WHAT IS CHP?

If you run a factory, resort, or other large facility that requires electricity and heating/cooling simultaneously on a daily basis, then Combined Heat & Power (CHP) is something you should consider. CHP is an engine/generator system that can dramatically improve your facility's energy usage. A properly designed CHP system that uses its own fuel to generate electricity and heat can make use of up to 90% of available fuel energy, compared to the 40% utilization of central-utility-provided power. That dramatic of a difference translates into significant energy cost savings (50% on average), as well as a smaller carbon footprint.

So why haven't more facilities in Hawai'i adopted CHP?

Simple – lack of success. The few CHP plants that have been built in the last ten years have performed poorly due to improper design and maintenance. Rather than addressing the issue – poor design, engineering & implementation, CHP technology was shunned prematurely. CHP technology is proven and reliable. Alaka'i Mechanical and our partners and suppliers have the very best in CHP technology and decades of experience to help dramatically reduce your energy costs.

Call us today to learn more about CHP!

OUR AWARD-WINNING PARTNERS & SUPPLIERS

Cummins

TRANE

IDS POPOV POWER & ENERGY
A MEMBER OF IDS GROUP

ALAKA'I MECHANICAL CORPORATION

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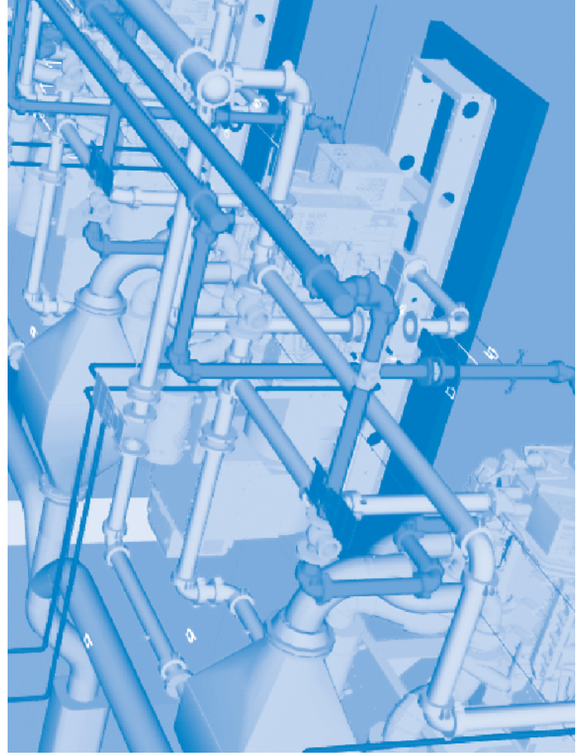
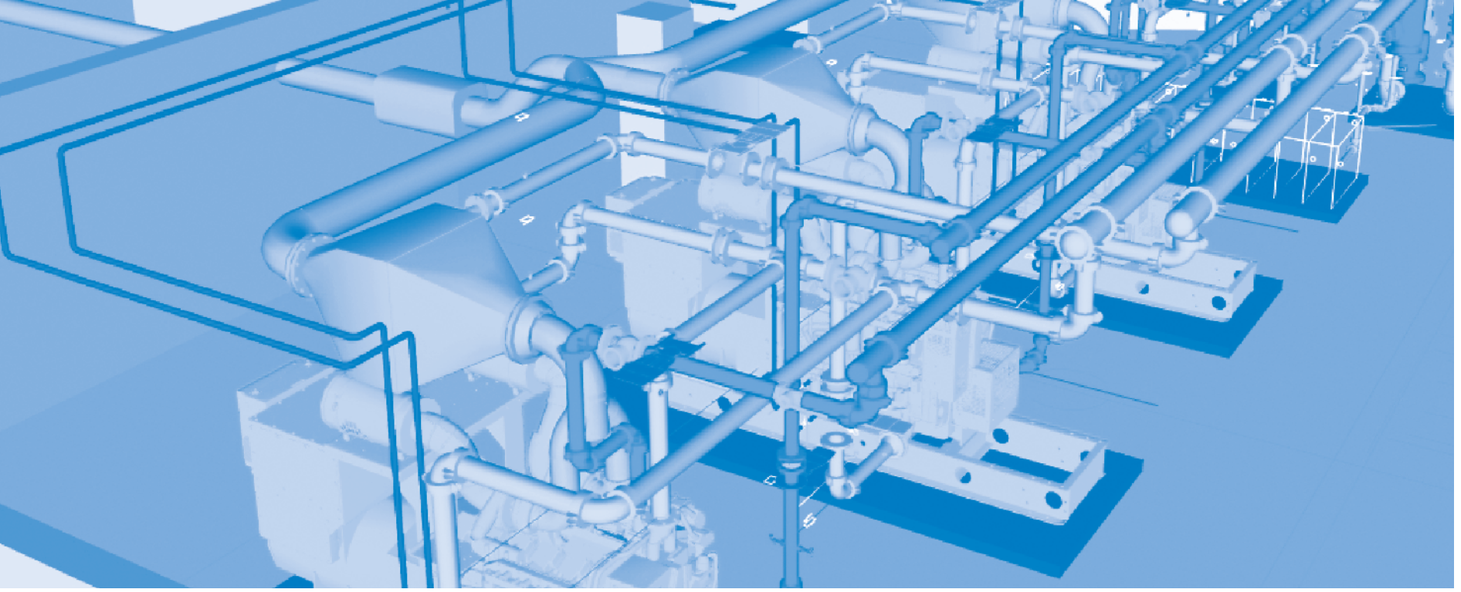
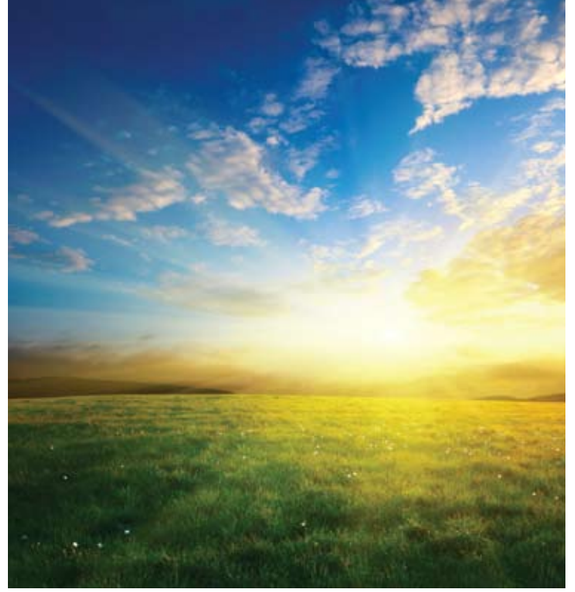


