Missoula COUNTY

CARBON NEUTRALITY PLAN

GOVERNMENT OPERATIONS

ADOPTED 04/02/2026

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ACKNOWLEDGEMENTS

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We thank you for your continued support in our efforts to reach carbon neutrality.

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MESSAGE FROM **OUR LEADERS**

Climate change is the greatest threat of our time.

Real-time, active shifts in the climate affect us locally – we feel it in our hotter summers, thinner snowpacks and longer smoke seasons. We see it in dry, drought-stricken range and farmland, and warmer rivers with lower flows. Across the globe similar changes affect every community, and our cost of living reflects these changes as well. Stuttering supply chains, challenged agricultural systems and soaring insurance rates contribute to the rising costs of making it through the month. The earth shares both an economy and a climate, and we all contribute to both. As climate disasters increase in prevalence, we anticipate more people moving to our region from areas with even more severe climate impacts.

We at Missoula County are relentlessly committed to protecting human health, environmental health and economic prosperity. To honor those commitments, we choose to work toward carbon neutrality in our operations. Ensuring we live in a vibrant, climate resilient community will take all of us. And as community leaders, we are responsible for leading by example and investing in interventions that showcase climate solutions and inspire residents to take action.

At this point in a policy statement, governments and organizations typically roll out an ambitious goal with an equally ambitious timeline. We are taking a different path. This plan sets a high bar with ambitious goals but we are not tying those goals to a date certain - because we live in a different time. External pressures will impact how we go about reaching our goals and sometimes limit our ability to put solutions into effect. In 2024, the federal government put $391 billion toward clean energy, climate and carbon reduction initiatives through direct investment, tax credits and grant programs.

We had an election, and our current federal administration effectively reversed almost all of that. As a County we saw million-dollar grants clawed back, and our residents and commercial developers scurried to take advantage of tax credits before they evaporated. The new administration rolled back the largest climate spending bill in U.S. history.

In a smaller way, but for Missoula County as an organization to similar effect, the Montana Legislature initiated additional caps on the tax revenue local governments can collect, regardless of new growth and the additional service requirements that come with it. This cap, along with a growing set of external forces, means Missoula County has virtually no investment-level discretionary funds. We will absolutely meet our statutory obligations. For everything else, we are on our own.

These unfortunate realities change how we must go about our work and forces us to be grittier and leaner than we'd hoped. To simply announce bold goals while we recognize our own funding realities in this historical moment is not only an act of hollow performance but it also unnecessarily sets us up for what looks like failure. We propose a different perspective.

We are going punk rock on climate. That means in the face of immeasurably powerful forces going in the wrong direction, we actively and defiantly choose to work on carbon reduction. We are far from alone. Residents, organizations, other local governments, investors and philanthropic foundations all share our commitment. In that community lies our success: partnerships leverage resources. We commit to seeking grants, cost-share programs, third-party investors – whatever it takes to make gains on carbon reduction in our organization. We'll also be checking in on progress and celebrating success along the way. We recognize reality and will dive in hard on doable projects to reduce our carbon output; we will be opportunistic, rebellious, scrappy and make gains where we can.

That is our commitment. We will roll up our sleeves, find partners and get busy.

Sincerely,
BOARD OF COUNTY COMMISSIONERS
MISSOULA COUNTY

13FD51ED69FA2244FFA409545EBDD56F readysign
Josh Slotnick, Chair

A6ACE08DFE595A3A08967E7EBB8C312 readysign
David Strohmaier, Commissioner

6F45D36DCC41E9C2B2D512DC93A576B2 readysign
Juanita Vero, Commissioner

GET STARTED →

CARBON NEUTRALITY

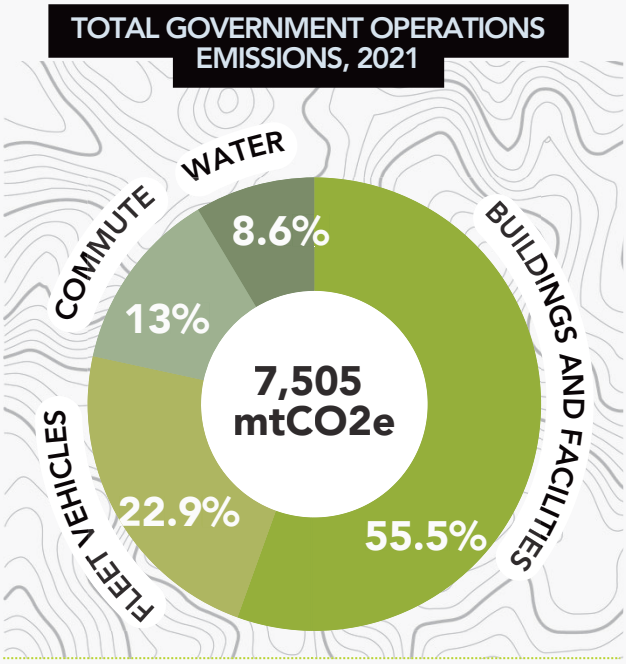
SUMMARY

In 2019, the Board of County Commissioners approved Resolution No. 2019-19, establishing a commitment of carbon neutrality for Missoula County operations with an intermediate goal of reducing greenhouse gas emissions 30% below 2016 levels by 2025.

This plan offers a strong pathway forward for achieving carbon neutrality as well as advancing climate action throughout County departments. The goals and strategies were informed by 2016 and 2021 greenhouse gas (GHG) emissions inventories, and a potential emissions reduction pathway was calculated using the ICLEI ClearPath Tool using a strategically phased, whole-of-government approach.

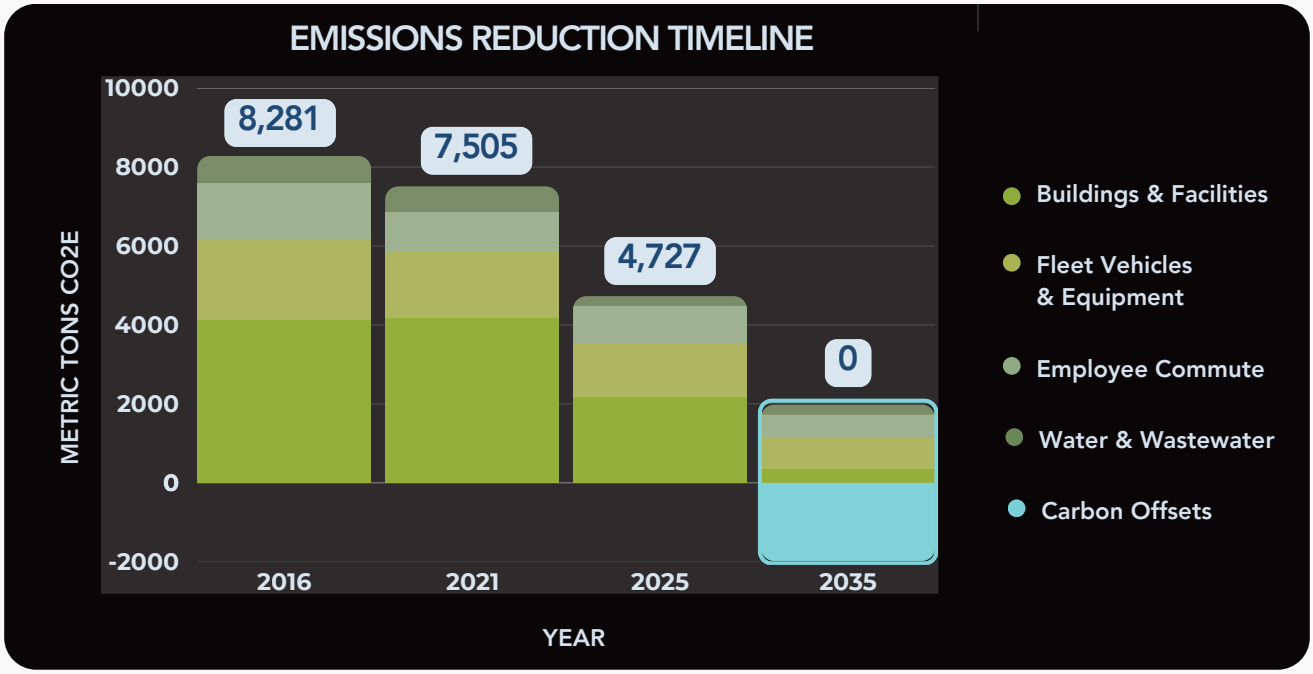
STRATEGIES ACHIEVE:

- Direct GHG emissions avoidance or reduction
- Offset remaining emissions
- Build capacity and enable implementation



2021 total emissions = 7,505 mtCO2e*

*equal to emissions from 1,631 passenger vehicles driven in one year



C^5 5 C'S OF CARBON NEUTRALITY

C^5 or the 5 C's of carbon neutrality organize our goals and strategies into 5 sectors that reduce emissions from our energy use, water and wastewater facilities, fleet vehicles, and employee commutes, as well as reflect the need to invest in offsets and enable all actors to succeed in reaching our goal of carbon neutrality.

CLEAN AND CONSERVE OUR ENERGY

- Reduce energy demand
- Increase on-site renewables
- Reduce natural gas use
- Reduce carbon intensity of the grid

CLEAN OUR COMMUTES

- Reduce drive alone commutes

CARBON OFFSETS

- Develop an offset investment

CONVERT OUR FLEETS

- Build knowledge, acceptance, and understanding
- Electrify vehicles and equipment
- Increase fuel efficiency

CULTURE OF SUSTAINABILITY

- Develop sustained funding
- Build staff capacity
- Educate employees, partners, and contractors
- Improve sustainable financial, purchasing, and procurement practices

INTRODUCTION

In 2019, the Board of County Commissioners approved Resolution No. 2019-019, establishing a commitment of carbon neutrality for Missoula County operations. As a direct result of Resolution 2019-019, Missoula County's Carbon Neutrality Team, led by the Climate Action Program, was formed with the goal of developing a Climate Action Plan.[1]

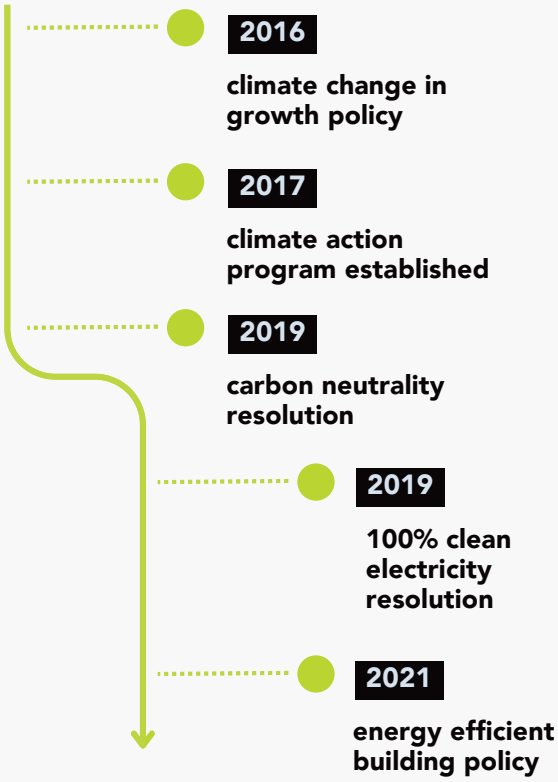
The following plan is not a prescriptive list of actions, but an ambitious pathway forward that is rooted in best practice while acknowledging that there is more work to be done to understand the technical feasibility and cost of this transition. Those tasked with implementing this plan will work together to deepen their understanding, shift priorities where necessary, and take advantage of opportunities as they arise.

