

Gas Line Turbine Generates “Free” Electricity

If you have a natural gas well on your property, it could be used to provide all your electricity thanks to the new GeoVolt turbine.

Designed to run on lower volume gas flow, distributor Jill Vinecourt says the GeoVolt can also be powered by artesian wells, steam vents and even water flow from a municipal water tower.

“It needs only around 100 psi and about 200 cfm of volume to produce 10,000 kW of electricity per month,” says Vinecourt. “We have more than 70,000 natural gas wells in Ohio alone that could be producing electricity.”

The GeoVolt was designed and is manufactured by Kenneth Jackson, Holmes County, Ohio. It’s capable of producing up to 18,000 kW per month, running gas through a turbine to produce electricity before returning it to the gas line. “The turbine draws only about 10 percent of the pressure,” she says. “Natural gas entering the turbine at 100 psi would return to the line at 90 psi.”

While field testing is being completed, the unit is priced at \$25,000. Once testing is completed, Vinecourt estimates the price will increase to \$49,000. A smaller unit with a 10,000 kW per month output is under development and expected to be priced at \$25,000.

“GeoVolt generators qualify for renewable energy tax credits and can be depreciated in a year if used for a farm or business,” says Vinecourt. “We estimate a 3-year payback with energy production and tax credits.”

Vinecourt explains that natural gas comes out of wells under its own pressure and goes into gas lines to a compressor station.

She suggests people with natural gas wells



GeoVolt gas line turbine is designed to run on natural gas but can also be powered by artesian wells and steam vents.

on their property negotiate placement of a GeoVolt with the gas company. If new wells are proposed, negotiation can take place up front. In some cases, she says, landowners own the gas wells outright.

“Units aren’t difficult to install,” says Vinecourt. “They go on a cement pad like an air conditioning unit and are hardwired to a power line. The feeder pipe goes from the gas line to the GeoVolt and back to the gas line.”

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Homemade grate was made by welding up some 1-in. sq. tubing, then drilling 1/8-in. dia. holes into the tubing and adding an air hose fitting to one end.

Stove Grate Injects Air To Get Fire Going

“I have a boxwood stove in my garage that I lined with firebricks years ago. It was always a little slow getting a fire started with no grate. To solve the problem, I welded up a grate from scrap 1-in. sq. tubing. Then I drilled some 1/8-in. dia. holes into the tubing and added an air hose fitting to one end.

“To start the fire, I simply connect a nearby air compressor hose and open the valve enough to force some air under the fire. It doesn’t take long to get the fire going strong. Once the stove’s chimney pipe gets warm and it’s drawing nicely on its own, I disconnect the air hose and use the stove’s normal draft controls. The entire grate assembly lifts out easily for ash removal.” (Anonymous)



To start the fire, the operator connects an air compressor hose and opens the valve enough to force air under the fire.



Do-it-yourself kit lets you use guardrails to make bottomless feed bunks.

DIY Kit To Build Guardrail Feed Bunk

Steve’s Welding & Repair in Stickney, S. Dak., builds a variety of livestock feeders and other ag-related equipment. One of his most popular products is a do-it-yourself kit for guardrail feed bunks.

“Guardrail lasts forever, and a lot of farmers have it laying around or can easily buy it from local sources,” says owner Steve Pickart. He designed a way to use guardrails to make bottomless feed bunks.

“I sell the end pieces and a middle to work with 26-ft. guardrail,” says Pickart. He forms and bends the steel and drills 4 holes in each piece to line up with guardrail holes. The steel pieces are 38 in. at the bottom, 44 in. at the top and 2 ft. tall.

Cost is \$210 for the three pieces, which weigh about 200 lbs.

“We can ship by truck all over the U.S.,” Pickart says.



“Guardrail lasts forever, and you can easily buy it from local sources,” says inventor Steve Pickart.

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“It works good for doing landscaping work and for establishing lawns,” says Gerald Johnston, who built this 3-pt. mounted, pto-operated machine that doubles as a rototiller.

Home-Built Rock Rake Doubles As A Rototiller

Gerald Johnston wanted a small rock rake to do yard work. He ended up building a 3-pt. mounted, pto-operated machine that doubles as a rototiller.

“I used to own a company that manufactured field-size rock rakes. When I retired there was nothing on the market sized for small acreages, so I built this scaled-down version,” says Johnston. “It works good for doing landscaping work and for establishing lawns. I’ve used it on my own yard and to do work for neighbors. I pull it with a Yanmar 16 hp, 4-WD tractor.”

The machine is equipped with a 4-ft. long, 4-in. dia. steel drum equipped with 3 rows of 7-in. long fingers. The fingers are spaced 3 in. apart and measure 2 1/2 in. wide at the base, tapering down to 1 1/2 in. The rig is supported on back by a large gauge wheel that’s free to swivel on a home-built coupler.

There are a series of holes where the machine attaches to one of the 3-pt.’s lower

lift arms. By changing the position of a pin, Johnston can set the drum at an angle and use the unit as a rock rake. To use it as a rototiller, he positions it straight across the drum perpendicular to the tractor.

“Whether it’s used as a rototiller or a rock rake, it leaves the soil level for seeding grass. It digs about 4 in. deep. When I use it as a rock rake there won’t be any debris left on top of the soil,” says Johnston.

The rig’s pto shaft drives a right angle gearbox that connects to another shaft, which chain-drives the drum. The gearbox is protected by a clutch. “The clutch came from a hay conditioner, the gearbox from a potato harvester, and the gauge wheel is off a cultivator so the machine didn’t cost much to build,” notes Johnston.

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