

**MEMORANDUM**

Date: May 17, 2022  
To: City Council  
From: Climate and Environment Commission  
Subject: Commission Report to City Council on Rental Energy Efficiency

The Climate and Environment Commission conducted research about the benefits, inhibitors, and climate impacts of rental energy efficiency standards, including looking at approaches used in other communities, and produced the attached report. The report summarizes the commission's findings and provides recommendations to the City Council on next steps. This report has also been shared with the Water and Light Advisory Board, the Finance Advisory and Audit Committee, and the Housing and Community Development Commission.

As noted by Christian Johanningmeier at last night's pre-council meeting on the IER&MP, the Columbia community has been a leader in demand side management. Taking actions to improve rental energy efficiency would help us further progress toward our climate action goals and by decreasing demand, will help keep electricity prices down for all customers.

Sincerely,



Leanne Tippet Mosby, Chair  
Climate and Environment Commission

## **Rental Energy Efficiency Report for Columbia City Council from Climate and Environment Commission**

**This report addresses Climate Action and Adaptation Plan**

### **Action H-1.1.3 Establish a date by which all rental housing will be required to meet basic energy efficiency standards for license renewal**

The Climate and Environment Commission (CEC) recommends Columbia implement mandatory minimum energy efficiency (EE) standards for rental housing. The structure and timing of implementation of these standards might best be recommended by a team comprised of members of the Climate and Environment Commission with necessary participation from city staff in impacted departments including Neighborhood Services, Office of Sustainability and Columbia Water & Light or a Rental Energy Efficiency Task Force established by the Council to address this issue. Based on research by the CEC, who have examined similar processes in other cities, the development of recommendations should not take longer than twelve months including creation of the team or taskforce.

Among the elements of the new standards, we suggest they should address (1) information on the energy efficiency of rental units made publicly and easily available, (2) mandatory minimum energy efficiency standards for all types of rental housing properties including multiple unit buildings with the understanding different conditions may require different types of standards.

Objectives for the Task Force or Stakeholder Team to include:

- Design a program that raises energy efficiency of rental units in Columbia
  - Minimizes potential rent increases from the pass-through of costs
  - Takes into consideration any impacts on property owners with mortgages
  - Addresses adequate city staff and local contractor capacity for assessment and energy efficiency improvements
- Identifies grant opportunities and designs a program to leverage any available grant funding to assist with implementation and execution

The Climate Action and Adaptation Plan has established a goal to reduce community emissions by 35% by 2035, 80% by 2050 and 100% by 2060 over 2015 greenhouse gas emissions levels. In order to achieve these community based targets the city must improve the energy efficiency of the housing inventory.

Additionally, decreased energy demand from customers of Columbia Water & Light will reduce the need for additional generating capacity and transmission lines, etc. in Columbia, thus keeping electricity prices down for all customers not just occupants of the improved properties.

A new UN report on climate change released on April 4, 2022 indicates that harmful carbon emissions from 2010-2019 have never been higher in human history. Scientists argue that it's 'now or never' to limit global warming to 1.5° C, the level needed to avoid the worst impacts of climate change. Columbia needs to do our part to reduce overall emissions 43% from 2019

levels by 2030 to reach to goals set out by the United Nations.<sup>1</sup>

The following sections of this report provide background information for City Council members and any persons assigned to pursue further development of the standards. In addition the CEC has accumulated many reference documents that are available on an on-line drive.

