel and carbon emissions during operation. This is a less ecologically-sound solution, and often requires additional ongoing costs related to maintenance and equipment repair that are difficult to anticipate up front. Neither can this operating model easily or inexpensively tap into any other energy modalities, such as compressed natural gas (CNG) or industrial fuels.

Nevertheless, because it takes time for trash to decompose and produce gas, the electricity generation model often makes more sense for smaller landfills, since it requires less gas and less processing to run a power plant.

LFG-to-Medium BTU

The processing required to produce medium-BTU gas (industrial fuels) from LFG is relatively minimal. It may consist of as little as selling the gas in its raw form, up to the removal of moisture by either dehydration or mechanical means, on up to the removal of heavier trace hydrocarbons and contaminants. The final product usually finds a use as fuel for furnaces, boilers or other large burner-tip applications.

LFG-to-Pipeline (high BTU)

Raw landfill gas is 56% methane, 42% carbon dioxide, and 2% nitrogen and other constituents. Morrow



Renewables first compresses this raw landfill gas, and a majority of the sulfur compounds are removed by scavenger. The carbon dioxide component is then reduced to below 1% and the resulting product is sold into the commercial pipeline providing a royalty revenue stream for the landfill operator.

The production of high-BTU pipeline quality gas from LFG requires extensive processing to remove all moisture, trace components, and carbon dioxide from the raw LFG. This results in virtually pure methane with a heating value of near 1000 BTU per standard cubic foot (BTU/scf). This is roughly equivalent to the energy content of natural gas, which is 95% methane, and has a typical heating value of approximately 1020 BTU/scf due to the presence of other higher hydrocarbons. LFG product gas must meet strict quality standards before it may be injected into utility company pipelines for mixing with natural gas, and distributed and sold to gas customers.

Additionally, this high BTU product may be compressed to levels approximately 3,000 psi and is then referred to as CNG. This form of fuel is extremely economical, and some sanitation districts and landfill owners have found CNG-fueled vehicle fleets a significant source of cost-containment. CNG can also be used to power landfill plants themselves. Congress is currently considering legislation to offer tax credits to automobile manufacturers who produce vehicles capable of utilizing CNG.

CNG and medium-BTU industrial fuels represent two additional, non-pipeline restricted markets or revenue sources available to LFG-to-pipeline landfills, with only minimal variations on the existing plant infrastructure. As alternative CNG and industrial fuel distribution channels and markets are developed, so are additional revenue streams for landfill owners who have found LFG-to-pipeline the most appropriate production model.



Morrow LFG Treatment Services

Morrow Renewables does more than engineer, manufacture and construct high-BTU LFG treatment plants – they operate them. Fact is, the processing required to produce pipeline quality gas from LFG is a highly specialized field that requires the experience and knowledge of a trained chemical process engineer. A process engineer must also have additional specific experience working with the peculiarities of LFG, since so many manufactured hydrocarbons and chemicals are present in the gas (i.e. paint thinners, lubricants, aerosols, etc.), which would not be found in a traditional natural gas stream.

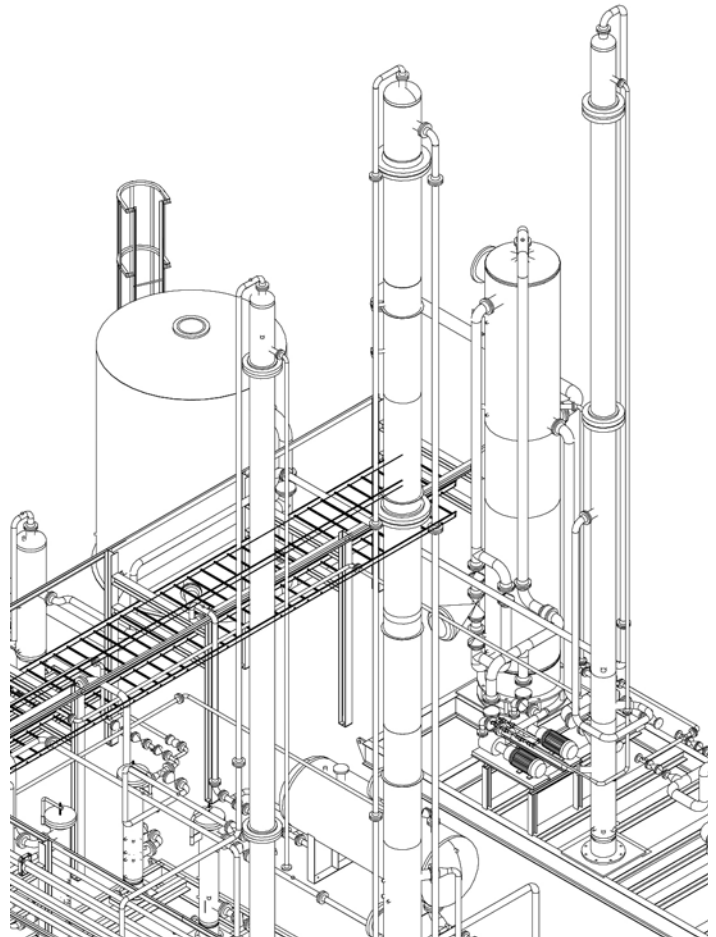
For reasons of safety, efficiency, and cost control, Morrow Renewables always operates the high BTU LFG plants it sells. Morrow has operated plants with 97 percent or better run times over a five year period, and offers the fastest time-to-operation in the business. It is precisely because of Morrow Renewables' vertical integration and operational command that the company is able to help negotiate some of the most dynamic deal structures in the industry.

Morrow Renewables has full manufacturing capabilities for custom fabrication of high BTU LFG treatment facilities. Our state-of-the-art production facility handles a wide range of chemical and processing plant components. We are experienced with a wide range of international mechanical, piping, and structural codes and standards used in the gas processing industry, and adhere to a rigorous in-house quality control policy. All of our equipment is inspected routinely to ensure safety and the utmost quality. Our products are manufactured to meet the standards set by the American Society of Mechanical Engineers (ASME) and the National Board of Boiler and Pressure Vessel Inspectors (NBBI).

Landfill Owner Assistance

With Morrow Renewables, you do not bear the full brunt of expenses associated with building, owning or operating an LFG treatment facility. Less operating capital is needed since Morrow Renewables takes full responsibility for the permitting and construction, maintenance and operations, and decommissioning of the plant.

Morrow Renewables has over 20 years of gas processing plant operating experience, and wants to partner with you in turning your local landfill into a profitable and resourceful community asset. Morrow Renewables is uniquely qualified for landfill gas treating



and associated project development. If you qualify, Morrow Renewables will walk beside you throughout your renewables project providing:

Financial Strength – Morrow Renewables the resources to help finance all viable projects.

Resources – Morrow Renewables has all engineering, drafting and operations support in house, as well as some existing inventory of process vessels.

Technical Expertise – Over the past eleven years Morrow Renewables has built and operated five separate physical solvent plant facilities for landfill gas treating.

Innovation – Morrow Renewables is leading the way in LFG gathering and treatment – the company holds a patent on carbon dioxide (CO₂) stripping of pre-treat solvent, and two patents pending for deeper regeneration of process solvent.



If you would like to develop the most profitable long-term revenue stream from your landfill gas with a partner you can rely on, make Morrow Renewables your first call.

Let us help you determine if high BTU gas production is your best solution.

Call us today at:

432.563.0447