# City of McCall

## RESOLUTION 20-13

A RESOLUTION OF THE CITY OF MCCALL, IDAHO, ADOPTING THE 2020 ADOPTING MCCALL'S FRAMEWORK FOR CLIMATE ACTION PLANNING AND DRAFT GREENHOUSE GAS EMISSION INVENTORIES, PROVIDING FOR RELATED MATTERS, AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City received a Grant from Blue Cross of Idaho Foundation for Health in response to the Mayor having participated in their leadership program. The purpose of Grant funding from the Foundation is for the support MOSS internships with the City of McCall.

WHEREAS, in a 6-week internship Anna Lindquist conducted survey, collected data, performed interviews and produced *McCall's Framework for Climate Action Planning* and *Draft 2018 Greenhouse Gas Emission Inventories*; and

WHEREAS, the results of the final reports will assist the City and the community in developing a baseline to measure Greenhouse Gas Emissions and set a framework for developing a Climate Action Plan.

NOW, THEREFORE, BE IT RESOLVED, by the Mayor and City Council of the City of McCall, Valley County, Idaho that:

*McCall's Framework for Climate Action Planning* and *Draft 2018 Greenhouse Gas Emission Inventories* is adopted and a copy of the Plan is attached hereto as Exhibit 1, and by this reference incorporated herein.

This resolution shall be in full force and effect upon its passage and approval.

Adopted this 9th day of July 2020.

CITY OF McCALL, IDAHO SEAL IDAHO

Robert Giles, Mayor

ATTEST:

BessieJo Wagner, City Clerk

# MCCALL'S FRAMEWORK FOR CLIMATE ACTION PLANNING

**Produced by Anna Lindquist, Graduate Student at the McCall Outdoor Science School for the City of McCall, Idaho**

City of McCall IDAHO

# Acknowledgements

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**ICLEI-LOCAL GOVERNMENTS FOR SUSTAINABILITY USA**
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**FUNDING SOURCE**
Blue Cross of Idaho Foundation

This report was prepared by Anna Lindquist, a graduate student at the University of Idaho McCall Outdoor Science School. The author would like to thank the City of McCall staff for providing much of the insight and local information necessary for the completion of this report.

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# EXECUTIVE SUMMARY

Anthropogenic climate change is now an accepted reality by a majority of scientists and the American public. While polar bears floating on small icebergs may have captured the public imagination as the face of climate change, even places like Idaho will not escape its effects. While climate change is a global crisis, action is now needed at all levels of government if there is a chance of mitigating and adapting to its effects. Over half of the world's population now lives in cities, and cities consume 78 percent of the world's energy and produce more than 60 percent of greenhouse emissions. Thus the actions taken at the local level are integral to a successful response to the crisis.

There are several kinds of ways a community may choose to address climate change. There are sustainability and "green" plans, resilience plans, energy plans, and comprehensive plans. Similar to these, in the past several decades, one of the most common protocols to follow has been to complete what many call a climate action plan. A climate action plan consists of a few standard components, and is both

quantitative in its data collection, and place-based in its specificity for the locality for which it is created. Whatever the exact name given to the plan, the vision of this project is to create a solid foundation, based on data and research, from which the City can begin to craft a plan to address climate change at the local level.

In the first section of this report, an overview of the effects of climate change and greenhouse gases is provided. The main section of this report outlines what a climate action plan is, and compiles research done on the action plans of other cities in the region. This section should prove useful to the staff at the City of McCall, as well as its citizens as the community begins the climate action planning process.

## KEY FINDINGS

The City of McCall is well positioned to take meaningful, long-term action in the realm of sustainability and resilience in the face of climate change. This report recommends the City follow these steps to complete the climate action planning process, following ICLEI—Local Governments for Sustainability Climate Mitigation Milestones:

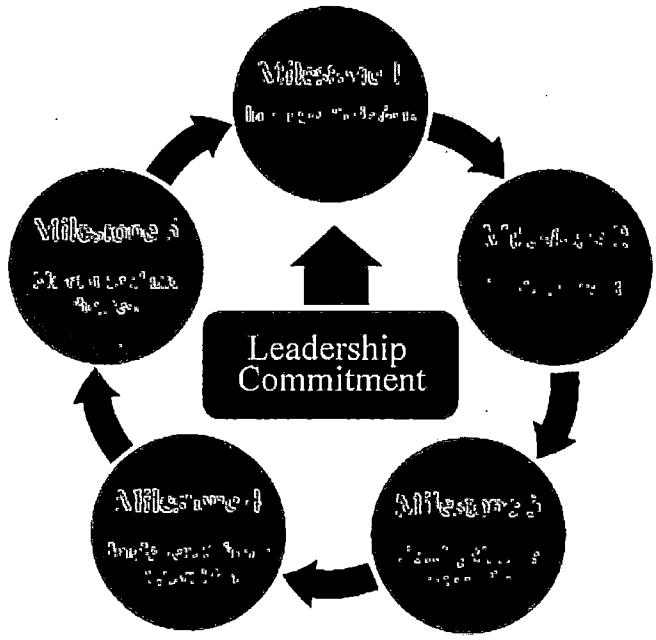



*Figure 1: ICLEI's Climate Mitigation Milestones*

<u>Milestone 1</u>

- Assign a coordinator, or point of contact within the City to complete the LGO inventory, followed by the Community inventory.

- Continue to work with ICLEI—Local Governments for Sustainability, and consider becoming members to reap the full benefits of their technical assistance.
- Explore the option of working at the County level to complete data collection.

Milestone 2

- First, decide whether to focus on local government operations, community operations, or both.
- Set reasonable greenhouse gas emissions reduction goals that target specific emission sectors, such as energy, or transportation.
- Consult with ICLEI staff about the reasonableness and timeframe of these goals; additionally, use ICLEI's ClearPath software for modeling and projections.
- Once goals are confirmed, establish a reasonable timeframe in which to complete them.

Milestone 3

- Establish a committee or advisory committee comprised of community partners and City staff.
- The committee will seek to gain an understanding of the public's vision for local climate action through a communication and outreach process. Educational and recreational partnerships can be leveraged to both convey and collect information.
- The committee will narrow the scope of the climate action plan by reviewing the greenhouse gas emissions inventories, taking into consideration the public's desires as well as their own expertise on feasibility. ICLEI's scoping tool, and/or the City of Aspen's decision making matrix can be utilized to facilitate.

- A draft climate action plan will be completed outlining the specific recommended actions, and will be presented to City Council for approval.

Milestone 4

- Answer the questions, "who will do the work, who will be responsible, and how will it be funded?"
- Continue to adapt actions based on City staff and community feedback.
- Review the timeline for implementation to accomplish goals within the given timeframe.

Milestone 5

- Complete a second greenhouse gas emissions inventory using ICLEI's ClearPath software.
- Coordinator and committee will review and update climate action goals as necessary.

## ABOUT THIS REPORT

The City of McCall, Idaho is committed to a more sustainable future and addressing its contributions to climate change. To this end, the City began working with the University of Idaho's McCall Outdoor Science School in the spring of 2020 on a greenhouse gas emissions inventory for the city.

This report is a continuation of that work, and was developed by Anna Lindquist, a graduate student at the McCall Outdoor Science school, as part of a six-week internship, funded through a grant from Blue Cross of Idaho Foundation. Working under the Community and Economic

Development Department, data collection progressed at the community and local government level for both a community-wide and local government operations scale inventory. Due to the level of quality data needed for an accurate emissions inventory, and the short span of this internship, only a draft inventory was finished. The results of that inventory can be found in the Draft Greenhouse Gas Emissions Inventories report. In conjunction with the inventory process, research was done into the actions other cities are taking in response to climate change. Particular focus was given to cites of a similar population size to McCall, and also in the Western United States. The results of that research are cotained in this paper.

# CLIMATE CHANGE OVERVIEW

Naturally occurring gases dispersed in the atmosphere determine the Earth's climate by trapping solar radiation. This phenomenon is known as the greenhouse effect. Overwhelming evidence shows that human activities are increasing the concentration of greenhouse gases and changing the global climate. The most significant contributor is the burning of fossil fuels for transportation, electricity generation and other purposes, which introduces large amounts of carbon dioxide and other greenhouse gases into the atmosphere. Collectively, these gases intensify the natural greenhouse effect, causing global average surface and lower atmospheric temperatures to rise.

Because of anthropogenic climate change, McCall is projected to be effected by increased wildfires and decreased snowpack; specific impacts to McCall are explained below. Other expected impacts in

Idaho include an increase in growing-season length, increased precipitation intensity, and changes in plant productivity.

Reducing fossil fuel use in the community can have many benefits in addition to reducing greenhouse gas emissions. More efficient use of energy decreases utility and transportation costs for residents and businesses. Retrofitting homes and businesses to be more efficient creates local jobs. In addition, money not spent on energy is more likely to be spent at local businesses and add to the local economy. Reducing fossil fuel use improves air quality, and increasing opportunities for bicycling and walking improves residents' health.

## Greenhouse Gas Emissions

The atmosphere is made of naturally occurring greenhouse gases, such as water vapor, and life on earth would not be possible without it. The gases in the atmosphere allow for short-wave radiation from the sun to pass through to the earth and be absorbed by its surface and are used in such processes as photosynthesis. However, not all of this radiation is absorbed; some is re-emitted from the earth as long-wave radiation, which does not pass through the atmosphere as easily, and instead gets trapped by the gases in the atmosphere and warms the earth. Although the greenhouse effect is a natural part

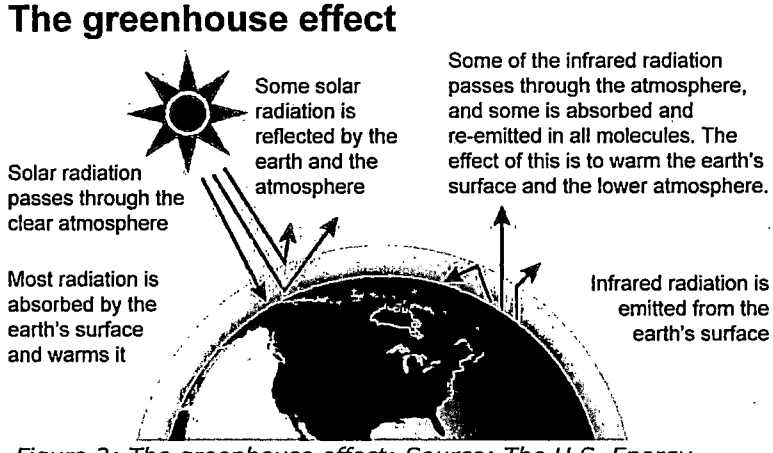
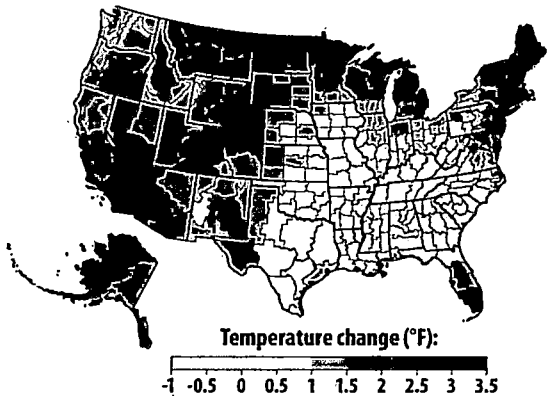



*Figure 2: The greenhouse effect; Source: The U.S. Energy Information Administration*

of earth's system, since the industrial revolution, atmospheric concentrations of greenhouse gases have been rising due to human activities.

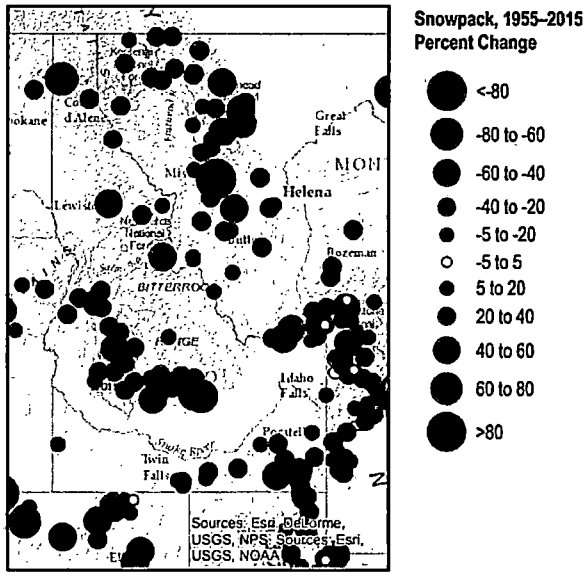



*Rising temperatures in the last century. The warming in Idaho has been similar to the average warming nationwide. Source: EPA, Climate Change Indicators in the United States.*

*Figure 3: Warming Temperatures in the last Century; Source: U.S. Environmental Protection Agency*

## Local and Regional Impacts

Regional studies have shown that Idaho can expect increasing temperatures and changing precipitation patterns in the years to come. Specifically, we can anticipate an increasing growing-season length, increasing areas burned by wildfires, and more precipitation falling as rain instead of snow. Natural resource managers in the state are increasingly concerned about water resource availability, extreme drought, more wildland fires, and changes in plant productivity.

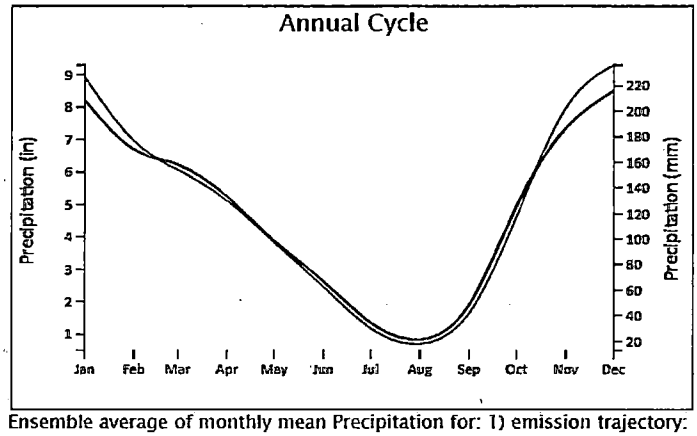



*Trends in April snowpack, 1955–2013. The snowpack has declined at most monitoring sites in Idaho. Source: EPA.*

*Figure 4: Snowpack in Idaho; Source: U.S. Environmental Protection Agency*

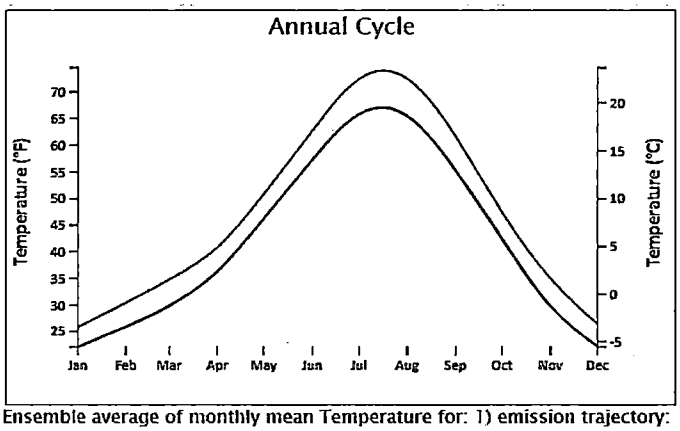
As a place where people value a high quality of life, and as a destination for outdoor recreation, McCall is in danger of deeply feeling these changes. McCall depends on snowpack not only for its water, but also for winter recreation, which brings an economic boost to the region. Yet, as the graph on the right shows, overall snowpack in Idaho has

been decreasing in the past few decades. Thus, in the future the region may experience a shorter skiing and winter tourism season. This decrease in snowpack is also detrimental to another key feature of McCall, Payette Lake, which is a natural lake fed by spring flow from the mountains. With rising temperatures, however, spring runoff will peak sooner, leading to reduced flow in the summer, potentially affecting agriculture downstream, as well as the flora and fauna that depend on the lake for a stable ecosystem. This change in water variability, coupled with rising temperatures, has the potential to exacerbate the already visible effects of pine beetle or bark beetle tree kill in the area. Warmer winters will allow for more beetles to overwinter successfully, and target trees that are stressed due to climactic changes. An increase in unhealthy forests means more fuel for wildfires, which are also correlated with decreased soil moisture and rising temperatures.