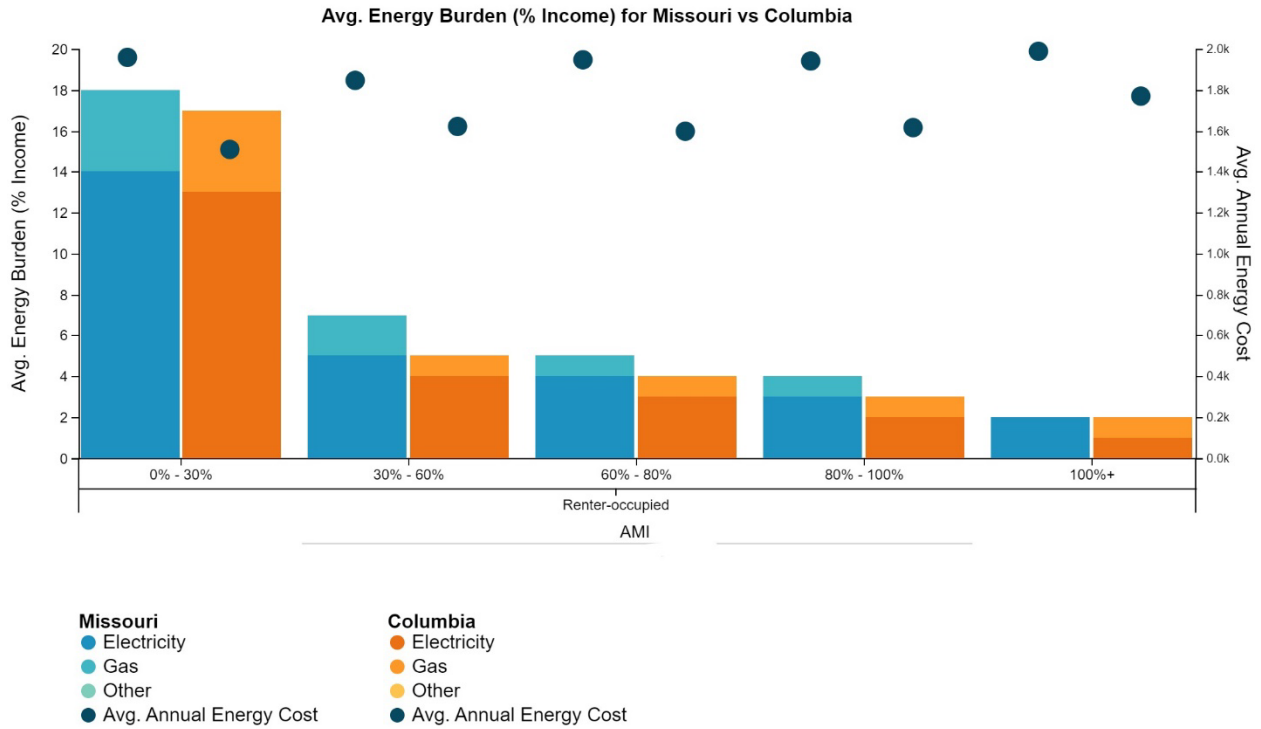
### **Why Columbia needs energy efficiency standards for rental housing**

Over 50% of the housing units in Columbia are rental units. These units, many of which are energy inefficient have a significant impact on energy consumption in the community as well as on the budgets of the renters. Columbia currently has 27,555 units and 9,834 buildings in compliance with rental ordinances as of June 2021.

Utility costs are a key factor in determining the affordability of housing. In Columbia many renters are energy burdened meaning that they are spending a much higher percentage of their income on utility costs than a household that is not energy burdened.<sup>2</sup> Energy burden is defined as the percentage of gross household income spent on energy cost. Based on LEAD Tool data, the national average energy burden for low-income households is 8.6% — 3 times higher than for non-low income households.

