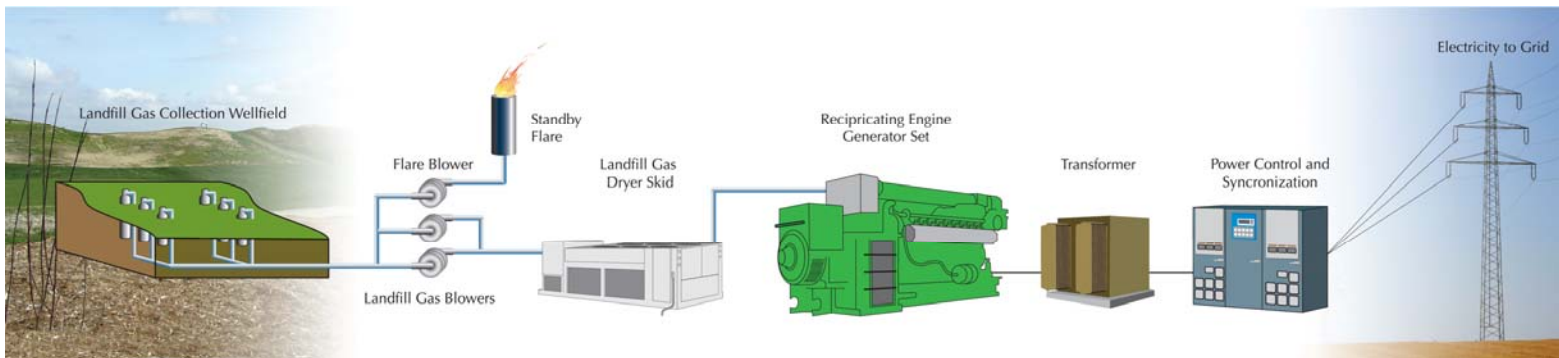




The Process of Landfill Gas to Energy

Landfill gas is collected through a series of vertical or horizontal wells drilled into the landfill. The wells are constructed of plastic pipe, perforated at depth, similar to a water well. The pipe extends to the surface as solid pipe and is connected to a valve, to control flow, and a flexible connection to gathering pipes, to accommodate differential settlement in the landfill surface. The gathering pipes are typically buried at least one metre below the surface. The gathering pipes come together in a main header pipe that terminates at the gas plant.

The gas is collected in the pipe system by exerting a vacuum in the wells using a blower or compressor. This device sucks the gas out from around the wells and brings it to the plant, compressing it to a pressure appropriate for the fuel user. Just prior to injecting the gas into the mover, typically a boiler, engine or turbine, the gas is cooled to the dew point to allow the quantities of moisture, typical of landfill gas, to condense out of the gas. The gas is filtered and then reheated.



The gas is then fed into the engine as the fuel for the device. The engine is connected to a generator which is turned by the engine. The generator creates electricity current that is directed to a transformer, to step up the voltage, and then through power control and synchronization equipment, that protects the generator as well as the electrical grid, until the electricity is fed to the electrical grid.



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