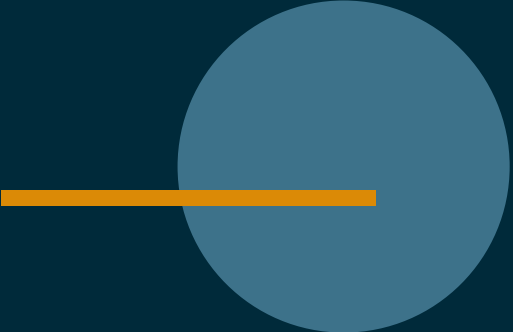




Nonresidential

Two-Way Air Conditioning

Background, Policy Description, Resources, Discussion

Ordinance Overview

When **replacing or adding single zone rooftop HVAC**, choose one to install:

- › A single zone **heat pump** (cooling + heating) and comply with State Code;

OR

- › A single zone **air-conditioner** (cooling only) and
 - » Heat recovery ventilator [CZs 3-5, 11-16]
 - » Heat recovery ventilator and demand control ventilation [CZs 1,2 6-10]



Source: [Trane Heat Pump Rooftop Units](#)

Policy Context

2025 Energy Code (Part 6) Nonresidential

- › Prescriptively requires heat pumps for units up to 65 kBtu/h (5.4 tons)

2025 CALGreen (Part 11) Tier 1

- › Part 11 offers Single Family Two-Way AC as voluntary model for local adoption
- › Requires cost-effectiveness determination

Air Quality Regulations

- › Bay Area and Los Angeles are in “non-attainment” for ozone and particulate matter (PM)
- › Gas appliances generate NOx emissions, which create ozone and PM2.5
- › Beginning in 2029 furnace sales will be restricted by California Air Resources Board, Bay Area Air District, and (possibly) South Coast Air Quality Management District

Why Heat Pumps?

- › Heat pumps result in major greenhouse gas emission reductions
- › Two to four times more efficient than gas furnaces
- › Powered by electricity, which in California, is mostly from renewable energy sources
- › Can be both an air conditioner and a space heater
- › No on-site combustion of gas
- › No risk of carbon monoxide poisoning from the space conditioning system



Policy Impacts

- › [Analyze building stock data to estimate]:
 - » # of existing nonresidential buildings
 - » # with central air conditioning and gas heating
- › [Analyze mechanical permit data to estimate]:
 - » # of annual permits for air conditioner installations or replacements
 - » % of projects affected annually by proposed requirements





Proposed Policy Requirements

When does the reach code apply?

If replacing a furnace
only



Reach code does not
apply

State Code

New or replacement single-zone space cooling in:
Offices, retail, grocery, schools, libraries, and financial institutions

Path A

Path B



Install air conditioner

Option 1

Option 2

5 Ton Systems

5-20 Ton
Systems

Include variable
speed fan +
economizer

Include heat
recovery ventilator

State Code

Reach requirement



Install a heat
pump

No additional
requirements

State Code

Code Language Structure

When installing a **new or replacement** single zone rooftop HVAC unit, either:

1. Install a heat pump **OR**;
2. Install an AC and a heat recovery ventilator.



Heat Recovery Ventilator (HRV):

A ventilation system that recovers energy by moving air between two air sources at different temperatures, helping to lower a building's heating and cooling needs.

HRVs are readily available and easy to install.