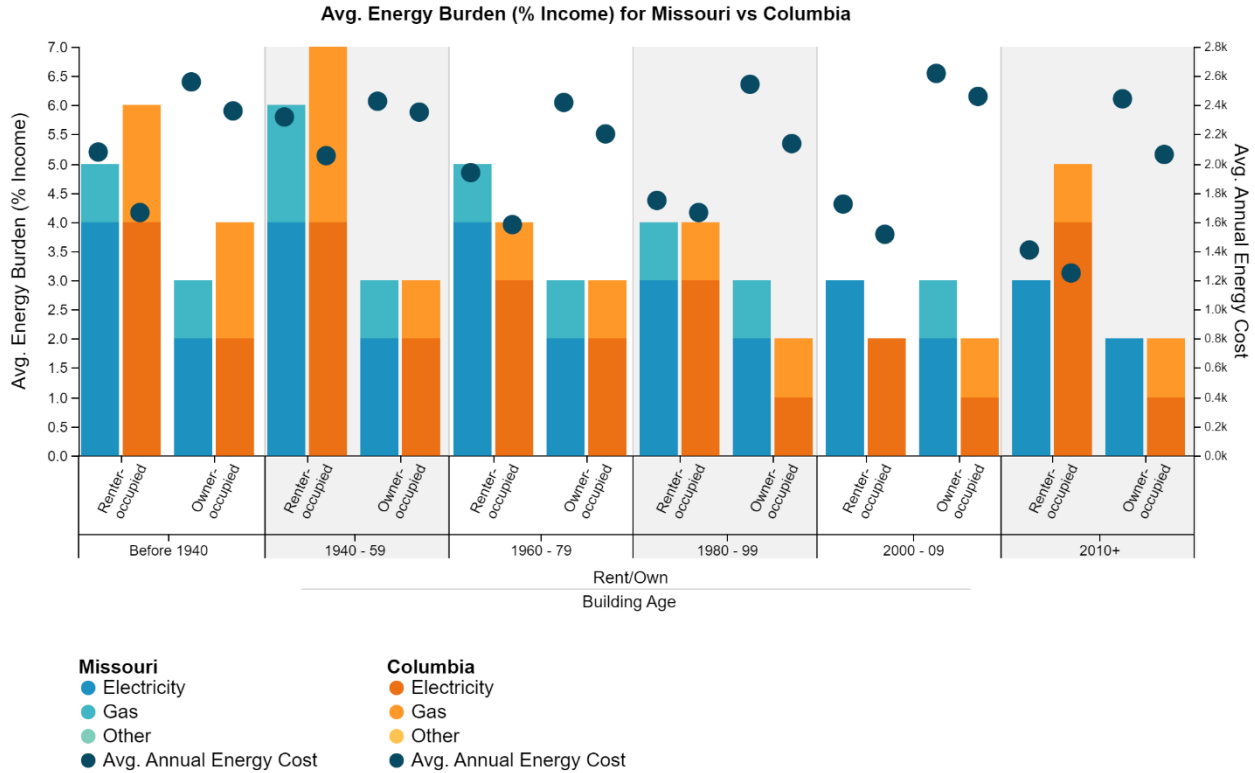
#### **Columbia Data:**

According to the [LEAD tool](#), in Columbia the rental households that are 0-30% of the Area Median Income (AMI) have a much higher energy burden at 17% than households in other categories of the AMI. Approximately 8,000 rental households in Columbia are included in this group. These households include all buildings types from a single-family to multiple units in a building to mobile trailers. The Area Median Income is the midpoint of a region's income distribution – half of families in a region earn more than the median and half earn less than the median. In Columbia for renters with 30-60% of AMI the total average burden as a percentage of income is 6%. This compares to 4% (60-80% AMI), 3% (80-100% AMI) and 2% (100%+ AMI) for energy burdens for renters at other income levels. This data is illustrated in the following graph.



**Low-Income Energy Affordability Data Tool Chart Export (<https://lead.openel.org/?mapSearchInput=columbia+mo>)**  
 Exported On: 2/24/2022  
 AMI: 0% - 30%, 30% - 60%, 60% - 80%, 80% - 100%, 100%+  
 Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+  
 Heating Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None  
 Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ units, Boat/RV/Van, Mobile/Trailer  
 Rent/Own: Renter-occupied

Another interesting dimension to consider as the standards and areas of focus are developed is how the age of the building impacts the Annual Energy Cost, The Avg. Energy Burden (%) and how this differs for owner-occupied versus renter-occupied units. As you will see in the following table a newer unit (2010+) does not necessarily equate to a lower energy burden percentage than some older units. The highest energy burden percentages are found for renter-occupied properties from 1940-59.



Low-Income Energy Affordability Data Tool Chart Export (<https://lead.openel.org/>)  
 Exported On: 1/17/2022  
 AMI: 0% - 30%, 30% - 60%, 60% - 80%, 80% - 100%, 100%+  
 Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+  
 Heating Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None  
 Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ units, Boat/RV/Van, Mobile/Trailer  
 Rent/Own: Renter-occupied, Owner-occupied

The Climate Action and Adaptation Plan has established a goal to reduce community emissions by 35% by 2035, 80% by 2050 and 100% by 2060 over 2015 greenhouse gas emissions levels. In order to achieve these community based targets the city must improve the energy efficiency of the housing inventory. One of the challenges with improvements in rental housing is that the landlord needs to make the investment in improvements but it is usually the renter who pays the utility bill who benefits from the improvements. Due to this split incentive problem between landlords and renters, landlords in general have not displayed a willingness to voluntarily make energy efficiency improvements to their properties without mandates. CWL and Boone Electric Cooperative have voluntary incentive programs. CWL information indicates these incentives have been used by few landlords. Incentives alone whether through rebates or tax deductions for energy efficiency expenses or depreciation of improvements have been insufficient to promote sufficient change. Appendix A includes a list of current Columbia Water & Light programs to promote energy efficiency improvements. These programs are available to both owner-occupied homeowners and landlords.

