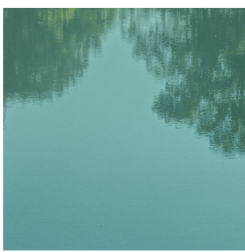
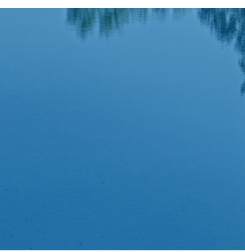


City of Columbia, Missouri

# Columbia Climate Action & Adaptation Plan (CAAP) Annual Report


For Calendar Year 2024



City of Columbia, Missouri

# Columbia Climate Action & Adaptation Plan (CAAP) Annual Report — 2024



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## Implementation

### Progress in the Process:

The Office of Sustainability understands that meeting our City's long-term sustainability goals not only requires teamwork and community connection but also a commitment to deep process integration. The Climate and Environment Commission and City of Columbia staff collaborated once again on identifying new budget suggestions and supporting existing priorities.

### Columbia's CDP Score

In 2024, the City of Columbia maintained its A- score from the Carbon Disclosure Project (CDP). The City's score is on par with regional peers in adaptation and mitigation measures and exceeds the global average across all sectors. Columbia's continued environmental disclosure reflects strong performance in climate action and a commitment to transparency.



### Funding Opportunities:

In 2024, the Office of Sustainability pursued multiple funding opportunities. One of these opportunities was a formula grant awarded by the Energy Efficiency and Conservation Block Grant Program; these funds will be used for energy efficiency or renewable energy at City-owned facilities. The City's Charging and Fueling Infrastructure grant application was selected in early 2024. The funds will be used to design, and pending funding availability, install Level II and DC Fast Charge stations across the community like many other local governments the City is navigating the uncertainty surrounding Federal grant programs. In 2024 the Office of Sustainability assisted the City in filing for the Inflation Reduction Act tax credits for qualifying projects. The City will receive direct cash payments for EVs, chargers, and other qualifying projects. Staff will continue to organize and file qualifying projects each year.



A photograph of a rooftop solar panel array. In the foreground, there are tall, thin green grasses and several blue wildflowers. The solar panels are dark blue and mounted on a roof. The sky is a clear, light blue. A semi-transparent dark grey box is overlaid on the left side of the image, containing the title and a list of topics.

# Energy

- **A Greener Grid**
- **Solar on City Property**
- **Energy Emissions Breakdown**
- **Improving Energy Efficiency in Columbia**



## A Greener Grid

In 2024, the City of Columbia Utilities department purchased or generated 23% of its total electric usage through renewable energy sources, which is a 1% increase from 2023. While the change in percentage of renewables was modest, the total renewable supply rose by over 15,000 MWh. Temporary reductions in wind generation due to equipment upgrades impacted the overall share, but increased output is expected in future years. Learn more in the [City of Columbia Utilities 2025 Renewable Energy Plan](#).

## Solar on City Property

The Office of Sustainability worked with Geographic Information Services (GIS) to analyze City-owned property for suitable sites for the potential installation of ground mounted solar arrays. Working with department leadership, the Office of Sustainability began a process of creating a list for potential sites. Moving into 2025 this list will be used to determine the best process for developing solar power locally.

**Energy emissions have decreased 14.9% from 2015 baseline levels. This is the largest decrease in emissions to date (excluding the pandemic year of 2020).**

## Energy Emissions Breakdown



## Improving Energy Efficiency in Columbia

In Summer 2024, City of Columbia Water and Light electric customers were able to participate in a brand new suite of energy efficiency programs. The Utility revised its programs based on new technologies, customer participation and program efficiencies, while evaluating cost-effectiveness. New programs include Efficient Electrification Incentives, Smart Thermostat Rebate and a pilot Residential EV Charger Rebate.

