# LOW-INCOME ENERGY EFFICIENCY OUTREACH STRATEGY

2024

CITY OF Englewood

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# INTRODUCTION

In 2023, the City of Englewood's Sustainability Plan was updated with an additional project underneath the "Energy" goal to "Create an energy efficiency outreach and education plan/ strategy around reaching low-income areas to alleviate energy burden." Improving energy efficiency for the city's most vulnerable and in-need families is a crucial step in not only increasing community well-being, but ensuring an equitable and affordable Englewood.

This strategy also helps the city progress its **2017 Energy Action Plan**, which as of 2022, is falling short of reaching its residential energy reduction goal of reducing residential energy usage by .5% annually through 2030.

| Residential | | | |
|---|---|---|---|
| | **Premise Count** | **kWh Electricity Usage** | **Thousands of Therms Gas Usage** |
| **2015 (Baseline)** | 15,155 | 95,995,465 | 6,890,095 |
| **2022** | 16,328 | 99,925,036 | 7,194,519 |
| **Difference** | 1,173 | 3,929,571 | 304,424 |
| **Percent Difference** | 7.7% | 4.1% | 4.4% |

*Above data provided by Xcel Energy 1/2024*

***What's causing the increase?*** Population growth is a significant driver, with new Englewood residential premises since 2015 accounting for ~5.6 million kWh, which means growth was responsible for about 6% of electricity usage. Electricity use per premise, however, has gone down, from ~6300 kWh/premise to about ~6100 kWh/premise. While population growth poses a hurdle to decreasing a community's overall energy usage, there are examples of communities accomplishing this, such as Louisville, CO seeing a 7% increase in premises and a 4% decrease in energy use as well as Westminster, CO seeing an 8% increase in premises and a 2% decrease in use (*Data provided by Xcel Energy 1/2024*).

It is important to note that while this is an outreach strategy to address energy efficiency for low-income households, the creation of this plan is not implying that low-income households are the reason for this increase in energy use for Englewood or even that lower income households are the main energy users. Low-income households do, however, pay more than their higher income neighbors on energy ($1.24 energy per square foot for insecure households vs $.98 per square foot for non-energy insecure households) (Residential Energy Consumption Survey, 2020). It is this inequality that this plan is taking steps to remedy.

This plan is also aiming to to help the City of Englewood take advantage of a historical funding moment in history. In 2022, the Inflation Reduction Act (IRA) passed, which included within it $8.8 billion set aside in rebates for home energy efficiency and electrification projects. With this unprecedented funding, there has never been a better time than now to spend time and effort increasing energy efficiency within Englewood as the funding is there.

This plan includes the city's own energy burden statistics, Englewood's participation with available energy efficiency programs, case studies from other communities on this topic, and Englewood's low-income energy efficiency outreach strategy, which will ultimately help Englewood progress its vision to advance our community together.

# THE ENERGY BURDEN

One of the main goals of creating and implementing a low-income energy efficiency outreach strategy is to alleviate the energy burden for low-income Englewood residents. One common definition of an energy burdened household is when it spends more than 6% of its income on energy bills (Drehobl et al.). There are many drivers of high energy burdens:

- **Physical:** housing characteristics, old and inefficient appliances, etc.
- **Socioeconomic**: access to livable wages
- **Policy**: energy codes and standards, availability of federal, state, or local aid programs, etc.
- **Behavioral:** split incentives between landlord and tenants, limited knowledge or access to information on efficiency programs, etc.
- **Geographical:** energy demands based on local climate conditions and weather events

## QUANTIFYING ENERGY BURDEN

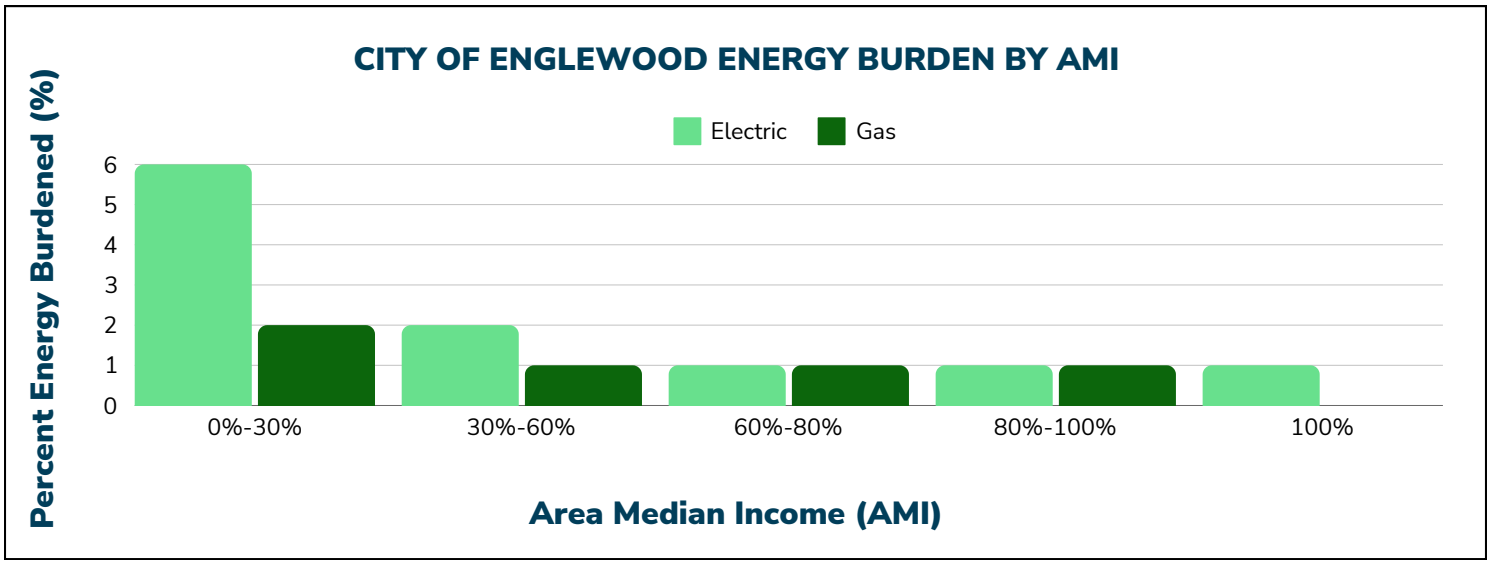
**Not Burdened:** <4 percent gross household income spent on energy needs.

