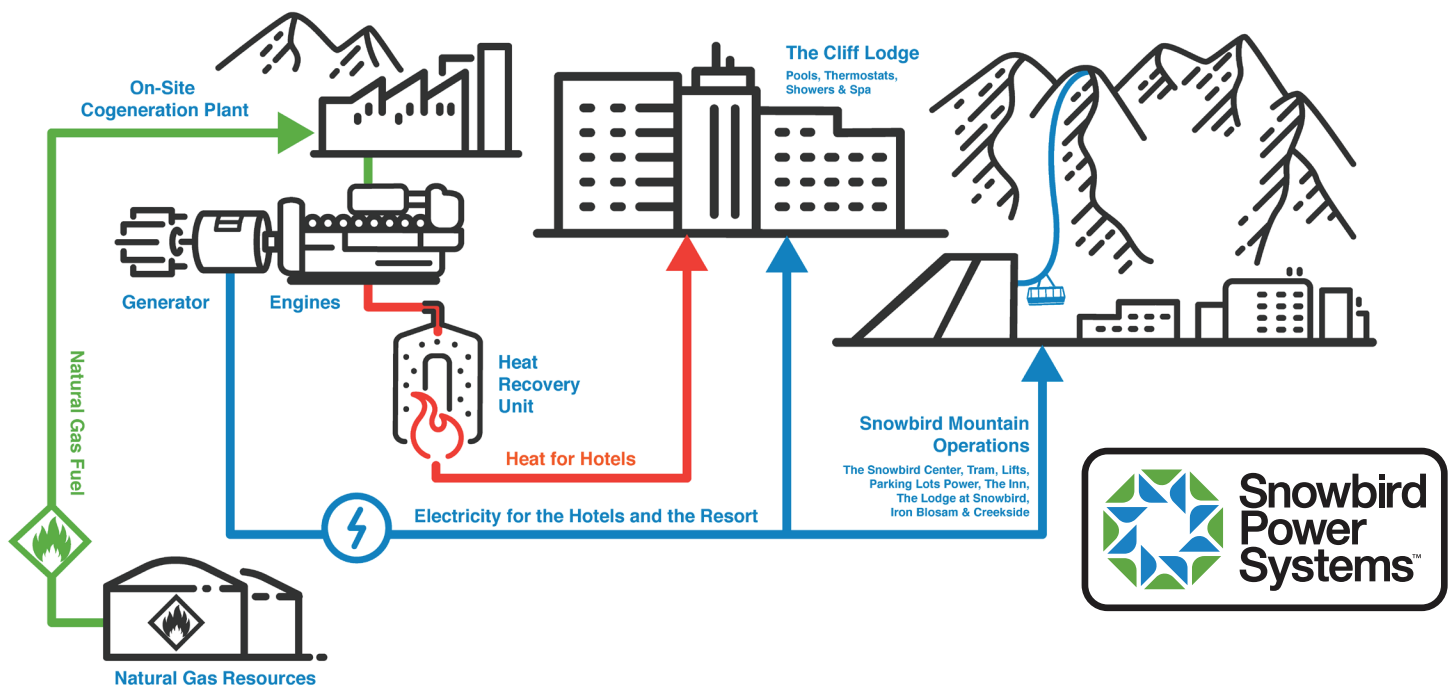


SNOWBIRD'S POWER SYSTEM

FACTS AND FIGURES

Wheeler
Power Systems



SNOWBIRD'S CHP PLANT – PROVIDED BY WHEELER POWER SYSTEMS

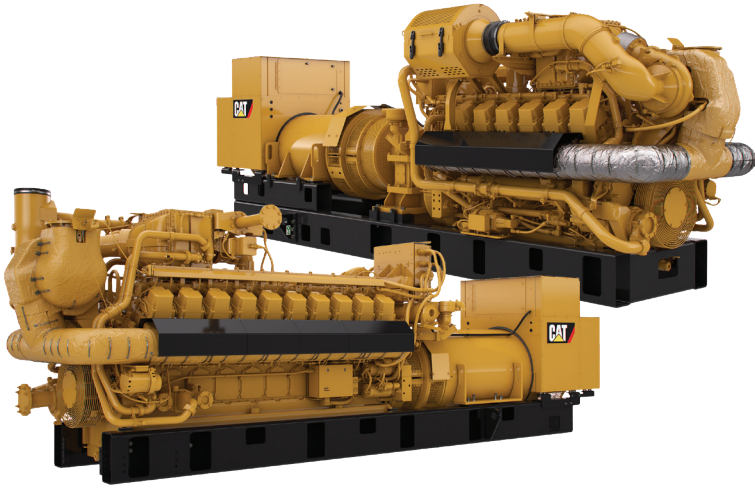
A cogeneration system, also referred to as a Combined Heat and Power (CHP) Plant, is a locally sited, highly efficient energy system that produces electricity and heat from natural gas while reducing energy loss and pollution. In a conventional power plant, 60% of the energy produced is wasted when the heat generated by the engines is allowed to dissipate, and only about 40% of the energy is used as electricity. However, Snowbird's new CHP plant captures and utilizes this heat, piping it underground to heat the resort's facilities, eliminating the waste and increasing the system's efficiency to 85%!