As Columbia owns the Columbia Water & Light Utility, the community of customers have a collective interest in reducing the peak load for the electric utility. Historically, the peak load

has occurred in July. Energy efficiency improvements can be a significant factor in both reducing and minimizing the growth in the peak load. By maintaining the peak load at current levels the community avoids future capital investments to expand capacity. Decreased energy demand from Columbia Water & Light customers will reduce the need for additional generating capacity and transmission and distribution lines in Columbia, thus keeping electricity prices down for all customers not just occupants of the improved properties.

In 2019 Columbia conducted its own case study of energy efficiency improvements in rental housing and found the following: “The results of this case study indicate reduced energy consumption and cost savings following installation of energy efficiency measures. Average home energy usage of the 30 participating homes was reduced by 25% in the year following energy efficiency improvements.” This 25% reduction in average home energy usage translated “into tenants enjoying average electricity cost savings of \$298 and gas usage savings of \$86 over the course of a year.”<sup>3</sup> The cost of the energy efficiency improvements ranged from 53% investing less than \$999, 30% invested between \$1000 - \$4,999 and 17% invested more than \$5,000. The most common improvements include addition of attic insulation (83%), insulation of ducts in unconditioned spaces (23%) and replacement of HVAC units (23%). The type of homes included single family homes and multi-family buildings with less than 9 units.<sup>3</sup>

The recently completed Integrated Electric Resource and Master Plan assumes energy efficiency improvements of 0.5% savings in the reference case up to 0.7% savings in the renewables scenario annually for the first ten years of the plan. Columbia needs to make plans as to how these energy efficiency improvements will be obtained.

Columbia like the Midwest in general is expected to experience more heat waves and more days with temperatures above 95°F because of climate change. Without energy efficiency improvements the future temperatures will increase the energy burden on households and create health risks for those who either don't have air conditioning or choose not to use it because they feel they can't afford it. Many low and moderate income households will experience unexpectedly high energy bills that they are not equipped to pay. It is anticipated emergency services calls, hospital visits and deaths will increase in a heat wave of three or more days at or above 95°F. Deaths from heat waves of the leading cause of death due to extreme weather in the United States.

The Climate Impact Lab<sup>4</sup> has used both historical data and climate modeling to forecast the future potential for hot days in Missouri.

Future Heat Impacts in Missouri as modeled by the Climate Impact Lab

Time period	Historical Number of days annually > 95°F	Number of days annually > 95°F with median probability <sup>1</sup>
1981-2010 (Baseline)	9	
2020-2039		26
2040-2059		38
2080-2099		75

Notes: Data from Climate Impact Lab at [impactlab.org](http://impactlab.org) using High Emissions Scenarios (Representative Concentration Pathway 8.5), Data not provided by Climate Impact Lab for 2010-2020 or 2060-2079.

<sup>1</sup>Median Probability described by Wikipedia is as follows: In statistics and probability theory, the median is the value separating the higher half from the lower half of a data sample, a population, or a probability distribution. For a data set, it may be thought of as "the middle" value. The basic feature of the median in describing data compared to the mean (often simply described as the "average") is that it is not skewed by a small proportion of extremely large or small values, and therefore provides a better representation of a "typical" value. Specifically for this data the 50% or median outcome can be interpreted as "more likely than not."

Additional benefits of implementing rental energy efficiency standards include:

- This proposal will contribute to achieving the Columbia Strategic Goals as follows:
  - Safe Neighborhood
    - Outcome Objective Two: Improve services to the City’s most vulnerable
    - Outcome Objective Three: Improve outcomes associated with the City’s community safety
  - Reliable Infrastructure
    - Outcome Objective Three: Prepare Columbia’s natural and built environments for the impacts of climate change
  - Resilient Economy
    - Outcome Objective Two: Expand the supply of affordable housing for low- to moderate-income members of the community
- With energy efficiency scores and past utility usage information available, many renters will be able to project the cost of occupancy which consists of rent and utility bills as well as comparison shop between rental units
- The money saved from reduced energy bills means money available that can be spent at other businesses in Columbia.
- Money spent on home improvements by landlords is money spent in Columbia rather than payments to electric and natural gas production companies outside of Columbia. Building improvements produce jobs in Columbia.