Ensemble average of monthly mean Precipitation for: 1) emission trajectory: High (RCP 8.5), 2050-2069 (blue line); 2) Historical, 1986-2005 (green line). Values are for the model grid cell containing: 44.911°N -116.099°E.

*Figure 5: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector*




Ensemble average of monthly mean Temperature for: 1) emission trajectory: High (RCP 8.5), 2050-2069 (blue line); 2) Historical, 1986-2005 (green line). Values are for the model grid cell containing: 44.911°N -116.099°E.

*Figure 6: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector*

Finally, the health effects of climate change may also shift in

the McCall area. Increasing temperatures and more particulate matter in the air due to wildfires, may result in the most vulnerable citizens' health being disproportionately affected.

More information on greenhouse gas emissions, anthropogenic climate change and its regional effects can be found at the sources listed in the Reference section.

## Local Actions

In response to the problem of climate change, many communities in the United States are taking responsibility for addressing emissions at the local level. Since many of the major sources of greenhouse gas emissions are directly or indirectly controlled through local policies, local governments have a strong role to play in reducing greenhouse gas emissions within their boundaries. Through proactive measures around land use patterns, transportation demand management, energy efficiency, green building, waste diversion, and more, local governments can dramatically reduce emissions in their communities. In addition, local governments are primarily responsible for the provision of emergency services and the mitigation of natural disaster impacts.


*Figure 7: ICLEI Climate Mitigation Milestones*

The City of McCall has recognized its role in contributing to increased greenhouse gas emissions, and thus has taken the first step with this report to begin to measure, and eventually complete a transparent, and publicly informed

process to take action on climate change. In partnership with ICLEI—Local Governments for Sustainability, McCall has joined a large cohort of over 600 local governments in the United States in order to share knowledge and strategies for increasing sustainability. Through this association, McCall has access to shared knowledge, methodologies, and frameworks from which to begin the process of completing the milestones which will lead to identifying and reducing greenhouse gas emissions in the community. This report represents the a step in completing the process by providing a foundation from which the City of McCall can proceed.

Taking action on human caused climate change is aligned with the community values, projects, and policies that were put forth during the creation of the 2018 McCall Idaho Area Comprehensive Plan. Over 3,000 plan participants helped to identify the following values as central to the McCall community:

- *McCall's Mountain Character and Small Town Feel*
- *Access to Natural Resources and Abundance of Recreation Amenities*
- *A Family-Friendly Place*
- *Healthy Living*
- *An Intellectual Community*

Further assessment of the specific policies and projects contained within the Comprehensive Plan and their potential for greenhouse gas emissions reductions can be found in the Appendix.

# THE CLIMATE ACTION PLANNING PROCESS: RECOMMENDATIONS

The following section of this report outlines recommendations, categorized by ICLEI's Climate Mitigation Milestones. These suggestions are sourced from research into the Greenhouse Gas Emissions Inventories, Climate Action Plans, Sustainability Plans, and Resilience Plans from other communities both in and outside of Idaho. This section will provide guidance for the City of McCall as it proceeds in the process of identifying and codifying the steps necessary to take action at the local level against climate change. Of course, this is not an exhaustive list, and as the City begins the process it will inevitably discover which course of action will lead to the most successful outcome for the community.

*What is a Climate Action Plan?*

For the past several decades, city leaders have been guiding at ground level, committing to campaigns and programs such as the Mayor's Climate Protection Agreement and ICLEI's Cities for Climate

Protection™. Arguably, because over half of the world's populations lives in cities, "the actions local governments take may determine the ultimate outcome of our response to climate change" (ICLEI-Local Governments for Sustainability USA, 2017). There are many opportunities and challenges that have emerged in this local frame, and, of course, every city is different.

The local version of the Kyoto Protocol or Paris Climate Agreement is often called a city climate action, or adaptation, plan (CAPs). Unlike national or state environmental standards, climate action plans are voluntarily taken on by local officials and will vary by local context and vision. Yet, typically most climate action plans consist of a few basic components:

1. An overview of climate change and its potential regional impacts
2. A greenhouse gas emissions inventory, and possibly a forecast of future greenhouse gas emissions
3. Greenhouse gas emissions reduction targets
4. Emissions reduction strategies and/or adaptation strategies
5. A plan for implementation of the strategies, including a timeline and assigned responsibilities
6. Continual monitoring and evaluation

However, this is simply the framework of a CAP on paper. The actual process of creating a CAP is iterative and can take from six months to a year. This is because a good CAP, in addition to receiving strong support from city leadership, also "engages multiple agencies, economic actors and community stakeholders", a process which takes time (UN-HABITAT, 2015). Many cities begin the process of creating a CAP by simply establishing their overall vision for mitigation and adaptation to climate change; this involves evaluating potential

challenges, and determining the city's capacity for action. Next, endorsements from the mayor or other senior leaderships are often key components; this increases buy-in for the project, and allows for a communications or outreach plan to assure targeted audiences that city leadership is committed. Additionally, cities will often review existing policies and programs to assess their capacity for inclusion in a climate action plan. This process of evaluating existing infrastructure, building community support, and visioning takes time. Indeed, a major obstacle for cities is that CAPs are a time consuming process in addition to local government staff's regular duties, and typically there is no one individual or department solely responsible for its creation or implementation.

It is also worth mentioning that one of the keystone pieces of a CAP, the greenhouse gas emissions inventory and reduction strategies, are technical and more challenging than many typical local-level projects . While organizations like ICLEI provide guidance, again, surveying emissions or creating a CAP is voluntary, and thus the methods used to collect these data are not uniform, making the emissions inventories from city to city difficult to compare. Additionally, some researchers argue that focusing on greenhouse gas emissions is not the most effective way for cities to combat climate change. One paper found that at the local level, heat management strategies such as green roofs, tree planting, and reducing waste heat production could be more successful in combating actual warming in urban areas, rather than a focus on carbon emissions. Truly, once in the atmosphere, greenhouse gases do not respect city limits, and thus it is seen by some to be futile to expend resources controlling them, when it is not clear that it will have a measurable result.

Despite these obstacles, it is still generally agreed that creating a CAP increases public awareness of the issues, helps to localize the global problem of climate change, and indicates local official's commitment to creating a sustainable future and create a community dialogue around long-term planning. From the research, we know that there are certain characteristics that go into a successful CAP; these include emphasizing the co-benefits of a plan, long term planning, aligning with existing policies, creating a timeline and delegating specific tasks to stakeholders. To that end, the city of McCall, Idaho, is well positioned to start envisioning a climate action plan of its own, having already done a lot of work towards long term planning and policy visioning, as well as engaging stakeholders in the community.

In 2018, the City of McCall completed a comprehensive plan titled, McCall in Motion. The plan combined previous plans to encompass the city's overall vision and serve as its primary planning policy document for the City and surrounding Area of Impact. This plan took shape after extensive input from the community, and resulted in not only a vision for the future of McCall, but also tangible goals and policies that align with those goals. While the plan does not specifically mention conducting a greenhouse gas assessment, or creating a CAP, a large number of the goals and policies speak to the City's willingness to mitigate its environmental impact. Thus, a large portion of the first step in creating a CAP has already been done; the community has shown itself to be passionate about the continuing sustainable development in McCall, and the City leadership have shown a willingness to engage with them on the issues.

# Milestone 1: Greenhouse Gas Emissions Inventories

The following section of this report outlines recommendations concerning completing the greenhouse gas emissions inventories that were started as part of this internship. A detailed overview of the greenhouse gas emissions inventory can be found in the accompanying report: Draft Greenhouse Gas Emissions Inventories.

Greenhouse gas emissions inventories are done to establish a baseline for a community from which to set reduction targets and policies. There are two basic scopes for an emissions inventory: Local Government Operations (LGO) and Community-wide. A LGO inventory only takes into account the greenhouse gas emissions which result from operations over which the City has direct control. For example, this includes the amount of electricity used by city facilities and street lights, emissions from fuel usage in city vehicles and employee commutes, and emissions associated with solid waste. This scope would also include emissions from any contracted work for city projects, and fuel use from off-road equipment. The Community-wide scope encompasses emissions from the entire City of McCall and Area of Impact. For example, this scope comprises solid waste, wastewater treatment, annual vehicle miles travelled, and more.

Rigorous data collection and record keeping is key to these inventories, and is arguably one of the hardest, and certainly most technical Milestones. One of the opportunities that comes with data collection is it is the first touch when promoting the idea of taking local action on climate change in the community. During the data collection process, every respondent to requests for information was helpful and seemed supportive of the City's action. However, there are also many

obstacles that make rigorous data collection difficult. The timing of this research falls under the shadow of the COVID-19 pandemic, which meant that all communication with City staff and community contacts was done over the phone, video, or email. Additionally, lack of institutional knowledge about the inner workings of municipal operations also meant there was a steeper learning curve for an intern than there might have been for someone already familiar with the City's procedures, record keeping, and department responsibilities. Thus, as corroborated by the employees of several other cities in Idaho also working on greenhouse gas emissions data collection, having a coordinator at the local government level to facilitate data collection is more efficient. Of course, this report recognizes the obvious financial responsibility that goes along with funding such a position, or allocating time to an already existing staff position to complete such duties. Yet, going forward, the City of McCall may want to consider such an option for a more cost-effective delivery of a Climate Action Plan.

Once a point person is established to continue Milestone 1, they can easily add to the data collected so far by entering it into ICLEI's ClearPath software. ICLEI staff are an amazing source of knowledge, having successfully assisted many communities in completing greenhouse gas emissions inventories over the past few decades. The City of McCall should continue to use ICLEI as a resource, as well as the other communities in Idaho who are currently also working on greenhouse gas emissions inventories. These communities include, Boise, Moscow, and the cities within Blaine County such as Ketchum, Hailey, and Sun Valley. Indeed, if there is an interest across the region, McCall could follow Blaine County's example and create a cohort of cities within Valley County with which to pursue data

collection for mutual use. Currently, each city within Blaine County has an long-term intern, who are working together with City and County guidance to collect and share data for greenhouse gas emissions inventories. This model makes a lot of sense for smaller communities, as similar sources of data are collected for each city—from similar service providers—yet as was found in collecting data for McCall's inventory, service providers such as solid waste collection, propane, and electricity, do not always keep track of data at the City level when the population is small. Thus, this model could be followed in Valley County if interest exists in neighboring cities to create a more holistic data set, and to increase the impact of the actions which follow.

In whatever way the City decide to continue, completing the greenhouse gas emissions inventories should be a top priority, as they are the basis on which the rest of the Milestones build. Finishing the inventories will allow for projections on future emissions to be modeled in the ClearPath software, using data from projected population growth. In turn, this will facilitate decision making regarding how ambitiously the City wishes to take action to curb future emissions by setting reduction targets.

In summary, to complete Milestone 1, it is the recommendation of this report that the City of McCall:

- Assign a coordinator, or point of contact within the City to complete the LGO inventory, followed by the Community inventory.
- Continue to work with ICLEI—Local Governments for Sustainability, and consider becoming members to reap the full benefits of their technical assistance.

- Explore the option of working at the County level to complete data collection.

## Milestone 2: Reduction Targets

After a baseline greenhouse gas emissions inventory is complete, the City can begin to analyze the results and determine which emissions sectors require targeted action. It is ultimately up to the City to decide how ambitiously they wish to reduce emissions, and whether they wish to set a reduction goal for both local government operations and community-wide operations, or just one; some cities develop goals first for the municipal level, and then expand to the larger community. Usually, the reduction target is expressed as a percentage of total emissions, and it set at a level which either maintains or reduces greenhouse gas emissions over a certain time frame. In setting an emission reduction targets it is necessary to assess the goal for reasonableness and to establish a timeframe in which it will be completed. The following are examples of the goals set by other cities to reduce their greenhouse gas emissions:

- Park City, Utah set a goal to reduce emissions 15 percent below 2005 levels by 2020.
- Aspen, Colorado set a goal of reducing emissions by 80 percent by 2050.
- In their Sustainability Action Plan, which specifically addresses municipal operations, the City of Ketchum, Idaho, set the goals of:
    - Upgrading municipal buildings towards a 50 percent reduction in energy usage by 2030, and ensuring that new buildings are carbon neutral by 2030.

    - Eliminate emissions from municipal vehicles by 2030, as well as reducing municipal water use by 40 percent by 2025.
    - Become a zero-waste community by 2050.
- Moscow, Idaho set a target of 20 percent reduction in greenhouse gas emissions at the local government operations level from 2008 levels by 2020.

Each of these municipalities chose to target either community emissions or municipal emissions, or both, and within those targets, chose to focus on the specific sectors in which emissions were highest, and in which the most change could be affected.

From the data collected so far for the City of McCall inventories, it appears that the highest greenhouse gas emissions producing sectors are Water Treatment, specifically energy consumption, at the municipal operations level, and Energy Consumption at the community level. Therefore, setting specific emissions reduction goals for those sectors and researching the necessary actions needed to meet those goals, would be a good place to start in setting reduction targets. The co-benefits of reducing emissions in these sectors would be lower energy costs for both residential energy bills and municipal energy bills (and thus, saving taxpayer money). In the Appendix section of this report, there are lists of the policies and projects within the existing McCall in Motion Comprehensive Plan that may assist with greenhouse gas emissions reduction if implemented. Additionally, there is a list of detailed quantitative and qualitative measures adopted by other cities to reduce their greenhouse gas emissions.