Carbon neutrality is one part of an ambitious suite of climate goals for Missoula County. We are committed to providing 100% clean electricity to the Missoula urban area by 2030 and have established a Memorandum of Understanding (MOU) with the City of Missoula and Northwestern Energy.[2]

This MOU cemented a commitment to work together and created a high-level structure to do so. The County has also partnered with the City and Climate Smart Missoula to develop Climate Ready Missoula, a strategic plan to adapt to climate change and build resilience in the Missoula community.[3]

Thus far, the County has adopted a holistic approach to climate change that includes both mitigation and adaptation, otherwise defined as reducing GHG emissions while addressing the impacts we are already experiencing.

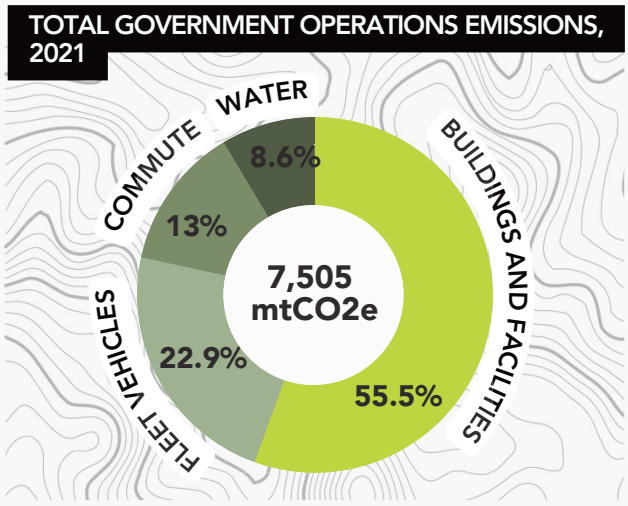
COUNTY CLIMATE ACTION POLICY TIMELINE



EMISSIONS BASELINE

how much we need to reduce

In August 2017, we published the Missoula County Operations Greenhouse Emissions Inventory Report and Analysis, an analysis of 2016 emissions and the first emissions inventory for County operations. In 2019, Missoula County adopted a resolution establishing a goal of Carbon Neutral Operations with an interim goal of a 30% reduction of emissions from 2016 levels by 2025.[4] In 2023, Climate Action staff conducted an inventory of 2021 greenhouse gas emissions as a 5-year update and comparison to the 2016 Inventory. Both inventories utilized ICLEI – Local Governments for Sustainability's ClearPath tool, the leading software for analyzing local government carbon emissions.



The County's total 2021 emissions were 7,505 mtCO2e (metric tons of carbon dioxide equivalents).

The largest contributor was Buildings and Facilities, accounting for 55% of the total emissions. This is more than double the next largest category, Fleet, which accounts for 23% of total emissions. Employee Commute (13%) and Water and Wastewater (9%) had much lower total contributions.

PEOPLE, EMISSIONS, & CLIMATE CHANGE

There is overwhelming evidence that our climate is rapidly changing, that climate change is human-induced, and that it is primarily driven by our GHG emissions. Montanans are already experiencing the extreme weather impacts of climate change including hotter, drier summers; warmer, drier winters; warmer, wetter springs; the impacts of which can further affect wildfire, wildfire seasons, wildfire smoke, and floods.These changes are projected to intensify over time and the resulting economic, social, political, and cultural impacts are causing long-term damages to our health, safety, and quality of life.

Vulnerable populations will continue to feel these impacts to an even higher degree due in part to their lower adaptive capacity, otherwise known as the ability of individuals or communities to adjust to potential hazards or cope with the consequences of change. Groups that are most susceptible to climate change include, but are not limited to, indigenous people, racial and ethnic minorities, women, and those who are moderate-to-low income, unhoused, older than 65, very young, socially isolated, or living with disabilities. The lower adaptive capacity of these groups is due to several factors which are specific to each community. In many instances communities have lower adaptive capacity due to systemic racism and historic underinvestment.

To avoid catastrophic climate change and limit global warming to 1.5° Celsius (2.7° F) above pre-industrial levels, the world will have to reach net-zero GHG emissions, or carbon neutrality, by 2050.

"1.5° Celsius above pre-industrial levels" refers to the maximum rise in average global temperature that our social and ecological systems can handle. 1.5° acts as a defense line to avoid the more extreme and irreversible climate effects that would occur with a 2° Celsius + increase.

This is a limit that 195 nations committed to in the 2015 Paris Agreement. As of 2022, the average global temperature was about 1.15° Celsius above pre-industrial levels.

what does 1.5° mean?

BENEFICIAL OUTCOMES

We are committed to climate action not solely to avoid the harmful effects of climate change, but to run towards a better future in which our community, and communities across the world, are stronger, healthier, and more resilient. Climate action results in many beneficial outcomes for our organization and our community that are not directly related to climate change mitigation, also known as co-benefits. Together, climate action and resulting co-benefits build community resilience.

co-benefits

- CLEAN AIR
- CLEAN WATER
- JOB CREATION
- STRONG LOCAL ECONOMY
- COST SAVINGS
- ENERGY INDEPENDENCE
- PUBLIC HEALTH

WHAT TO EXPECT

In this document you will find:

Climate Change Waits for No Plan - A Recent History of Climate Action in Missoula County celebrating the big strides that we have made to reduce GHG emissions in county operations since 2019. Those projects and policies set the foundation for modeling an emissions reduction pathway to reach carbon neutrality by 2035.

The Emissions Reduction Pathway providing a high-level overview of the emissions reductions in each sector.

The 5 C's of Carbon Neutrality providing best practice strategies to reduce emissions in each sector, including implementation leads, top priorities, and potential timelines for implementation of each strategy. Strategies achieve one of four aims:

- Avoid GHG emissions
- Directly reduce GHG emissions
- Offset remaining emissions
- Build capacity and enable staff to implement emissions reduction strategies

CLIMATE CHANGE **WAITS FOR NO PLAN**

A RECENT HISTORY OF CLIMATE ACTION AT MISSOULA COUNTY

Sustainability has long been a core value of Missoula County, and many departments have worked on sustainability measures for years; however, goals and strategies specifically related to climate change and climate action were incorporated for the first time into the county growth policy in 2016. Goal 4 of the Missoula County Growth Policy focuses on reducing the county's contribution to climate change while promoting resilience and adaptation.[5]

This action resulted in the development and staffing of a Climate Action Program at the County and our first internal greenhouse gas emissions assessment. Goal 4 and the subsequent climate action resolutions and initiatives have sustained and guided the county's work in the field of climate action since 2016.

Developing a comprehensive carbon neutrality plan has taken time and dedication, but mitigating the devastating impacts of climate change requires urgent and sustained action.

Since adopting the 2019 resolution, Missoula County has taken big steps to act on climate, including establishing and expanding the Climate Action Program and forming the Carbon Neutrality Team.

Prior to the realization of this plan, staff across multiple departments have been hard at work on projects and programs that have **successfully reduced GHG emissions by 9.4% since 2016** and embedded climate action throughout many County processes. This plan builds on those successes.

BIG WINS **FOR CARBON NEUTRALITY**

buildings & facilities

2019

100% Clean Electricity:

Missoula County has been jointly collaborating with Northwestern Energy and other partners on the Green Power Program, which would establish a new utility-scale renewable energy resource on the grid that local governments, businesses, and residents across Montana could subscribe to. Missoula County has also purchased 47 total panels from Missoula Electric Cooperative's three community solar projects including in Lolo, Frenchtown, and "K3" in Bonner.

2020

Investment Grade Audit:

The County contracted with McKinstry to conduct an investment grade audit of the County Courthouse and Detention Center and identify recommended measures associated with energy and cost savings. So far, we have implemented two priority projects, have one ongoing, have received allocated budget funding for two more projects, and continue to pursue capital budget funds for the remainder.

2020 - 2025

Solar Energy:

Solar was installed on the Missoula Public Library, the GW Marks Exploration Center, and the Missoula County Detention Facility (currently the largest rooftop solar array in the state of Montana). Departments are currently pursuing rooftop or ground-level solar arrays at the Lolo Wastewater Treatment Plant, Missoula Animal Services, Partnership Health Center, and the Missoula County Fairgrounds

2021

Energy Efficient Building Policy:

Commissioners adopted the Energy Efficient Building Policy, which requires the County to invest in energy efficiency, electrification, and/or renewable energy to meet energy use intensity targets on all new construction and major renovation projects on County-owned buildings.[6] In 2023 this policy was successfully applied for the first time to the expansion of the buildings at Missoula Animal Services.

fleet vehicles and equipment

2021

Fleet Efficiency:

Fleet managers have reduced fleet emissions 17% by prioritizing upgrading vehicles at the end of their useful life to newer, more fuel-efficient models and hybrid vehicles.

BIG WINS **FOR CARBON NEUTRALITY**

employee commute

2021

Telecommuting Policy:

County Commissioners adopted a telecommuting policy to reduce our carbon footprint and strengthen the resiliency of our workforce.

2021

Emissions Reduction:

Missoula County achieved 31% reduction in Employee Commute emissions.

culture of sustainability

2022

Sustainable Purchasing Policy:

The County Auditor updated the existing purchasing policy to establish sustainable purchasing guidelines towards the goal of minimizing the effect of county purchases on human health and the environment.[7]

2023

Waste Diversion:

The County hosted the largest waste-diversion project in Montana. Staff and volunteers at the Western Montana State Fair successfully diverted 48,000 pounds of recyclables and 68,000 pounds of compost from the landfill.

EMISSIONS REDUCTION PATHWAY

HOW THIS PLAN WAS CREATED

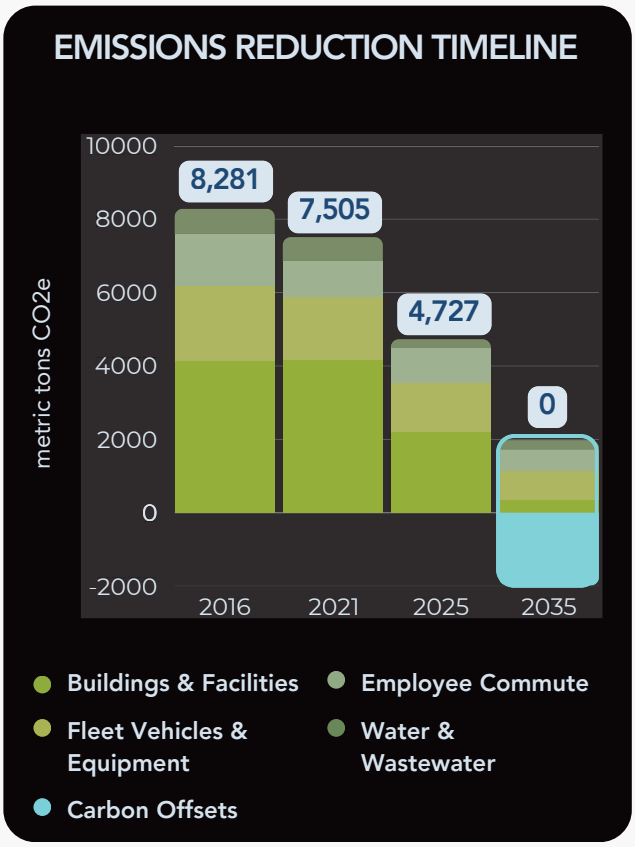
The following plan details strategies for achieving carbon neutrality in government operations, as well as advancing climate action throughout County departments. The strategies were informed by greenhouse gas (GHG) emissions identified in the County's 2016 GHG emissions inventory, the updated 2021 GHG emission inventory, the ICLEI ClearPath emissions reduction modeling tool, industry best practices, and regular deliberations among the Climate Action Program and Carbon Neutrality Team.