- Landlords can use high energy efficiency scores as selling points for their rental units.
- Landlords can reduce future costs by reducing turnover due to tenants experiencing utility bills they can't afford. Even without raises rent then can result in future improved income for landlords. Turnover costs are estimated to be at least \$1000 per unit or much higher.<sup>5</sup>
- Some efficiency improvements result in future reduced maintenance costs for property owners.
- Renters are less likely to run into financial difficulty from energy expenses much higher than anticipated during heat waves or cold periods.
- Efficiency upgrades create healthier living environments, including reductions in air contaminants, allergens and symptoms associated with asthma<sup>6</sup>

**Benefits of investing in improving energy efficiency and health and safety for low income households** from the [report](#), "Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities":<sup>7</sup>

- "Addressing energy affordability can help to break the cycle of poverty and improve economic development, educational achievement and public health."
- Studies "found utility shutoffs to be one of the primary factors that led to homelessness".
- "A 2012 study found that paying utility bills was the most common reason why individuals took out a payday loan."
- "...more than one-third of their (low-income households) excess energy burden was caused by **inefficient** housing stock." "We found that for all low-income households and for multifamily low income households, **bringing their housing stock up to the efficiency level of the median household would eliminate 35% of their excess energy burden.**
- "Customers' inability to meet monthly utility payments may lead to higher costs for the utility, which can lead to even higher home energy burdens for all households." The utility experiences higher collection costs as well as costs associated with shut-offs and connections when customers can't pay on time.
- "Increased property values and preservation of housing stock."
- Investing in energy efficiency can reduce greenhouse gas pollutants.

### **Other communities have successfully implemented rental energy efficiency programs**

There are many viable approaches to improving energy efficiency in the rental housing inventory in Columbia. The CEC recommends that Columbia choose an approach or approaches from some of the successful programs implemented elsewhere. Two examples are offered below. There are also other communities moving in this direction. Much more information is available on the programs for both cities than is noted below.



Boulder, Colorado implemented a program offering two paths to energy efficiency. One path utilizes a prescriptive approach. Points are assigned to various energy efficiency improvements that can be made to a building. The property owner needs to achieve a defined point score. The alternative path offers an assessment approach.<sup>8</sup> Boulder uses incentives and regulations to overcome the split incentive challenge. Incentives were larger in first 3 years of compliance period to encourage early adoption. Boulder was able to leverage Federal funds to assist with the program.<sup>9</sup>

[Burlington, Vermont](#) implemented a program that went into effect on January 1, 2022. The approach includes two parts 1) mandates cost-effective minimum energy efficiency standards enforced when buildings are sold. Technical assistance and incentive packages are offered to help property owners meet these requirements. The ordinance only applies to apartments where the tenants are responsible for directly paying the heating costs. The program utilizes cost caps to limit financial impact to landlords and renters. 2) a new weatherization ordinance was added to the city's minimum housing code. The Weatherization Ordinance only applies to high energy use rental buildings. In mixed commercial/residential rental buildings, the Weatherization Ordinance only applies to the residential rental portion of the building.<sup>10</sup>

The Weatherization Ordinance is being implemented over multiple years in two-stages based on building energy usage to determine when a building needs to comply. The Weatherization Ordinance goal is to prioritize highest use buildings.

Burlington's approach included:

- Amending the City's existing Time of Sale ordinance (ToS) to require weatherization improvements for rental housing units not only at the time a unit is sold, but as part of the minimum housing code that is enforced by the Department of Permitting & Inspections, which includes inspections of every property on a cycle that ranges from one to five years depending on the performance of the property.
- Utilize the list of applicable weatherization improvements currently found in ToS to apply to rental units with a specified energy intensity rating.
- Applicable improvements focus on the most cost-effective modern weatherization practices: insulation in exterior walls, open attics, hatches, ceilings, roof cavities, and rooms over unheated basements/exterior spaces; repair of leaks and insulation of heating/cooling ducts and hot water pipes; storm windows, functional weather stripping on doors, and functional latches on all doors and windows; and sealing large gaps and holes where heated/cooled air easily escapes.
- Utilize a cap on the dollar amount of investment in weatherization to define a level that, while not unreasonably financially burdensome, is designed to maximize expected energy savings and occupant comfort. The cost cap reflects inflation and the real cost of improvements.