Efficiency Programs	Energy Savings (kWh)	GHGs Avoided (MTCO2e)
Residential Efficiency Incentives	831,040	621.20
Commercial Efficiency Incentives	5,623,025	4,203.21
Commercial and Residential Solar	1,095,768	819.09





An aerial photograph of a modern fire station. The building features a dark grey, multi-gabled roof with a large array of solar panels on the left side. The front of the building has three large arched garage doors. A wide, light grey concrete driveway leads to the entrance. To the right, a smaller building with a sign that reads "CITY OF COLUMBIA FIRE DEPARTMENT" is visible. The surrounding area includes a grassy lawn, some trees with autumn foliage, and a white water tank on a stand in the background.

# Housing, Building and Development

- **Benchmarking and Municipal Buildings**
- **2024 Energy Emissions and Consumption by Sector**
- **Performance Contracting**





# Housing, Building and Development

## Benchmarking and Municipal Buildings

In October 2021, the Building Energy and Transparency Policy was passed requiring the benchmarking of all municipal buildings. Since then, City staff have worked with local professionals to collect building information on all City facilities. This information is uploaded to the EPA's Portfolio Manager platform along with energy and water usage. Currently, utility usage at 100% of eligible City buildings is evaluated through this program. In 2024 The City of Columbia's building portfolio energy use intensity was 21% higher than the National median for a similar portfolio. The Emissions intensity of the portfolio is 18% higher than the national median intensity. Benchmarking efforts were 100% complete at the end of the calendar year. It is important to note that the number of buildings benchmarked will change as new buildings are added or subtracted from our buildings portfolio. Learn more in our most recent [Municipal Building Energy Performance Report](#).

## Emissions and Consumption by Sector

Sector	Electricity (MWh)	Natural Gas (Therms)	Total Energy
Commercial	21,300,396	43,987,029	65,287,425
Industrial	40,005,628	3,903,878	43,909,506
Residential	108,495,201	20,417,022	128,912,223

Sector	Electricity Emissions (MT CO <sub>2</sub> e)	Natural Gas Emissions (Mt CO <sub>2</sub> e)	Total Emissions (MT CO <sub>2</sub> e)
Commercial	499,633	233,952	733,585
Industrial	209,237	20,720	229,957
Residential	330,869	108,591	439,460

## Performance Contracting

The Office of Sustainability, Public Works Facilities Management division, City of Columbia Utilities and Parks and Recreation worked to find mechanisms to implement energy efficiency improvements in facilities identified as low performing in the Benchmarking project. Staff developed a request for proposals to select a performance contractor for the City. Performance contractors guarantee their project's energy and operational savings generated over time. The selected contractor, Ameresco, will audit facilities and systems, develop project proposals and pursue approved projects that will be funded over time by the project's energy and operational savings.







# Transportation

- Implementing the Fleet Electrification Policy
- Charging Infrastructure



## Implementing the Fleet Electrification Policy

Since the City's Fleet Electrification Policy was signed and adopted July 21, 2023, the City has purchased seven Ford Lightnings, one Chevy Bolt and six BYD electric buses. Office of Sustainability staff worked to ensure that charging infrastructure for new fleet vehicles is readily available and began looking into fleet charging needs for the next five years.



## Charging Infrastructure

To meet the needs of the new electric fleet vehicles, planning and construction for three City-owned charging stations began in January 2023. As a result of the Charging and Fueling Infrastructure grant application made in 2023, Columbia is slated to receive enough funding for Level II and DC Fast Charge EV charging stations at two downtown parking garages, Daniel Boone Regional Library and Columbia Regional Airport.







# Waste

- Improving Waste Collection
- Improving Recycling Collection
- Waste Diversion



## Improving Waste Collection

In March 2024 the City officially transitioned to automated residential curbside waste collection. This improvement to the system made the collection system more efficient and safer. City Utilities continued its pay-as-you-throw or PAYT approach to residential trash service by offering residential customers three cart size options: 35 gal., 65 gal. and 95 gal. Rates are based on the size of the selected cart with higher volume carts and additional trash pick-ups costing more. Tying rates to the amount of waste generated can help incentivize residents to reduce waste.