This plan sets ambitious, but achievable goals to be phased in over time and as feasible. The timeline for strategies was developed based on a few factors:

- **Planning for the 2025 interim goal of a 30% GHG reduction from 2016 levels**
- **Meeting internal and external milestones, such as 100% clean electricity by 2030**
- **Planning a phased approach that reduces the burden of implementation on each department regarding cost and staff capacity**

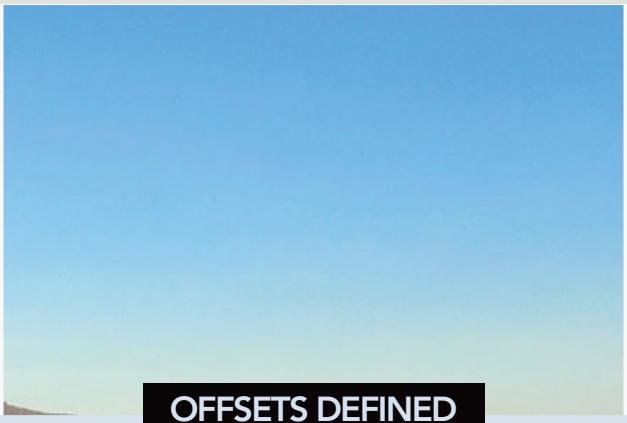
The following strategies can reduce government operations emissions by 100%.

However, we will need to be ambitious in their pursuit. While we have made great gains to-date, we were not able to achieve the 2025 interim goal of 30% reduction of GHG emissions from 2016 levels, which underscores the need to prioritize this work across departments and budgets moving forward.



In order to take advantage of opportunities as they arise, we may revisit or amend the timing, details, and/or strategy for implementation of some of these strategies over time.

To track and measure our progress toward our goal, a third GHG emissions inventory should be completed by 2031 using 2030 data.



OFFSETS DEFINED

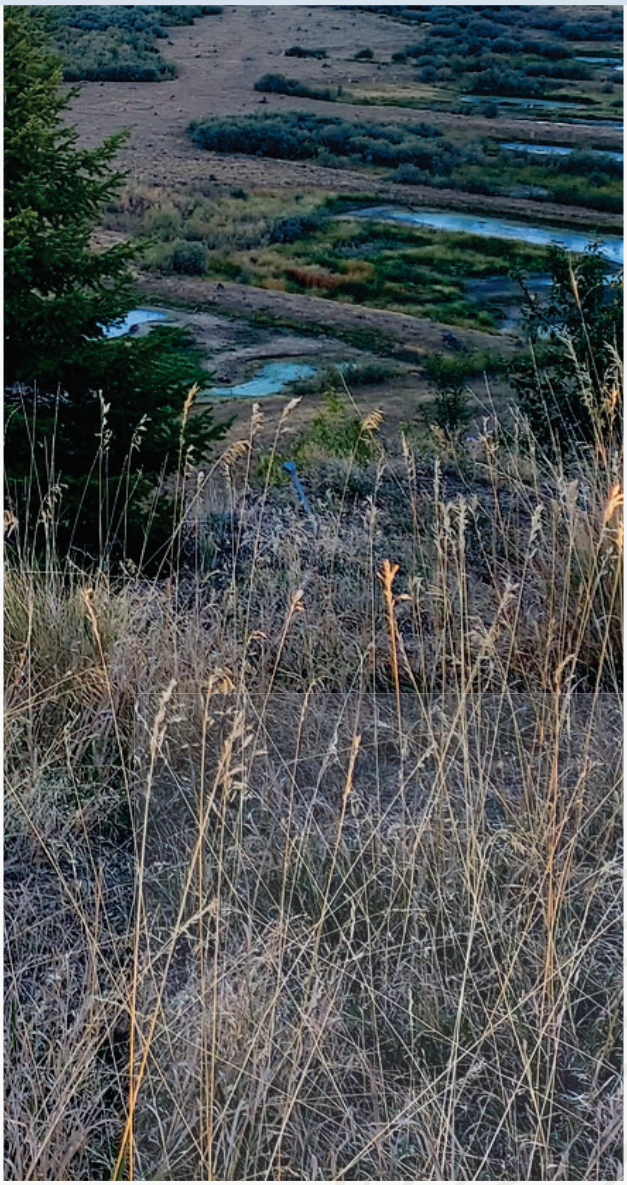
An offset is an investment in a reduction in GHG emissions in one place that can be used to compensate for emissions elsewhere. For example, you can offset the emissions from a plane flight by giving money to a project that will improve the energy efficiency of a home, which would not have been done otherwise.[8]

A NOTE ON OFFSETS

To achieve carbon neutrality, it will be necessary to invest in carbon offsets. This is in large part due to factors beyond our direct control, such as employee commute habits or the availability of affordable technology. While we must prioritize capital and cultural investments to minimize our footprint, no carbon neutrality plan can be fully complete without some amount of offsets.

The next section, *The 5 C's of Carbon Neutrality*, details strategies that will reduce our emissions by 100%. Strategies identified in *Clean & Conserve Our Energy*, *Convert Our Fleet*, and *Clean Our Commutes* will reduce emissions by 73.6%. A further reduction of the remaining 26.4% of GHGs stemming from county operations will be reduced via carbon offsets and is detailed as a strategy in *Carbon Offsets*.

To address the scale and urgency of climate change, it is imperative that we drive systemic change by considering offsets not as a first order of business, but as a complement to the direct emissions reduction strategies detailed in the next section.



C^5 CARBON NEUTRALITY

C^5 or the 5 C's of carbon neutrality organize our goals and strategies into 5 sectors that reduce emissions from our energy use, water and wastewater facilities, fleet vehicles, and employee commutes, as well as reflect the need to invest in offsets and enable all actors to succeed in reaching our goal of carbon neutrality. See an outline of the 5 C's below and dive into each sector's strategies and timelines throughout the rest of this section. Note, the associated timeline for strategies is one potential pathway contingent on factors detailed throughout.

CLEAN AND CONSERVE OUR ENERGY

- Reduce energy demand
- Increase on-site renewables
- Reduce natural gas use
- Reduce carbon intensity of the grid

CLEAN OUR COMMUTES

- Reduce drive alone commutes

CARBON OFFSETS

- Develop an offset investment

CONVERT OUR FLEETS

- Build knowledge, acceptance, and understanding
- Electrify vehicles and equipment
- Increase fuel efficiency

CULTURE OF SUSTAINABILITY

- Develop sustained funding
- Build staff capacity
- Educate employees, partners, and contractors
- Improve sustainable financial, purchasing, and procurement practices

CLEAN AND CONSERVE **OUR ENERGY**

56% GHG Reduction

This section details strategies in 2 sectors that will reduce energy related emissions by a total of 56%. With these strategies we plan to reduce emissions in our Buildings & Facilities by 50.8% and Water & Wastewater Treatment by 5%.

By implementing the following strategies, we plan to reduce total operations emissions by 56% or 4,218 mtCO2e.

BUILDINGS & FACILITIES

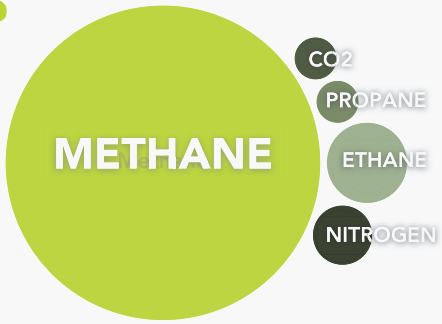
Buildings and facilities are responsible for 55% of our total greenhouse gas emissions. This is the only sector where we have observed a marginal increase in emissions (1%) from 2016 levels. Emissions in this sector are largely due to the carbon intensity of our regional energy grid used to power our buildings, in addition to on-site natural gas used to heat, cool, cook, and regulate water temperature.

co-benefits

- CLEAN AIR
- CLEAN WATER
- JOB CREATION
- COST SAVINGS
- STRONG LOCAL ECONOMY
- ENERGY INDEPENDENCE

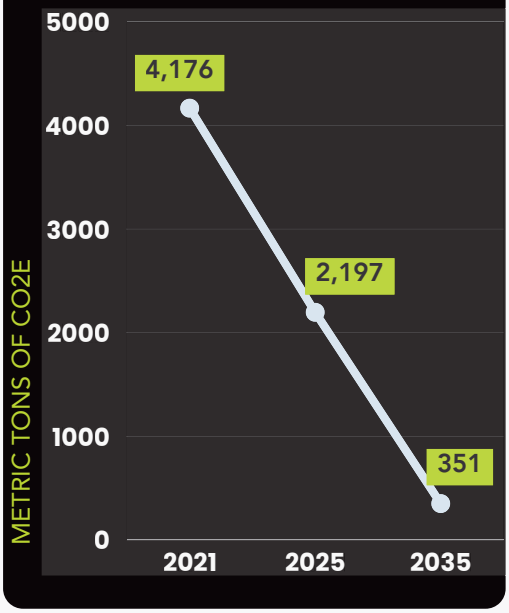
NATURAL GAS

Natural gas typically contains more than 85% methane which is the second most abundant greenhouse gas and has 80x the warming potential of carbon dioxide.



Electrification is a powerful strategy for reducing our natural gas use in buildings and tailpipe emissions from our vehicles. However, electrification will increase our electricity demand. It is therefore crucial that we continue to invest in energy efficiency and on-site solar generation, in addition to working towards a cleaner energy grid. The following strategies were designed to be implemented in conjunction with each other to ensure that we approach emissions reduction in a comprehensive manner.

FACILITIES EMISSIONS REDUCTION TIMELINE



CHALLENGES

While work on our buildings offers the largest potential for emissions reductions, there are significant challenges to overcome on this front.

Funding: As a government entity, funding will continue to be a constraint on all departments and all projects, including climate action projects. However, special consideration should be given to the overall cost savings associated with energy efficiency and renewable energy over time, as well as the Direct Pay financing tool, defined in *Culture of Sustainability,* which can offset the cost of renewable energy projects by at least 30%.

Additionally, there are grants and rebates that we can take advantage of to aid in offsetting the upfront cost of upgrades. Funding is a challenge in all the GHG emissions sectors and is therefore addressed as a strategy in *Culture of Sustainability*.

