CURRENT GOALS

2025: 10% reduction in energy use


2035: 20% reduction in energy use

2040: 25% reduction in thermal heating emissions through efficiency and fuel switching

WHAT DENVER IS CURRENTLY DOING

- Providing information and educational resources through Denvergov - Home Energy and Residential Solar
- Driving efficiency in new construction and major renovation with the adoption of the 2018 IECC
- Offering low-income energy services through the Office of Strategic Partnerships utilizing funds from the Xcel Energy Franchise agreement
- Analysis of Home Energy Labels - Performed a pilot focused on sharing an energy label during the transaction of a home (sellers or buyers).
- Feasibility Study - Residential Rentals with Efficiency Standards - Executed a study examining whether increasing energy efficiency in rental properties can help to meet Denver’s climate and equity goals.

EMISSIONS TRENDS

- Emissions from residential buildings have dropped around 9% from 2005 to 2017.
- The drop in emissions is primarily from the state Renewable Portfolio Standard driving a cleaner electric grid.
- Emissions from 2016 to 2018 were relatively flat
  - Energy use is rising due to new construction but a cleaner grid and more efficient equipment are keeping emissions from growing at the same rate.
- Equipment is getting more efficient, especially lighting, cooling, and appliances, but it is slow to change out.
Homes

POTENTIAL STRATEGIES

Free/ Discounted Energy Audits and Homeowner Education

Community Targeted Homeowner Education Events

Incentives for Efficient System Upgrades and Retrofits

New Home Energy Efficiency Codes and Standards

CASE STUDIES

Energy audits and homeowner education increase program awareness and adoption

- Massachusetts electrification and efficiency programs perform no-cost energy assessments on 22% of Boston households in 10 years and incentivize heat pump replacements in more than 18,000 homes in 5 years
- Benchmarking and transparency has been shown to lead to 3-8% reduction in energy consumption or EUI
- A Jackson, WY study concludes home energy audits resulting in measure implementation produced 4.7% electricity savings

Incentivizing electrification increases project implementation even in cold climates

- Maine’s residential rebate programs have incentivized more than 25,000 heat pump installs since 2011
- The Mass Save and MassEC programs in Massachusetts have incentivized 18,000 heat pump installs from 2015 to 2018
- The Vermont heat pump program incentivized 8,200 installs including 1,000 leased units between 2014 and 2018
- Connecticut’s rebate program has resulted in 6,176 heat pump installations between 2012 and 2015

New home energy codes incentivize building better and help improve occupant health

- Net Zero Energy homes in CA are expected to reduce GHGs in 2020 by 30-60% compared to a natural gas fueled home
- In 2020, an all-electric single family home reduces GHG emissions by 33-56% compared to a natural gas-fueled home - increasing to a 76-88% GHG reduction in 2050
- Increased insulation levels and a tighter envelope (ex. Passive House building methods) reduce energy use by 40-60% and can improve occupant health and reduce asthma triggers