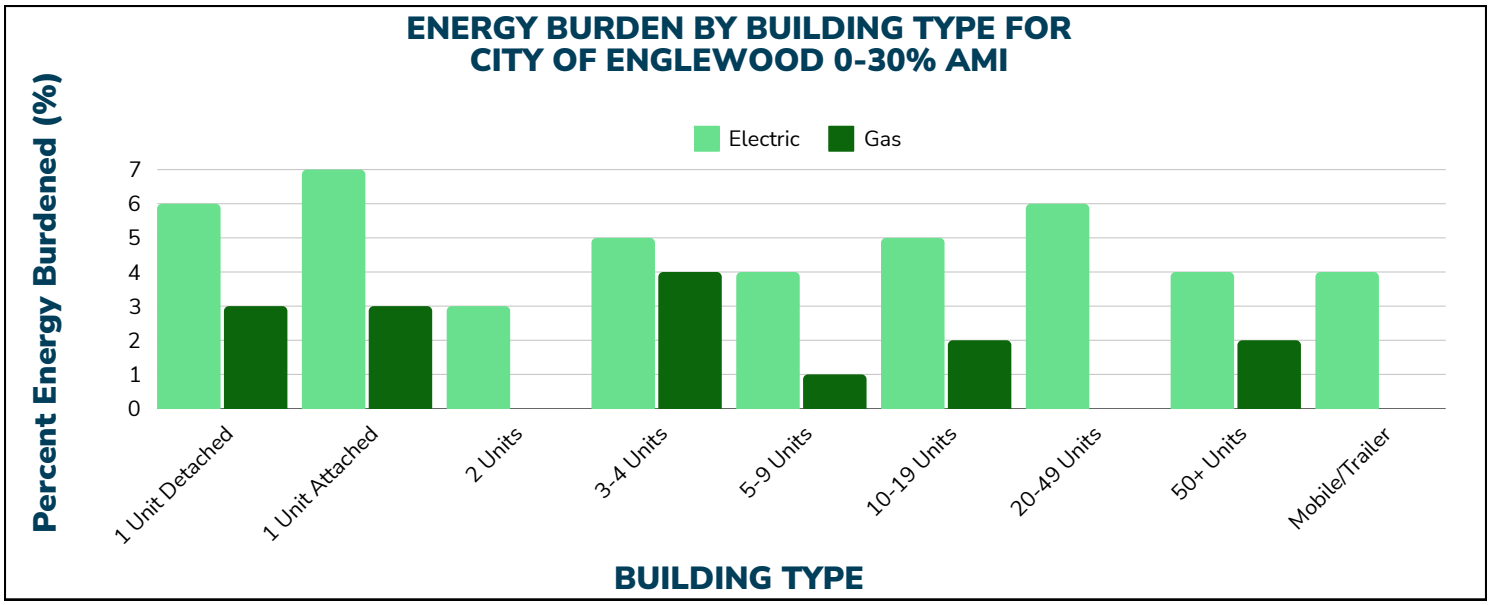
**Energy Stressed:** 4-6 percent gross household income spent on energy needs.

**Energy Burdened:** 7-10 percent gross houshold income spent on energy needs.

**Energy Impoverished:** >10 percent gross household income spent on energy needs.

According to the Low-Income Energy Affordability Data (LEAD) tool developed by the U.S. Department of Energy and the National Renewable Energy Lab, the City of Englewood as a whole has an average energy burden of 1%, compared to a statewide average of 2% (DOE, n.d.). This overall statistic, though, masks the on-the-ground realities of Englewood's most vulnerable populations. This is apparent when the data is broken down further, groups most vulnerable to energy costs are revealed, as you can see in the tables on the next page.




When looking at the energy burden based off of percentage of state median income (SMI), the data shows those residents making 0-30% of the median state income spend 8% of their income on energy bills, which is 8x higher than those earning 100% of the SMI. When further analyzed based on those who fall between 0-30% of SMI and building type, those in a one-unit attached home have as high as a 10% energy burden, with one-unit detached homes going up to 9%.