Staff Capacity: Like funding, staff capacity is a constraint felt by most departments. Staffing is a considerable concern for the Facilities team who lead many of the County's building and energy upgrades and construction projects. Added staff capacity will be crucial to meeting our carbon neutrality goals. Staff capacity is also addressed in *Culture of Sustainability*, but it's especially important to include in this sector.

goal 1 : reduce energy demand

STRATEGY	LEADER	TIMELINE
Continue to implement energy efficiency upgrades as identified in the 2021 Investment Grade Audit. See Appendix C for a complete list of recommended upgrades.	**Facilities**	2021 -
All major construction and renovation projects will adhere to the Energy Efficient Building Policy (EEBP). This requires energy use intensity reduction and, as feasible, adding on-site renewable energy, shifting away from natural gas, and reducing embodied carbon in building materials. The EEBP should be updated to reflect lessons learned.	**Climate Action; Facilities; All Departments**	2021 -

STRATEGY	LEADER	TIMELINE
Utilize green infrastructure, such as green roofs, living walls, trees, xeriscaping, and bioswales to reduce building cooling load, as well as absorb carbon dioxide, improve stormwater management, and provide habitat and shade opportunities.	**Facilities; Climate Action; Ecology & Extension**	2025 -
Conduct an Investment Grade Audit of remaining County-owned facilities to identify energy efficiency, electrification, and renewable energy opportunities, and pursue upgrades.	**Facilities; Climate Action**	2030

goal 2 : increase on-site renewable energy

STRATEGY	LEADER	TIMELINE
Continue to pursue on-site clean, renewable energy production on all County owned buildings, as feasible.	**Facilities; Climate Action**	2021 -
Install on-site geothermal heat pumps and/or solar arrays at the Missoula County Courthouse and Detention Center as identified in the Investment Grade Audit.	**Facilities**	2021 -

goal 3 : reduce natural gas use

STRATEGY	LEADER	TIMELINE
Replace outdated natural gas boilers with all-electric models at the end of their useful life.	**Facilities**	2025 -

goal 4 : reduce carbon intensity of the grid

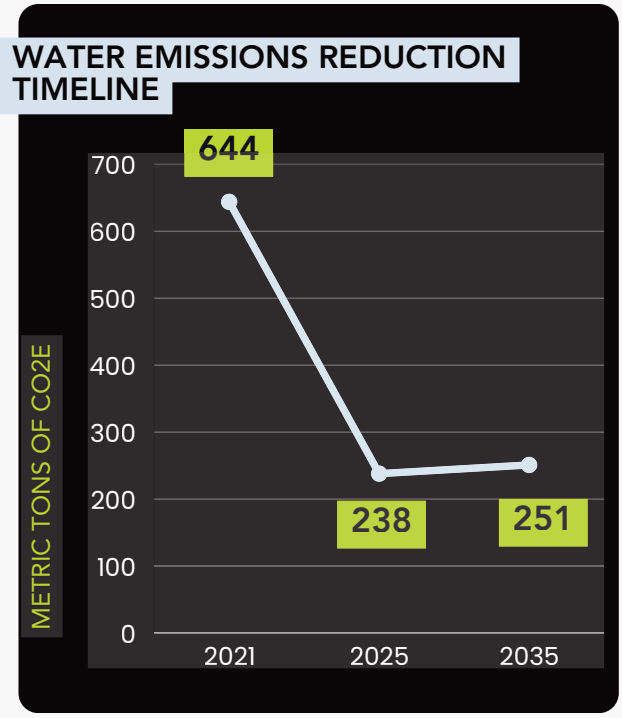
STRATEGY	LEADER	TIMELINE
Continue to work closely with public and private partners, including the City of Missoula, the City of Bozeman, and Northwestern Energy, to develop a Green Power Program (GPP) that increases the percentage of off-site clean, renewable energy sources on our local grid. The current proposed GPP will not meet all our governmental and community energy needs. In addition to developing the first GPP resource, it is imperative that we advocate for this program to be scaled up or iterated to meet more of our goals.	**Climate Action**	2025 -
Continue to explore additional strategies to "green the grid" by onboarding additional renewable energy resources.	**Climate Action**	2025 -
Participate in state (agency, legislative, Public Service Commission) and federal policy processes (e.g. rulemaking, rate cases, legislation) to advocate for clean energy and lower grid carbon intensity.	**Climate Action**	2025 -

WATER & WASTEWATER

Water and wastewater facilities are responsible for 9% of our total emissions.

The majority of emissions in this sector are due to energy use with a smaller portion originating from fugitive septic tank emissions in wastewater treatment. Those fugitive emissions are largely composed of methane gas.

Even in an emissions reduction scenario these emissions will increase as population served increases.



goal 1: reduce energy demand and increase on-site renewable energy

STRATEGY	LEADER	TIMELINE
Improve energy efficiency in county-owned water and wastewater buildings.	**Public Works; Facilities**	2030
Continue to pursue on-site renewable energy production such as solar and geothermal.	**Public Works; Climate Action**	2025 -
Incorporate energy efficiency and on-site renewable energy generation into all new county-owned property or publicly funded development we intend to acquire.	**Facilities; Public Works; Planning, Development & Sustainability**	2025 -

CONVERT **OUR FLEET**

Missoula County fleet vehicles and equipment are responsible for 23% of our greenhouse gas emissions. Thus far, we have achieved a 17% fleet emissions reduction from 2016 levels by prioritizing increased fuel efficiency and transitioning to hybrid vehicles. To meet our interim and long-term goals it is essential that we continue to transition the fuel types in our fleet and prioritize electrification.

Electrification is the main priority for our fleet conversion. Full electrification, combined with 100% clean electricity, would allow us to reduce our emissions in this sector by nearly 100%, avoiding any future offset cost and negative environmental and climate impact, as well as saving money on fuel and maintenance costs.

To electrify our fleets, it is necessary to ensure that each department has sufficient charging capabilities and comprehensive plans in place that factor in charger types, locations, use, and funding opportunities. This will need to be completed prior to or alongside fleet electrification.

Our fleet is composed of vehicles that serve the County's functions in Public Works, the Sheriff's Department, Central Services, and the Detention Center. As fleet managers, these departments will be responsible for implementing fleet transition when vehicles reach the end of their useful life and where transitioning vehicles is feasible. The Climate Action Program staff will provide guidance and assistance.

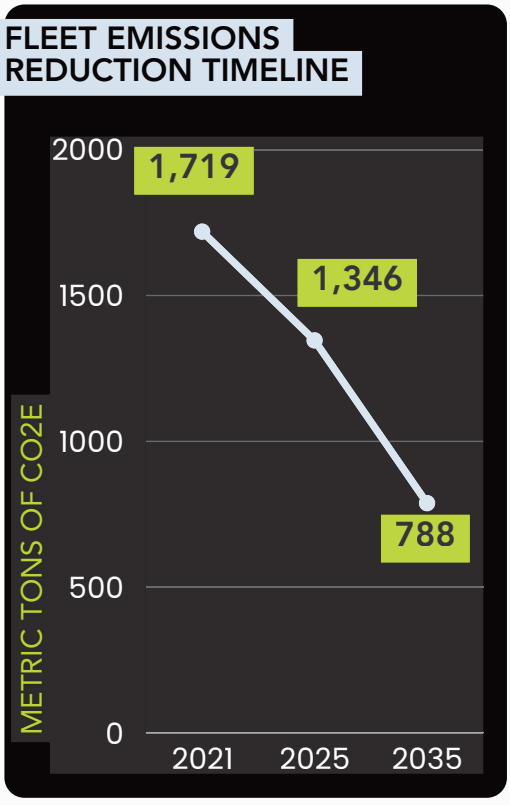
12.4% GHG Reduction

Transitioning to a combination of hybrid, electric vehicles (EV), and more fuel-efficient diesel vehicles would enable us to achieve a total operations emissions reduction of 12.4% or 931 mtco2e.

co-benefits

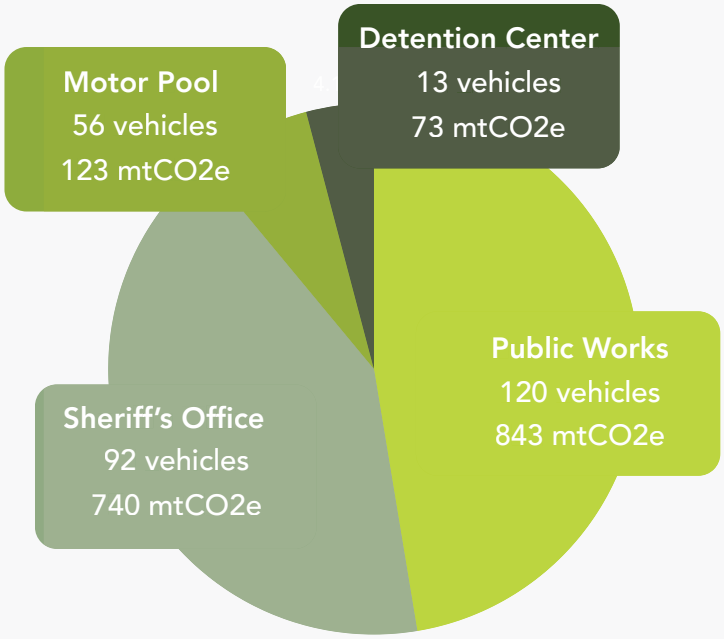
CLEAN AIR
CLEAN WATER
COST SAVINGS
JOB CREATION

FLEET EMISSIONS REDUCTION TIMELINE



NUMBER OF VEHICLES AND CORRESPONDING EMISSIONS BY FLEET, 2021

In total, there are 4 fleets of vehicles and equipment managed by Public Works, the Sheriff's Office, Motor Pool, and the Detention Center.



CHALLENGES

There are specific challenges associated with converting our fleet vehicles and equipment that provide us the opportunity to tailor the transition to departmental needs.

Cost: There is, typically, a higher upfront cost for electric vehicles, but fuel and maintenance costs are much lower, saving Missoula County money in the long run. There are also several rebate and direct pay opportunities the County can use to reduce the overall cost of the vehicles. Electric vehicles typically have a higher resale value, making them a better investment.

Technology: Heavy duty and pursuit-rated vehicles are our main challenges when it comes to fleet electrification. Currently, there are not many cost-effective electric options available for heavy-duty vehicles needed in the Public Works fleet that includes snow plows, dump trucks, and street sweepers. Range and charging capability may also be a concern for both the Sheriff's Department and Public Work's staff who drive long distances daily and may not be able to charge vehicles overnight.

Culture: There may be some misconceptions about the functionality, range, and comfort of electric vehicles. These can be addressed with case studies, connecting with fleet managers in similar climates, pilot programs and test drive events for employees.