## Improving Recycling Collection\*

City Utilities engaged RRT Design and Construction (RRT) in 2023 to evaluate the City's recycling services and facilities. The RRT report included options for updating the City's current Material Recovery Facility (MRF), improving the City's recycling drop-off sites and increasing participation in commercial recycling services. In 2024 City Utilities began planning for and implementing the recommendations from the RRT Report. The City applied to the EPA's SWIFR (Solid Waste Infrastructure for Recycling) grant call and the Mid Missouri Solid Waste Management District's grant call. The proposed projects would automate and improve Columbia's residential curbside recycling services.

*\*While this report is meant to be a reflection of activities in calendar year 2024 it is important to note that the MRF was destroyed by a tornado April 20, 2025.*

## 2024 Waste Diversion

Total Tons sent directly to Landfill (Waste collected from City residential, commercial and roll-off services)	Tons Composted	Total Tons Collected for Recycling	Tons of Contamination in Recycling
83,043	11,348	10,139	3,832

Total Tons Recycled	Contamination Rate (Tons of Contamination/Total Tons Collected for Recycling)	Waste Diversion Rate (Compost+Recycled)/(Landfill+Compost+Recycling)
6,308	38%	16%

This past decade the City of Columbia has made measurable progress in collecting municipally collected waste from a peak in 2017, residential trash has declined over 26% with City collected landfill contributions falling by 1.18% in the past year alone. While total landfill tonnage remains high and we project it will continue to remain high due to external haulers, the City's share of waste has actually dropped from 50% in 2014 to just 38% in 2024. These trends underscore that despite challenges, our community remains committed to waste reduction and diversions as outlined in the Climate Action and Adaptation Plan.







# Health, Safety and Well-being

•• Rental Energy Efficiency

•• Show Me the Relief





# Health, Safety and Well-being

## Rental Energy Efficiency

The Healthy Housing team launched the Rental Home Energy Score program in 2024. This voluntary program allows rental property owners to request a free energy efficiency assessment. From this assessment, a Department of Energy Home Energy Score is added to an interactive, public-facing map of other homes that have received energy efficiency scores.

You can view the map and learn more about home energy efficiency scores at <https://experience.arcgis.com/experience/e0f021ac82e24508a86eedcfd5cf4455>

## Show Me The Relief

The Office of Sustainability's Show Me The Heat campaign has moved to the third phase of implementation now referred to as "Show Me The Relief." In addition to the information gathered at nine in-person events during the summer of 2024. Community members' lived experiences are used as data to assess what types of solutions to extreme heat are desired throughout our community, and what barriers exist to those solutions. Learn more at [CoMoClimateAction.org/category/health-safety-and-well-being#show-me-the-relief-map](https://CoMoClimateAction.org/category/health-safety-and-well-being#show-me-the-relief-map).

### Next steps:

- Work with tenants, landlords and property owners to score more properties
- Inform/educate public about the Home Energy Score map as a tool for identifying energy efficient properties
- Expand Show Me The Relief outreach





# Natural Resources

- Funding Green Infrastructure
- Increasing Community Canopy



## Funding Green Infrastructure

As part of the fiscal year 2025 budget process, staff continued requests for funding the maintenance of City-owned green infrastructure. These funds improve the City's capacity to maintain street trees, trees in parks, rain gardens, bioretention cells and more across Columbia.

## Increasing Community Canopy

The Good Stewards CAAP Team is made up of staff from Parks, Community Development, GIS and Public Works. One of the Team's priorities has been increasing tree canopy in areas most affected by the urban heat island effect. Most canopy grants and City funding is used for trees on publicly owned property. The Team began looking for innovative ways to deploy trees on private property in city neighborhoods identified in the Show Me The Heat project. The City engaged the Arbor Day Foundation (ADF) to pilot their online community canopy program in the Ridgeway and West Ash neighborhoods in 2025. Trees will be made available to residents via an online portal and can be booked for a pick-up event or directly mailed to the participant.





# Climate and Environment Commission (CEC) 2024 Report

## A report from CEC Chair, Abra Spisso-Podoliak

On behalf of the Climate and Environment Commission, I am pleased to report these highlights from the calendar year 2024.

