



# Hilcorp Energy Ignacio Gas Plant

## 6.2 MW Combined Heat & Power System

### Rural Power & Renewable Energy Credits



Hilcorp Energy Ignacio Gas Plant Waste Heat to Power Project – Durango, Colorado

### Site Description

The Ignacio Gas Plant is located southeast of Durango, Colorado, owned by [Harvest Midstream Company](#), a subsidiary of [Hilcorp Energy](#). Along with other assets, Hilcorp acquired the Ignacio plant from Williams in 2018. The facility provides compression, dehydration and natural gas liquids recovery and produces liquefied natural gas (LNG) as part of the San Juan Gathering System. A waste heat to power (WHP) energy system captures waste heat from the compression process and uses it to generate electricity using Organic Rankine Cycle (ORC) technology.

### Reasons for WHP

The key driver for the WHP CHP system was reliability. For safety and operational reasons, the plant must maintain a constant supply of electricity. If grid power is lost due to an outage, the facility switches over into island mode, separate from the grid, using power generated on site until grid power is restored.

### Quick Facts

**LOCATION:** Southern Ute Indian Reservation, La Plata County, Colorado

**MARKET SECTOR:**

Midstream / Gas Processing

**FUEL:** None (waste heat only)

**CAPACITY:** 6.2 MW

**ENERGY OUTPUT:** 43,800 MWh per year

**EQUIPMENT:**

Ormat Organic Rankine Cycle (ORC)

**IN OPERATION SINCE:**

1984, upgraded 2014

**EMISSIONS REDUCTIONS:**

2,480 tons per year

- Nitrogen oxides (NOx) reduced 88%
- Carbon oxides (CO) reduced 48%
- Volatile Organic Compounds (VOCs) reduced 82%
- Particulate Matter (PM) reduced 59%

## Project Details

Williams began generating electricity from waste heat in 1984 when it installed a recycled energy system in conjunction with a facility upgrade that increased efficiency of hydrocarbon separation. The recycled energy system included waste heat recovery boilers and a GE steam turbine driving a 4,160-volt GE generator to utilize waste heat from the turbine exhaust to produce backup power for the facility.

In 2014, five Solar turbines replaced the seven 1950's vintage reciprocating engine compressors and four 1970's vintage turbine engine compressors. The new configuration consists of gas-fired turbine compressors that provide inlet compression to the cryogenic turboexpander for gas separation and outlet recompression. The replacement increased reliability of compression and overall efficiency of the gas processing plant while significantly reducing air emissions and increasing waste heat, thereby increasing the power generation capability.

Waste heat from the turbines and pollution control equipment (thermal oxidizer) is routed to waste heat boilers.

The boilers produce 600-psi steam which is directed to a steam turbine that generates an average of about 5 MW daily. Low pressure steam exiting the turbine at 60 psi is used for process heat. Once the steam is used it is condensed back to water and fed back to the boilers in a closed loop system.

All power generated on site qualifies as renewable under [Colorado's Renewable Energy Standard](#) (RES). The plant sells all the power it generates, to [La Plata Electric Association](#) (LPEA), the local electric cooperative. LPEA also receives the associated Renewable Energy Credits (RECs) which represent the value of the environmental benefits. LPEA sells the power to its members and sells the RECs to [Tri-State Generation and Transmission Association, Inc.](#), a cooperative providing power to rural areas. Tri-State uses the RECs to meet its RES obligation. The power from recycled energy that the Hilcorp Ignacio Gas Plant generates makes up about 4% of LPEA's local power requirement and 75% of La Plata County's renewable energy. The electricity the plant needs to run its operations is purchased back from LPEA.

**COLORADO'S RENEWABLE ENERGY STANDARD** <https://www.colorado.gov/pacific/energyoffice/renewable-energy-standard>  
**LA PLATA ELECTRIC ASSOC** <https://www.lpea.com/>  
**TRI-STATE GENERATION AND TRANSMISSION** <https://www.tristategt.org/>

## Benefits, Value, Awards

- **BENEFITS** – Increased reliability, lower risk to operations in the event of grid power outage
- **ADDED VALUE** – Power generated helps Tri-State meet Renewable Energy Standard (RES) obligation
- **AWARDS** – Southern Gas Association 2014 Environmental Excellence Award; 2014 San Juan Citizens Alliance Green, Business Roundtable Finalist Company

## For More Information

U.S. DOE Upper-West CHP TECHNICAL ASSISTANCE PARTNERSHIP  
Dr. Gavin Dillingham, Director  
281.364.6045  
[gdillingham@harcresearch.org](mailto:gdillingham@harcresearch.org)  
<https://betterbuildingsolutioncenter.energy.gov/chp/upper-west-chp-technical-assistance-partnership>

ORMAT  
Colin Duncan, Manager, Recovered Energy  
775.336.0134  
[cduncan@ormat.com](mailto:cduncan@ormat.com)  
[www.ormat.com/recovered-energy](http://www.ormat.com/recovered-energy)

Hilcorp Energy  
Katharine Denby  
713.289.2906  
[kdenby@hilcorp.com](mailto:kdenby@hilcorp.com)  
<http://www.hilcorp.com/>



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