# CASE STUDY:
# DENVER HEALTHY HOMES PROGRAM

The Healthy Homes Program is provided by the City and County of Denver Office of Climate Action, Sustainability & Resiliency (CASR), and administered by Energy Outreach Colorado (EOC). The program works with income-qualified, climate-vulnerable households to reduce energy bills, greenhouse gas emissions, and exposure to pollutants while improving indoor air quality. The program is open to renters, single-family homeowners, townhomes, duplexes, or mobile homes.

Over the next three years, this new program (2022) is aiming to cover the full cost and effort of assessing and then retrofitting 200 low-income Denver households to be free of air pollutants and health hazards like mold, asbestos, radon, pests, dusty duct systems, and fossil fuel combustion byproducts, followed by full energy efficiency upgrades like better insulation and all-new high-efficiency electric appliances (heat pumps, heat pump water heaters, induction stoves, etc.). Finally, the program provides the homes with a community solar subscription to eliminate most of the remaining energy bills. The program will work with healthcare providers, like Denver Health and Colorado's Children's Hospital, to find especially vulnerable individuals to poor air quality (Brasch, 2022).

Although typically the cost for providing such comprehensive services would be quite high, the providers are combining state “pre-weatherization” funding, regular weatherization funding, new federal incentives, utility rebates, and other sources to make the whole program affordable and replicable.

This program is especially notable because it tackles the overlapping nature of these problems. For instance, many homes are ineligible for weatherization until they fix mold and asbestos problems; many houses won’t see the benefits of new heating and cooling systems if the conditioned air quickly leaks out of the house; and many households don’t have the time, money, or know-how to even know where to start.

# STRATEGY DEVELOPMENT PROCESS

## BACKGROUND RESEARCH:

The US Department of Energy (DOE) partnered with state and local governments to create the Clean Energy for Low-Income Communities Accelerator (CELICA) to help lower energy bills for low-income communities. CELICA provides valuable resources that Englewood used to create this strategy. First, the city filled out the CELICA Community Assessment and Barriers Analysis (U.S. Department of Energy, n.d), which helped Englewood gather all needed information to begin this strategy, such as listing out all current low-income energy efficiency program offerings as well as helping to identify top energy-burdened demographics via the Department of Energy's Low-Income Energy Affordability Data (LEAD) tool.

Analysis of other communities' energy efficiency programs and offerings was conducted by the city's intern in 2022 and continued on by the city's Sustainability Coordinator.

The city's Sustainability Coordinator then did an analysis of current energy efficiency programs and the city's participation and historical relationship with those programs.

## STAKEHOLDER ENGAGEMENT:

Interviews were conducted with relevant stakeholders, which included: Arapahoe County's Weatherization Assistance Program, Energy Outreach Colorado, Mile High Youth Corps, GRID Alternatives, Innovative Housing Concepts, and Englewood residents.

## FEEDBACK:

The draft version of this strategy was reviewed by the city's Sustainability Commission, relevant stakeholder groups, and internal leadership.

# OUTREACH

It was imperative that the city receive direct feedback from Englewood residents around this outreach strategy to be successful. The city's Sustainability Coordinator tabled at two Neighborhood Night events located in or near lower income census blocks (Cushing Park and Baker Park). At these events, residents were offered a $10 Nixon's Coffeehouse gift card if they were willing to complete an energy efficiency survey, which was offered in both English and Spanish. To review the survey questions, go to Appendix A.

Additionally, the Sustainability Coordinator, Neighborhood Resources Program Manager, and Public Information Officer conducted direct door-to-door outreach to five of the seven mobile home parks located in Englewood. Residents in these communities were given free resources including items such as a reusable bag and LED bulb kit. Additionally, residents had the option to take the energy efficiency survey mentioned above and received a $10 Nixon's Coffeehouse gift card as well.

Results are analyzed on page 12 and 13.

# AVAILABLE ENERGY PROGRAMS

The following is a high level overview of available low-income energy programs. Others may be available that are not listed.

## ASSESSMENT AND RETROFIT PROGRAMS

*Energy Efficient Englewood (E3)*
*Offers grants to low and moderate-income Englewood homeowners. The grants are up to a maximum of $8,000 per household for energy efficiency upgrades as determined by a free energy audit. The grant requires a 20% match from the homeowner; however, if the homeowner does not have the required match then a declining lien may be available.*

*Arapahoe County Weatherization Assistance Program (WAP)*
*A free professional audit for low-income homes to determine what energy-conserving updates or installations will keep the home cooler in the summer, warmer in the winter and lower utility bills. This program provides long-lasting efficiency improvements, such as sealing air leaks, furnace replacements, refrigerator trade-ins, and possible solar installations.*

*Colorado's Affordable Home Energy (CARE) Program*
*This program is run through Energy Outreach Colorado and focuses on a home's energy efficiency, which is a crucial component to overall energy costs and comfort during the hottest and coldest months of the year. This program offers energy audits, energy conservation education, upgrades such as LED light bulbs, low-flow fixtures, Energy Star refrigeration, air sealing, insulation, and HVAC services.*

*Mile High Youth Corps*
*Offers free energy and water assessments for qualifying households in the Front Range. Home assessments include the installation of toilets, programmable thermostats, lights, showerheads and faucet aerators. Services available to both renters and owners*

*Multifamily Affordable Housing Weatherization Program*
*In partnership with Energy Outreach Colorado, Xcel provides energy efficiency support to decrease energy costs in Multifamily Buildings. To qualify, at least 66% of a building's population must be at or below 60% of the state median income.*

## ASSESSMENT AND RETROFIT PROGRAMS CONTINUED

*Multifamily Building Efficiency Program*
Xcel Energy program available for any multifamily building with five or more units. Provides free energy assessment as well as direct installs of free energy saving products.

