

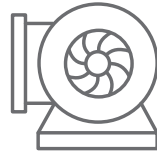
Traditional Heating and Cooling System Costs Add Up

A commercial building's largest expenditure, besides land and construction, is its HVAC equipment. To determine the true cost of heating and cooling a commercial building, it's important to consider not just the direct energy expenses but also indirect costs like equipment, maintenance, repairs, and any necessary upgrades to improve energy efficiency.

Risks

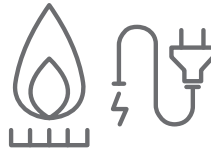
- > Equipment Failures
- > Increased Liability (Combustible Equipment)
- > Fuel Sources
- > Regulatory Compliance
- > Equipment Replacement Costs

➔ *Conducting an energy audit or consulting with professionals in the field can provide more accurate estimates specific to your commercial building.*



Equipment

Prices for commercial HVAC units can range from tens of thousands of dollars for small, single-zone systems to several million dollars for large, multi-zone or central systems.



Utility

The gas and electric needed to operate a commercial HVAC system for heat and air conditioning is provided by separate utility companies and the costs vary based on several factors. In most cases, utility rates are volatile and hard to predict.



Personnel

The proper operation of commercial HVAC systems requires a staff of licensed engineers and technicians. Depending on building size, that would be 2-4 employees with salaries ranging between \$50,000-100,000.



Maintenance

On average a commercial building requires an estimated \$30,000 in HVAC maintenance every year. There are additional expenses for preventative maintenance and troubleshooting HVAC issues, as well as water treatment costs.



Space

HVAC equipment in commercial buildings require a significant amount of usable square feet. The size of the unit will depend on how many tons of heating and cooling is needed.



Replacement

The average lifespan of commercial HVAC equipment if properly maintained is 15 to 20 years. The cost to replace equipment ranges from tens of thousands to hundreds of thousands depending on the size of the equipment.

Community Energy Offers an Innovative Alternative

Akron Energy Systems produces community energy at a centralized energy plant that delivers heating and cooling to commercial buildings throughout Akron's downtown central business district. This innovative approach to producing thermal energy eliminates the need to purchase, install, maintain, and replace expensive in-building equipment.

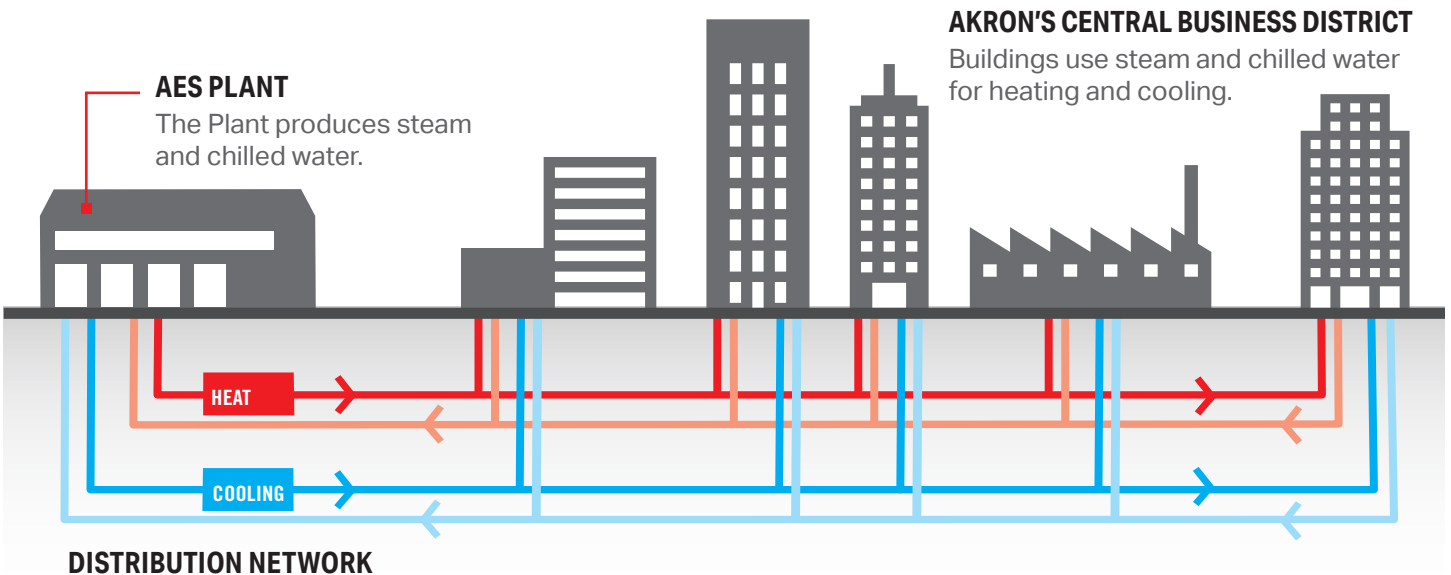
Community energy achieves economies of scale through efficiencies and the utilization of advanced technologies. This is how Akron Energy Systems can offer users stable, long-term rates and significant savings to our customers.

Also, community energy systems are 99.9% reliable, thanks to operational redundancies.

Since community energy can leverage more efficient energy sources, such as combined heat and power or renewable energy sources, environmental impacts are neutralized. The centralized production plant better controls harmful emissions and eliminates the pollutants individual building units emit.

Also, a traditional in-building HVAC unit takes up valuable space. With community energy, that square footage is leasable or usable.

Traditional HVAC equipment is costly, requires continuous maintenance, and ultimately must be replaced. As an alternative, community energy offers advantages in scale, efficiency, reliability, and environmental impact.



Steam and chilled water are distributed to buildings and condensate is returned to the plant through underground insulated pipes.



Three natural gas-fired boilers capable of generating 450,000 lbs. of steam each hour converts water to pressurized steam for direct heating through a building's heat exchangers. The steam can also be used for domestic hot water and absorption cooling.



Chillers, cooling towers, and variable speed driven fans chill water to 45° before supply pumps deliver it to buildings for air-conditioning at a rate of 3,600 gallons per minute. Once the chilled water has been used it is returned to the plant and reused.



**AKRON
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