

# Goodsprings Energy Recovery Station



**Location:** Goodsprings, Nevada (35 miles southwest of Las Vegas)

**Generating Capacity:** 5.0 Megawatts (Summer Peak)

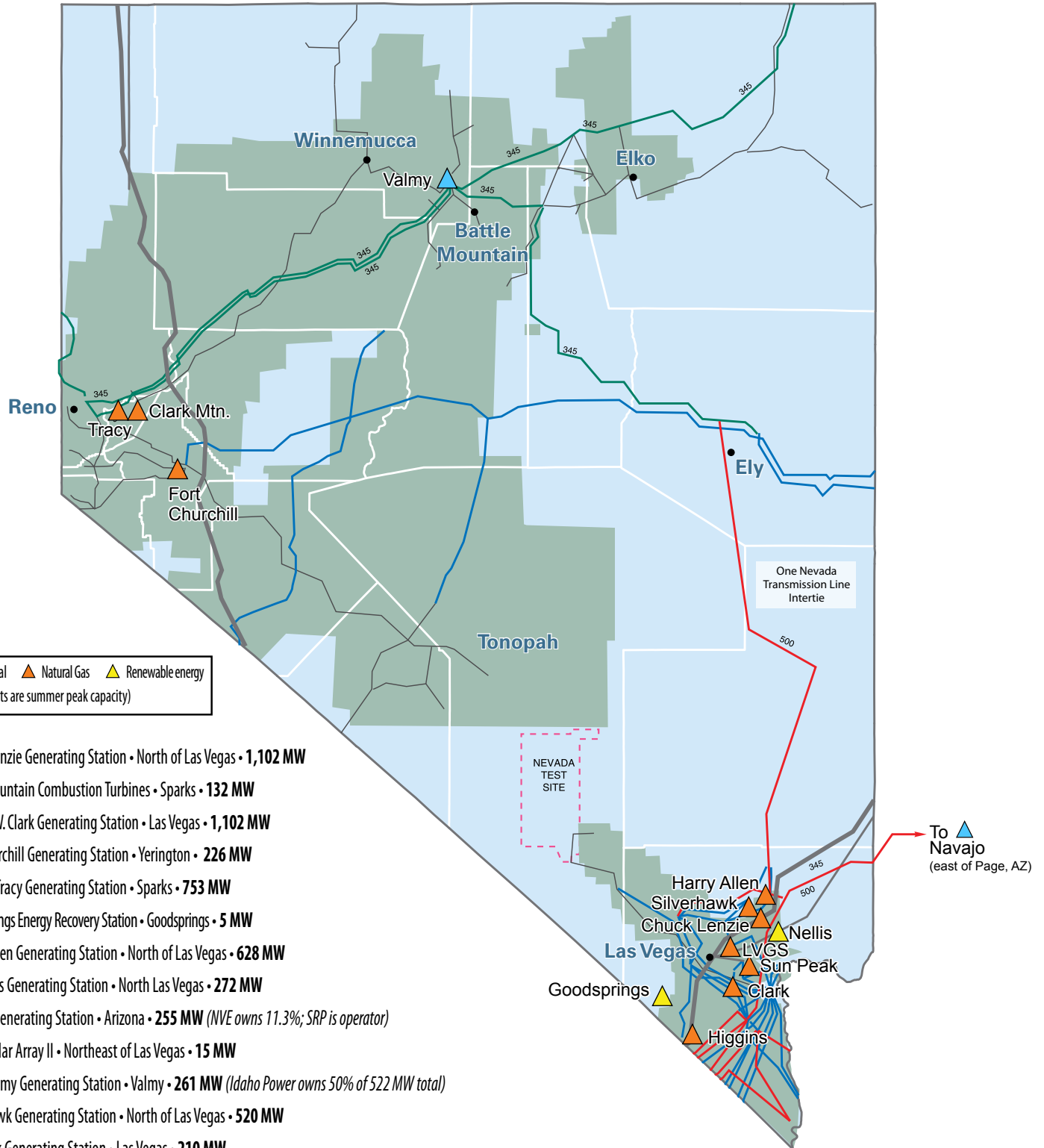
**Plant Description:** The Goodsprings Energy Recovery Station achieved commercial operation in 2010 and uses hot exhaust from a neighboring natural gas compressor station to generate electricity. The hot exhaust heats a thermal oil transfer fluid at the compressor station, which is then circulated to the Goodsprings power plant equipment and is utilized to vaporize an organic working fluid into a gas. The expansion force of this gas drives a small turbine generator to make electricity. This creative renewable energy approach to making use of such waste heat is the first in Nevada.

In the normal operation of the Kern River Gas Transmission Co. compressor station – which primarily is used to move natural gas through Nevada to California – some waste heat is released to the atmosphere. This thermal energy is captured and converted to electricity in much the same way that some geothermal energy power plants capture heat from hot water deep below the earth's surface. Because of its similarity to geothermal energy, Nevada-based Ormat Technologies was the technologies provider and constructed the facility.

## Interesting Information:

- Unlike some renewable energy that is extremely intermittent, the Goodsprings Waste Heat Recover Station can provide a more consistent 24/7 energy resource for customers when natural gas transportation needs are high.
- The plant can produce enough electricity to serve approximately 3,000 Nevada households.
- To preserve precious desert water, the Goodsprings Energy Recover Station uses a dry cooling system. After the hot gas is used to turn the turbine generator, 21 large fans that are 16 feet in diameter cool the gas back into a liquid state, saving millions of gallons of water each year.
- Maintenance and Operations staff at the nearby Walter M. Higgins Generating Station provide the necessary support to this renewable energy resource.
- This facility is the first non-solar renewable energy project in Southern Nevada.
- NV Energy annually provides approximately \$32 million in tax revenue to Clark County that benefits general county operations, schools, libraries, and other civic activities.

# Generating Resources



Key: ▲ Coal ▲ Natural Gas ▲ Renewable energy  
 (All megawatts are summer peak capacity)

- ▲ Chuck Lenzie Generating Station • North of Las Vegas • **1,102 MW**
- ▲ Clark Mountain Combustion Turbines • Sparks • **132 MW**
- ▲ Edward W. Clark Generating Station • Las Vegas • **1,102 MW**
- ▲ Fort Churchill Generating Station • Yerington • **226 MW**
- ▲ Frank A. Tracy Generating Station • Sparks • **753 MW**
- ▲ Goodsprings Energy Recovery Station • Goodsprings • **5 MW**
- ▲ Harry Allen Generating Station • North of Las Vegas • **628 MW**
- ▲ Las Vegas Generating Station • North Las Vegas • **272 MW**
- ▲ Navajo Generating Station • Arizona • **255 MW** (NVE owns 11.3%; SRP is operator)
- ▲ Nellis Solar Array II • Northeast of Las Vegas • **15 MW**
- ▲ North Valmy Generating Station • Valmy • **261 MW** (Idaho Power owns 50% of 522 MW total)
- ▲ Silverhawk Generating Station • North of Las Vegas • **520 MW**
- ▲ Sun Peak Generating Station • Las Vegas • **210 MW**
- ▲ Walter M. Higgins Generating Station • Stateline • **530 MW**