In short, this report recommends the City take the following steps when beginning Milestone 2:

- First, decide whether to focus on local government operations, community operations, or both.
- Set reasonable greenhouse gas emissions reduction goals that target specific emission sectors, such as energy, or transportation.
- Consult with ICLEI staff about the reasonableness and timeframe of these goals; additionally, use ICLEI's ClearPath software for modeling and projections.
- Once goals are confirmed, establish a reasonable timeframe in which to complete them.

## Milestone 3: Developing the Plan

Of course, there are many actions a City or County can take to reduce their contribution to greenhouse gas emissions once they have set a reduction target. What are highlighted in a Climate Action Plan, however are the specific steps it plans to focus on to achieve a certain goal. These steps are developed based not only on the data that has been collected in an inventory, and analyzed by creating reduction targets, but also through dialogue with stakeholders in the community to establish shared ownership of the process. Thus, the first step in developing a plan is to decide whose input is going to be taken into account. Next, after gathering broad input from stakeholders and the larger community, it will be important to narrow the scope of the plan, and to decide on specific action steps.

All of the municipalities listed previously convened some sort of advisory committee made up of City Staff and community participants to help guide the planning process. Something similar to McCall's previously existing Environmental Advisory Committee could be implemented to serve this function. The Town of Jackson, Wyoming

formed an Energy Efficiency Advisory Board composed of town and county leadership, as well as technical staff and relevant community leaders to accomplish the goal of improving energy efficiency throughout government operations. This committee broke into sub-groups once data were collected to create action plans for each sector of emissions. Similarly, Aspen, Colorado's advisory committee was comprised of 15 community organizations and 5 city departments, including representatives from energy, transportation, forestry, community development, climate science and resilience. Creating a committee or advisory board creates a spirit of shared ownership in the process of creating a climate action plan, and ensures that the process is equitable and representative of the community.

In addition to creating a group to work on the plan, broader public input can be gathered at this stage as well, which can be facilitated by the plan, or with the help of other partnerships. For example, the City of Whitefish, Montana participated in what they called "resilience dialogues" with committee members, city staff, officials at Glacier National Park, and climate experts. These dialogues were open to the community and simply started a conversation around climate change and local action. Additionally, the City had high school students interview long-term residents about the changes in weather and climate they have observed over time. The City of McCall could easily engage in something similar to these two activities by partnering with the local high school and the McCall Outdoor Science School. Another example of community outreach occurred in Park city, which partnered with their local mountain resort to host a Save Our Snow event to communicate to citizens the impact of climate change on snow. The snow at Brundage Mountain Resort and Little Ski Hill will undoubtedly be similarly impacted by climate change, and thus the City of McCall

could form a partnership when the time comes to both communicate important information and solicit the opinion of both residents and recreational visitors to the area in partnership with the ski hills. The City of McCall already clearly understands the importance of transparently engaging with its citizens in the planning process, as evidenced by the 2018 Comprehensive Plan. Comparable measures should be taken to engage the citizenry of McCall in a climate action process, both in Milestone 3, and throughout.

Next, it is necessary to decide the scope that will be addressed in the plan. The value of engaging in the public outreach process before deciding on the scope is that the public interest can be taken into account when deciding on where to focus the most energy. One tool that can help in this process, is ICLEI's Climate Action Plan Scoping tool, which is a spreadsheet of questions used to assess a community's priorities. Completing this tool at the advisory committee level may help the City identify where to focus its energy going forward. Additionally, the City's existing 2018 Comprehensive Plan, could also be referenced in this process to guide goal setting. Because the plan sought the input of many residents, and is still fairly recent, it could be used by the committee to remind them of the public's vision.

Another method that could be used to start broadly, and then narrow the scope would be to follow Aspen, Colorado's method. The City convened an advisory committee and listed every potential action the City could take to reduce emissions. Then, using the matrix listed below, prioritized certain actions for implementation in their 3 year action plan by measuring them against to following criteria:

- Have the potential to significantly reduce GHGs.
- Are innovative yet feasible.

- Could create desirable co-benefits.
- Complement existing plans and priorities.
- Are positioned at the nexus of building on past efforts, while setting the groundwork for those that will be necessary in the future.
- Are generally aligned across sectors.
- Fully capitalize on the variety of opportunities in each sector to avoid overreliance on any one.
- Represent a consensus from stakeholders who represent the full spectrum of sectors.

In conclusion, the City of McCall should seek to start broadly to encourage creativity and community buy-in for the process, and then, with a group of engaged stakeholders, hone in on the actions needed for an effective climate action plan. Once the specifics are worked out, the City can draw on the template provided by ICLEI to create a draft climate action plan. The draft can then be reviewed by relevant partners and approved by City Council for implementation.

In summary, the following actions are recommended:

- Establish a committee or advisory committee comprised of community partners and City staff.
- The committee will seek to gain an understanding of the public's vision for local climate action through a communication and outreach process. Educational and recreational partnerships can be leveraged to both convey and collect information.
- The committee will narrow the scope of the climate action plan by reviewing the greenhouse gas emissions inventories, taking into consideration the public's desires as well as their own

expertise on feasibility. ICLEI's scoping tool, and/or the City of Aspen's decision making matrix can be utilized to facilitate.

- A draft climate action plan will be completed outlining the specific recommended actions, and will be presented to City Council for approval.

## Milestone 4: Implementing the Plan

By the time a city has reached the point of implementing a climate action plan, a lot of thought and time has gone into the development. Thus, in order to ensure that a plan moves off the page it is imperative to answer the questions: "Who will do the work, who is responsible for moving items forward, and where does the funding come from?". These are the questions Carbondale, Colorado asked in their Energy and Climate Protection Plan, and the will also need to be answered by the City of McCall as is moves into Milestone 4.

The answer to "who will do the work" and "who is responsible" will be determined by the scope and direction of the approved climate action plan. If the City has decided to focus on local government operations, then they may want to follow the example of Park City, Utah and outline department specific carbon reduction plans. This included identifying parts of city code that may inhibit green building, as well as allowing for an increase in budge for greener city infrastructure and the purchasing of sustainable office products. In the context of both local government operations and the broader community, the City will need to rely on the previously established coordinator and advisory committee to check in with departments, residents, and visitors to ensure implementation of the plan. The responsibilities of these individuals include safeguarding the integrity of the plan, while also

remaining flexible to the needs of the community to adapt as necessary.

How to fund the implementation of a climate action plan is the final essential question. Examples of funding from other cities include the following:

- The Town of Jackson utilized a SPET Tax (specific purpose excise tax) to fund a non-profit, the Jackson Hole Energy Sustainability Project, to focus on community-based energy efficiency, education around renewable energy, and to work with the town on sustainability projects.
- Jackson also created an MOU with their County government, outlining a partnership of goals, responsibilities, and timelines for implementing energy conservation initiatives.
- The City of Walnut Creek, California applied a portion of General Funds to implementing a climate action plan, as well as receiving grant funding from the Department of Energy's Energy Efficiency and Conservation Block Grant, and other state grants.
- Other grant opportunities can be found at the federal website: https://toolkit.climate.gov/

When the City of McCall reaches the point of implementation for this plan, the real work will begin. Therefore, to recap this section, it will be essential to do the following:

- Answer the questions, "who will do the work, who will be responsible, and how will it be funded?"
- Continue to adapt actions based on City staff and community feedback.
- Review the timeline for implementation to accomplish goals within the given timeframe.

## Milestone 5: Monitoring and Evaluating

The main quantitative method of monitoring and evaluating the implementation of a climate action plan is to complete another greenhouse gas emissions inventory. By comparing the original inventory to one completed after steps have been taken to actively maintain or reduce greenhouse gas emissions, progress can be measured quantitatively. This comparison can be done by using ICLEI's ClearPath software.

It is at this stage that a community will want to reevaluate their original reduction targets, and either update them, or recommit to meeting their goals. ICLEI recommends completing an emissions inventory every 5 years or sooner. Thus, McCall should expect to evaluate its progress in the year 2025 at the latest. Of course, this could be done sooner, as in Aspen, Colorado which tracks their greenhouse gas emissions every 3 years. Other cities, such as Carbondale, Colorado, use other metrics of success, such as keeping track of the number of local jobs related to clean energy development, implementation, and education.

It is important to remember in this step, that while comparison to other cities can be useful, as Park City's climate action plan states: "Ultimately, the best comparison for Park City as it strives to reduce GHG emissions will be itself."

## Leadership and Organizational Capacity

The following section of this report outlines ways in which other Cities have committed at the leadership and organizational level to climate

action. These examples are intended to illustrate possible ways the City of McCall could also proceed.

- The City of Moscow, Idaho hired an AmeriCorps Sustainability intern to complete its first Greenhouse Gas Emissions Inventory in 2010 in partnership with ICLEI. Later, they created a position for an Environmental Education Specialist to continue this work.
- The City of Ketchum, Idaho has a Sustainability Advisory Committee, which includes a staff liaison, to provide guidance on environmental issues.
- The City of Whitefish, Montana hired an Energy Corps (division of AmeriCorps) coordinator to develop a greenhouse gas emissions inventory.
- The City of Boise has an Environmental Specialist, working within the Public Works Department, completing local government and community-wide greenhouse gas emissions inventories.
- Blaine County, Idaho has created a task force of City staff, interns, and non-profit organizations to further greenhouse gas emissions inventory data collection and the development of climate action plans.
- Carbondale, Colorado joined the United Nations Cities for Climate Protection Campaign, run by ICLEI.
- The following cities in Idaho have signed onto the Mayors Climate Protection Agreement: Bellevue, Boise, Hailey, Idaho Falls, Pocatello, Sandpoint, and Sun Valley.

# CONCLUSION

The time for substantial measures to mitigate and adapt to climate change is now. With this report, and the accompanying Draft Greenhouse Gas Emissions Inventories, the City of McCall now has the necessary tools to begin increasing its resilience to climate change at the local level. Climate action planning has been shown to motivate community action and enable focused policy-making and planning. Thus, the City should use the recommendations outlined in the main body of this report to begin crafting a place-based approach to climate action planning that will enhance its current and future citizens quality of life in a sustainable manner.

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# APPENDIX

I. Resources

II. McCall in Motion Comprehensive Plan Policies to Reduce GHG Emissions

III. McCall in Motion Comprehensive Plan Projects to Reduce GHG Emissions

IV. GHG Reduction Actions to Consider

V. Excerpts from the City of Aspen's Climate Action Plan

## Resources

Plans from Other Cities

- Aspen's Climate Action Plan: A Roadmap to Our Sustainable Future
- City of Whitefish, Climate Action Plan
- Town of Carbondale Energy & Climate Protection Plan: Creating a Strong Carbondale Economy with Clean Energy
- 2016 Greenhouse Gas Benchmark Inventory, City of Moscow, Idaho
- Town of Jackson 40 X 20 Initiative: Action Plan
- Park City, Utah Community Carbon Footprint and Road Map for Reduction
- City of Walnut Creek, Climate Action Plan
- Boise's Energy Future: A community-wide clean energy plan, 2019

Other Resources

- https://www.usmayors.org/mayors-climate-protection-center/
- https://toolkit.climate.gov/
- https://resourcecentre.c40.org/climate-action-planning-framework-home
- https://sustainabledevelopment.un.org/
- https://icleiusa.org/

# McCall in Motion Comprehensive Plan Policies to Reduce GHG Emissions

| Element | Policy | Sectors of Potential of GHG Emissions Reduction | Aligned with Project in Action Matrix? |
|---|---|---|---|
| Community Character and Design | **CCD 1.4**: Ensure high-quality and sustainable design for public buildings and outdoor spaces. New public buildings should be attractive and meet the highest performance standards for energy and water conservation. | City buildings and facilities; reduction in energy usage. -Define "sustainable design" and "highest performance standards". | No |
| Community Character and Design | **CCD 2.3**: Protect and enhance McCall's treasured public places such as parks, plazas, and streetscapes. Where needed, enhance areas that lack distinctive visual character or where the character has faded. | Land use carbon offset | No |
| Community Character and Design | **CCD 4.4**: Continue to protect the surrounding natural landscape and the edges of the City by using a variety of techniques such as requiring clustering, creating conservation easements, or purchasing private property. | Land use carbon offset -How does the city currently go about deciding how/when/why to purchase private property and/or create conservation easements? | No |
| Land Use | **LU 6.1**: Support protection and enhancement of the open space surrounding the City within its Impact Area. Such protection is not limited to the physical protection of land, but includes the retention and development of working farms and participating in state and federal planning. | Land use carbon offset | Yes; **LU Project 8**: Review Shoreline Overlay Zone |
| Land Use | **LU 6.4**: Permanently protect and retain open space and environmentally sensitive areas through platting, conservation easements, or other appropriate tools. | Land use carbon offset | No |
| Land Use | **LU 7.1**: Incorporate urban agriculture uses into long-range planning efforts by supporting urban agricultural activities, farmers markets, and cottage industries. | Land use carbon offset and reduction in transporation emissions from out of boundary food transport. | Yes; **LU Project 12**: Develop form-based land use regulations for the CBD... |
| Land Use | **LU 7.2**: Support the creation and improvement of community gardens, community kitchens, and farmers' markets that sell locally and regionally grown foods. | Land use carbon offset and reduction in transporation emissions from out of boundary food transport. | No |
| Environment and Natural Resources | **E2.3**: Preserve and create natural riparian vegetation along the shoreline. | Land use carbon offset. Potential energy savings (cleaner water = less treatment?) | No |
| Environment and Natural Resources | **E2.4**: Limit the application of herbicides and fertilizers on manicured sod/lawn along shoreline. | Reduces emissions related to fertilizer production, and pollution in the lake. | No |
| Environment and Natural Resources | **E5.1**: Review, educate, and enforce codes for dark-sky lighting compliance. | Street lights and facilities; reduction in energy usage. | Yes; **E Project 11**: Review current dark-sky ordinace... |
| Environment and Natural Resources | E6.1: Regulate activities in natural resource areas that are deemed to be detrimental to the provision of food, water, and cover for fish and wildlife. | Land use carbon offset. | No |
| Environment and Natural Resources | **E7.2**: Utilize incentives, education, and public/private collaboration to increase energy conservation efforts throughout the community, including use of technological solutions and a reduction in consumption. | Buildings and facilities; reduction in energy usage | Yes; **E Project 17**: Develop a sustainability program... (*also could be listed with **E Project 16**: Encourage energy efficiency through programs...* |
| Environment and Natural Resources | **E7.3**: The City will serve as a role model to the community by utilizing new and emerging technologies for renewable energy. | Buildings and facilities; street and traffic lights; reduction in energy usage | No |
| Environment and Natural Resources | **E 8.1**: Achieve no net loss of tree canopy coverage and strive to increase the overall tree canopy to reduce storm runoff, absorb air pollutants, reduce noise, stabilize soil, and provide habitat. | Land use carbon offset. | Yes; **E Project 15**: Require configuration of development in environmentally sensitive areas to take into consideration... & **E Project 20**: Heritage Tree Inventory |