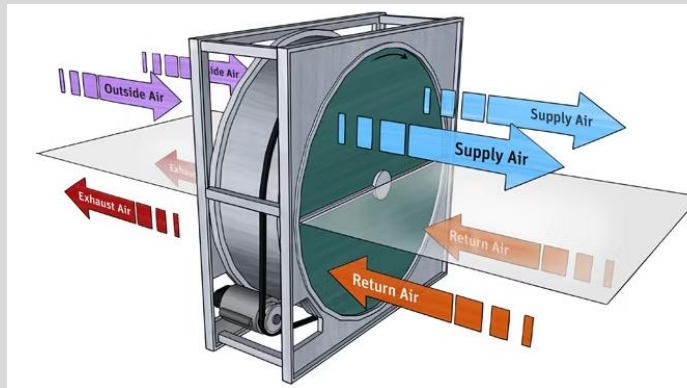
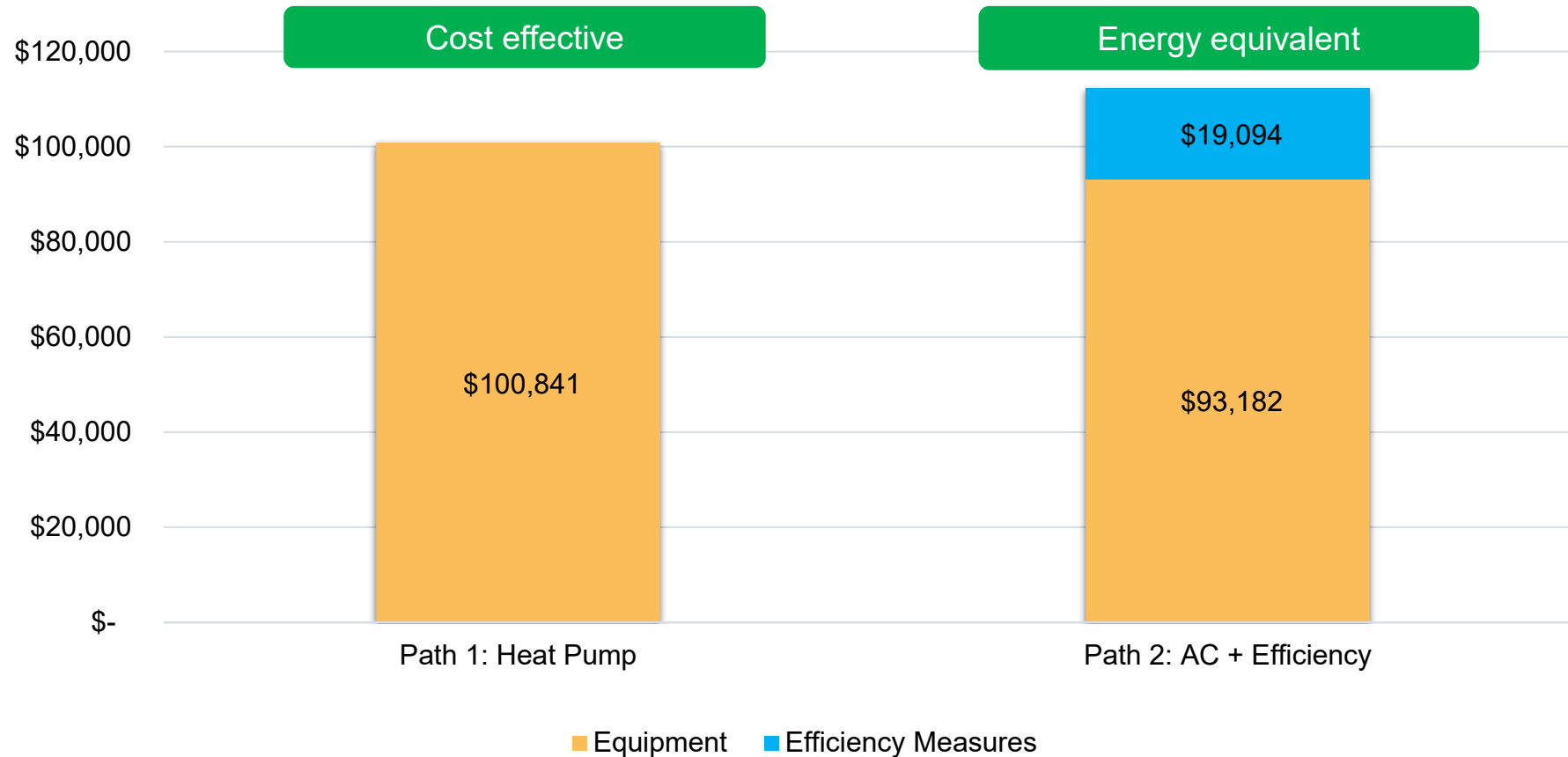


