

LV Landfill Methane Gas Powerplant Planned

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Like [Rumpelstiltskin](#), [Republic Services](#) is turning trash into renewable energy gold. The Phoenix-based disposal company recently announced plans to build a \$35 million methane gas powered plant atop the [Apex landfill](#) about 19 miles northeast of Las Vegas. The 2,200-acre Apex waste repository is the country's largest landfill, with the capacity to safely store Southern Nevada's discarded debris for next 200 years.

Republic has tapped [Energenic](#) to design, build, maintain and operate the 11-MW power plant. Energenic is a joint-venture between Mays Landing, N.J.-based [DCO Energy LLC](#) and [Marina Energy LLC](#), a unit of Folsom, N.J.-based [South Jersey Industries](#). The project already has a 20-year deal with [NV Energy](#) to purchase the plant's power. The initial electrical purchase price will be \$0.09-per-kWh and will gradually ramp-up to \$0.11-per-kWh by 2030.

The plant will generate roughly 96-million-kWh of electricity a year or enough power for 9,600 average households. NV Energy must get one-quarter of their electricity from renewable energy sources by 2025, as per a state mandate. The methane plant will connect to a new substation that links up to NV Energy's 12.5-kV electrical distribution system; it's the same system that currently powers the Apex operation.

The project will create 25 construction jobs, plus three permanent positions upon completion. The facility, on 1.5 acres, uses landfill gas to fuel two Solar Centaur 60 combustion turbines manufactured by [Solar Turbines](#), a subsidiary of [Caterpillar Inc.](#)

Methane gas will be drawn from 36 vertical and horizontal wells, up to 300-ft deep, that tie into a header system to treat sulfur content. Next, gas is filtered for moisture and particulates then compressed and injected into 5.5-MW air-cooled turbines that generate electricity. Emissions are treated by a selective catalytic reduction process that removes harmful nitrogen oxides from the exhaust plume.

The plant will capture 60% to 90% of the methane gas created by the landfill during its operational life. Apex stores nearly 50 million tons of rotting trash, with another 9,000 tons or so being added every day. Construction is expected to last about eight months, with commercial plant operation starting later this year.