| | | | |
|---|---|---|---|
| Public Facilities, Utilities, and Services | **PF 7.1**: In partnership with Valley County, provide an adequate and cost-effective solid waste collection and disposal system that includes recycling, land reclamation, and composting. | Solid waste; reduction in production of tons of solid waste and associated energy costs to manage waste. | Yes; **PF Project 9**: Expand waste diversion services (*believe it is incorrectly labeled PF policy 9.1 in table)* |
| Transportation | **T 1.2**: When major roadway projects are implemented, opportunities to link them with other goals (e.g., green infrastructure, gateway treatments, public art) should be explored and incorporated when possible. | On and off road transportation emissions | No |
| Transportation | **T 4.2**: Provide expanded, reliable transit service to mixed-use areas, business parks, medium and high-density housing, educational facilities...tourist destinations, and other transit supportive land uses. | On and off road transportation emissions | Yes; **T Project 6**: Transit Hub; **T Project 7**: Water-based taxi; **T Project 8**: Route Frequency; **T Project 9**: Gondola or alternate transport modes from McCall to Brundage |
| Trails and Pathways | **T&P 1.1**: Increase connectivity, including year-round connectivity where possible, between neighborhoods and from neighborhoods to parks and greenways through the use of sidewalks, bicycle lanes, multi-use paths, and trails. | On and off road transportation emissions | Yes; **T&P Project 1**: Continue to develop and install wayfinding signage... |
| Trails and Pathways | **T&P 2.1**: Explore opportunities to connect parks, recreational facilities, trail heads, and open spaces through private property easements. | On and off road transportation emissions | No |
| Trails and Pathways | **T&P 3.1**: Complete the Valley County Pathway to connec the cities of McCall, Donnelly, and Cascade | On and off road transportation emissions | No |
| Parks and Recreation | **PRO 1.4**: Acquire, maintain, and improve public open space, wildlife natural areas, and parks. | Land use carbon offset. | Yes; **PRO Project 3**: Pursue the creation of a recreation corridor linking various sites through town... |
| Parks and Recreation | **PRO 2.2**: Create partnerships between the State, Valley County, the City of McCall, and other groups to develop guidelines for uses of Payette Lake and the surrounding lands, including state lands around the lake, and increase private education. | Off-road emissions; Water treatment | No |
| Parks and Recreation | **PRO 2.4**: Address motorized and non-motorized uses of the lake and points of acces to the lake. | Off-road emissions; Water treatment | Yes; **PRO Project 8**: Explore features such as floating docks... |
| Airport Facilities | **A 1.2**: Operate and develop the airport in such a manner that it remains a safe and good neighbor by establishing land uses around the airport. | Land use carbon offset. | No |
| Airport Facilities | **A 5.2**: Maintain existing agricultural ground and open space in the vicinity of the airport, especially in key areas off the runway approach and departure corridors to reduce the safety risks for people and property on the ground and in the air. | Land use carbon offset. | No |
| Airport Facilities | A 6.4: Connect the airport to downtown and commercial areas with safe, multimodal transportation options. | On and off road transportation emissions | No |

# McCall in Motion Comprehensive Plan Projects to Reduce GHG Emissions

| Element | Project | How much could this project reduce potential GHG emissions? | Lead Department |
|---|---|---|---|
| Community Character and Design | **CCD Project 1:** Revise the McCall Design Guidelines and Standards to preserve and promote the character of the McCall Area. Review the development code and revise as needed to promote or require energy efficiency, green infrastructure standards, renewable energy, and implement development standards that require retention of native vegetation where appropriate. | Medium reduction potential | CED |
| Community Character and Design | **CCD Project 2:** Develop a portfolio of recommended green design development standards to encourage developers to incorporate 'green' design in future projects. Incorporate 'green' design in the McCall development review process in or in certification program. | Medium reduction potential | CED |
| Land Use Project | **LU Project 12:** Develop form-based land use regulations for the CBD that emphasize pedestrian-friendly scale; inviting store fronts; rear and side yard parking; public spaces; and other features that attract and support pedestrian movement in the CBD. | Medium reduction potential | CED |
| Environment | **E Project 4:** New stormwater management facilities should be designed to serve multiple purposes in addition to stormwater retention and detention (such as ground water recharge, wildlife habitat, aesthetics, etc.) | Low reduction potential | PW |
| Environment | **E Project 11:** Review the current dark-sky lighting ordinance for consistency with dark-sky principle and current technology; identify possible updates. Consider amendments as necessary. | Low reduction potential | CED |
| Environment | **E Project 16:** Encourage energy efficiency through programs (such as current information and rebate and incentive support from local energy utility companies, the Department of Energy, and the Environmental Protection Agency) that encourage and/or reward citizens to use energy-efficient appliances, insulation, windows, etc. Help citizens become aware of costs and cost-savings in making changes. | High reduction potential | CED |
| Environment | **E Project 17:** Develop a sustainability program to recognize development projects in McCall that incorporate sustainable principles. | Low reduction potential | CED |
| Environment | **E Project 18:** Investigate negotiating with energy companies to increase reliance on renewable energy sources. | High reduction potential | ? |
| Environment | **E Project 19:** Install electric vehicle charging stations at public facilities. | Medium reduction potential | CED |
| Environment | **E Project 20:** Use the Heritage Tree Inventory to create a monitoring system to create more effective mechanisms for establishing and protecting heritage trees on public and private property. Incentivize private development protection of large, healthy trees. | Low reduction potential | Parks and Recreation |
| Environment | **E Project 21:** Conduct a Hazard Mitigation Master Plan to effectively asess and address hazard risks. | No reduction potential | CED |
| Public Facilities | **PF Project 1:** Work closely with Payette Lake Recreational Water and Sewer District to ensure that planning, policy, and operational (fees, maintenance, etc.) master plans align. | Medium reduction potential | PW and CED |
| Public Facilities | **PF Project 9:** Expand waste diversion services:<br>•Develop a curbside recycling program for McCall.<br>•Develop more effective recycling practices for construction and demolition debris.<br>•Promote composting at homes and businesses.<br>•Improve recycling of materials in public spaces, in trash receptacles on city streets, and at public events. | Low reduction potential | City Manager or CED |
| Transportation | **T Project 6:** As recommended in the Downtown Master Plan, pursue a transit hub at the southwest corner of the 2nd Street/Park Street intersection. | Medium reduction potential | TVT- CED is a partner |
| Transportation | **T Project 8:** Consider increasing the route and route frequency of transit to 30 minutes to make the service more accessible and attractive to residents and visitors. | No reduction potential | CED- City Council |
| Transportation | **T Project 9:** Explore the feasibility of a gondola or alternate transportation modes from McCall to Brundage Mountain Resort. Explore the feasibility of a bypass auto route around McCall to Brundage Mountain Resort. | Low reduction potential | VALLEY COUNTY IF IMPACT AREA- CITY IF CITY LIMITS. |

## GHG Reduction Actions to Consider

Solid Waste

- Divert construction and demolition waste: create a system for moving C&D waste to markets; adopt and enforce a requirement for C&D waste diversion; provide increased opportunities for deconstructed building materials to be salvaged and reused. (City of Aspen)
- Create incentives for recycling and disincentives for contaminating recycling loads. (City of Aspen)
- Allow for increase in budget for greener infrastructure and purchasing sustainable office products. (Park City)

Energy

- Recommend implementing sleep mode technology for second homes when unoccupied. (City of Aspen)
- Partner with energy companies to "provide convenient source of financing, rebates, information and technical information for residential and commercial customers." (City of Carbondale)
- Perform energy audits on all city/county facilities to identify areas for upgrades and opportunities for conservation. Break down improvements in to tiers (Town of Jackson):
    - First level improvements: (low cost/quick return) caulking, weather stripping etc.
    - Second level: (medium cost/little long on return) replace windows and doors, as well as heating systems, etc.
    - Third level: (more expensive/longer return) include geothermal, solar systems, solar hot water, etc.

Transportation

- Locally source food for City sponsored functions when practical (City of Carbondale).
- Support efforts to turn waste cooking oil into biodiesel (City of Carbondale).

Other

- Self-guided green tour of the City, including strawbale construction, affordable housing, solar installations, EV charging stations, etc. (City of Carbondale).
- Participate in resilience dialogues in the community (City of Whitefish).

# Excerpts from the City of Aspen's Climate Action Plan

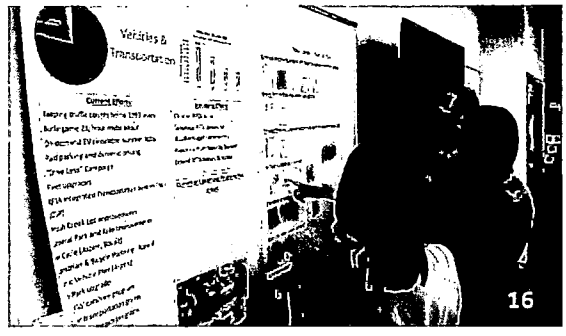
## Understanding the CAP's Recommendations

During the CAP process, the Advisory Committee identified over 250 potential actions for reducing the Aspen community's GHG emissions. Through a deliberative process, the Committee prioritized 46 of those actions for implementation over the next three years. Several criteria guided that decision-making and yielded implementation priorities that:

- Have the potential to significantly reduce GHGs
- Are innovative yet feasible
- Could create desirable co-benefits
- Complement existing plans and priorities
- Are positioned at the nexus of building on past efforts, while setting the groundwork for those that will be necessary in the future
- Are generally aligned across sectors
- Fully capitalize on the variety of opportunities in each sector to avoid overreliance on any one
- Represent a consensus from stakeholders, who represent the full spectrum of sectors

The following sections of the document address each GHG sector, presenting the actions that meet these criteria.

**The CAP Advisory Committee is comprised of 40 community leaders representing 15 organizations and 5 City departments. Committee members provided expertise in energy, building science, transportation, waste, aviation, forestry, community development, public administration, business, climate science and resilience.**



## Considerations for Implementation

The publication of this CAP is a launch point for the real work of implementation. It is the intent of the partners that developed this Plan to begin implementation in 2018 and make significant progress by the end of 2020. The actions listed in this CAP and slated for implementation over the next three years build on past and existing efforts in each sector while setting the groundwork for the mid- and long-term actions that will be necessary to achieve the Aspen community's GHG reduction goals.

One of the reasons for developing the CAP in collaboration with a diversity of partners representing all GHG sectors was to cultivate a spirit of shared ownership around both achieving community wide goals and by association, for implementing actions. This is the community's plan — no single organization or department is solely responsible for full execution of the CAP. Rather, implementation is an all hands-on deck effort.

To foster successful implementation, the City of Aspen's Climate Action Department will:

- Continue convening the Advisory Committee as it develops an implementation strategy for each recommended action
- Provide research capacity and expertise to inform decision-making
- Compile and formalize the Advisory Committee's feedback into implementable strategies for execution
- Support entities and organizations leading implementation on all actions
- Assume a leadership role in implementing relevant and appropriate actions
- Maintain implementation timelines
- Establish necessary outreach efforts and engage entities and constituencies that can help guide and support successful implementation
- Measure progress in both action implementation, GHG trends and progress towards reduction goals
- Keep decision-makers, community members, and stakeholders informed on progress and results

Most broadly, the CAP is but one of many current planning efforts that could affect GHG emissions in Aspen and the Roaring Fork Valley. Accordingly, an underlying priority is coordination with those related efforts, plans, and priorities. Other key implementation principles are building on previous experiences and successes, remaining apprised of evolving best practices, maintaining a clear prioritization of actions, and regular evaluation and redesign once implementation begins. Linkages and overlap with priority actions in other sectors will also be addressed and leveraged. Successful implementation will be pursued using similar principles to how the CAP was developed: through collaborative development with stakeholders, by leveraging local expertise, building strong partnerships, employing capable staff, responding to supportive leaders, and actively engaging with community members.

## **APPENDIX A:** How the CAP was Developed

The recommendations presented in the CAP culminate a year and a half of work by the Advisory Committee including experts in energy, building science, transportation, waste, aviation, forestry, community development, public administration, business, climate science, and resilience. Throughout the course of four facilitated, in-person meetings centered around extensive analysis performed by the City of Aspen's Climate Action Department, the Committee was able to select and recommend specific actions. Re-capping the four-meeting framework provides an overview about how the CAP was developed:

**Advisory Committee Meeting 1:**

- Reviewed GHG inventory and GHG forecast to understand trends
- Defined what a successful CAP looks like
- Reviewed background information on each sector
- Discussed GHG reduction objectives in each sector
- Brainstormed list of 400+ possible actions

**Meeting 2:**

- Reviewed refined list of possible actions (original list of 400 was refined to 250 "feasible" actions)
- Identified co-benefits of the 250 actions
- Developed modeling assumptions for each action (for reduction potential modeling)

**Meeting 3:**

- Reviewed GHG reduction potential related to successful implementation of all actions
- Reviewed which actions have the highest reduction potential in each sector
- Discussed Toolkit concept

**Meeting 4:**

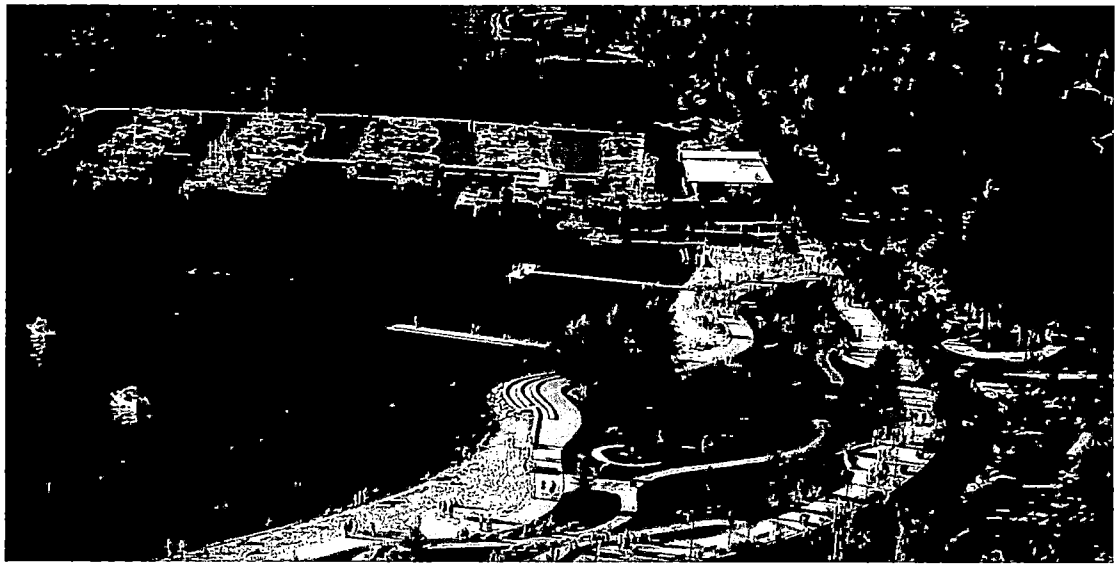
- Reviewed draft Toolkit
- Chose three to seven actions in each sector for implementation over next three years
- Finalized list of 46 priority actions for the Aspen CAP

**The stakeholder engagement process began with the Advisory Committee defining what a successful CAP would look like. Aspen's CAP been designed around these measures of success:**

- **Actionable**
- **Implementable**
- **Innovative**
- **Integrated**
- **Cross jurisdictional**
- **Meets GHG reduction goals**

# DRAFT 2018 GREENHOUSE GAS EMISSIONS INVENTORIES

## Baseline Year 2018



**Produced by Anna Lindquist, Graduate Student at the McCall Outdoor Science School**

City of McCall IDAHO

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### FUNDING SOURCE

Blue Cross of Idaho Foundation

This report was prepared by Anna Lindquist, a graduate student at the University of Idaho McCall Outdoor Science School. The author would like to thank the City of McCall staff for providing much of the insight and local information necessary for the completion of this report.