## **How do we ensure that the costs of improvements aren't just passed on to tenants?**

This is a critical issue that other communities have explored as well. Burlington, Vermont took this into consideration in their proposal and standards.<sup>8</sup>

- “Energy efficiency and weatherization are the wisest dollar spent in terms of impact, but are the hardest to sell from a return-on-investment (ROI) perspective.” Burlington estimated that increasing efficiency of units could result in \$100-\$400 in annual energy savings to tenants, which is particularly important to the large number of renter households that are energy-burdened.
- The Burlington proposal included a limit on the dollar amount of required improvements so that the costs could be spread over time, and “to ensure that there is a nexus between the investment and the energy savings to limit the potential cost impact that could be passed on to a tenant.”
- “For tenants of permanently affordable units or those who use Section 8 vouchers, there are limits to the costs that tenants pay that would provide protection against rent increases related to energy efficiency improvements.”

### **Columbia current rental requirements**

- Rental property must be registered with the City
- Rental Certificates of Compliance are issued for three years and can be renewed without an inspection for another 3 years depending on complaints
- Most properties are inspected every 6 years
- Fees are \$60/building + \$26 unit, Single family house - \$86; Duplex - \$112, Renewal - \$43 per building

## **What local tenants and landlords have said about rental EE standards?**

Columbia’s Environment and Energy Commission conducted two public hearings in the past regarding rental unit energy efficiency standards. In addition city staff held two smaller input meetings specifically with landlords, realtors and tenants.

### **Tenants**

- Fear of rent being raised by landlords after EE improvements
- Utility bills are sometimes much higher than expected but unknown until they arrive.

### **Landlords**

Staff discussions in 2019 with stakeholders: Columbia Apartment Association, Board of Realtors, Columbia Housing Authority staff

What we heard:

- Provide incentives
- Phased compliance
- Educate tenants and property owners/managers
- Support for scoring to develop market for improved properties, scoring that is done equitably and fairly across property types
- Some expressed comfort with the idea that eliminating the “lowest performers” from the rental market might be an acceptable outcome.
- Focusing on the medium or next-tier properties would encourage more adoption of efficiency improvements through market action
- Acknowledge cost/benefit – will the efficiency be more than the cost to upgrade
- Usage levels for electricity are sometimes driven by very poor energy management by renters so some landlords said they would welcome a system that was based upon the house not the tenant’s use
- Want a representative at the table during the standards development process

### **Past experiences from CWL working with landlords.**

“A few years back the Utility had a LMI [income-qualified] attic program. The Utility worked with the Housing Authority to contact Housing Choice Voucher Landlords, since the decision ultimately falls upon the landlord to make the improvement. The Utility was able to spend the entirety of said budget, but it required well more effort to get participation than anticipated.” Todd McVicker, Columbia Water and Light

### **Past experiences of Central Missouri Community Action (CMCA) which operates the federal weatherization program in this area.**

CMCA John Cokendolpher • Weatherization Program Manager (responses in italics)

Do you still have landlords say no even without a financial contribution requirement? (Yes.)

If so, do you have any numbers on how many landlords say no in a given time period and why they say no? *(We do not track this information. However, the number is very low, maybe one or two a year.)*

How many rental houses in Columbia are you able to help each year? *(We don’t track by city but by county. We did 19 rental units in Boone County this last year.)*

What is the typical expenditure from the program? *(The average cost of direct materials and labor spent on all houses, owned and rented, to install weatherization measures is \$3,255. This does not include administrative nor auditor and inspector costs.)*

What are the results in energy efficiency improvements if that is tracked? *(The savings in Missouri average \$417 annually in lower utility bills. There are immeasurable health and safety benefits as well.)*

Other:

*We [CMCA] are only authorized to work on single homes and mobile homes, as well as duplexes through quadplexes. We cannot work on facilities that have more than four units under a single roof.*

## Summary

The Climate and Environment Commission (CEC) recommends Columbia implement mandatory minimum energy efficiency (EE) standards for rental housing. The structure and timing of implementation of these standards needs to be developed with input from stakeholders and the public. The goal is for these standards to be developed and approved within twelve months.

Columbia has a significant number of rental dwellings whose occupants are considered energy-burdened. The worst of these categories has an energy burden rate of 17% compared to a national average energy burden of 8.6% for low-income households. Although Columbia Water & Light has many programs to promote energy efficiency improvements, these programs have been insufficient to reduce energy inefficiency in Columbia's rental units on a broad basis.

There are many benefits to implementing rental energy efficiency standards in addition to lowering the energy burden on rental households and reducing energy demand for Columbia Water & Light. Implementing this policy can create new local jobs, help end the cycle of poverty, reduce homelessness, increase property values, and preserve housing stock. Homes that are weatherized and energy efficient will be better prepared for the forecasted hotter summers of the future.