CASE STUDY: missoula water

In May 2024, Missoula Water placed three Ford F-150 Lightning all-electric pickups into service, replacing comparable gasoline-powered models. Since deployment, each vehicle has averaged approximately 7,800 miles annually. Although the electric F-150 had a higher upfront cost than its gas-fueled counterpart, Missoula Water is realizing an estimated **$2,841 per year in fuel cost savings** and **reducing carbon dioxide emissions by approximately 9 metric tons annually** as a result of putting these three vehicles into service.

goal 1: build knowledge, acceptance, and infrastructure

STRATEGY	LEADER	TIMELINE
Conduct a charging infrastructure feasibility study and plan to support fleet electrification.	**Climate Action; Fleet Managers**	2025
Conduct a countywide fleet analysis to calculate overall investment needed as well as projected fuel and maintenance cost savings, and highlight rebate, direct pay, and grant funding opportunities.	**Climate Action; Fleet Managers**	2025/2026
Continue to track available technology for heavy duty and pursuit-rated vehicles and capitalize on funding opportunities when they arise.	**Climate Action; Fleet Managers**	2025 -
Create a vehicle purchasing policy like the Vehicle Emissions Reduction Policy at the City of Missoula.	**Fleet Managers; Climate Action**	2027
Conduct pilot projects and host test drive sessions for EVs that will help departments and employees better understand how these vehicles meet our needs and how we might need to adjust delivery of services or internal policies.	**Fleet Managers; Climate Action**	2027

CASE STUDY: city of missoula vehicle emissions reduction policy

Adopted as an administrative rule in 2020, this policy outlines the process for purchasing, oversight, operation, and management of the City's vehicle fleet, including all vehicles, as well as mobile off-road and heavy-duty equipment, operating on gasoline, diesel, electricity, or other types of fuel or energy.[10]

The overall objectives include to (1) reduce total GHG emissions, (2) optimize fleet size for each department, and increase vehicle sharing and carpooling, (3) purchase new vehicles with best available net reduction in GHG emissions, (4) inventory and report fleet emissions, and (5) encourage and educate staff in eco-driving best practices.

goal 2: electrify fleet vehicles

STRATEGY	LEADER	TIMELINE
Public Works: (1) Replace light duty gasoline-powered vehicles with electric vehicles at the end of their useful life. (2) Replace medium, heavy-duty and specialized vehicles with electric vehicles, as feasible, at the end of their useful life.	**Public Works; Climate Action**	2025 -
Central Services: Phase in electrification beginning with a pilot of a few electric vehicles in 2027 and fully transitioning the fleet to electric vehicles in the next feasible contract update. (This fleet is managed and maintained through a contract with Enterprise which is updated every 5 years.)	**Central Services; Climate Action**	2027 -

goal 3: increase fuel efficiency

STRATEGY	LEADER	TIMELINE
Sheriff's Office: Phase in hybrid or newer, more fuel efficient pursuit-rated vehicles over time.	**Sheriff's Office; Climate Action**	2027 -
Shift to hybrid vehicles and then newer, more fuel-efficient models where electric vehicles are deemed not feasible	**Fleet Managers**	2025 -


NO
MOTOR
VEHICLES

CLEAN OUR **COMMUTES**

Employee commutes are responsible for 13% of Missoula County emissions. Since 2016, we have observed as high as a 31% decrease in employee commute emissions, likely due to an increase in remote work during COVID-19. That peak reduction was measured in our 2021 emissions audit, and we anticipate that emissions in this sector have increased since then, which is accounted for in the challenges accompanying this section.

Missoula County currently utilizes a telecommute policy for employees with the aim of strengthening "the resiliency of our workforce and connectivity to our customers and stakeholders" and reiterates an overall commitment to "(1) attracting and retaining a diverse and talented workforce, (2) reducing operational costs without sacrificing quality of service or employee productivity, (3) reducing its carbon footprint and, (4) promoting the health, safety and wellbeing of its employees".[11] This is a very strong policy to build upon and ensure that all eligible employees are encouraged to reduce emissions via hybrid work schedules where possible.

As a major employer in Missoula, we have the opportunity to encourage and incentivize over 1,000 employees to use sustainable modes of transportation to and from work, effectively reducing both our GHG emissions as an organization and the tailpipe emissions in our community. The overall goal is to further reduce the number of drive-alone commutes. There are two major ways that we can do this. The first is to continue to support entities that improve sustainable transportation infrastructure and the second is to provide incentives and benefits that directly encourage employees to use sustainable modes of transportation.

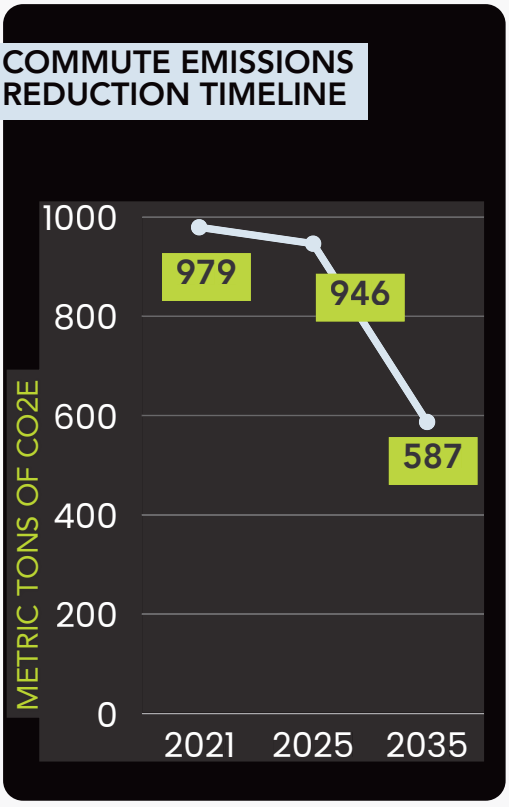
5.2% GHG Reduction

By implementing the following strategies, we plan to reduce total operations emissions by 5.2% or 392 mtCO2e.

co-benefits

CLEAN AIR
CLEAN WATER
PUBLIC HEALTH

COMMUTE EMISSIONS REDUCTION TIMELINE



CHALLENGES

External emissions: Emissions associated with employee commutes are categorized as "Scope 3" which are emissions that are the result of activities or assets not owned or controlled by our organization. Therefore, we are reliant on individual behavior change among staff to help us reduce these emissions.

Return to Office: While we successfully reduced our employee commute emissions by 31%, this is likely due to required remote work during the pandemic. The next GHG emissions inventory is likely to reflect an increase in employee commute emissions as many staff have since returned to the office, at least part-time. Therefore, the following strategies direct our departments to be even more ambitious in this sector.

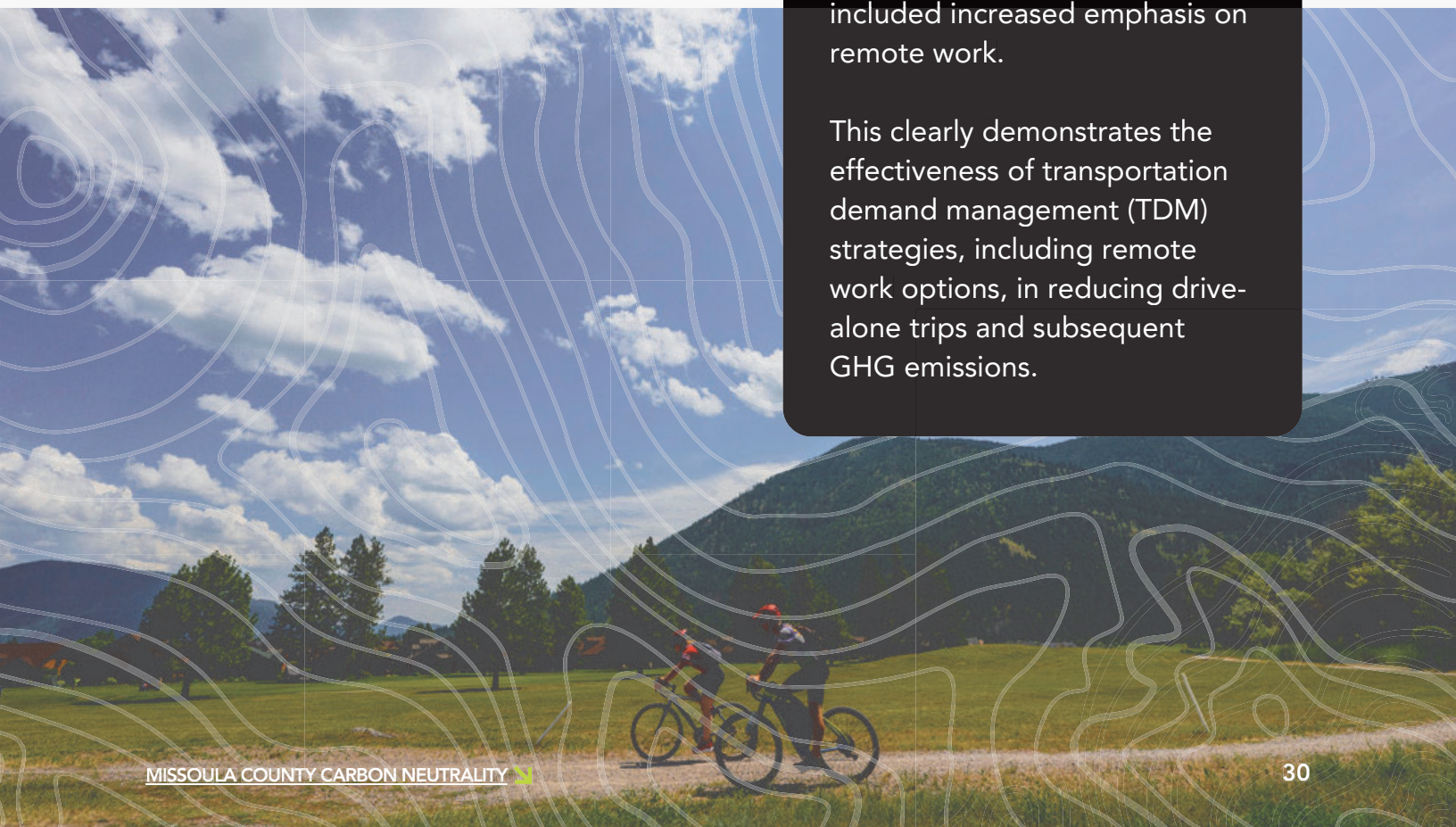
CASE STUDY: commute trip reduction

SEATTLE, WA

Seattle participates in a statewide program aimed at improving air quality, reducing traffic congestion, and reducing gasoline usage. It requires that workplaces with 100+ employees reduce the number and length of drive alone commute trips.[12]

In 2022, 1 out of every 5 people drove to work alone compared to 1 out of every 3 people in 2012. In just a three-year span, 2019-2022, drive alone trips decreased by 5% and remote work increased by 40%. This change may be due, in part, to COVID-19 policies which included increased emphasis on remote work.

This clearly demonstrates the effectiveness of transportation demand management (TDM) strategies, including remote work options, in reducing drive-alone trips and subsequent GHG emissions.



goal 1: Reduce the number of drive-alone commutes by 25% (from 2021 levels) by 2035

STRATEGY	LEADER	TIMELINE
Support sustainable transportation infrastructure improvements.	**Planning, Development, and Sustainability Department; Parks, Trails, and Open Lands Department; Public Works**	2021 -

HERE'S HOW:

1. Support Existing Efforts. There are several local entities, agencies, plans, and policies dedicated to developing and promoting more sustainable transportation options. These include the Metropolitan Planning Organization (MPO), Missoula in Motion, Mountain Line, Missoula-Ravalli Transportation Management Association (MRTMA), ASUM Transportation, and Missoula County Public Schools.

2. Update Policies and Land Use Plans:

- Support and build upon electric vehicle infrastructure planning with the City of Missoula and MPO. It's important to consider electrification of transportation as a key strategy for individuals who need to drive.
- Develop comprehensive plans and zoning that promote more sustainable land use and transportation systems. Where we build, how dense it is, how it connects to the transportation network and how land uses mix are important factors for reducing energy use and improving the carbon footprint.
- Encourage compact development—where there's a mix of homes, shops, and offices all close together, with streets that are easy to walk or bike on and good public transportation—as a smart way for communities to tackle their energy and climate goals. These kinds of neighborhoods and communities can save energy and reduce greenhouse gases but must also work well in our local context. Incorporate sustainable development into county land use planning.

STRATEGY	LEADER	TIMELINE
Develop a County employee commute program.	**Human Resources; Risk & Benefits; Climate Action**	2021 -

HERE'S HOW

1. Support Existing Efforts. Continue to partner with Missoula in Motion and promote matching employees with commute options, commuter challenges and monthly "Way to Go!" rewards for sustainable transportation users. We are fortunate that our community has a nonprofit and government office that utilizes transportation demand management already. The County should continue to support and promote their work. Missoula in Motion can also provide expertise and recommendations for developing a County employee commute program, detailed below.