This GHG Inventory Report was developed, in part, using a template provided by ICLEI – Local Governments for Sustainability, USA. This template and its appendices were published in January 2019.

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# EXECUTIVE SUMMARY

The City of McCall of recognizes that greenhouse gas (GHG) emissions from human activity are catalyzing profound climate change, the consequences of which pose substantial risks to the future health, wellbeing, and prosperity of our community. Furthermore, McCall has multiple opportunities to benefit by acting quickly to reduce community GHG emissions. These included reducing energy and transportation costs for residents and businesses, maintaining the beauty and natural resources of the area, and ensuring the preservation of McCall's quality of life.

McCall has begun the climate action planning process, starting with inventorying greenhouse gas emissions. This report provides partial estimates of greenhouse gas emissions resulting from activities in McCall as a whole in 2018, as well as emissions specifically from McCall's government operations.

## KEY FINDINGS

There are a variety of emissions sources and activities included in the community-wide inventory, as well as the local government operations inventory. Figure 1 shows the emissions from the community inventory. As you can see, the largest contributer in the community-wide set is Residential Energy with 66 percent of emissions. The next largest contributor is Transportation with 15 percent of emissions. Actions to reduce emissions in both of these sectors will be a key part of a climate action plan. However, it should be noted that this data set is still incomplete, and the City should continue data collection before setting emission reduction targets or specific policies to reduce community emissions.

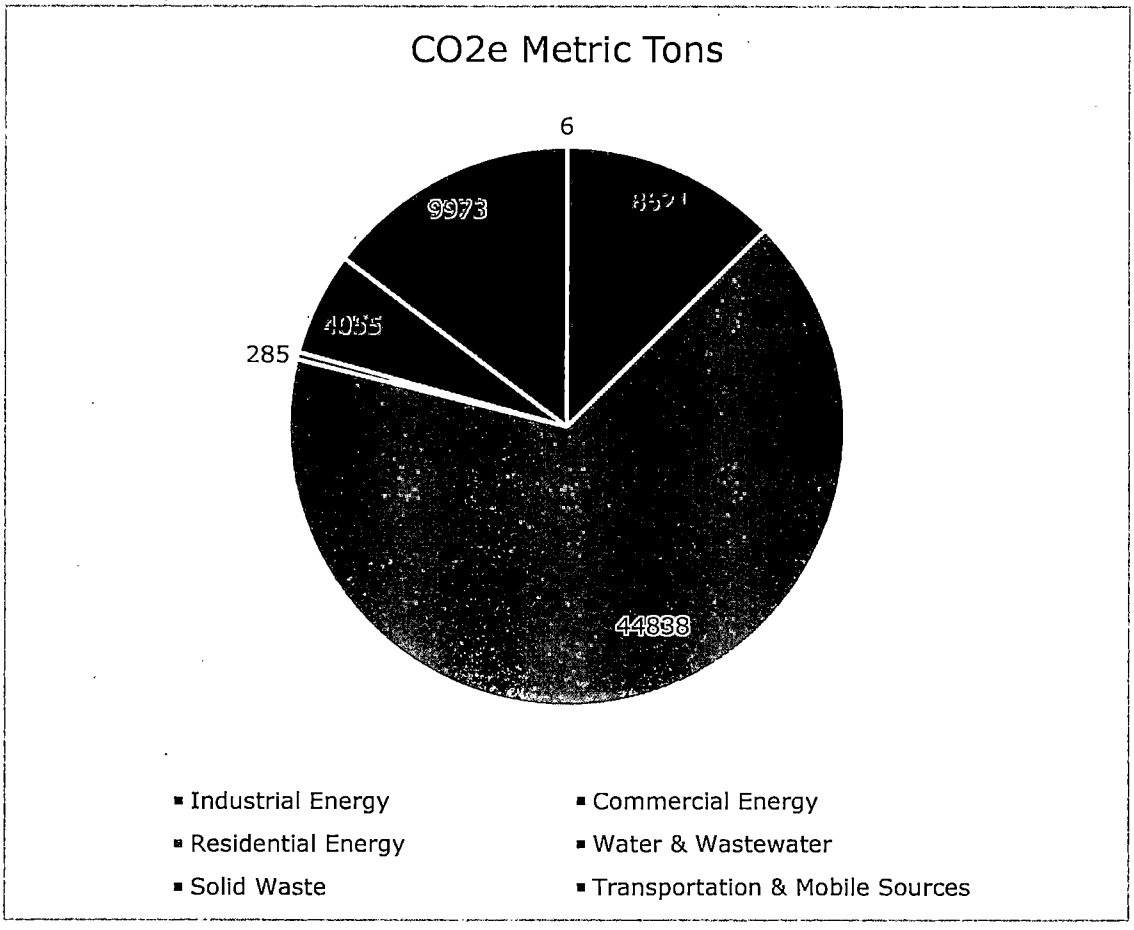



*Figure 1: Community Emissions*

Figure 2 shows local government operations emissions. As you can see, the largest contributor in this set is the Water Treatment Facilities with 38 percent of emissions, and the next largest is Buildings and Facilities with 26 percent of emissions. This inventory will need refinement in future iterations, but is largely complete, and therefore actions to reduce emissions in both of these sectors can be considered for inclusion in a climate action plan.

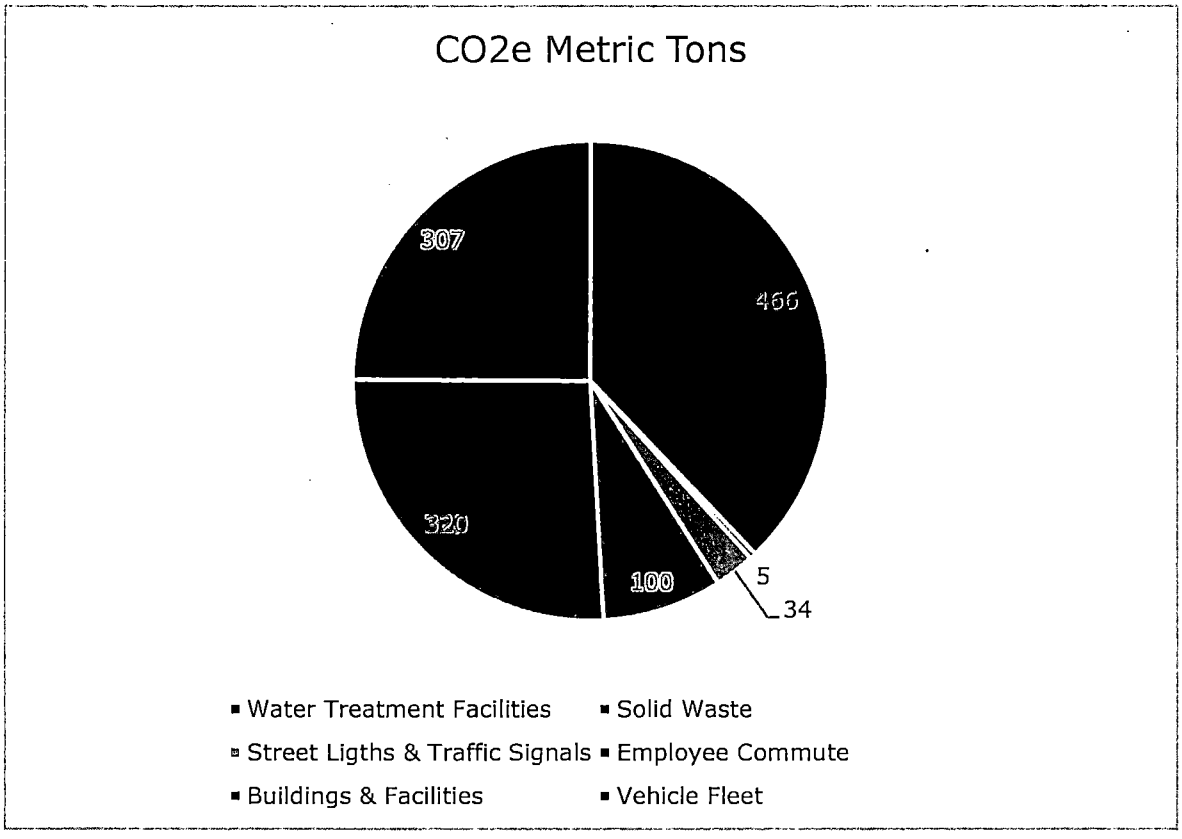



*Figure 2: Local Government Operations Emissions*

The Greenhouse Gas Emissions Inventories section of this report provides a detailed profile of emissions sources within McCall; information that will be key to guiding local reduction efforts. These data will provide a baseline against which the City will be able to compare future performance and demonstrate progress in reducing emissions.

The City should continue this work by completing the inventories by following the sector specific recommendations included in this report, as well as begin discussions around setting specific emissions reduction targets and creating a formal climate action plan with community involvement.

Specifically, the following actions will help the City of McCall be successful as it begins the process of taking meaningful, sustainable action towards mitigating and adapting to climate change:

- Continue to move this work forward by appointing or hiring a coordinator or point of contact(s) to work within or in close collaboration with the City.
- Provide support to staff and/or the coordinator to refine the Local Government Operations emissions data set.
- Set emission reduction targets aimed at reducing the sectors which are contributing the most to greenhouse gas emissions within municipal operations.
- Continue with data collection to complete the Community operations emissions inventory.
- Contine to partner with ICLEI-Local Governments for Sustainability, USA for technical support.
- Begin a community dialogue to guide the direction of a future Climate Action Plan by creating a committee or advisory board made up of both City and community stakeholders.

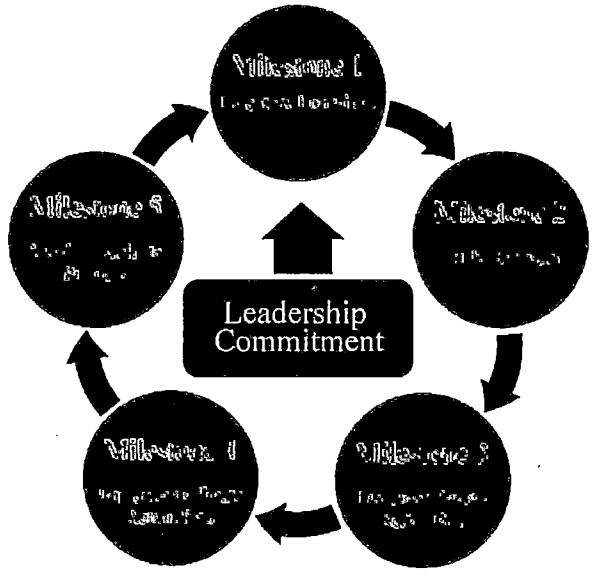


*Figure 3: ICLEI Climate Mitigation Milestones*

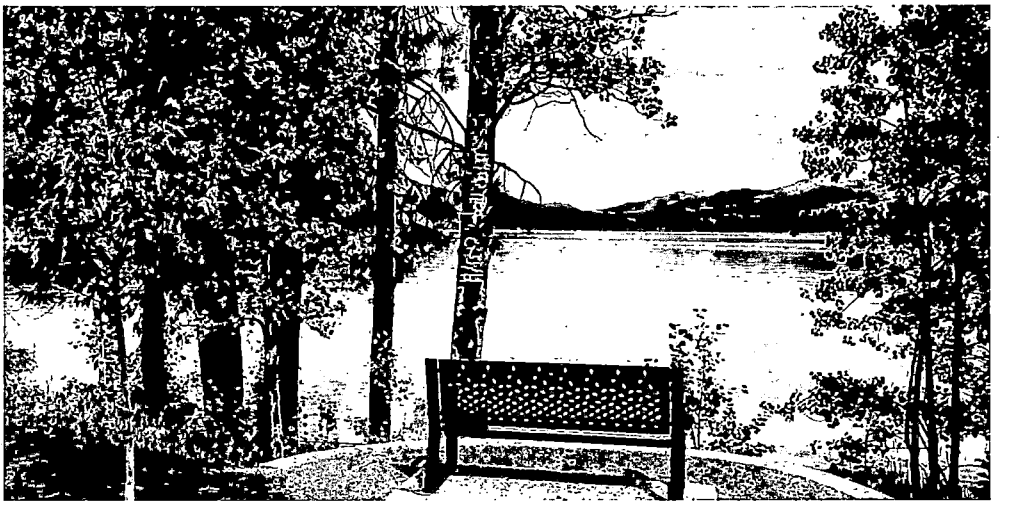
These actions will ensure that McCall is successful in completing all of the Milestones needed to develop, implement, and evaluate

a climate action plan. By taking these measures, the City not only stands to lead the region in taking meaninful action on climate change, but it will also reap the co-benefits of reducing greenhouse gas emissions, such as improving air quality, cost savings through energy efficiency, better access and preservation of the natural resources on which we all rely for survival and recreation.

## ABOUT THIS REPORT

The City of McCall, Idaho is committed to a more sustainable future and addressing its contributions to climate change. To this end, the City began working with the University of Idaho's McCall Outdoor Science School in the spring of 2020 on a greenhouse gas emissions inventory for the city.

This report is a continuation of that work, and was developed by Anna Lindquist, a graduate student at the McCall Outdoor Science school, as part of a six-week internship, funded through a grant from Blue Cross of Idaho Foundation. Working under the Community and Economic Development Department, data collection progressed at the community and local government level. Due to the level of quality data needed for an accurate emissions inventory, and the short span of this internship, this report is only a draft inventory, as more data are needed for a complete inventory. Typically, complete inventories require from six-months to one year to complete.