Wheeler Power Systems designed and built the new state-of-the-art cogeneration system. The system features three synchronized and paralleled Cat natural gas generator sets, multiple new Cat switchgear lineups, high-efficiency boilers, heat exchangers, pumps, control valves, advanced emissions reduction systems, cutting edge electronic controls, and a new building management system. The generation plant is housed in a new 8,700 square foot building that is engineered to withstand the notoriously harsh winter conditions in Little Cottonwood Canyon. Additional componentry of the system spans three buildings and a ½ mile of the Snowbird campus. The entire system is operated from a single centralized control platform. Continuous collaboration with Snowbird and the engineers, architects, and contractors on the project resulted in one of the most technically advanced and precisely coordinated CHP plants in the nation.

Wheeler Power Systems is thrilled to enter the next phase of our 30+ year relationship with Snowbird with the launch of this landmark project.

PROJECT HIGHLIGHTS:

- Supplies up to 90% of the resort's electricity needs during the busy winter season and up to 100% of its electricity needs in the summer
- Supplies all heat for The Cliff Lodge and Conference Center pools, spas, water, ambient air, and snow melt systems
- Reliable, locally generated power protects the resort from power outages
- Designed and built by a long-established Utah company with American-made engines, generators and other major components



CATERPILLAR G3512H

Electrical Production 1,274 ekW / Hour
 Engine Heat Production 2,347,200 BTU / Hour
 Exhaust Heat Production 1,961,000 BTU / Hour
 Total Heat Production 4,308,200 BTU / Hour
Total Efficiency 86.2%

CATERPILLAR G3520H

Electrical Production 2,062 ekW / Hour
 Engine Heat Production 3,704,802 BTU / Hour
 Exhaust Heat Production 3,051,000 BTU / Hour
 Total Heat Production 6,755,820 BTU / Hour
Total Efficiency 85.4%

ENGINE:

High Power Density & Efficiency

- 12/20 Cylinder Long Stroke Design
- Steel Pistons
- ABB A140H-H66 Turbo
- 21 Bar BMEP

Low Maintenance Costs & Oil Consumption

- Hydraulic Valve Lash Adjusters
- Cuffed Liners
- 2,000 Hour Oil Change Interval
- Canister Oil Filter
- 2,000 Hour Spark Plug Life

Heat Rate

- 8,390-8,589 BTU/ekW-HR LHV
- 9,229-9,448 BTU/ ekW-HR HHV

CONTROLS & ELECTRONICS:

EMCP 4.4

- Wall Mounted Design
- Genset Control, Protection & Monitoring
- Remote Monitoring & Control
- Integrated Load Feedback Signal
- 12 Programmable Digital Inputs
- 16 Programmable Digital Outputs
- Modbus TCP (10BT Ethernet)
- Modbus RTU (RS-485 Half Duplex)
- On Board Paralleling

Engine Control (A4:E4)

- Electronic Ignition
- Turbo Bypass Control
- Speed Governing
- Improved Stability & Response
- AFRC w/NOx Sensor
- Map Adjustment Feature

GAS TRAIN:

- Includes Flanges & Counter Flanges
- Includes 600mm of Flexible Hose
- Configurations
—NFPA 37

GENERATOR:

- High Efficiency Design
- Space Heaters
- Form Wound
- Bearing Temperature RTDs
- Permanent Magnet
- Stator Temperature RTDs

AIR CLEANERS

- Package Mountain
- 4,000+ Hour Service Interval

CATERPILLAR SWITCH GEAR

- Best-in-Class Footprint
- Touchscreen Interface
- Simple Access to Systems Controls
- Advanced Communication Capabilities
- High-Speed Integrated Control Systems
- See Entire System Status at a Glance
- Balance of Plant Controls
- Automation and Control of CHP
- Building Automation Heat, Pool & Spa

ABOUT WHEELER POWER SYSTEMS:

Wheeler Power Systems is a Division of Wheeler Machinery Co. that has been involved in electric power projects for the past 45 years including diesel and natural gas standby and prime power, utility power, CHP, renewable energy, energy storage, hydroelectric, and load management. Our staff has over 275 years of collective experience in the power generation business. We provide complete systems, custom designed, fully engineered, installed, commissioned, and ready for continuous duty. In addition, our products are warrantied through Caterpillar and we are available to provide service and support for your energy generation systems for the life of your project. **Learn more at: wheelerpowersystems.com**