2. Incorporate Incentives:

Provide internal incentives and benefits for using sustainable modes of transportation. Potential program components include:

- Dedicate staff time (at least .5 – 1 FTE) to manage an employee commute program.
- Conduct an assessment to understand what resources we are already providing to staff, what would motivate staff to change their behaviors, and provide recommendations for specific incentives and benefits including, but not limited to, protected bike parking at a majority of facilities, vanpool reimbursement, hybrid remote work options, paid incentives, or priority carpool parking spaces.
- Utilize a wellness app to provide education and opportunities for staff to earn points towards the Missoula County Benefits insurance deductible.

KNOW YOUR STRATEGY: employee sustainable commute program

These programs are typically rooted in transportation demand management (TDM), otherwise known as strategies that inform and encourage a balanced, multimodal transportation system.[13]

TDM strategies are driven by understanding how people make their transportation decisions and providing effective incentives and benefits that encourage people to commute sustainably.

They are highly effective at reducing transportation related emissions, improving air quality, decreasing traffic congestion, and decreasing parking congestion.

CULTURE OF **SUSTAINABILITY**

There are no specific measurable GHG reductions associated with these strategies; rather these are the tools that will enable us to implement the rest of this plan and to account for emissions not historically tracked in the emissions inventories. These strategies blend conceptualizations with direct actions and are the result of the challenges to implementation expressed by the Carbon Neutrality Team.

Establishing a culture of sustainability functions to incorporate climate action in decision-making processes, day-to-day operations, and throughout the community. The following strategies place an emphasis on developing a sustained funding mechanism, providing educational opportunities for staff and project partners, building staff capacity, and continuing to develop sustainable procurement and investment practices.

Each of our departments can contribute to climate solutions, given the right set of tools.

co-benefits

- CLEAN AIR
- CLEAN WATER
- JOB CREATION
- COST SAVINGS
- STRONG LOCAL ECONOMY
- ENERGY INDEPENDENCE
- PUBLIC HEALTH

HIGHLIGHT: new climate economy

Investing in bold climate action can deliver $26 trillion in net global economic benefits through 2030.[14]

goal 1: develop a sustained funding mechanism

Climate action is an investment in our future.

Electrifying our buildings and vehicles, upgrading to energy efficient equipment, and driving a renewable energy transition offer significant long-term cost savings. Mitigating climate change by reducing our GHG emissions is associated with significant social and economic gains as well.

The benefits far outweigh the costs.

While carbon neutrality projects such as on-site renewable energy, energy efficient upgrades, and electric vehicles have long-term cost savings, they often have higher upfront costs. Fortunately, there are a multiple funding sources we can utilize to either cover or partially offset the initial price tag of a project.

Funding carbon neutrality and climate action work will require weaving together multiple financing tools including, but not limited to, capital funds, bonds, grants, utility rebates, and direct pay tax credits.

This section provides three creative, priority strategies that would help to create a sustained funding mechanism for carbon neutrality projects. Traditional financing tools, such as public-private partnerships, grants, bonds and capital funds, are defined in this section as well.

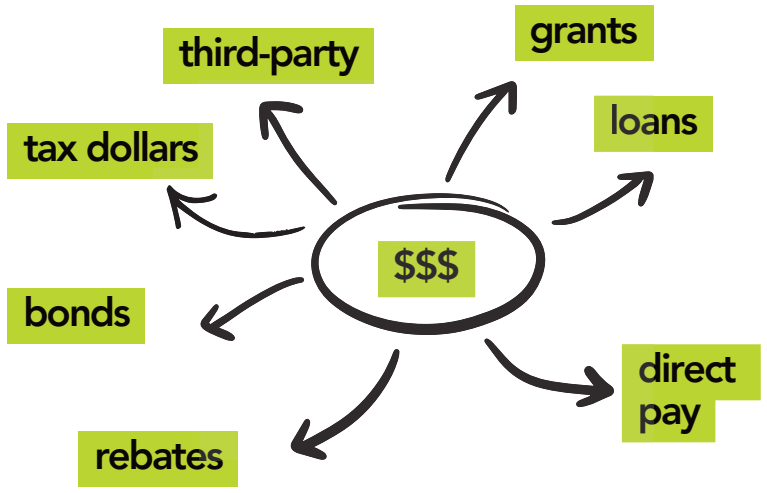
CASE STUDY: multi-element financing

SAN ANTONIO SOLAR

The City of San Antonio is moving towards a solar future by implementing a large municipal on-site solar initiative.[15] The project will install rooftop, parking, and park canopy solar photovoltaic (PV) systems at 42 city facilities.

This "portfolio" approach gives the City economies of scale to lower capital costs, and is being financed through a mix of funding sources: a federal grant, a low-interest state loan, local tax dollars, tax credits, and a rebate from their utility provider. San Antonio also considered third-party financing and ownership as part of their strategy, before deciding they didn't need it.

MULTI-ELEMENT FINANCING



goal 1: develop a sustained funding mechanism cont'd

STRATEGY	LEADER
Develop an Internal Revolving Loan Fund. Revolving funds help to lower operating costs, reduce resource use, and improve the quality of our facilities. This fund would provide loans to carbon neutrality projects wherein a proportion of the cost savings from carbon neutrality upgrades, alongside a proportion of any rebates acquired through direct pay, would be returned to the fund to provide a loan to the next carbon neutrality project.	• Finance • Facilities • Climate Action

CASE STUDY: harvard green revolving fund

Established in the 1990s as an interest-free loan for energy efficiency and sustainability projects, this fund has provided $43 million since 2002 and saved $110 million in that timeframe in addition to being a key mechanism toward the university achieving a 30% emissions reduction by 2016 despite a 14% increase in campus size.[16] This fund was seeded with $12 million, increased to $37 million in 2024, and offers loans that cover full or incremental costs of upgrades with a 10-year loan payback period.

Develop a Social Cost of Carbon (SCC) Tool.[17] This would be a benefit-cost analysis tool the County could use to quantify the dollar-value of the effect of potential County policies, projects, or purchases that would highlight impacts of the action on climate change (positive or negative) due to associated changes in GHG emissions. The United States federal social cost of carbon is currently set at $51/ton mtCO2e and rises each year. That socio-economic cost encompasses things like agricultural productivity, human health, property damage from flood and wildfire, and changes in energy system costs. As a government office responsible for providing public goods and services, that cost ultimately comes back around to us in terms of increased investment in public health and healthcare, subsidies, emergency management, and community resources.	• Finance • Climate Action

HOW IT WORKS: social cost of carbon

If an energy efficiency upgrade results in a 500-ton decrease in GHG emissions, it would also be responsible for a $25,500 socio-economic benefit.

If a project were to result in a 500-ton increase in GHG emissions, it would be responsible for a $25,500 socio-economic cost.

The SCC could be applied in 1 of 2 ways:

(1) As an internal "carbon fee" on policies, programs, or projects that increase GHG emissions that could potentially feed into an internal revolving loan fund as a physical monetary transaction, or

(2) As a shadow-price on policies, programs, or projects that more accurately captures externalities associated with increasing GHG emissions, providing a conceptual representation of money with real associated costs to help decision makers understand the trust cost of an action.

STRATEGIES	LEADER
Transition Budgetary Decision-Making to Reflect Goals and Values. A long-term strategy includes building a tool into the County budgeting process that allows decision-makers to measure requests against carbon neutrality goals. This should be done in conjunction with all the County's goals and values.	• Finance • Climate Action

HERE'S HOW

- **Budget Integration.** One example involves adding "climate fields" to existing budget request forms, for example: "Does this item reduce County GHG emissions?" or "Does this item align with or advance climate action goals?".

- **Priority-Based Budgeting.** Priority-based budgeting (PBB) is a process that prioritizes programs and services that provide the most benefit for a community.[18] Transparency is a key facet of PBB, and publicly available data could provide funding breakdowns for each department and subsequent program.

EXPLORE MORE FINANCING TOOLS

public/private partnerships

(1) **Third-Party Financing.** Third-party financing is a funding option wherein a renewable energy project, such as a solar array, is purchased and maintained by a third-party investor with the option for the host to purchase the array after 5 years at a depreciated cost. While the investor owns the array, the host only pays the investor for the energy that is produced.

(2) **Energy Performance Contracting.** Energy performance contracting is a financing method where an Energy Service Provider (ESP) or Energy Service Company (ESCO) upgrades facilities to improve energy efficiency and maintains these energy conservation measures. This option is typically tied to an investment grade audit, and the ESP/ESCO guarantees energy savings and is paid via the associated cost savings. This option may not be preferable if we have the in-house staff to complete the energy conversation measures at a lower cost, but can be a convenient source of up-front financing and labor.

CASE STUDY: missoula county detention center solar array

In 2021, Missoula County entered into a partnership with Saroc Energy to cover the upfront cost, ~$450,000, of a 432 kW rooftop solar array on the Detention Center. This arrangement enabled the County to develop the largest rooftop non-export solar array in Montana to-date and produce over 475,000 kWh/year, offsetting 20% of the facility's electricity use.

This arrangement also enabled Saroc Energy to take advantage of the federal solar investment tax credit which covered 26% of the total project cost. 30% federal tax credits on renewable energy systems became available to non-tax-paying entities in 2023. See Direct Pay below for more information.

EXPLORE MORE FINANCING TOOLS

grants, rebates, and tax credits

(1) Direct Pay. Direct Pay is a mechanism managed by the US Department of Treasury and the Internal Revenue Service which allows non-tax-paying entities to benefit from available climate and clean energy tax credits in the form of cash payments. Direct Pay was enabled by the 2022 Inflation Reduction Act and is available for projects beginning in 2023. Direct payments can help government entities recoup anywhere from 30% - 70% of total project cost depending on the project's eligibility annually until 2032. There are credits associated with renewable energy installation, energy efficiency, electric vehicles, and more.

CASE STUDY: ecology and extension

In 2023, The Department of Ecology and Extension added a 50kW rooftop solar array to the Gerald W. Marks building at the Fairgrounds. This is the first County project that is eligible for Direct Pay. An interdepartmental team, including staff from Ecology and Extension, the Climate Action Program, and the Finance department, has been established to file a 2024 tax return that is needed to receive a direct pay credit totaling more than $50,000.

(2) Northwestern Energy E+ Renewable Incentives. Missoula County has been awarded E+ Renewable Energy Program funding through Northwestern Energy towards two solar projects in the past. These include a 50kW rooftop array on the Gerald W. Marks building in 2023 and a 50kW ground mount array at Public Works in 2024. This source may be a viable option for funding renewable energy projects in the future.

EXPLORE MORE FINANCING TOOLS

bonds and loans

(1) Municipal Bonds. Municipal bonds are debt securities issued by states, cities, counties and other governmental entities to fund day-to-day obligations and to finance capital projects such as building schools, highways or sewer systems.

- **General obligation bonds.** These bonds are issued by states, cities or counties and not secured by any assets. Instead, general obligation are backed by the "full faith and credit" of the issuer, which has the power to tax residents to pay bondholders.

- **Revenue bonds.** These bonds are not backed by government's taxing power but by revenues from a specific project or source, such as highway tolls or lease fees. Some revenue bonds are "non-recourse", meaning that if the revenue stream dries up, the bondholders do not have a claim on the underlying revenue source.

