Energize Denver Guide for Large Buildings (25,000 sq. ft.+)

# Building Electrification Guide

## IS ELECTRIFICATION REQUIRED?

**No. Energize Denver requires covered buildings to meet energy efficiency targets. It does not require electrification. There are many paths to compliance, and the right approach depends on your building's specific conditions.**

That said, electrification is a strategy that works well for many buildings, and for some, it may be one of the most effective ways to reduce energy use. This guide explains what electrification involves, what it typically costs and what financial support is available so you can make an informed decision about whether it's right for your building.

## WHAT IS ELECTRIFICATION?

Building electrification means replacing gas-powered equipment with electric alternatives. When done well, electrification can meaningfully reduce your building's energy use intensity (EUI), which is the metric Energize Denver uses to measure compliance.

## HEAT PUMPS FOR HEATING AND COOLING

Heat pumps provide both heating and cooling in a single system and are significantly more efficient than standard gas-fired HVAC equipment.

### Benefits

- One system for heating and cooling
- More consistent temperatures and improved occupant comfort
- Reduced pollution and risks associated with carbon monoxide and other combustion by-products
- Reduced EUI, helping your building reach its Energize Denver target

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## Upfront Costs

Heat pump systems typically cost 20–30% more than a comparable gas-fired replacement. However, rebates and incentives can often close that gap, bringing heat pump costs close to conventional equipment.

Keep in mind that electrification increases your building's electrical load, which may require infrastructure upgrades such as electrical service, structural or ductwork upgrades, depending on your building's current setup.

## A Note on Utility Costs

Electrification doesn't always reduce your utility bills, even when it reduces your energy use. This is an important consideration, especially for buildings on utility rate schedules that include electric demand charges.

Buildings on consumption-only electric rate schedules (no demand charge) tend to see better utility cost outcomes from electrification. If your building is eligible, it may be worth exploring whether switching rate schedules makes sense.

Because utility cost impacts vary significantly by building type, location and rate schedule, we recommend working with an energy consultant or qualified contractor to evaluate your options before committing to an approach.

## Dual-Fuel Heat Pumps

A dual-fuel heat pump, also known as a hybrid heat pump, pairs an electric heat pump with a gas backup. The heat pump handles most of the heating and cooling load, but when temperatures drop and the heat pump becomes less efficient, the system automatically switches to gas. This avoids high electric demand charges during peak heating periods and can improve the financial performance compared to an all-electric system.

If your building already has a gas heating system that can serve as the backup, first costs for a dual-fuel approach are often comparable to a standard heat pump retrofit. If a new gas heating source needs to be added, expect first costs to run 30-40% higher than an all-electric heat pump, though rebates and improved utility cost savings may offset this.

## Window-Mounted Heat Pumps

Window-mounted heat pumps are a plug-and-play option that can work well for multifamily properties or buildings with operable windows. These units require a double-hung window at least 26 inches wide and run on standard 120V power, so no electrical infrastructure upgrades are needed.

They're easy to install, allow continued window operation and are eligible for the same rebates as traditional heat pumps. One practical advantage: individual tenants or unit owners can adopt them independently, without a building-wide retrofit.

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## Choosing the Right HVAC Option

Given the range of factors involved, we recommend getting a professional analysis before making decisions. A good evaluation should compare multiple options, including high-efficiency gas replacement, standard heat pumps, dual-fuel heat pumps and window-mounted heat pumps, and should account for available incentives and financing to show the real impact on your building's operating costs.

## Water Heating

Electric domestic hot water systems come in three main types:

- **Electric resistance water heaters** are the simplest option. They heat water directly, are inexpensive to purchase and install, and require no venting or combustion.
- **Heat pump water heaters** are the most efficient electric option, typically two to four times more efficient than electric resistance. They cost more upfront, but rebates and incentives often apply, and they can produce meaningful EUI reductions and utility cost savings depending on your rate schedule.
- **Electric tankless water heaters** heat water on demand and have a small footprint since they don't require a storage tank. However, they draw high electrical power, which can increase demand charges for buildings on that type of rate schedule.

## Electric Appliances

Common electric appliance upgrades include stoves, ovens, dishwashers, washing machines and clothes dryers. Electric appliances involve no combustion, which eliminates carbon monoxide risk, gas leak hazards and the need for flues or venting. Look for ENERGY STAR-rated models to maximize energy savings and EUI impact.

## ENERGIZE DENVER HELP DESK

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