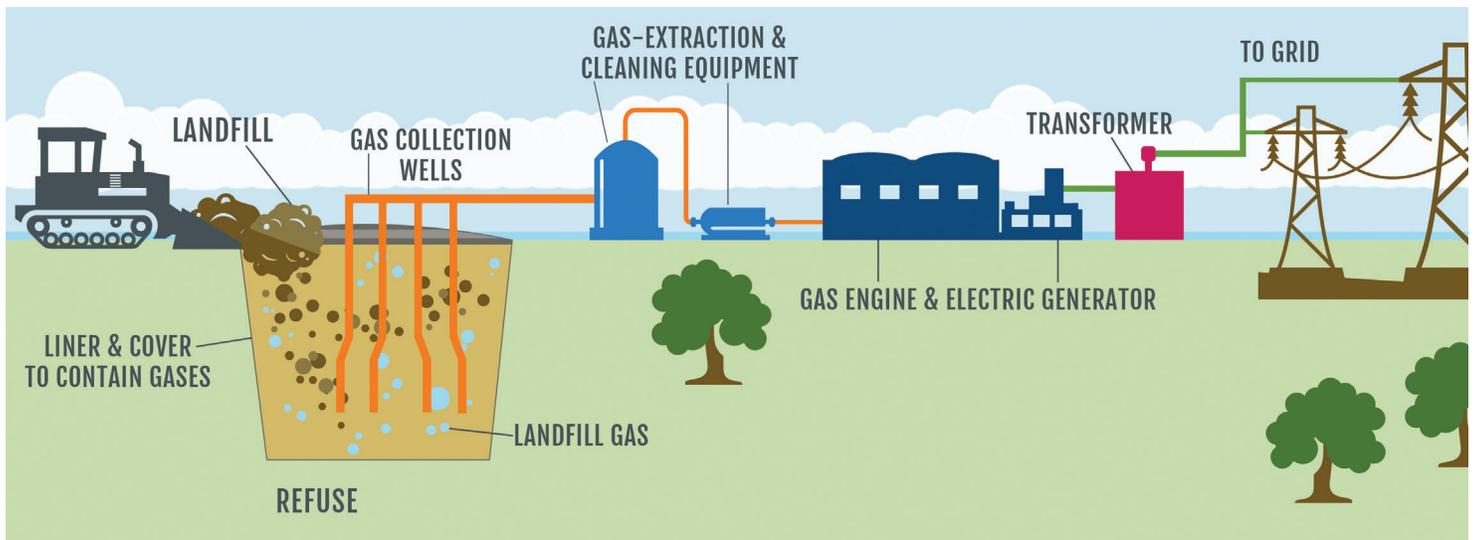


LANDFILL GAS-TO-ENERGY

TURNING WASTE INTO ENERGY

Advanced Disposal is committed to safely disposing of waste in a way that preserves the environment for future generations. One sustainable solution is our Municipal Solid Waste (MSW) landfill gas-to-energy systems.



ENGINEERING MARVELS

Advanced Disposal's landfills are impressive engineering structures that offer proven protection to the natural environment while providing a vital service to governments, businesses and residents. They are managed and operated meticulously, providing a safe and cost-effective disposal option for community waste.

ENERGY CONSERVERS

Landfill gas collection systems are how modern landfills deal with gases created when waste breaks down and decomposes. The landfill gas that is collected contains approximately 50% methane and is either destroyed by combusting it in a flare or is diverted to an on-site treatment facility for the conversion of this gas-to-energy. The conversion of landfill gas-to-energy is an effective means of recycling and reusing this valuable resource.

Here's how the process to convert this valuable resource to energy works: as landfill cells are filled with waste, methane gas, a byproduct of any decomposing material, is collected from within the waste through a system of vertical wells and pipelines and directed to a separate on-site treatment facility. The treated landfill gas is either pumped off site to a manufacturer near the landfill to supplement or replace their natural gas usage or is used to generate electricity right at the landfill that is delivered to the electrical grid, powering homes and businesses both near and far.

SMART ENERGY SOLUTION

The U.S. Environmental Protection Agency (EPA) has endorsed landfill gas as an environmentally friendly energy resource that reduces our reliance on fossil fuels, such as coal and oil.



OVERVIEW



Communities **REALIZE ECONOMIC BENEFITS** from landfill gas projects as they generate revenue from the sale of the gas, create jobs associated with design, construction and operation of the system.



Businesses are realizing **COST SAVINGS** associated with using landfill gas as a replacement for more expensive fossil fuels such as natural gas



The average home uses **30.3 KILOWATT HOURS** of energy per day



A landfill gas project **CAPTURES BETWEEN 60 AND 90%** of methane emitted from a landfill



LANDFILL GAS can be used directly in a boiler, dryer, kiln, greenhouse or other thermal application

APPROXIMATELY

47%

of Advanced Disposal's Municipal Solid Waste landfills have **GAS-TO-ENERGY PROJECTS**

CURRENT LANDFILL GAS-TO-ENERGY PROJECTS



Cranberry Creek Landfill delivers **1,000 CUBIC FEET PER MINUTE (CFM) OF LANDFILL GAS** to Ocean Spray in Wisconsin Rapids, Wisconsin, via a one-mile pipeline, which is used to fuel boilers in their cranberry juice production plant.

Mostoller Landfill in Somerset, Pennsylvania, currently delivers **1,550 CUBIC FEET PER MINUTE (CFM) OF LANDFILL GAS** to Somerset Correctional Institute about 3.5 miles away to power the prison's Cat engines, solar turbine and onsite boiler providing heat and hot water.



Star Ridge Landfill in Moody, Alabama, delivers approximately **900 CFM** of landfill gas via a 6.5-mile pipeline to Acme Brick, which utilizes the gas as a fuel for their kiln to manufacture brick.



Hickory Meadows Landfill in Hilbert, Wisconsin, has a **4,800 KILOWATT** electrical generation plant that puts power out to the local electric grid – powering homes or businesses in the neighborhood or transmitted via power lines all over the region.

Seven Mile Creek Landfill in Eau Claire, Wisconsin, has a **4,000 KILOWATT** electrical generation plant that puts power out to the local electric grid.

Zion Landfill in Zion, Illinois, has a **6,750 KILOWATT** electrical generation plant that puts power out to the local electric grid.



Emerald Park Landfill delivers **1,500 CFM OF LANDFILL GAS** to Milwaukee, Wisconsin, Metropolitan Sewage District via a 17-mile pipeline to power its turbines.



Orchard Hills Landfill in Davis Junction, Illinois, has a **16,200 KILOWATT** electrical generation plant under construction with anticipated online date in mid-2016.

BLACKFOOT LANDFILL supplies nearly 28% of electricity to Pike County, Indiana residents powering **1,357** homes.



City of Baton Rouge, Louisiana, North Landfill delivers approximately **2,000 CFM** of landfill gas via a 5-mile pipeline to ExxonMobile and BASF, which both use the landfill gas to fuel boilers in their chemical plants. Advanced Disposal operates the gas-to-energy facility but not the landfill.



Greentree Landfill in Kersey, Pennsylvania, has a high BTU gas cleaning plant onsite treating about **6,500 CUBIC FEET PER MINUTE OF LANDFILL GAS**. After the cleaning process, about half of the landfill gas is sent down a 6.5-mile pipeline to a compressor station where it is tied into the National Fuel Interstate pipeline where it is sold as Green Power to power plants.



Advanced Disposal