### Commission activities:

- Compiled and submitted recommendations to the city manager for the FY25 budget in coordination with City staff CAAP teams.
- Reviewed commission procedures, establishing ordinance and CAAP goals.
- Reviewed the 2023 renewable energy and greenhouse gas emissions reports.
- Collaborated with the Water & Light Advisory Board (WLAB) in regarding a new renewable energy ordinance.
- Provided feedback to WLAB on its recommendations.
- Provided a separate recommendation to Council on the ordinance.
- Collaborated with Building Construction and Codes Commission on reviewing the 2024 International Energy Conservation Code (IECC) to develop recommendations to Council.
- Highlighted various pieces of state and federal legislation and actions of potential interest to the commission.
- Provided input for Columbia Area Transportation Study Organization (CATSO), for the Long Range Transportation Plan.

### Collective and individual participation in community events, engagement and collaboration with staff:

- CEC hosted an educational booth at Columbia's 2024 Earth Day Celebration
- CEC helped sponsor an event hosted by Mizzou Botanic Garden featuring Doug Tallamy, renowned entomologist, native plant promoter and author of Nature's Best Hope.
- Co-sponsored nature walks in collaboration with the local office of the U.S. Fish & Wildlife Service.

### Individual members:

- Co-facilitated a meeting of local government sustainability officials from across Missouri interested in collaborating on climate adaptation and resilience.
- Presented to the Clean Energy CAAP team on VPP (Virtual Power Plant)
- Introduced the City of Columbia to Solar Energy Innovation Network Grant program through the National Labs
- Participated in the Boone County Master Planning Process.

### Presentations to the commission:

- Renew Missouri presented on on-bill tariff financing for energy efficiency.
- Office of Sustainability Outreach and Education presented on media outreach strategies through social media, newsletter, and radio.
- CAAP Teams presented updates as references in the commission activities.
- Columbia Utility Services division presented on renewable energy and demand side management. This included the Renewable Energy Plan and the Utility Services Program Revamp.
- The 100% Renewable Energy Coalition presented its proposals for the renewable energy ordinance.
- City of Columbia Law Department counsel presented on the Missouri Sunshine Law.
- Building Construction and Codes Commission presented on the 2024 IECC.
- City staff presented on the Columbia Transportation Study Organization's history, function, jurisdiction, organization and various planning projects.
- Commission member Jessica Hardesty presented on water and wastewater issues.
- City staff presented on the wastewater and stormwater integrated management plan.



# Climate and Environment Commission (CEC) 2024 Priorities



## Energy

CAAP Action	CEC Next Steps	Work Initiated?	Status
E-1.3.2—Codify through ordinance Columbia Water & Light's responsibility to meet 100% renewable energy generation or purchase by 2035.	Next step is to work with the staff and the Water & Light Advisory Board to propose a new ordinance.	Yes	CEC approved a recommendation to the IERMP task force that Columbia achieve 100% renewable energy from water and light by 2030. This is a change from 2035 to 2030. IERMP has been completed and has been presented to City Council.
E-1.2.1—Include CAAP priorities in Columbia Water & Light's long-range electric and water resource planning goals.	CEC will monitor the implementation of the IERMP and provide input or assistance as needed.	Yes	CAAP goals were included in the IERMP statement of work. CEC list of priorities was voted on at the September 2020 meeting and provided to Water & Light staff for inclusion in the IERMP.
E-1.3.1—Remove 3% rate cap to allow for increased investment by Water & Light in renewable energy resources.	Continue to advocate for this action item.		



## Transportation

CAAP Action	CEC Next Steps	Work Initiated?	Status
T-1.1.2—Revise street design standards to prioritize people walking, biking and riding transit while also accommodating vehicles.	CEC will monitor the efforts of the Public Works department study and provide input as appropriate.	Yes	The Public Works department received grant funding to evaluate transportation safety issues.
T-1.2.1—Improve efficiency, convenience and reliability of bus service and infrastructure	CEC will monitor progress and provide input as needed.	Yes	The transportation team met with transit manager to understand current routes and challenges