(2) Low-interest loans. There are financial institutions or state and federal government agencies that offer low interest loans to local governments for the purposes of financing big ticket capital projects such as on-site renewable energy systems or fleet vehicle electrification.

goal 2: build capacity

STRATEGY	LEADER
Prioritize new staff requests towards climate and equity.	• Finance • Climate Action • All Departments

HERE'S HOW

- Increase capacity for Facilities to implement investment grade audit findings before 2030.
- Increase Grants staff to track, apply for, manage, and administer funding to meet climate action goals.
- Create a Climate Action department with expanded capacity to implement internal and external goals and have more streamlined decision-making authority.
- Establish the Home Upgrade Hub as a countywide program beyond the life of the current three-year $1 million EPA grant, which began in 2024.

Build teams with climate knowledge and experience. The "teams" should be both internal and external, and include contracted construction engineers, architects, and/or planners. Clearly communicating County expectations, goals and policies in addition to prioritizing climate knowledge will streamline design and planning processes, effectively saving money on overall project costs. This could include expanding contractor requirements in RFQ pools and including these skillsets in RFPs.

- Finance
- Climate Action

goal 3: educate staff, partners, and contractors

County policies and resolutions are great resources to aid staff in meeting climate goals. Regular educational opportunities with these guiding materials can ensure successful implementation and opportunities for professional growth.

STRATEGY	LEADER
Increase climate education for all employees. Climate action goals and policies should be introduced at employee orientation, especially as it pertains to that employee's job responsibilities such as purchasing or construction. That said, all existing employees should participate in climate action education. Internal communications to employees will play a major role in education.	• Communications • Climate Action
Educate community partners and contractors about climate action goals, as they pertain to projects. For instance, a contracted engineering team will need to understand our energy efficient building policy and how energy efficiency, electrification, and renewable energy are critical to meeting our goal of carbon neutrality to effectively and efficiently develop design scenarios.	• All Departments • Communications • Climate Action
Provide educational information at publicly accessible spaces. Our public buildings can serve as demonstration spaces to communicate the work we are doing to mitigate climate change in addition to opportunities for community members to benefit from climate action projects in their own lives and any resources the County has available.	• All Departments • Communications • Climate Action

goal 4: advance sustainable financial, purchasing, and procurement practices

Sustainable procurement is multi-faceted. It's a powerful tool for aligning our actions with our goals and influencing market dynamics. We can use sustainable procurement to "invest" in more diverse, local businesses or those that are more climate-friendly. We can also use it to divert waste from the landfill by prioritizing low- or no-packaging products, compostable items, and by buying more efficiently. Purchasing locally made or produced goods significantly reduces emissions associated with transportation of goods as well. Emissions from procurement and waste are currently not captured in our GHG emissions inventory, however the procurement decisions we make significantly impact emissions in those sectors regardless.

FINANCIAL PRACTICES

Climate risk is financial risk.

In the United States, a total of 403 climate-related disasters like hurricanes, severe storms, droughts, floods, wildfires, and freezes have led to $2.915 trillion in losses since 1980. In 2024 alone, there were 27 extreme weather/climate disaster events with losses exceeding $1 billion (and totaling $176 billion) across the US as reported by the National Oceanic and Atmospheric Administration.[19] In addition to community-wide devastation, climate disasters are responsible for inflated insurance costs and create portfolio-wide investment risks. See social cost of carbon in *Culture of Sustainability* to learn more about the externalities associated with GHG emissions.

Furthermore, a 2021 study found that 18 United States banks and asset managers were responsible for funding 1.97 billion metric tons of GHG emissions in 2020 through direct investment in the fossil fuel industry.[20] To put this into perspective, if these financial institutions were a country they would be the fifth largest emitter of greenhouse gases in the world. The United States is the second largest emitter with nearly 6 billion metric tons of CO2 emitted each year.

STRATEGY	LEADER
Align County finances with climate and equity goals. It is possible to leverage our financial management to drive emissions reductions outside of government operations. Most banking partners fund the industries most responsible for driving climate change using our bank accounts. Fortunately, there are financial management tools available that can help us to decarbonize our cash. If we tracked these emissions, they would likely be the largest source of emissions in our GHG inventory.	• Finance • Climate Action
Decarbonize direct investments. Similar to how our bank accounts are invested by our bank partners, our intentional investments directly impact human and environmental health. While there are multiple goals we likely need to achieve, with these in mind, the County should work to prioritize investments in equitable and climate-friendly portfolios.	• Finance • Climate Action

KNOW YOUR STRATEGY: divestment guide from boulder county, co

Boulder County, in partnership with 350 Colorado, developed a blueprint for fossil-free finance specific to local governments.[21] The toolkit guides readers through clear, step-by-step actions across four areas: pensions, insurance, banking, and direct divestment, with research, real cases, and policy templates. They estimate that 1,596 institutions worth $40.51 trillion worldwide are already divesting.

PURCHASING AND PROCUREMENT

STRATEGY	LEADER
Update sustainable purchasing policy to require purchasers to make climate-friendly and ethical choices.	• Auditor • Climate Action
Streamline sustainable purchasing decision-making by including preferred climate and equity vendors into accounting and purchasing software.	• Auditor • Climate Action
Prioritize overall lifecycle costs and potential lifetime cost savings in purchasing decisions. Although these goods or projects tend to have higher upfront costs there are also significant savings associated with electrifying, improving energy efficiency, and purchasing locally and/or ethically sourced goods of higher quality. As described above, higher quality, locally sourced goods have a lower environmental and human health impact.	• All Purchasers

CARBON **OFFSETS**

goal: develop an offset investment program appropriate to the County that prioritizes quality and local impact

While purchasing offsets is a necessary strategy for reaching and/or exceeding carbon neutrality, it is important to note that offsets are complicated investments that are not created equally. Offsets act as carbon credits, which allow an entity to continue to emit harmful greenhouse gases.

As of 2024, the cost of carbon offsets varies greatly from $4-$40/mtCO2e emitted. Costs depend on program quality and investment type as well as the ever-changing market. We should be cautious to avoid false solutions and invest locally wherever possible. An example of an investment program priority would be to invest in local, equitable offsets where possible to ensure that government spending provides a direct, calculable benefit to community members.

One existing option is the Footprint Fund, a community carbon offset program of Climate Smart Missoula or Clearwater Credit Union that allows an entity to offset a portion of its carbon footprint by supporting local energy efficiency and renewable energy projects.[22] Another local option is continued subscription to the community solar program at Missoula Electric Co-op (MEC). Climate Action staff should also track new local and regional opportunities as they become available.

26.4% GHG Reduction

CASE STUDY: missoula county solar subscription

The County's community solar purchases were equivalent to approximately 17% of our total electricity purchased from Missoula Electric Cooperative in 2021.

This resulted in a reduction of 0.44 mtCO2e and a financial savings of approximately $2,500/year in electricity costs. The small nature of the emissions reduction is a direct result of the low-emissions supply resources from MEC.

As a comparison, if the County were to purchase the same amount of solar electricity from NorthWestern Energy it would result in a reduction of approximately 15 mtCO2e (a 3,200% increase in impact) due to Northwestern's more carbon-intensive grid assets.

CLOSING

The Carbon Neutrality Plan is a holistic emissions reduction plan aimed at achieving net zero emissions in County operations, reducing operating and maintenance costs, and improving the health of our staff and community members alike.

Driven by a commitment to mitigate climate change and developed by Climate Action Program staff with significant support from the Carbon Neutrality Team, this plan relies on an ambitious timeline to meet the goal of carbon neutrality.

Reframing challenges as opportunities is at the core of this plan. The Team intentionally recognized the barriers to implementation by building those challenges into the plan and developing targeted strategies that will enable staff to overcome existing barriers.

While it is quite comprehensive, this plan does not account for 100% of the County's emissions as there are sources not captured in prior emissions inventories. Some of those sources, such as those tied to our purchases, waste disposal, and investments, are acknowledged in *Culture of Sustainability*. However, it is critical that we remain forward-thinking as we work towards our goal and over time account for new sources of emissions that we will encounter, for example through our use of artificial intelligence.

There is an urgent need to act on climate if we want to avoid the most catastrophic impacts that would result from business-as-usual. As a local government, we know we have a responsibility to our community to move climate action forward. While this is not the beginning of our carbon neutrality journey, it further cements our commitment to a healthy and thriving community. It also offers a strong roadmap and renewed momentum for meeting our climate action goals.

REFERENCES

1. Missoula County. Resolution No. 2019-19. Adopted March 19 2019. https://www.missoulacounty.us/home/showpublisheddocument/32376/636887783823130000
2. Missoula County. Memorandum of Understanding Regarding Clean Energy Goals Between the City of Missoula, Missoula County, and Northwestern Energy. Adopted June 22, 2020. https://missoulacountyvoice.com/15084/widgets/46419/documents/28924
3. Climate Ready Missoula website. 2020. https://www.climatereadymissoula.org
4. Barnett, E. 2016. Missoula County Operations Greenhouse Gas Emissions Inventory Report and analysis. https://www.missoulacounty.us/government/community-development/planning-development-and-sustainability/climate-action/carbon-neutrality-in-government-operations
5. Missoula County. 2016. Missoula County Growth Policy. https://www.missoulacounty.us/home/showpublisheddocument/15085/637335339901800000
6. Missoula County. Policy No. 2021-1 Energy Efficient Building Policy. Adopted March 11 2011. https://www.missoulacounty.us/home/showpublisheddocument/74633/637617806937270000
7. Missoula County. 2022. Missoula County Purchasing Policy. https://www.missoulacounty.us/home/showpublisheddocument/77618/637858944994930000
8. Tom Prater, J. G., Daisy Dunne, Aruna Chandrasekhar, Orla Dwyer, Molly Lempriere, Yanine Quiroz, Ayesha Tandon, Dr Giuliana Viglione, Joe Goodman, Tom Pearson. (2023, September 25). In-depth Q&A: Can “carbon offsets” help to tackle climate change? Carbon Brief. https://interactive.carbonbrief.org/carbon-offsets-2023/index.html
9. Montana’s capital city is investing more in hybrid police cars. (2022, January 28). Police1. https://www.police1.com/patrol-cars/articles/montanas-capital-city-is-investing-more-in-hybrid-police-cars-b4QGakdjgStXQBAM/
10. City of Missoula. Administrative Rule 40 Vehicle Emissions Reduction Policy. Adopted March 1 2023. https://www.ci.missoula.mt.us/DocumentCenter/View/67534/Admin-Rule-40---Vehicle-Emissions-Reduction-Policy?bidId=

11. Missoula County. Policy No. 2022-1. Missoula
County Telecommuting Policy. Adopted July 1 2021.
https://www.missoulacounty.us/home/showpublisheddocument/74758/637624779235470
000
12. Commute Trip Reduction Program - Transportation | seattle.gov. (2021). Seattle.gov.
https://www.seattle.gov/transportation/projects-and-programs/programs/transportation-
options-program/commute-trip-reduction-program
13. Mobility Lab | What is Transportation Demand Management. (n.d.). Mobility Lab.
https://mobilitylab.org/what-is-transportation-demand-management/
14. Press Release: Bold Climate Action Could Deliver US$26 Trillion to 2030, Finds Global
Commission | New Climate Economy | Commission on the Economy and Climate. (2015).
Newclimateeconomy.net. https://newclimateeconomy.net/content/press-release-bold-
climate-action-could-deliver-us26-trillion-2030-finds-global-commission
15. Renewable Energy. (n.d.). Www.sanantonio.gov.
https://www.sanantonio.gov/sustainability/Energy/Renewable-Energy
16. Harvard. (2024, November 21). Green Revolving Fund - Harvard Office for
Sustainability. Harvard Office for Sustainability. https://sustainable.harvard.edu/green-
revolving-fund/
17. Rennert, K., & Kingdon, C. (2019, August 1). Social Cost of Carbon 101. Resources for
the Future. https://www.rff.org/publications/explainers/social-cost-carbon-101/
18. Priority-Based Budgeting Deep Dive. (n.d.). Www.resourcex.net.
https://www.resourcex.net/blog/priority-based-budgeting-deep-dive
19. NOAA. (2025). Billion-Dollar weather and climate disasters | national centers for
environmental information (NCEI). Www.ncei.noaa.gov.
https://www.ncei.noaa.gov/access/billions/
20. Home Page - carbonbubble.net. (2022, December 13). Carbonbubble.net.
https://carbonbubble.net
21. Divestment Toolkit for Local Governments. (2023, November 3). Boulder County.
https://bouldercounty.gov/climate/divestment/
22. Missoula’s Footprint Fund. (2024). Missoula’s Footprint Fund.
https://www.missoulafootprintfund.org/

MCDF = Missoula County Detention Facility
MCCH = Missoula County Courthouse
SSW = Secure Storage Warehouse
More information is available upon request.