In order to achieve the GHG emissions reductions targets in the CAAP the city must improve the energy efficiency of the housing inventory. Additionally, decreased energy demand from customers of Columbia Water & Light will reduce the need for additional generating capacity and transmission lines, etc. in Columbia, thus keeping electricity prices down for all customers not just occupants of the improved properties.

The Climate and Environment Commission recommends that the City Council authorize urgent and timely development of rental energy efficiency standards for the Council's future consideration.

## Sources

1. United Nations April 2022 Report, <https://www.ipcc.ch/report/ar6/wg3/>
2. LEAD tool. <https://lead.openei.org/assets/docs/LEAD-Tool-Methodology.pdf>
3. Columbia Rental Energy Efficiency Case Study 2019, <https://drive.google.com/file/d/1VduZI06JtE2kIx7jvsEboakl6Dlepjyd/view?usp=sharing>
4. Climate Impact Lab <https://impactlab.org/map/#usmeas=absolute&usyear=1981-2010&gmeas=absolute&gyear=1986-2005>
5. Hammond, Lori. 2014, "Adding Up the Financial Benefit of Reducing Movements", Property Management Minutes, <https://propertymanagementminutes.com/adding-up-the-financial-benefit-of-reducing-moveouts/>

6. Wilson, Jonathan, Jacobs, David, Tohn, Ellen, Jonathan Jacobsohn, Ely. 2016. "[Home Rx: The Health Benefits of Home Performance, A Review of Current Evidence](#)". U.S. Department of Energy (DOE), Energy Efficiency & Renewable Energy
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8. "Cracking the Nut on Split Incentives: Rental Housing Study", Yael Gichon, Megan Cuzzolino, <https://www.aceee.org/files/proceedings/2012/data/papers/0193-000251.pdf>
9. Petersen, Alisa and Radhika Lalit. Better Rentals, Better City: Policies to Improve Your City's Rental Housing Energy Performance. Rocky Mountain Institute, 2018. [info.rmi.org/better\\_rentals\\_report](http://info.rmi.org/better_rentals_report)
10. Burlington, Vermont website

## **Appendix A: Columbia Water and Light (CWL) Programs available for improving energy efficiency in single family rental housing or rental units**

Please see the website <https://www.como.gov/utilities/columbia-power-partners/> for the most recent information.

**Any residential offerings are available to landlords as property owners of their rental units.**

**Note:** CWL programs only apply to buildings with a permanent foundation.

**Free Energy Assessment** Water and Light staff evaluate a residence for energy efficiency and water conservation. Recommendations for energy and water usage and conservation upgrades are made along with providing information on other available programs. Any Water and Light customer can participate. This program is offered at no cost to participants. A tenant may participate in this program without prior landlord approval. Major recommendations will be referred to the property owner.

### **What's included with a home energy assessment?**

- A review of your electric and water consumption history
- An interior and exterior onsite evaluation
- Review of weatherization materials that will work best for your particular needs
- Lifestyle strategies to lower your usage
- Equipment energy use assessment and payback periods for replacements
- Landscaping tips for keeping your house cool
- Eligibility for other Columbia Water & Light conservation programs
- Tips on how to clean and maintain your appliances

**Home Performance with Energy Star (HPwES):** Any Water and Light residential electric customer is eligible to participate in the HPwES program. Certified contractors test in and test out homes for energy efficiency improvements and rebates are offered. Participants can receive additional rebates through HPwES for installing a qualifying heat pump system. The assessment can cost from \$200 to \$400. The cost of the assessment can be financed with CWL's low-interest loan program. Eligible property types include:

- Single family homes;
- Duplexes and condos with attic spaces may qualify, contact the City for more information.
- Your property must receive a pre- and post-assessment by a certified Home Performance contractor.
- Receive a FREE energy efficiency score certificate for participating in the program.
- Program is available to all property owners, including for rental properties.

## Home Performance Rebates and Loans

Residential electric customers who participate in the Home Performance with Energy Star program can finance the suggested energy efficiency improvements through our rebates and loans.

### Rebates

Customers participating in the Home Performance program can receive rebates up to \$1,200 for energy efficiency upgrades. There are additional rebates for high-efficiency air conditioners and heat pumps. Any work performed prior to the initial energy efficiency assessment is not eligible for a rebate. Rebates and loans are subject to funding availability and are offered on a first-come, first-served basis, as funding allows.

