What is Combined Heat & Power (CHP)?

Often called cogeneration, it is the COmbined GENeration of electricity **and** heat energy from a single fuel source.

Virtually every hotel, semiconductor FAB, bottling plant, food processing facility, hospital, wood products mill, etc. uses large amounts of utility-supplied electricity AND natural gas for use in steam boilers or water heaters.

In **proven** cogeneration systems, that same natural gas is diverted into a turbine or engine to generate electricity. Then, the waste exhaust heat is used to make steam or hot water in a Heat Recovery boiler, which can then be used for heating or cooling (via heat absorption chilling) purposes. This simple system is typically 40%-60% more efficient AND less polluting than traditional energy generation and delivery methods.

CHP systems are not new. They are proven in thousands of applications worldwide.

IT'S THE RIGHT TIME TO DO THE RIGHT THING IN THE WESTERN U.S.

COMBINED HEAT & POWER

Clean.
Local.
Efficient.
Reliable.
Proven.

sustainable ENERGY™

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COGENTECH
SUSTAINABLE ENERGY™

a Professionally Licensed Engineering and General Contracting Corporation

Custom On-Site Energy Solutions

A Relentless Vision

Cogentech, Inc. leads Western North America in providing custom on-site energy solutions to industrial, agricultural and commercial businesses. Our core purpose is to promote the sensible use of cost-effective, emissions reducing, and resource conserving CHP systems. We are especially poised to serve the power needs of the rapidly growing Western United States, which is littered with widespread congestion management problems in power transmission and distribution compounded by mounting Supply & Demand discrepancies.

Through the development and deployment of high-efficiency 300 kW to 30 MW on-site power generation systems, Cogentech is proactively leading the way to show companies how to control energy costs, participate in natural resource conservation, and reap the maximum benefit from fuels that they already purchase.

Accountable Resource Stewardship thru Higher Energy Efficiency

Cogentech works closely with environmental permitting agencies, staff and outside engineers, and equipment manufacturers to ensure that the overall impact (air emissions, sound levels, and physical footprint) is the lowest possible for each application.

Permit issuance is fast-tracked because these are among the cleanest and most efficient energy plants ever built in the Industrial Age.

Of the several thousand potential CHP sites in the Western U.S., only a very small number of plants have actually been built: through streamlined designs that are simple to install and operate, and because the energy *savings* AND *emissions reduction* from even a single custom Combined Heat & Power plant are capable of dwarfing residential and small commercial efforts, Cogentech is rapidly changing Western energy habits.

The correlation of natural gas and electricity prices substantiates the irrefutable conclusion that energy costs are best controlled through ***EFFICIENCY.***

Higher efficiency in turn leads to significantly lower energy costs: **typical savings range from 25% to 75%.**

Complete Turnkey Services

Cogentech offers total project management through one point of contact. Through our own staff and excellent resources we develop, Engineer, Procure and Construct (EPC) fully integrated custom on-site energy systems. Air quality permits, construction permits, drawing preparation, plant specification, equipment procurement, construction management, fuel contract management, FERC certification, regulatory incentive qualification, utility interconnection, and plant commissioning are all handled by Cogentech's experienced staff on a personal and completely comprehensive basis.

From a technologically-neutral footing, we work with businesses to conceive and complete the most economical power solution for their facilities. The matrix of possible systems includes prime movers such as lean or rich-burn reciprocating engines, gas turbines, steam turbines, and Solar PV; emissions abatement technologies such as SCR and state-of-the-art catalytic converters; and thermal systems including Heat Recovery Steam Generators, Absorption Chillers, and Plate & Frame heat exchangers.

Award-Winning Custom Designs: from Concept to Commissioning

Each facility's energy profile and needs determine what is designed and installed. We customize the interconnection into existing or new infrastructure and fully optimize plant energy usage.

Cogentech is on the cutting edge of designing and installing high-efficiency Combined Heat and Power systems in Western North America. Over the last decade, our personnel have been involved with over 60 applications around the world, many of which have received various social and engineering awards. Our wide variety of clients include businesses in the agricultural, high-tech, medical, food processing, hotel, manufacturing, beverage, wood products, and municipal wastewater sectors.

We have trademarked the phrase sustainable^{ENERGY}™ in order to capture the true 'Win-Win' nature of custom CHP: where Economics & Ecology meet on **common ground**.

Build-Own-Operate-Maintain ('BOOM')

Due to internal business decisions, an uneasy economy, or plain uncertainty, many businesses that see the myriad of benefits from Combined Heat and Power are unwilling to invest capital into developing a system for themselves.

Through strategic financing partnerships Cogentech offers a complete out-sourcing solution for these situations. Our management and design team works with the host facility to develop a tailored plant that is right for their application, and then Cogentech assumes full ownership and operational responsibility for the project at Zero capital expenditure by the host business. Monthly bills recapping energy production and use are delivered at rates significantly lower than retail prices.

This **B.O.O.M.** model allows hosts to retain cash reserves, focus on core competencies, and avoid ongoing maintenance management while enjoying immediate benefits of efficient and reliable on-site power generation.

Renewable Energy

Cogentech also works with partner company ***Renewable EnergyWorks (REW)*** on the development, design, construction and ownership of Renewable Energy projects using alternative fuels like **biogas** from farm or municipal digesters, **biomass**, *Biodiesel*, landfill gas, agricultural wastes, and **Tire Derived Fuel (TDF)**. We also provide turnkey services for 'bottoming cycle' cogeneration in which a facility's process steam is first used to generate electricity in a steam turbine before it is delivered to the site process.

sustainable^{ENERGY}™

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