# CLIMATE CHANGE BACKGROUND

Naturally occurring gases dispersed in the atmosphere determine the Earth's climate by trapping solar radiation. This phenomenon is known as the greenhouse effect. Overwhelming evidence shows that human activities are increasing the concentration of greenhouse gases and changing the global climate. The most significant contributor is the burning of fossil fuels for transportation, electricity generation and other purposes, which introduces large amounts of carbon dioxide and other greenhouse gases into the atmosphere. Collectively, these gases intensify the natural greenhouse effect, causing global average surface and lower atmospheric temperatures to rise.

Because of climate change, McCall will be impacted by increased wildfires and decreased snowpack. Other expected impacts in Idaho include an increase in growing-season length, increased precipitation intensity, and changes in plant productivity.

Reducing fossil fuel use in the community can have many benefits in addition to reducing greenhouse gas emissions. More efficient use of energy decreases utility and transportation costs for residents and businesses. Retrofitting homes and businesses to be more efficient creates local jobs. In addition, money not spent on energy is more likely to be spent at local businesses and add to the local economy. Reducing fossil fuel use improves air quality, and increasing opportunities for bicycling and walking improves residents' health.

## GREENHOUSE GAS EMISSIONS

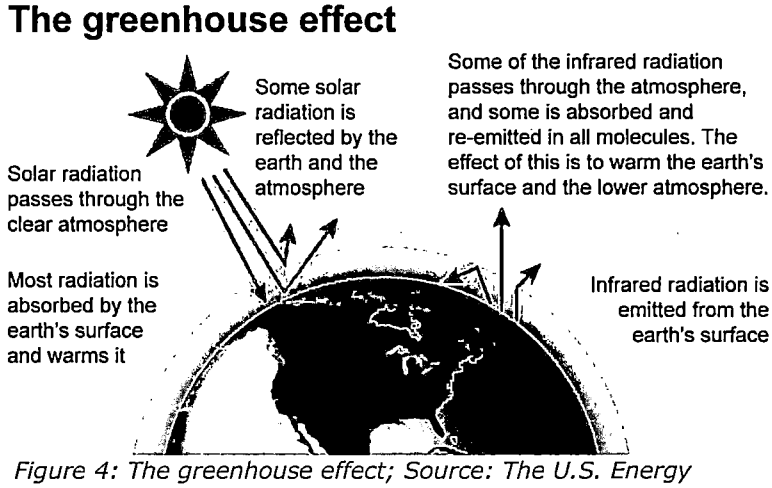
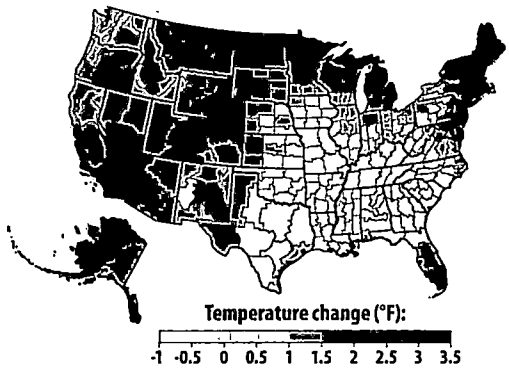



*Figure 4: The greenhouse effect; Source: The U.S. Energy Information Administration*

The atmosphere is made of naturally occurring greenhouse gases, such as water vapor, and life on earth would not be possible without it. The gases in the atmosphere allow for short-wave radiation from the sun to pass through to the earth and be absorbed by its surface and are used in such processes as photosynthesis. However, not all of this radiation is absorbed; some is re-emitted from the earth as long-wave radiation, which does not pass through the atmosphere as easily, and instead gets trapped by the gases in the atmosphere and warms the earth. Thus, although the greenhouse effect is a natural part of earth's system, since the industrial revolution, atmospheric concentrations of greenhouse gases have been rising due to human activities.

## LOCAL AND REGIONAL IMPACTS

Regional studies have shown that Idaho can expect increasing temperatures and changing precipitation patterns in the years to come. Specifically, we can anticipate an increasing growing-season length, increasing areas burned by wildfires, and more precipitation falling as rain instead of snow. Natural resource managers in the state are increasingly concerned about water resource availability, extreme drought, more wildland fires, and changes in plant productivity.




*Rising temperatures in the last century. The warming in Idaho has been similar to the average warming nationwide. Source: EPA, Climate Change Indicators in the United States.*

*Figure 5: Warming Temperatures in the last Century; Source: U.S. Environmental Protection Agency*

As a place where people value a high quality of life, and as a destination for outdoor recreation, McCall is in danger of being deeply affected because of climate change. McCall depends on snowpack not only for its water, but also for winter recreation, which brings an economic boost to the region. Yet, as the graph on the right shows, overall snowpack in Idaho has been decreasing in the past few decades. Thus, in the future the region may experience a shorter skiing and winter tourism season. This decrease in snowpack is also detrimental to another key feature of McCall,

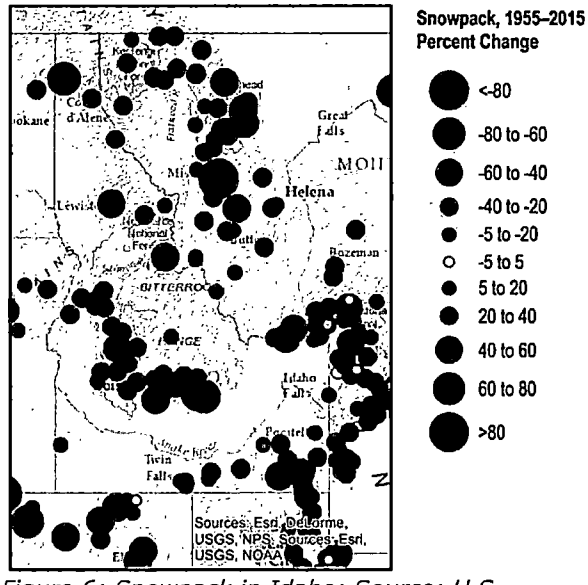
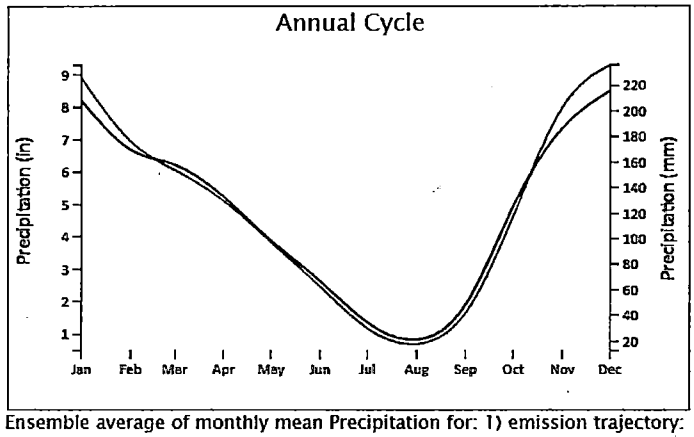


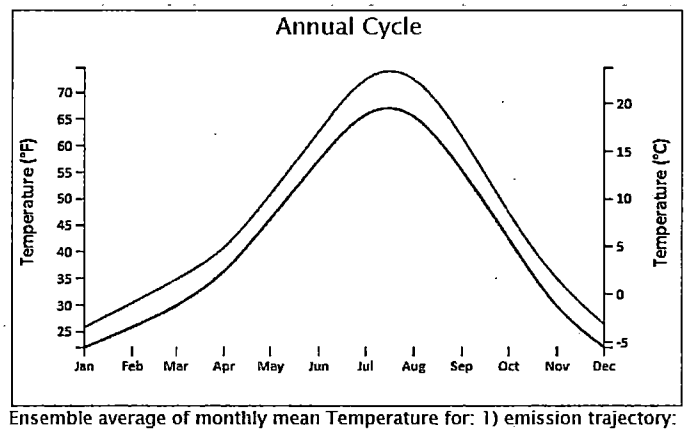

*Figure 6: Snowpack in Idaho; Source: U.S. Environmental Protection Agency*

Payette Lake, which is a natural lake fed by spring flow from the mountains. With rising temperatures, however, spring runoff will peak sooner, leading to reduced flow in the summer, potentially affecting agriculture downstream, as well as the flora and fauna that depend on the lake. This change in water variability, coupled with rising temperatures, has the potential to exacerbate the already visible effects of pine beetle or bark beetle tree kill in the area. This is because warmer winters will allow for more beetles to overwinter successfully, and target trees that are stressed due to climactic changes. An increase in unhealthy forests means more fuel for wildfires, which are also correlated with decreased soil moisture and rising temperatures.




Ensemble average of monthly mean Precipitation for: 1) emission trajectory: High (RCP 8.5), 2050-2069 (blue line); 2) Historical, 1986-2005 (green line). Values are for the model grid cell containing: 44.911°N -116.099°E.

*Figure 7: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector*




Ensemble average of monthly mean Temperature for: 1) emission trajectory: High (RCP 8.5), 2050-2069 (blue line); 2) Historical, 1986-2005 (green line). Values are for the model grid cell containing: 44.911°N -116.099°E.

*Figure 8: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector*

Finally, the health effects of climate change may also shift in the McCall area. Increasing temperatures and more particulate matter in the air due to wildfires, may result in the most vulnerable citizens being disproportionately affected.

More information on greenhouse gas emissions, anthropogenic climate change and its regional effects can be found at the sources listed in the Reference section of this report.

## LOCAL ACTIONS

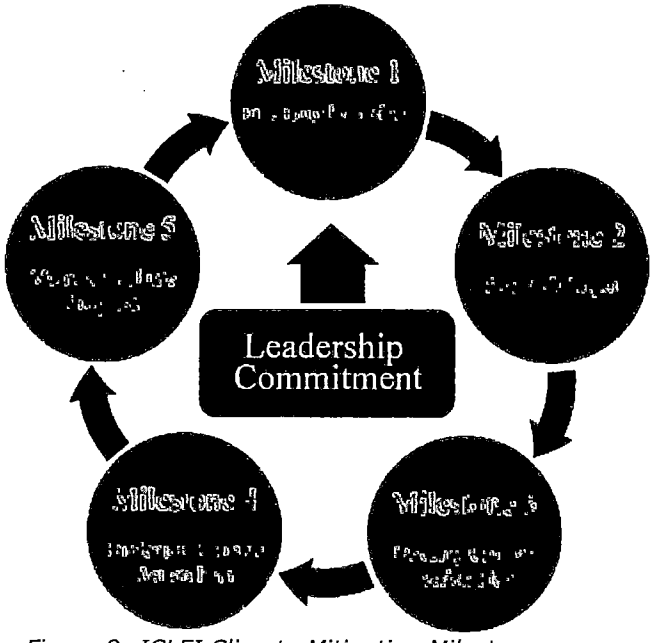



*Figure 9: ICLEI Climate Mitigation Milestones*

In response to the problem of climate change, many communities in the United States are taking responsibility for addressing emissions at the local level. Since many of the major sources of greenhouse gas emissions are directly or indirectly controlled through local policies, local governments have a strong role to play in reducing greenhouse gas emissions within their boundaries. Through proactive measures around land use patterns, transportation demand management, energy efficiency, green building, waste diversion, and more, local governments can dramatically reduce emissions in their communities. In addition, local governments are primarily responsible for the provision of emergency services and the mitigation of natural disaster impacts.

The City of McCall has recognized its role in contributing to increased greenhouse gas emissions, and thus has taken the first step with this report to begin to measure, and eventually complete a transparent, and publicly informed process to take action on climate change. In partnership with ICLEI—Local Governments for Sustainability, McCall has joined a large cohort of over 600 local governments in the United States in order to share knowledge and strategies for increasing sustainability. Through this association, McCall has access to shared knowledge, methodologies, and frameworks from which to begin the process of completing the milestones which will lead to identifying and reducing greenhouse gas emissions in the community. This report represents the first step in this process, as part of Milestone One, in providing a foundation from which the City of McCall can proceed.

This process is aligned with the community values, projects, and policies that were put forth during the creation of the 2018 McCall Idaho Area Comprehensive Plan. Over 3,000 plan participants helped to identify the following values as central to the McCall community:

- *McCall's Mountain Character and Small Town Feel*
- *Access to Natural Resources and Abundance of Recreation Amenities*
- *A Family-Friendly Place*
- *Healthy Living*
- *An Intellectual Community*

Further assessment of the specific policies and projects contained within the plan and their potential for greenhouse gas emissions reductions is outlined in the accompanying report: McCall's Framework for Climate Action Planning.

# GREENHOUSE GAS EMISSIONS INVENTORIES

The first step toward achieving tangible greenhouse gas emission reductions requires identifying baseline emissions levels and sources and activities generating emissions in the community. This report presents emissions from both the McCall community as a whole, and from operations of the McCall government. The government operations inventory is mostly a subset of the community inventory. For example, data on commercial energy use by the community includes energy consumed by municipal buildings, and community vehicle-miles-traveled estimates include miles driven by municipal fleet vehicles.

As local governments have continued to join the climate protection movement, the need for a standardized approach to quantify GHG emissions has proven essential. This inventory uses the approach and methods provided by the Community Greenhouse Gas Emissions Protocol (Community Protocol) and the Local Government Operations Protocol (LGO Protocol). Assistance collecting data and creating these

inventories was provided by ICLEI-Local Governments for Sustainability USA, and the 2020 graduate cohort at the University of Idaho's McCall Outdoor Science School and their professors.

## Community Emissions Protocol

The Community Protocol was released by ICLEI in October 2012, and represents a new national standard in guidance to help U.S. local governments develop effective community GHG emissions inventories. It establishes reporting requirements for all community GHG emissions inventories, provides detailed accounting guidance for quantifying GHG emissions associated with a range of emission sources and community activities, and provides a number of optional reporting frameworks to help local governments customize their community GHG emissions inventory reports based on their local goals and capacities.

## Local Government Operations Protocols

In 2008, ICLEI, the California Air Resources Board (CARB), and the California Climate Action Registry (CCAR) released the LGO Protocol. The LGO Protocol serves as the national standard for quantifying and reporting greenhouse emissions from local government operations. The purpose of the LGO Protocol is to provide the principles, approach, methodology, and procedures needed to develop a local government operations greenhouse gas emissions inventory.

## Quantifying Greenhouse Gas Emissions

- ***Sources and Activities***

Communities contribute to greenhouse gas emissions in many ways. Two central categorizations of emissions are used in the community inventory: 1) GHG emissions that are produced by "sources" located within the community boundary, and 2) GHG emissions produced as a consequence of community "activities".

By reporting on both GHG emissions sources and activities, local governments can develop and promote a deeper understanding of

GHG emissions associated with their communities. A purely source-based emissions inventory could be summed to estimate total emissions released within the community's jurisdictional boundary. In contrast, a purely activity-based emissions inventory could provide perspective on the efficiency of the community, even when the associated emissions occur outside the jurisdictional boundary. The division of emissions into sources and activities replaces the scopes framework that is used in government operations inventories, but that does not have a clear definition for application to community inventories.