APPENDIX A

ICLEI CLEARPATH EMISSIONS REDUCTION PATHWAY

POTENTIAL PATHWAY TO CARBON NEUTRAL

STRATEGY	YEAR
MCDF Demand Control Ventilation Natural Gas Reduction	2022
Detention Center Solar	2022
MCDF Demand Control Ventilation Electricity Reduction	2022
MCCH Replace CHW Coil in PH	2023
MCDF Kitchen Exhaust and MUA Electricity Savings	2024
Public Works Solar	2025
MCDF Water-to-Water Heat Pumps (FY 24 Budget Request)	2025
MCDF Envelope Remediation (Proposed in FY 24 Budget)	2025
MCCH Envelope Remediation	2025

STRATEGY	YEAR
SSW Lighting	2025
Animal Shelter Solar	2025
Lolo Wastewater Treatment Plant Solar	2025
MCCH Solar	2025
Motor Pool Fleet Electrification, 30%	2025
Building Electrification, 25%	2025
Employee Drive Alone Reduction, 10%	2026
Motor Pool fleet Electrification, 100%	2027
Employee Carpool Program, 5% Participation	2027
MCDF Water Conservation	2027

STRATEGY	YEAR
SSW Envelope Remediation	2027
MCCH DOAS and Fan Coil Optimization	2027
MCCH Water Conservation	2027
MCDF Groundwater Cooling	2027
Building Electrification, 30%	2029
100% Clean Electricity	2030
Sheriff's Fleet Hybrids, 100%	2030
Public Works Fleet Gasoline to Hybrid Conversion	2030
Building Electrification, 75%	2030
Employee Drive Alone Trip Reduction, 25%	2035
Building Electrification, 100%	2035

APPENDIX B

ALL STRATEGIES

CLEAN AND CONSERVE OUR ENERGY

goal 1 : reduce energy demand

STRATEGY	LEADER	TIMELINE
Continue to implement energy efficiency upgrades as identified in the 2021 Investment Grade Audit. See Appendix B for a complete list of recommended upgrades.	**Facilities**	2021 -
All major construction and renovation projects will adhere to the Energy Efficient Building Policy (EEBP). This requires energy use intensity reduction and, as feasible, adding on-site renewable energy, shifting away from natural gas, and reducing embodied carbon in building materials. The EEBP should be updated to reflect lessons learned.	**Climate Action; Facilities; All Departments**	2021 -
Utilize green infrastructure, such as green roofs, living walls, trees, xeriscaping, and bioswales to reduce building cooling load, as well as absorb carbon dioxide, improve stormwater management, and provide habitat and shade opportunities.	**Facilities; Climate Action; Ecology & Extension**	2025 -
Conduct an Investment Grade Audit of remaining County-owned facilities to identify energy efficiency, electrification, and renewable energy opportunities, and pursue upgrades.	**Facilities; Climate Action**	2030

goal 2: increase on-site renewable energy

STRATEGY	LEADER	TIMELINE
Continue to pursue on-site clean, renewable energy production on all County owned buildings, as feasible.	**Facilities; Climate Action**	2021 -
Install on-site geothermal heat pumps and/or solar arrays at the Missoula County Courthouse and Detention Center as identified in the Investment Grade audit.	**Facilities**	2021 -

goal 3: reduce natural gas use

STRATEGY	LEADER	TIMELINE
Replace outdated natural gas boilers with all-electric models at the end of their useful life.	**Facilities**	2025 -
All departments that use natural gas appliances in County-owned buildings will replace with all-electric models at the end of their useful life.	**Facilities**	2025 -

goal 1: reduce energy demand and increase on-site renewable generation

STRATEGY	LEADER	TIMELINE
Improve energy efficiency in county-owned water and wastewater buildings.	**Public Works; Facilities**	2030
Continue to pursue on-site renewable energy production such as solar and geothermal.	**Public Works; Climate Action**	2025 -
Incorporate energy efficiency and on-site renewable energy generation into all new county-owned property or publicly funded development we intend to acquire.	**Facilities; Public Works; Planning, Development, & Sustainability**	2025 -

CONVERT OUR FLEET

goal 1: build knowledge, acceptance, and infrastructure

STRATEGY	LEADER	TIMELINE
Conduct a charging infrastructure feasibility study and plan to support fleet electrification.	**Climate Action; Fleet Managers**	2025
Conduct a countywide fleet analysis to calculate overall investment needed as well as projected fuel and maintenance cost savings, and highlight rebate, direct pay, and grant funding opportunities.	**Climate Action; Fleet Managers**	2025/2026
Continue to track available technology for heavy duty and pursuit-rated vehicles and capitalize on funding opportunities when they arise.	**Climate Action; Fleet Managers**	2025 -
Create a vehicle purchasing policy like the Vehicle Emissions Reduction Policy at the City of Missoula.	**Fleet Managers; Climate Action**	2027
Conduct pilot projects and host test drive sessions for EVs that will help departments and employees better understand how these vehicles meet our needs and how we might need to adjust delivery of services or internal policies.	**Fleet Managers; Climate Action**	2027

goal 2: electrify fleet vehicles

STRATEGY	LEADER	TIMELINE
Public Works: (1) Replace light duty gasoline-powered vehicles with electric vehicles at the end of their useful life. (2) Replace medium, heavy-duty and specialized vehicles with electric vehicles, as feasible, at the end of their useful life.	**Public Works; Climate Action**	2025 -
Central Services: Phase in electrification beginning with a pilot of a few electric vehicles in 2027 and fully transitioning the fleet to electric vehicles in the next feasible contract update. (This fleet is managed and maintained through a contract with Enterprise which is updated every 5 years.)	**Central Services; Climate Action**	2027 -

goal 3: increase fuel efficiency

STRATEGY	LEADER	TIMELINE
Sheriff's Office: Phase in hybrid or newer, more fuel efficient pursuit-rated vehicles over time.	**Sheriff's Office; Climate Action**	2027 -
Shift to hybrid vehicles and then newer, more fuel-efficient models where electric vehicles are deemed not feasible	**Fleet Managers**	2025 -

CLEAN OUR COMMUTES

goal 1: Reduce the number of drive-alone commutes by 25% (from 2021 levels) by 2035

STRATEGY	LEADER	TIMELINE
Support sustainable transportation infrastructure improvements.	**Planning, Development, and Sustainability Department; Parks, Trails, and Open Lands Department; Public Works**	2021 -
Develop a County employee commute program.	**Human Resources, Risk & Benefits, Climate Action Program**	2025 -

CULTURE OF SUSTAINABILITY

goal 1: develop a sustained funding mechanism

STRATEGY	LEADER	TIMELINE
Develop an internal revolving loan fund.	**Finance; Facilities; Climate Action**	
Develop a social cots of carbon tool for decision making.	**Finance; Climate Action**	
Transition Budgetary Decision--Making to Reflect Goals and Values.	**Finance; Climate Action**	

goal 2: build capacity

STRATEGY	LEADER	TIMELINE
Prioritize new staff requests towards climate and equity.	Finance; Climate Action; All Departments	
Build teams with climate knowledge and experience.	Finance; Climate Action	

goal 3: educate staff, partners, and contractors on climate goals and policies

STRATEGY	LEADER	TIMELINE
Increase climate education for all employees.	Human Resources; Risk and Benefits; Climate Action	
Educate community partners and contractors about climate action goals, as it pertains to projects.	Facilities; Climate Action; All Departments	
Provide educational information at publicly accessible spaces.	All Departments; Climate Action	

goal 4: advance sustainable financial, purchasing, and procurement practices

STRATEGY	LEADER	TIMELINE
Align County finances with climate and equity goals.	Finance; Climate Action	
Decarbonize direct investments.	Finance; Climate Action	

STRATEGY	LEADER	TIMELINE
Update sustainable purchasing policy to require purchasers to make climate-friendly and ethical choices.	**Finance; Climate Action**	
Streamline sustainable purchasing decision-making by including preferred climate and equity vendors into the Enterprise Resource Planning software.	**Auditor; Climate Action**	
Prioritize overall lifecycle costs and potential lifetime cost savings in purchasing decisions.	**All Purchasers**	

APPENDIX C

MCKINSTRY INVESTMENT GRADE AUDIT PROJECT LIST

MCDF = Missoula County Detention Facility
MCCH = Missoula County Courthouse
SSW = Secure Storage Warehouse
More information is available upon request.

FACILITY	IMPROVEMENT MEASURE	BUDGET	ANNUAL $ SAVINGS	ANNUAL CO2 SAVINGS mtCO2e
MCDF	Demand Control Ventilation	$95,044	$28,428	189.6
MCDF	Kitchen Exhaust and MUA	$211,644	$3,390	22.3
MCDF	Envelope Remediation	$26,857	$1,741	11.3
MCCH	Replace CHW Coil in PHC	$59,622	$1,543	9.1
SSW	Envelope Remediation	$15,098	$1,083	7.0
MCCH	Envelope Remediation	$7,526	$830	5.4
MCDF	Water Conservation	$451,828	$28,321	43.0
MCCH	DOAS and Fan Coil Optimization	$44,949	$849	5.5
SSW	Lighting	$8,533	$330	1.6

FACILITY	IMPROVEMENT MEASURE	BUDGET	ANNUAL $ SAVINGS	ANNUAL CO2 SAVINGS mtCO2e
MCDF	Water-Water Heat Pumps	$2,609,505	$1,579	111.1
MCCH	GW / WWHP Integration	$453,166	$5,045	28.2
MCCH	Water Conservation	$75,477	$438	0.7
MCCH	Solar Photovoltaic Array	$242,947	$5,434	38.6
MCDF	New Mechanical Room	$993,394		
MCDF	Secondary Well Pair	$432,928		
MCCH	Secondary Well Pair	$307,446		
MCDF	Replace AHU HW Coils	$284,167		
MCDF	Demo Chiller	$38,981		
MCCH	Remove Tower	$142,508		
MCCH	Replace Heat Exchanger	$82,265		

FACILITY	IMPROVEMENT MEASURE	BUDGET	ANNUAL $ SAVINGS	ANNUAL CO2 SAVINGS mtCO2e
MCDF	Demo Tower	$59,938		
MCDF	SolarWall OA Preheat	$449,531	$4,305	27.9
MCDF	Groundwater Cooling	$958,035	$3,692	26.2
MCDF	Dishwasher Exhaust Fan	$29,580	-$1,190	-6.3


Missoula
COUNTY