Items eligible for a rebate:

- Adding insulation: Up to \$500 in rebates.
- Rebate for a qualified heat pump: Up to \$200 rebate.
- Reducing ductwork leakage: Up to \$300 in rebates.
- Reducing air leakage: Up to \$420 in rebates.
- Replacing windows and doors: Up to \$500 in rebates.

**Residential Energy Efficiency Loans:** Property owners in the Home Performance with Energy Star program are eligible for a loan for most of the energy efficiency improvements suggested in the assessment. The maximum loan amount for a single family home is \$15,000 and up to \$30,000 for a multi-family building that meets the program requirements.

**Attic Plus:** Any Water and Light residence that was not eligible to participate in the HPwES may receive a rebate for adding attic or duct insulation – designed for smaller housing units. Landlords, property owners and tenants may qualify. Certified contractors complete energy modeling and rebate documentation

Rebates are available up to \$450.

- Attic space must be less than 900 square feet.
- Rebate amount is based on the starting R-value of insulation (prior to updates).
- Eligible property types include: duplexes, triplexes, multi-family properties, condos and townhouses with accessible attics.

**Enhanced Home Performance with Energy Star (income based):** Eligible Water & Light electric customers receive rebates for installing qualifying energy efficiency measures. Rebates are increased to reduce the cost of participation. Rental properties are eligible with landlord authorization. Energy audit is included at no cost.



#### Eligibility requirements:

- Your income has to be lower than the amounts listed on the table below.
- You must own your home.
- Example income limits for a household of 4: Annual gross income, \$63,350

#### What is covered?

- As funding allows, you might qualify for these FREE upgrades:\*
- Energy efficiency assessment (to determine upgrades needed)
- Insulation (attic, wall, rim joist, ductwork and either crawlspace or floor over unconditioned spaces). If you think you need more attic insulation, check our charts and use our attic insulation calculator to determine savings, cost, payoff and rebate amounts.
- Air & ductwork sealing
- Replacement of qualified refrigerators

\*There is a cap of \$2,400 on the free energy efficiency improvements. Additional funding from other resources might be available for some home improvements.

#### **Window Air Conditioner Exchange Program**

To help you save energy and money, Columbia Water & Light, Boone Electric Cooperative and the Voluntary Action Center are offering an exchange program where you can replace your older, inefficient unit with a new one for FREE, for income-qualified electric customers during the summer. Call before bringing your older unit in to confirm eligibility and availability. Contact the Voluntary Action Center for details.

Voluntary Action Center  
573.874.2273opens phone dialer  
403A Vandiver Drive, Columbia, Missouri

#### Eligibility requirements:

- Be a current Columbia Water & Light electric customer.
- Have an older less efficient and/or broken window unit to exchange.
- Have an annual income at or below 200% of the poverty level (from the table below).
- Participants in the previous year's program are not eligible again this year.

#### Notes:

The Home Energy Score (HES) was developed as part of the HPwES program by the US Department of Energy and is similar to EPA's miles per gallon (MPG) rating for cars, measuring the equipment, not owner's habits. The HES ranges from 1 to 10 with high values indicating less energy use and lower energy bills. In addition, an estimated dollar

cost based on an estimated national average is provided. The Home Energy Score does not use current electric rates for calculating energy costs, it uses estimated national average energy rates.

The Columbia Water & Light's Efficiency Score (CWLES) was developed by Columbia Water and Light to measure how well a house was achieving its own potential and reasonable energy efficiency capability. As with cars, smaller houses tend to use less energy and this influences the HES. It is very difficult for a larger house to obtain a high HES. The CWLES does not reflect house size. It is a good way to compare energy costs of similar-sized houses with similar construction. It is given as a percentage, from very low to 100%, with high values reflecting the lower energy use and smaller energy bills achievable in that particular house. The CWL Efficiency Score provides an estimated range of energy costs.

These scores are provided for customers who go through the Home Performance with Energy Star program with CWL.

### **What does Boone Electric Cooperative (BEC) offer?**

CWL partners with Boone Electric for HPwES to make the process similar to any resident in the City, regardless of the electric provider. Both CWL and BEC have the same approved contractors, use the Home Energy Score (HES), and CWL provides BEC with a copy of our audit form which calculates the associated rebates. BEC does their own HES and calculations; additionally they are not required to report any information to CWL. Please note that BEC HPwES is very similar to CWL's, but not all incentives are the same.