## RENEWABLE ENERGY PROGRAMS

*GRID Alternatives*
Low-income homeowners with a qualifying roof can receive a free solar PV system. The homeowner will be the owner of the solar system; there are no liens or loans—or any out-of-pocket costs, for that matter—associated with the installation. All solar costs are covered by Community Development Block Grant (CDBG) programs.

## BILL PAYMENT PROGRAMS

*Low-income Energy Assistance Program (LEAP)*
A federally funded program that helps income eligible families, seniors, and individuals pay a portion of their winter home heating costs. Also assists with repair and/or replacement of inoperable heating systems.

*Percentage of Income Payment Program (PiPP)*
Ensures consumers are not spending more than 6% of their monthly income on electric and natural gas bills. Currently, consumers may qualify for PIPP after they have worked with the LEAP program to determine eligibility.

# CASE STUDY: CITY OF WESTMINSTER AND ENERGY OUTREACH COLORADO PARTNERSHIP

In 2022, the City of Westminster's Sustainability Office provided energy efficiency retrofits to low-income homeowners to reduce their energy bills and increase home comfort. To do so, the Office partnered with Energy Outreach Colorado (EOC), a metro-area nonprofit that improves the energy efficiency of lower-income homes. EOC installs insulation, LED lighting, programmable thermostats, and other energy efficiency upgrades, primarily relying on funding from Xcel Energy. The City initiated a new partnership with EOC in 2022 and provided $8,000 in funding to unlock $46,000 in additional Xcel rebate funding. The funds helped upgrade seven homes, an increase from just one Westminster project in 2021. In 2023, the City provided $7,000 to unlock $52,000 in additional Xcel rebates, which supported nine homes. Staff will continue working with EOC to increase the number of energy efficient homes.

Write-up provided by Energy Outreach Colorado and City of Westminster.

*Similar to the City of Westminster, the City of Englewood only had one home served by the CARE program in 2022, showing a huge opportunity and need for increased partnership between the city and non-profit partners who specialize in this field.*

# ENGLEWOOD'S PROGRAM PARTICIPATION (2022)

| | Energy Efficient Englewood (E3) | Arapahoe County Weatherization Assistance Program | Grid Alternatives - Energy for All Program | Colorado's Affordable Residential Energy (CARE) | Multi-Family Affordable Housing Weatherization (Xcel) | Mile High Youth Corps |
|---|---|---|---|---|---|---|
| **Program Funding or Capacity** | $114,750 | 155 Jobs Completed in Arapahoe County | 14 Arapahoe County | ~600 | 57 Colorado | Data Unavailable |
| **Funding or Spots Claimed by Englewood** | $114,750 | 13 Englewood | 3 Englewood | 1 Englewood | 1 Englewood | 8 Englewood |
| **Eligible to Renters?** | No | Yes (Landlord Approval) | No | Yes (Landlord Approval) | N/A | Yes (Landlord Approval) |

**$2.5 - $6 Million**

*The total budget available in 2022-2023 to serve Arapahoe County's Weatherization Assistance Program (WAP)*, of which only $702,000 was tapped into by Arapahoe County and just $31,127 by Englewood.*

**1 of 600**

*Only one of the 600 houses that participated in Energy Outreach Colorado's CARE Program was from Englewood in 2022.*

**100%**

*Capacity reached for Englewood's Energy Efficient Englewood (E3) program in 2022.*

*Participation data provided directly from each program's administrators.*

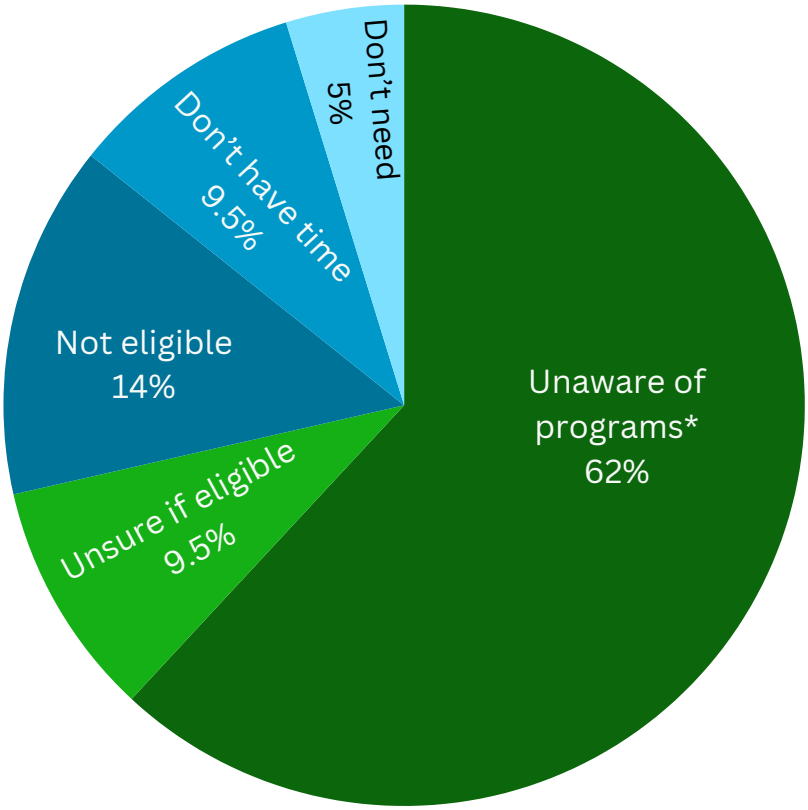
**Serves both Arapahoe and Adams County*