- ***Emissions Scopes***

For the government operations inventory, emissions are categorized by scope, rather than into sources and activities. Using the scopes framework helps prevent double counting.

There are three emissions scopes for government operations emissions:

- *Scope 1: All direct emissions from a facility or piece of equipment operated by the local government.*
- *Scope 2: Indirect emissions associated with the consumption of purchased or acquired electricity, steam, heating, and cooling.*
- *Scope 3: All other indirect or embodied emissions not covered in Scope 2. Examples include contracted services, embodied emissions in goods purchased by the local government, and emissions associated with disposal of government generated waste.*

Scope 1 and Scope 2 emissions are the most essential components of a government operations greenhouse gas analysis as they are the most easily affected by local policy making.

This report also quantifies greenhouse gas emissions by sector. Sector-based analysis is often more relevant to local government policymaking, and is easier to translate into actionable step in a

climate action plan. Thus, the following sectors are included in this report:

Local Government Operations Sectors:

- *Buildings and Facilities*
- *Vehicle Fleet*
- *Street Lights and Traffic Signals*
- *Water*
- *Employee Commute*
- *Solid Waste*

Community Sectors:

- *Energy: Commercial, Residential, and Industrial*
- *Transportation and Mobile Sources*
- *Solid Waste*
- *Water and Wastewater*

## Base Year

The inventory process requires the selection of a base year with which to compare current emissions. McCall's community greenhouse gas emissions inventory utilizes 2018 as its base year. 2018 was chosen as the most recent year for which complete data would be available, based on the recommendation of ICLEI staff.

## Quantification Methods

Greenhouse gas emissions can be quantified in two ways:

Measurement-based methodologies refer to the direct measurement of greenhouse gas emissions (from a monitoring system) emitted from a flue of a power plant, wastewater treatment plant, landfill, or industrial facility.

Calculation-based methodologies calculate emissions using activity data and emission factors. To calculate emissions accordingly, the

basic equation below is used: *Activity Data x Emission Factor = Emissions*

Most emissions sources in this inventory are quantified using calculation based methodologies. Activity data refer to the relevant measurement of energy use or other greenhouse gas-generating processes such as fuel consumption by fuel type, metered annual electricity consumption, and annual vehicle miles traveled. Please see appendices for a detailed listing of the activity data used in composing this inventory.

Known emission factors are used to convert energy usage or other activity data into associated quantities of emissions. Emissions factors are usually expressed in terms of emissions per unit of activity data (e.g. lbs $CO_2$/kWh of electricity). For this inventory, calculations were made using the ICLEI ClearPath tool, and emissions factors from Idaho Power data. Additionally, all emissions are reported using units of Carbon dioxide equivalents (CO2e). This unit is used because in climate science, Global Warming Potentials (GWPs) are used to compare the effect of different greenhouse gases, and as CO2 is the most abundant greenhouse gas, and remains in the atmosphere for the longest time, it is used as the base unit.

## COMMUNITY EMISSIONS OVERVIEW

According to the U.S. Census Bureau, the City of McCall had a full time population of 3,106 in 2015 and 3,481 total housing units. McCall City limits enclose 10 square miles, and the Area of Impact include another 25. The population of McCall is projected to increase to 6,503 by the year 2040, however the anticipated rate of visitor and second-home populations are growing at an even faster rate. The basis of an accurate emissions inventory is rigorous data collection. However, the rate of tourism and second-homes in the McCall area adds a confounding factor to the accuracy of data collected, as it is difficult to

quantify the total emissions from non-residents. Thus, while this report seeks to present the most reliable data available, further measures may need to be taken in future updates to increase its accuracy. Additionally, the City of McCall may choose to focus on only a few emissions sectors in the future, in order to increase data precision, as well as to focus on the emission sources over which it has significant control.

## DATA COLLECTION AND ANALYSIS

Data collection for the community-wide emissions inventory began in the spring of 2020 as part of a graduate seminar at the McCall Outdoor Science School. The class, working with ICLEI and the Community and Economic Development Department at the City of McCall, sent out letters to the following community partners requesting data:

- *Amerigas*
- *McCall Office of the Department of Motor Vehicles*
- *Ed Staub and Sons Propane*
- *Harlow's Bus Service*
- *Idaho Power*
- *Lakeshore Disposal*
- *McCall Outdoor Science School*
- *Mile High Marina*
- *Payette Lake Recreational Water and Sewer District*
- *The Idaho State Snowmobile Association*
- *The Central Trail Riders Alliance*
- *Valleywide Cooperative Propane*
- *Treasure Valley Transit*
- *Idaho Department of Transportation*
- *McCall Municipal Airport*

When response rate for the letters proved to be low, students followed up with phone calls and emails. Efforts to obtain data continued throughout the summer, however, due to the onset of the COVID-19

pandemic, response rates continued to be lower than hoped. Another obstacle to data collection that came to light was that in cases where responses were received, the exact data requested were not available.

## Data by Sector

*Energy: Commercial, Residential, and Industrial*

Greenhouse gas emissions from electricity consumption are attributed to the consumer of the energy, rather than the source. Data on electricity consumption was provided by Idaho Power, McCall's energy provider. While the exact data requested for calendar year 2018 was not provided, data from April 23, 2019 to April 22, 2020 were made available. From these data annual consumption was estimated to be 183,960 MWh, for an estimated combined contribution of 53,365 metric tons of CO2e (carbon dioxide equivalent) emissions. Idaho Power did not provide a break down by energy class, and so an estimate was made based on the number of customers in each class. Future inventories should seek a more precise breakdown by class from Idaho Power, or work with other sources to obtain a better valuation.

Stationary fuel consumption for the McCall community, specifically propane, was harder to retrieve from the three local providers. Valleywide Cooperative Propane responded that most of their business was not within McCall city limits. Numerous calls and emails to both Ed Staub and Sons, as well as Amerigas, never resulted in the supply of any data.

*Transportation and Mobile Sources*

There are many forms of transportation within McCall, including on-road vehicles, off-road vehicles and equipment, boat traffic, and air travel. Data about on-road vehicle traffic was the only piece of transportation data that has successfully been collected to so far for this report. Emissions from on-road vehicle travel can be traced directly to the tailpipes of vehicles as the result of fossil fuel

combustion. To calculate the emissions from transportation within McCall, it was necessary to find out the annual vehicle miles travelled (VMT) for both passenger and freight vehicles using various types of fuel.

These data were estimated based on annual daily traffic counts found on the Idaho Transportation Department website for the 8.6 mile section of Highway 55 that runs through McCall. The breakdown of passenger trips by gasoline and diesel by vehicle type were calculated based on estimates provided by ICLEI from national transportation numbers. In 2018 it is estimated that at total of 19,474,356 VMT can be attributed to gasoline and diesel passenger trips in McCall, for an estimated 9,406 metric tons of CO2e emissions. More information is needed on the breakdown of vehicle type for freight vehicles before an accurate calculation of emissions can be made, however, using the same information, an estimated 1,373,312.5 VMT were travelled by commercial vehicles in 2018.

Data were also provided by Harlow's Bus Service which provides school transportation as well as other services in McCall. The total contribution of these emissions are 297 metric tons CO2e for diesel in 2018, and 65 metric tons CO23 for gasoline.

Treasure Valley Transit also supplied data for the timeframe requested, however while miles for each bus route travelled are available, TVT does not keep track of which specific vehicle drives the route each day, and has both a mix of gasoline and diesel in their fleet. Therefore, only fuel usage data were able to be entered into ClearPath. This resulted in emissions estimated at a combined 205 metric tons of CO2e.

Emissions from boat travel on Payette Lake and air travel from the McCall Municipal Airport would also be included in this sector. However, requests for information from Mile High Marina, which sells fuel on the lake, went unanswered. Additionally, while the City runs the Municipal Airport, it does not sell fuel. City staff recommended

contacting Sawtooth Flying and McCall Aviation, private companies which both sell fuel at the airport; unfortunately, not data has been provided as of the writing of this report.

Information on off-road travel can also be included in this section, however it is more difficult to capture accurate data for this sector. The Idaho State Snowmobile Association did provide number of registered snowmobiles in the area, however this does not provide enough specific information to be useful.

Future inventories could utilize outside agencies which specialize in calculating these data for a clearer picture of community VMT. This was the case in the City of Boise did, which worked with the Community Planning Association of Southwest Idaho (COMPASS), or Park City, Utah whose consultants also utilized annual average daily traffic (AADT) data similar to this inventory.

*Solid Waste*

The City of McCall began contracting with Lakeshore Disposal for solid waste disposal services in June of 2018. Within Valley County there are only transfer stations, the actual landfill site, Clay Peak, is in Payette County. Lakeshore does not track waste at the city or county level, but was able to estimate that 7,342.32 tons of waste came from Valley County in the seven months of 2018 which it was contracted. From that information we can extrapolate that 12,586.83 tons were produced annually in 2018, and that McCall, being 31.4 percent of the population of Valley County was therefore responsible for roughly 3,955.82 tons of waste in that time. Lakeshore does not keep track of waste characterization either, and so at the suggestion of ICLEI staff, a waste characterization from nearby Ada County Landfill, supplied by

City of Boise staff, was used for a more accurate idea of emissions. This resulted in an estimated 4,055 metric tons of CO2e coming from McCall's solid waste in 2018.

Future reports could hone data for this record based on the information from Lakeshore Disposal that there are 1,500 bear proof trashcans within McCall City limits, and that they come in three sizes, 32, 65, and 96 gallons; however, Lakeshore does not keep track of how often these are picked up and therefore that information would need to be sourced elsewhere.

It should also be noted that there is no curbside recycling within McCall. Rather, Valley County operates a Transfer Site at which residents are responsible for sorting and dropping off their recycling. Rates of recycling within the community are unknown, however, larger businesses such as Albertsons contract with Lakeshore Disposal to haul their recycling, and thus more data could be potentially be obtained for those accounts if larger scale recycling data are not available.

*Water and Wastewater*

Payette Lakes Recreational Water and Sewer District is responsible for wastewater treatment within the McCall Area of Impact. Their facility utilizes a facultative wastewater treatment process. They reported that 983,280 kWh of electricity were used by the facility in 2018. This is equal to 285 metric tons of CO2e.

*Summary*

Based on the data collected so far for the 2018 community-wide inventory, the City of McCall produced 67,678 metric tons of CO2e in 2018. More data are needed to correctly represent the total annual emissions produced and should be collected before analyzing the data for projected future emissions, or creating emission reduction targets. However, this does not mean that the existing data cannot be used to help direct the continuing discussion around potential areas for

targeted emission reduction actions, especially when assessing the possible feasibility of actions pertaining to certain sectors.

As more data are collected, the existing inventory can easily be added to and updated using the ClearPath software.

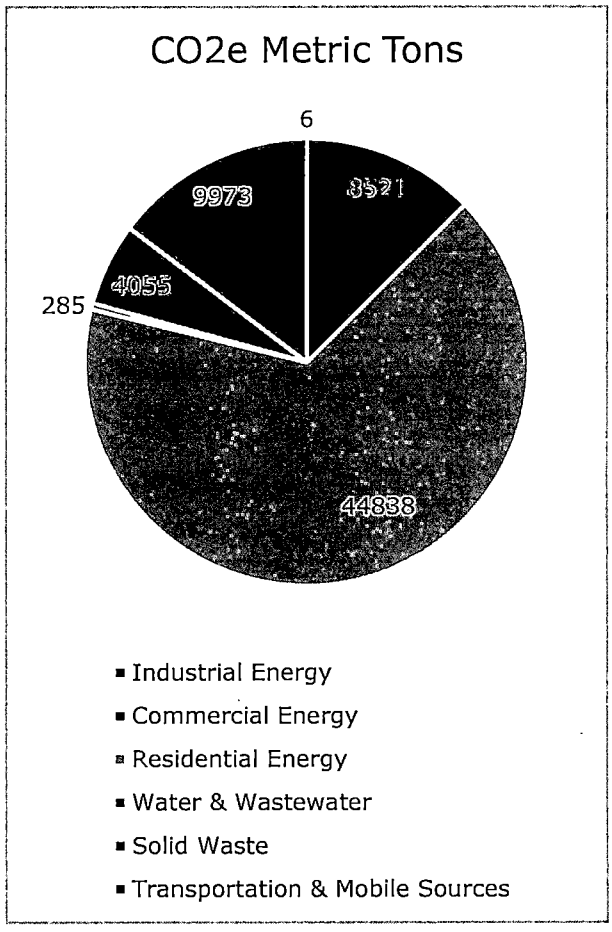



*Figure 7: Community Emissions*

## LOCAL GOVERNMENT OPERATIONS EMISSIONS OVERVIEW

This inventory measures only greenhouse gas emissions from government operations over which the City has direct control. It does not take into account community-wide emissions by residents, businesses, and other sources. Conducting and a local government operations inventory, as well as a community-wide inventory, enhances the community data, and highlights areas in which the City of McCall can take immediate action steps to reduce emissions. Additionally, it indicates a commitment by local leaders to make City operations more efficient, thus increasing long term sustainability and costing the tax payers less money.

## DATA COLLECTION AND ANLYSIS

Data collection for the local government operations inventory began in May 2020, and was collected as part of an internship under the City of McCall's Community and Economic Development Department. Because of the ongoing pandemic, it was necessary for all communication and data collection to be done remotely. This included familiarizing the

intern with City operations and the correct departments from which to request information. Thus, requests for information were also handled remotely, as the majority of City Staff work not in the office during this time. Most of the data in the LGO inventory were gathered from various invoices spanning the 2018 calendar year. The City's Finance Department was invaluable in this effort, as the invoices are kept in the basement of City Hall and are filed by check number. Unfortunately, the descriptions or addresses of the facilities, street lights, traffic lights, and sprinkler clocks on the invoices are not all immediately recognizable, and so GIS records were used to help match the source to its energy usage. Further clarification on these records could possibly still be done to make them more useful to City employees in the future. A map of the sources of emissions was begun during the internship with the help of the GIS Analyst, but due to time constraints was not completed.

*Buildings and Facilities*

Electricity and propane consumption data were gathered from the City's Idaho Power and Amerigas invoices for the calendar year 2018.

In this sector all City buildings, such as the Library, Public Works Office, and Airport Office are included. Additionally, facilities such as park restrooms and irrigation sprinkler clocks are also included. The Water Treatment Plant is not included, however, as it is contained in the Water and Wastewater Treatment section. The total kWh of power used by each facility was entered into ClearPath as a separate record. Some facilities are listed twice in the inventory because they also use propane; these were also entered into ClearPath as separate records. A copy of the spreadsheet detailing the data breakdown by facility is included in the Appendix. In total, this sector accounted for 263 metric tons CO2e in 2018. Of this, the largest portion is from electricity going to the Municipal Golf Course pump—68 metric tons CO2e. The next highest emissions are from propane at the Public Works office—23

metric tons CO2e—and electricity usage at City hall—22 metric tons CO2e.