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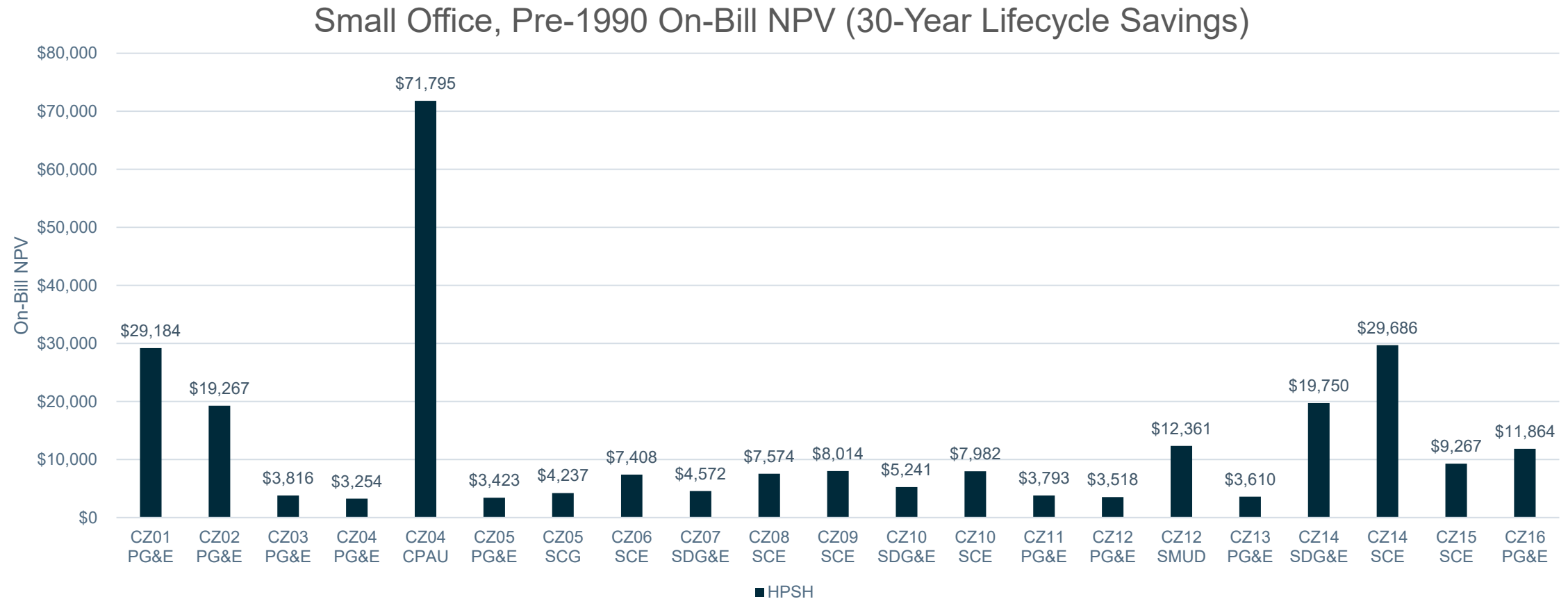
Exception for limited electrical panel capacity: If the existing main electrical panel does not have the capacity for a heat pump but can support a new or replacement air conditioner.

1-Way AC costs more for the same efficiency



Source: [2025 Nonresidential Alterations and AC to HP Cost-effectiveness Study](#), CZ 3 & 4, Medium Retail Example

Two-Way AC saves hundreds or thousands over its lifetime



Source: [Statewide IOUs C&S: 2025 Nonresidential Alterations and AC to HP Cost-effectiveness Study](#)

Two-Way AC saves hundreds or thousands over its lifetime

Small Office, Pre-1990 LSC NPV (30-Year Lifecycle Savings)



Source: [Statewide IOUs C&S: 2025 Nonresidential Alterations and AC to HP Cost-effectiveness Study](#)

Resources

Ready Today

- › [Model Code Language](#)
- › [Cost effectiveness study](#)

Coming Soon

- › Model staff report

Cross-posted and customized

- › BayAreaReachCodes.org
- › CentralCoastReachCodes.org
- › CPAReachCodes.org