# FEEDBACK FROM THE COMMUNITY

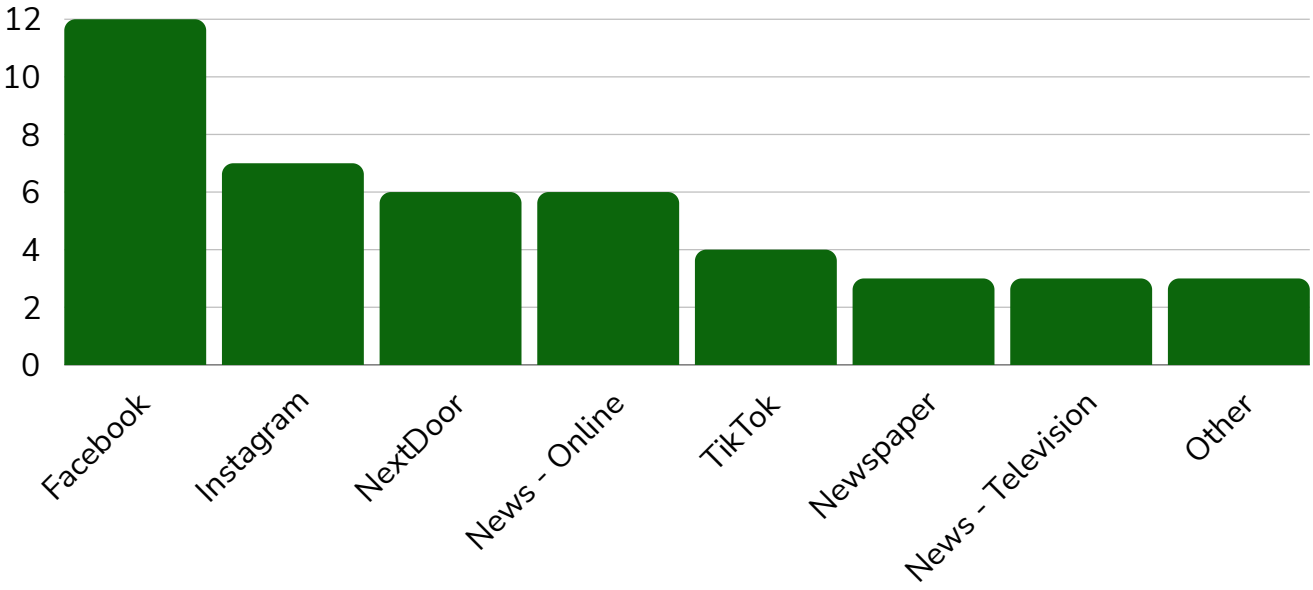
There were a total of 22 survey respondents. Of those surveyed, **80% said they had never utilized any of the mentioned energy efficiency programs** (See full list in appendix A).

Q: If you have not utilized any of the listed energy efficiency programs, what reason(s) made you not want to participate in them?

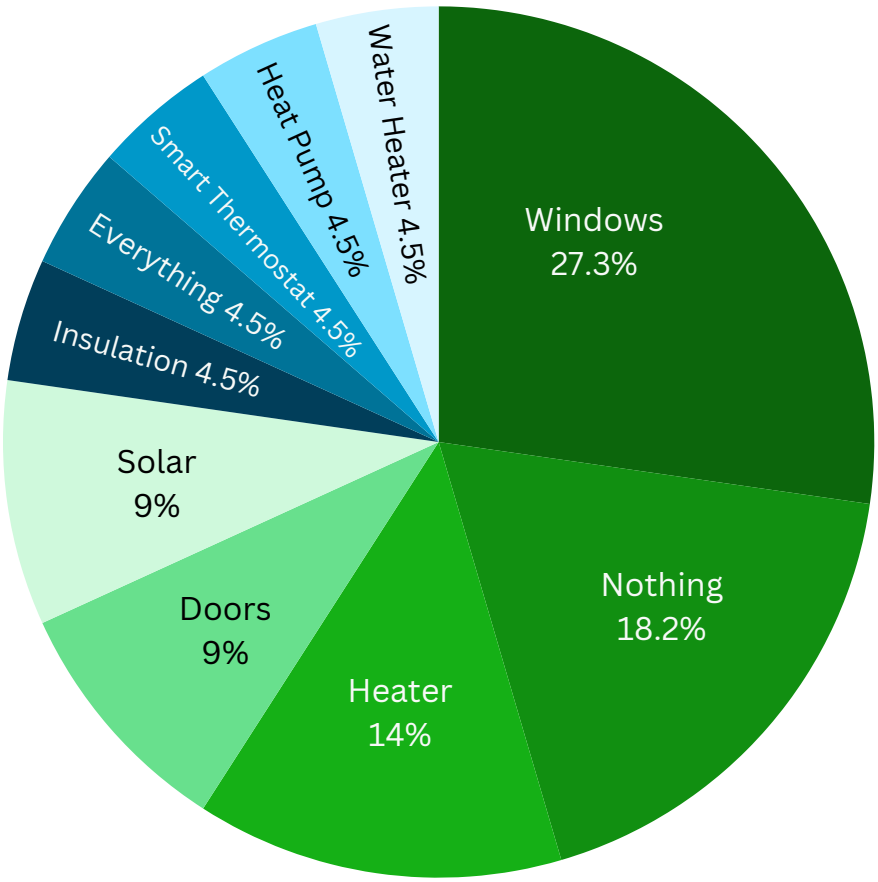
*One resident used Arapahoe WAP but marked that they did not know about all the other programs.