## Housing, Building and Development

CAAP Action	CEC Next Steps	Work Initiated?	Status
H-1.1.2—Increase energy efficiency funding options for families (low-interest financing, on bill financing, Pay As You Save, PACE, etc.).	CEC will monitor and provide input on the Utility's process of revising programs as needed.	Yes	CEC heard a presentation from RENEW Missouri.
H-1.1.3—Establish a date by which all rental housing will be required to meet basic energy efficiency standards at license renewal.	CEC will continue to monitor the process and provide input as needed.	Yes	Staff from Sustainability, Neighborhood Services and Utility Services developed a plan, deployed in early 2023, to collect information from stakeholders in the community regarding rental energy efficiency. Results of study were presented to City Council in May 2023.
H-1.3.3—Introduce a policy that requires all new and existing municipal buildings to meet and maintain energy and resource efficiency standards (ENERGY STAR, LEED, Home Energy Score or other).	CEC will continue to monitor the city CAAP team's progress and provide input as needed.	Yes	City CAAP teams are working on this.
H-1.3.4—Introduce a policy that requires all municipal buildings to be benchmarked with the current Energy Score rating, the energy use intensity (kBtu/sq) and the energy reduction goal. These benchmarks and goals shall also be posted on the City's website.	CEC will monitor implementation of the benchmarking process and provide input as needed.	Yes	The City adopted the formal policy proposed by CAAP staff team and reviewed by CEC for benchmarking standards. Benchmarking of buildings is in progress.
1.4.1—Require that the City adopts the International Building Energy Conservation Codes for municipal, commercial and residential buildings as written.	On May 23, 2023 the CEC voted to accept a consensus position developed by members of the CEC and BCCC.	Yes	The CEC and BCCC formed a small ad hoc group to discuss building codes.
1.5.1—Incentivize switching space and water heating from fossil fuel-based to electric heat pumps.	CEC provided a recommendation to the Water & Light Advisory Board on incentives. CEC will monitor Utility Services review and update of rebates and incentives and provide input as appropriate.	Yes	Sustainability staff are involved in the Utility Services review and update of the electric and water efficiency rebates and incentives.



## Implementation

CAAP Action	CEC Next Steps	Work Initiated?	Status
I-1.1.1—Use recommendations in the annual report to identify budgetary priorities that support implementation of the CAAP.	CEC will move its discussion of budget priorities to early fall to provide timely input to align with the city manager's budget development process.	Yes	Upon recommendation of City staff, the CEC considered and provided input on budget priorities during the city manager's budget plan development process.
I-3.3.1 —Align existing City educational and engagement programs with CAAP goals and programs. Provide additional support to education and outreach for the CAAP and its individual actions.	CEC will continue to collaborate with city staff on communications related to the CAAP and CAAP topics.	Yes	CEC will propose relevant outreach activities to City staff for use in social media posts. Continue to participate in public engagement opportunities.
I-3.5.2—Host a community event every two years to celebrate the annual progress report on the implementation of the CAAP.	The CEC will explore community outreach events with City staff.		The CEC participated in the Juneteenth celebration at Cosmo Park, which is approximately the same time as the anniversary of the CAAP, but did not hold a separate event in 2022.



## Waste

CAAP Action	CEC Next Steps	Work Initiated?	Status
W-2.1 Reduce landfill waste through customer education, rate structures and increasing City recycling programs.	Promote the waste reduction hierarchy.		





## Natural Resources

CAAP Action	CEC Next Steps	Work Initiated?	Status
NR-1.1.1—Manage publicly-owned natural areas to enhance and maintain diverse native communities.	Advocate for ecological planning for habitat improvement in City-led efforts such as the Natural Resources Inventory and upcoming Comprehensive Planning process.	Yes	
NR-1.1.2—Establish and effectively manage native-habitat corridors along trails and utility easement areas to restore and maintain landscape connectivity.	Draft a collaborative letter with the Tree Board encouraging holistic forest management or other suggested points of attention for the Comprehensive Planning process.	Yes	
Draft a collaborative letter with the Tree Board encouraging holistic forest management or other suggested points of attention for the Comprehensive Planning process.	CEC will continue to collaborate with the Water & Light Advisory Board.	Yes	CEC collaborated with and provided input to the Water & Light Advisory Board on water rates.





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