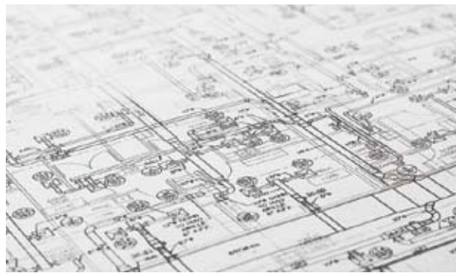
COMBINING HEAT AND POWER FOR

THE FUTURE

ALAKA'I MECHANICAL CORPORATION







CHP QUESTIONS YOU SHOULD BE ASKING YOURSELF

1. How does a CHP plant work?
The heart of a CHP plant is made up of clean-burning diesel engines that produce heat and run generators that produce electricity. The electricity is utilized immediately, while the heat is used to supply hot and/or cold water (using absorption chillers).

2. Is CHP right for everyone?
No, CHP makes sense for large facilities that have a balanced demand for electricity and heating/cooling water.

3. What energy savings can I expect to see?
Savings are typically ***35 - 50%*** of total energy costs.

4. Are CHP plants available only for new facilities?
No, existing facilities can be retrofitted with CHP plants.

5. Will installing a CHP plant increase my carbon footprint?
No, CHP plants are far more efficient, emitting less CO_2, and ultimately lowering a facility's carbon output.

6. How efficient is a properly designed and maintained CHP plant?
Well-designed CHP plants can make use of up to 90% of available fuel energy. Typical fossil fuel plants such as those used by electric power utilities are only around 40% efficient.

7. Where does a CHP plant need to be located?
The best location is near the main electrical service switchgear & chilled water plant. Fuel may be stored elsewhere.

8. How much does a CHP plant cost to build?
Typically, a full installation (ancillary chillers, heat exchangers, fuel storage, etc.) costs between $3-4 million per megawatt. A CHP plant pays for itself in a few years.

9. How long does it take to build a CHP plant?
Typically 8-10 months.

10. What is the typical payback period for a CHP plant?
Usually between 2-5 years.

11. What's the useful lifetime of a CHP plant?
About 25 years.

12. Are there government subsidies or tax credits available?
Yes – the Business Energy Investment Credit, the Energy Efficient Commercial Buildings Tax deduction and the Modified Accelerated Cost-Recovery System (MACRS) + Bonus Depreciation.

13. Do CHP plants require building permits?
Yes, but all permits are handled by the design-build team with assistance from the customer.

14. Does the Alakaʻi Team have experience building CHP plants?
Yes. Applications are available upon request.

15. Who are Alakaʻi's partners?
Alakaʻi has teamed up with industry leaders IDS Popov Inc., Cummins Diesel and the Trane Company to provide high quality, highly efficient CHP plants.

16. Are there more economical alternatives to diesel-powered CHP plants, such as gas turbines/propane systems?
In Hawaiʻi, clean-burning, diesel-fueled reciprocating engines are the most economical to run, and diesel-fuel is far safer to store than the alternatives.