Q: Which of the following resources do you use to get information from?

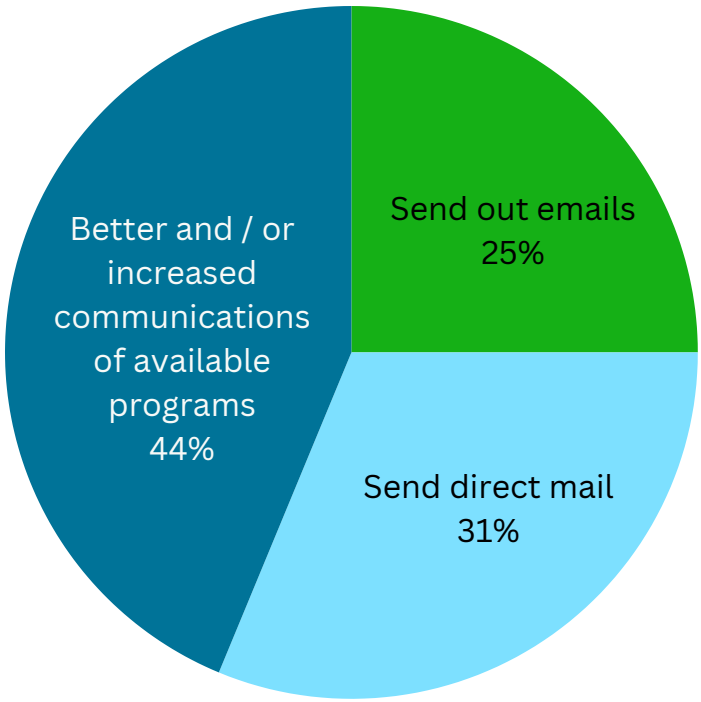


# FEEDBACK FROM THE COMMUNITY, CONTINUED




Q: What are the biggest energy upgrades or items you need improved in your home right now?

Q: How could the city improve in helping you connect with energy efficiency programs / utility bill assistance programs?



# CASE STUDY: ELECTRIFICATION OF EAGLE COUNTY MOBILE HOMES

In 2021, the Colorado Energy Office (CEO) and local partners transitioned five mobile homes in Eagle County from propane to fully electric heating and cooking. This was done through Colorado's Weatherization Assistance Program (WAP), where WAP service provider Northwest Colorado Council of Governments (NWCCOG) conducted the retrofits and Eagle County, Walking Mountains Science Center, and Holy Cross Energy provided funding and outreach support that allowed WAP dollars to be leveraged most effectively. Additional investments into the mobile homes were also made to reduce energy costs (Colorado Energy Office, 2021).

## COLLECTIVELY, THESE WAP PROJECTS:

- Reduce electricity costs on average by 26.4%
- Eliminate $60 per month in propane costs
- Save each household an average of $110 per month in utility bills
- Reduce each home's greenhouse gas emissions by an estimated 6.4 tons per year
- Eliminate existing fire hazards by upgrading electrical service
- Eliminate propane leaks and remove carbon monoxide-producing ovens and hazardous space heaters
- Improve ventilation and indoor air quality

"The Weatherization Assistance Program introduces technologies to Coloradans who otherwise could not afford them—an invite for them to participate in the clean energy economy and enjoy its health and economic benefits. These projects are a demonstration of this invitation and a promise to Coloradans that they won't get left behind."
Ryan Harry, WAP Director at the Colorado Energy Office

# IMPORTANCE AND CHALLENGE OF ENERGY EFFICIENCY IN RENTALS

Approximately 80% of Englewood's low-income households live in rental units, compared to 20% that own their own home. This is becoming more stark as housing prices rise, leaving many more younger families unable to afford a home purchase compared to previous generations.

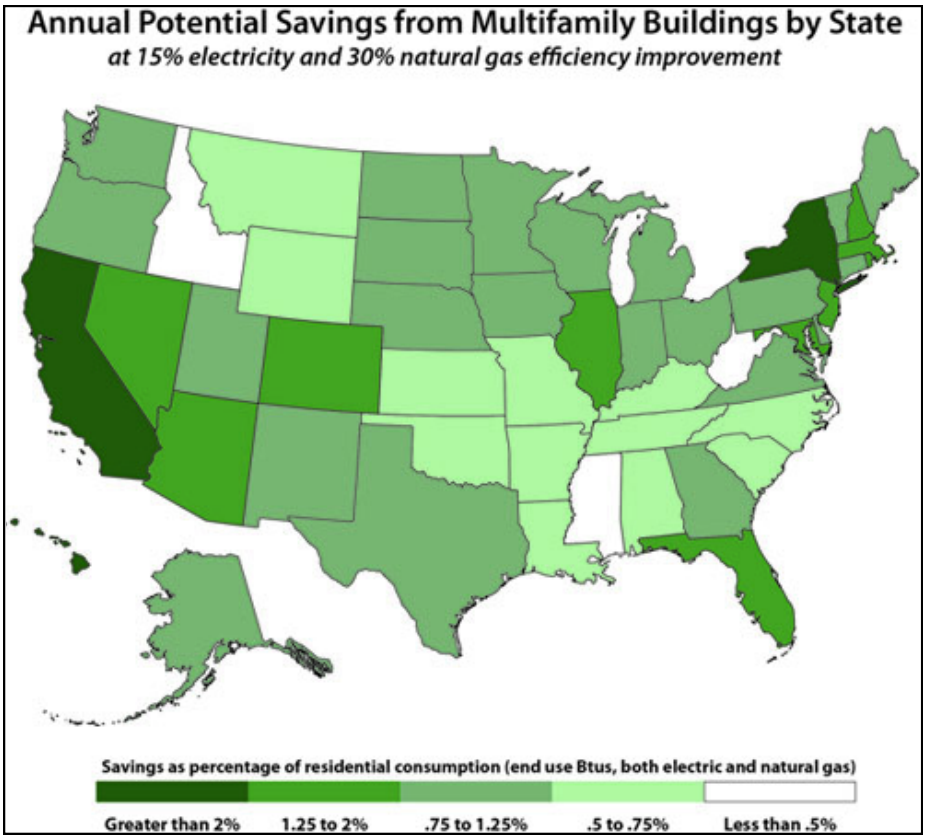
A huge challenge stands in the way of increasing energy efficiency in rental properties; however, in many rental situations, it is not financially conducive to the landlord to pay to improve the energy efficiency of a property if the tenants pay the utility bill, leaving the tenants with sometimes dated and energy-draining technologies. This is an example of the landlord-tenant split incentive, which occurs when one party (typically the owner) pays for energy improvements while the other party (the tenant) receives the benefits of reduced utility costs and can act as a barrier to implementing energy efficiency improvements in rental properties (City and County of Denver, n.d.).

## A CLOSER LOOK AT MULTIFAMILY

Overall, 41% of Englewood households live in a multifamily building, 15% of Englewood's low-income families live in a multifamily building. This highlights the importance of reaching multifamily property owners and improving their participation in energy-saving programs.

According to the American Council for an Energy-Efficient Economy (ACEEE), Colorado has among the highest potential to see large savings from increased multifamily building energy efficiency improvements, as you can see in the graphic on the following page (American Council for an Energy-Efficient Economy, n.d.).

Englewood's multifamily buildings, however, face the same "split incentives" problem as most other rentals, leaving residents in these buildings to pay higher energy bills and face higher energy burdens.




*Source: American Council for an Energy-Efficient Economy, n.d.*

This is somewhat changing for larger multifamily buildings because of a new law, HB21-1286, that requires Colorado's largest buildings to first measure and report their energy use then gradually reduce it to hit certain targets (Colorado Department of Public Health and Environment, n.d.).

In August 2023, the Air Quality Control Commission approved the building performance standards rule implementing the law, and it is expected to be finalized November 2023. It applies to commercial, multifamily, and public buildings 50,000 square feet or larger -- including an estimated 20 multifamily buildings in Englewood. It gives building owners a choice of several flexible pathways to comply with the rule, including an energy efficiency target, a greenhouse gas emissions target, a standard energy efficiency percentage improvement, and some renewable energy options, plus a timeline or target adjustment for buildings with special circumstances.

Buildings that do not comply will be fined, which means it may no longer be financially conducive, prudent, or legal for large building owners to delay energy efficient upgrades.

# CASE STUDY: THE CITY OF BOULDER'S SMARTREGS PROGRAM

It can be challenging improving the energy efficiency of rental properties since many times building owners need to be the ones to pay for and sign off on any permanent improvements but, as discussed above, the building owners don't receive the savings from the lower energy bills. In 2010, the City of Boulder tackled this issue by making energy efficiency standards part of its rental housing requirements, requiring all rental housing to demonstrate they are about as efficient as buildings built to the 1999 Energy Code. The program applies to all long-term licensed rental housing, ranging from single-family homes to large apartment buildings.

To be in compliance, a property owner can either: (1) achieve a score of 120 or better through the Home Energy Rating System (HERS), a nationwide scoring system; or (2) achieve at least 100 points on a scoring checklist the city developed based on energy and carbon savings for specific measures. Two water efficiency points are also required.

As of the end of 2018, the city estimated the program had saved about 1.9 million kWh of electricity, 460,000 therms of natural gas, $520,000 in energy costs, and 3,900 million metric tonnes of CO2. As of 2022, of the approximately 20,000 licensed rental units in Boulder, roughly half have gone through the SmartRegs process. More than 7,000 of those units are in compliance, including 1,650 affordable units (Nadel & Hinge, 2023).

*Rental housing units make up 50.8% of all residential units in Englewood, with 44.6% of residents living in rental housing units. (American Community Survey 2017-2022)*

# ENGLEWOOD'S STRATEGY

Below is the City of Englewood's strategies for increasing energy efficiency within the city's low-income households.

| GOALS | ACTIONS | TARGETS |
|---|---|---|
| Leverage and strengthen partnerships with local serving non-profits around energy assistance and efficiency. | Provide and/or secure funding to partner with industry non-profit(s) in order to increase energy efficiency retrofits completed in Englewood. | Complete by Q4 2025 |
| Increase resident participation in current low-income energy efficiency programs. | Annually track Englewood low-income energy efficiency program participation to help gauge what actions are working and what strategies need to pivot. | See a year-over-year increase in Englewood participation in energy efficiency programs. |
| Initiate specific education and outreach campaigns for different housing types. | Work with Englewood mobile home communities to coordinate outreach around current energy efficiency offerings that suit their needs. | Conduct at least one outreach effort a year. |
| | Utilizing the publicly available Building Performance Colorado (BPC) map, assess which multi-family buildings are currently not in compliance with the BPC standards. Create outreach plan with Xcel Energy for those locations on available multifamily energy efficiency program. | Reach 100% compliance of multi-family buildings 50,000 square feet or more are with the state's building performance standards by 2030. |
| | Work with Xcel Energy conduct outreach of their multifamily building efficiency program, specifically multi-family buildings under 50,000 square feet or less that are exempt from the state's building performance standards. | Complete assessment of eligible buildings in Englewood by Q4 2024 |
| | [Listed in the Sustainability Plan] Continue to develop and improve the E3 program. | Ensure continued 100% participation rate in the Englewood Energy Efficient (E3) program. |

| GOALS | ACTIONS | TARGETS |
|---|---|---|
| Make finding information on available energy efficiency programs easy, accessible, and frequent to Englewood residents. | Have a recognized energy efficiency partner specialized in low-income programs attend Englewood events to educate and encourage residents to participate in available programs. | Minimum of two events a year |
| | Promote landing page on city website that lists all available energy efficiency programs for residents to take advantage of. | At least once a year |
| | Update and post income eligibility requirements for different energy efficiency programs on city social media channels. | Update annually; post at least once a year |
| | Include information on energy efficiency programs in the Englewood magazine and newsletter. | At least once a year |

# CONCLUSION

Englewood's Low-Income Energy Efficiency Outreach Strategy is an ongoing, dynamic effort, that will grow and be modified with the community based on the community's changing needs. The city welcomes all individuals, families, groups, and organizations to join us in proliferating energy efficiency -- and its savings -- so that all Englewood residents can enjoy the benefits of an energy efficient living space.

In summary:

**Englewood needs to foster relationships and partnerships with non-profit energy efficiency program providers.**

While the city has historic success with the E3 program, the same cannot be said for the other energy programs. This is likely due to relationships and partnerships not being fostered in the past with other energy efficiency program providers.

**Englewood residents are not taking full advantage of the programs available to them -- largely from not knowing they exist and not knowing if they're eligible.**

The talent and funding is there, what's needed is to connect residents to what is available. Residents can be wary or untrusting of the government, so initiating strategic partnerships with non-profits who have built relationships and trust with the community is a key way to bridge the gap.

**Creativity is needed to address the challenge of energy efficiency upgrades being difficult for renters to access and benefit from.**

Renters oftentimes struggle the most with energy efficiency upgrades and retrofits since it is up to the landlord -- not them -- to sign off on the energy efficiency upgrades. Continued creative thinking is needed on ways to address this issue, with lessons learned being widely shared with others for learning and collaboration.

# ACKNOWLEDGEMENTS

Thank you to the individuals and organizations who helped inform and shape this strategy.

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# APPENDIX A

## ENERGY EFFICIENCY SURVEY QUESTIONS

1. Are you an Englewood resident? Y/N
2. Which of the following applies to your current living situation?
    a. I own a house / condo / townhouse
    b. I own a mobile home
    c. I rent a house
    d. I rent in an apartment
    e. Other
3. Have you utilized any of the following energy efficiency programs in the time you've lived in Englewood? (Select all that apply)
    a. Arapahoe County Weatherization Assistance Program (WAP)
    b. Mile High Youth Corps Energy and Water Efficiency Assessment
    c. Colorado's Affordable Residential Energy (CARE) Program
    d. Energy Efficient Englewood (offers grants to low and moderate income Englewood homeowners for energy efficiency upgrades)
    e. I have no utilized any of these programs
    f. Other
4. If you have not utilized any of the above programs, what reason(s) made you not want to participate in them?
5. Which of the following resources do you use to get information from (check all that apply)?
    a. Facebook
    b. Instagram
    c. TikTok
    d. NextDoor
    e. Newspaper
    f. News - Television
    g. News - Online
    h. Other
6. What are the biggest energy upgrades or items you need improved in your home right now?
7. How could the city improve in helping you connect with energy efficiency programs / utility bill assistance programs?