*Street Lights and Traffic Signals*

Within the City of McCall, street lights are either city owned, privately owned, or owned by the utility—Idaho Power—and are a mix of metered and unmetered. Unfortunately, the Idaho Power invoices do not always specify how many street lights are on an account, or who maintains ownership of the light. Therefore, it is difficult to tell the exact energy efficiency of each structure. Nevertheless, the necessary data was still obtained from these invoices, and in 2018 street lights and traffic lights in the City totaled 34 metric tons CO2e.

Further refinement of this sector could be done by separating out ownership of each Idaho Power account, and attributing it to city or utility ownership. Additionally, it is unknown if any of the accounts are accessory lights, and not street lights.

*Vehicle Fleet*

The City of McCall maintains an account with Chevron, and each department files their fuel receipts with the Finance Department which pays a lump invoice each month. Therefore, data for this sector was obtained from those invoices, and broken down by department and fuel type. However, the fuel receipts are not attached to a specific vehicle in each department, and therefore fuel efficiency cannot be calculated to create even more accurate emissions data. Still, based on fuel purchases alone—and therefore probable fuel usage—we can estimate that this sector is responsible for 307 metric tons of CO2e in 2018. The largest portion of this sector is from the Police Department, which is unsurprising given their 24-hours a day operation schedule.

In future years an updated emissions inventory could include a breakdown of fuel usage by vehicle for a more accurate scope of emissions. This would require City departments to keep track of this

information, or to provide the information to the Finance department for tracking.

*Water*

Payette Lake supplies water for the City of McCall which is processed and distributed by the Public Works Department. Data for this sector was gathered from Idaho Power and Amerigas invoices, as the Water Treatment Plant uses both electricity and propane, and the various booster stations around the City use electricity. According to the Water Systems Manager for the City, 453,849,000 gallons of water were produced in 2018. The total emissions for this sector is 466 metric tons CO2e, with the largest percentage coming from the Water Treatment Plant and the Legacy Park Booster Station. It appears this sector is responsible for the most greenhouse gas emissions in municipal operations.

*Employee Commute*

A survey was sent out to all City employees in the summer of 2020 through suveymonkey.com to collect data on employee commutes. This survey was adapted from the employee commute survey used by the City of Moscow, Idaho for their greenhouse gas emissions

inventory. The survey asked about mode of transportation used for commuting in 2018, travel days, vehicle and fuel type, and length of commute. A total of 20 responses were collected, 4 of which were excluded because the employee did not work for the City of McCall in 2018. Another respondent did not provide enough information to be included in the calculations, and another reported walking to work every day, and so was not included in the emissions calculations.

From these 14 responses, it was possible to project annual vehicle miles travelled (VMT) in 2018 for all 60 City employees. This was done by first calculating the annual VMT for each survey response. Assuming a standard 5 day work week, the number of working days in 2018 was 261; subtracted from this were 11 holidays, 7 vacation days, and 6 sick days for a total of 237 days. This was multiplied by the percentage of days each employee responded that they drove to work. Then, that number (days) was multiplied by the reported round-trip miles travelled by the employee. The resulting number was the annual VMT for each employee. Total VMT for the sample population was 45,030. Using these data, projections were calculated presuming a similar breakdown of vehicles and commuting habits for the other roughly 46 employees. The projected VMT for all employees in 2018 was calculated to be 194,125.28. This number was entered into the ClearPath software, along with the breakdown of VMTs by vehicle type, and resulted in an estimated 100 metric tons CO2e from employee commutes in 2018.

In future inventories, it will be necessary to attempt to achieve a higher response rate for more accurate data. As can be seen in the chart of survey results and subsequent calculations, there were respondents with diesel vehicles; while diesel is typically less common than gasoline powered vehicles, it seems probable that this one omission shows that this sample is not entirely representative of the employee population.

| Employee Commute Survey Results and Projections | Sample | | | Projections | | |
|---|---|---|---|---|---|---|
| | Total Responses | 16 | | Total Employees | 60 | |
| | Excluded | 1 | 6% | Excluded | 3.6 | 6.00% |
| | Did not drive | 1 | 6% | Did not drive | 3.6 | 6.00% |
| | # Car | 8 | 50% | # Car | 30 | 50% |
| | # Light trucks/SUV | 5 | 31% | # Light trucks/SUV | 18.6 | 31% |
| | # Full size truck | 1 | 6% | # Full size truck | 3.6 | 6% |
| | Diesel | | | Diesel | | |
| | Count | % Vehicle | Miles | Count | % Vehicle | Miles |
| Totals: | 0 | 0 | 0 | 0 | 0 | 0 |
| # Car | 0 | 0 | 0 | 0 | 0 | 0 |
| # Light truck/SUV | 0 | 0 | 0 | 0 | 0 | 0 |
| # Full size truck | 0 | 0 | 0 | 0 | 0 | 0 |
| | Gasoline | | | Gasoline | | |
| | Count | % Vehicle | Miles | Count | % Vehicle | Miles |
| Totals: | 12 | 86% | 43987.2 | 51.6 | 86% | 189745.52 |
| # Car | 6 | 50% | 25738.2 | 25.8 | 50% | 110674.26 |
| # light truck/ SUV | 5 | 42% | 17632.8 | 21.7 | 42% | 76526.352 |
| # full size truck | 1 | 8% | 616.2 | 4.13 | 8% | 2544.906 |
| | Hybrid/Gasoline | | | Hyrbid/Gasoline | | |
| | Count | % Vehicle | Miles | Count | % Vehicle | Miles |
| Totals: | 2 | 14% | 1042.8 | 8.4 | 14% | 4379.76 |
| # Car | 2 | 100% | 1042.8 | | 100% | 4379.76 |
| # light truck/ SUV | 0 | 0% | 0 | | 0% | 0 |
| # full size truck | 0 | 0% | 0 | | 0% | 0 |
| | TOTAL SAMPLE VMT: 45030 | | | TOTAL PROJECTED VMT: 194125.28 | | |

*Figure 8: Employee Commute Survey*

## *Solid Waste*

As previously mentioned, the City of McCall does not operate its own landfill, nor does it operate any recycling or composting facilities at this time. Rather, the City maintains contracting services with Lakeshore Disposal under a franchise agreement for the maintenance of waste generated by local government operations. Because of this arrangement, neither the City nor Lakeshore Disposal keep track of the amount of waste that results from City operations, or the frequency of collection. The only invoices the City of McCall maintains from Lakeshore Disposal are those related to special projects where a temporary dumpster is brought in and a delivery and collection fee is paid. For the year 2018, this only amounted to the collection of 29 yards of waste, resulting in an estimated 5 metric tons CO2e.

To get a better idea of the exact amount of waste a few options could be pursued for data collection for future inventories. Two ideas included in the climate action plan created by the town of Jackson, Wyoming are first, request janitorial services follow a "one bag" program, meaning they would consolidate all waste from each cleaning into one bag, and keep track of the number of full trash bags deposited in the dumpsters. Second, it was suggested that a contract could be created with waste collectors to weigh the trash outputs each week; this would require coordination with Lakeshore Disposal or another waste services entity. Another option, which was used in the Moscow, Idaho greenhouse gas emissions inventory, is to calculate the maximum annual cubic yardage at each City facility, multiplied by the frequency of pick up (assuming it was full). This number can then be multiplied by 350 pounds (an estimate of the weight of one cubic yard of waste) and then divided by 2,000 pounds to get tonnage of material. Currently the City does not have a record of the number, location, or size of dumpsters it uses, and so that information would need to be collected first for this option.

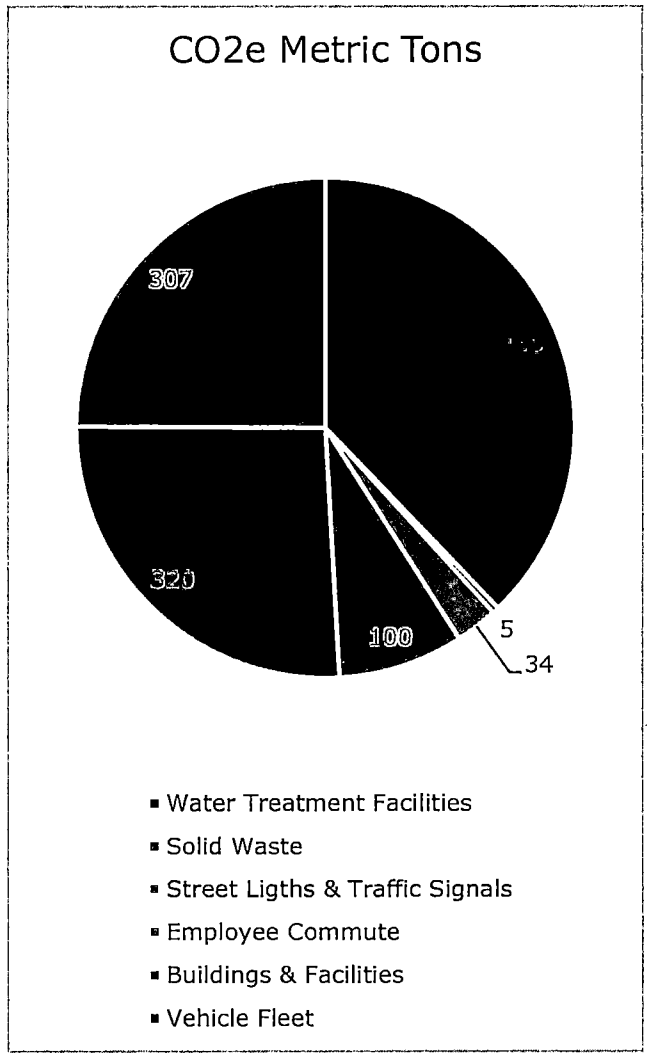


*Figure 9: LGO Emissions*

*Summary*

In total, from the data collected thus far, City operations appear to have generated roughly 1,232 metric tons of CO2e in 2018. From this initial analysis, it is clear that by far the largest producer of greenhouse emissions in municipal operations originates from the Water Treatment

Facilities, followed by energy usage at City Buildings and Facilities, and fuel usage by City vehicles.

While this inventory is roughly complete, refinement of the data, especially in the solid waste and transportation categories, should be attempted to gain a more holistic understanding of local government operations emissions. However, this does not mean that the City cannot begin discussing and taking action on ways to reduce emissions, especially in the highest emitting sectors. Indeed, both of these inventories are only the first iteration, as all cities who complete an inventory necessarily go through the process again to compare their past baseline to a more recent year to track their progress. Thus, the more accurate the data, the more targeted policies and projects can be crafted, but the level of accuracy does not preclude the necessity for implementing action steps to reduce emissions.

# CONCLUSION

The inventory results included here provide a greenhouse gas emissions baseline from which to add to, and which can inform the next steps of the McCall Climate Action Plan. The next steps are to set an emission reduction target, and to develop a climate aciton plan that identifies specific quantified strategies that can culmatively meet that target. In addition, McCall should continue to track key energy use and emissions indicators on an on-going basis. ICLEI recommends completing a re-inventory at least every five years to measure emissiosn reduction progress. Thus, if these inventories are completed by the end of 2020, McCall should expect to complete another set in 2025 at the latest.

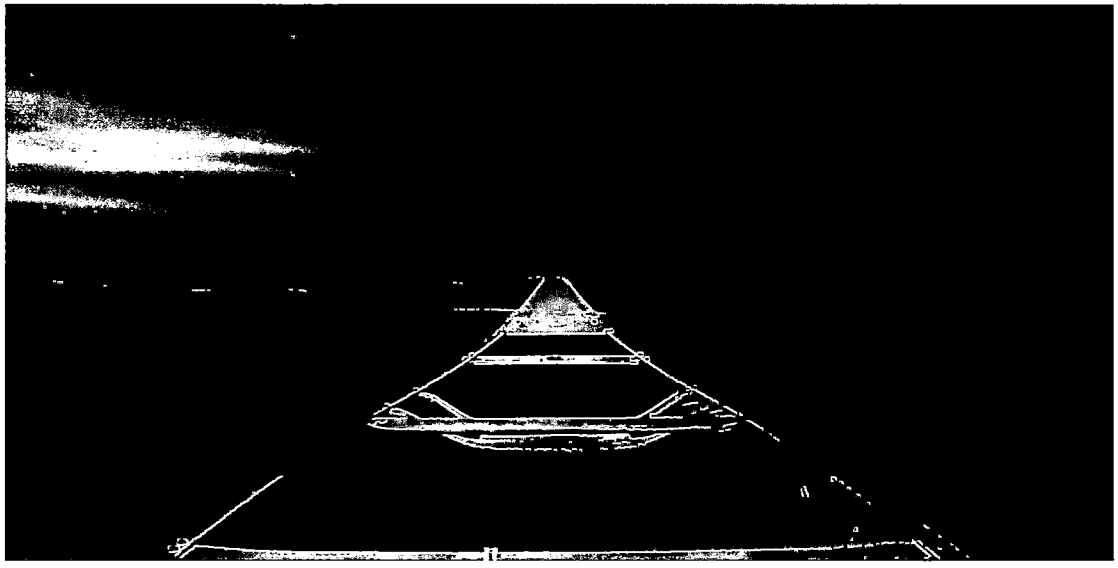
Emissions reduction strategies to consider for the climate action plan include energy efficiency, renewable energy, vehicle fuel efficiency, alternative transportation, vehicle trip reduction, land use and transit planning, and waste reduction among others. These inventories show that in the community scope, energy use will be especially important to focus on. Additionally, within local municipal operations, water treatment should be targeted as an area of attention as the biggest sector of energy usage. Through these efforts and others the City of McCall can achieve additional benefits beyond reducing emissions,

including saving money and improving McCall's economic vitality and its quality of life.

While specific recommendations for data collection by sectors are included in this report, holistically, in continuing this work the City has the opportunity to engage its citizens in the process as part of the value of maintaining the city's "small town feel." To this end, while data collection needs to be a rigorous process, it is also, by necessity, a collaborative one, that has the potential to involve the community, especially in the community-wide inventory. Just as this process began out of a collaboration between the City of McCall and the McCall Outdoor Science School, so could it continue as such, as data collection touches on many aspects of science, technology, engineering, and math which are integral to the MOSS curriculum. Similarly, rounding out the data collection could be a fulfilling project for many other school groups. For example, a high school English class could interview long-time residents of McCall about what changes they have noticed in climate since living in the area. This would provide qualitative data, and highlight the importance of the work, as was done in the City of Whitefish, Montana; or, a high school math class could weigh the school's or the local government's trash outputs every week, and extrapolate emissions from that data, which could then be included in an updated inventory.

However, to facilitate the community involvement, it cannot be overstated the necessity for City involvement, and specifically the benefits of attaching a point of contact, or contacts, to this endeavor. In completing this report, representatives from the City of Boise, the City of Moscow, and Blaine County were contacted for support. Each of these individuals is employed by their respective cities and county, and emphasize the value of their position within the local government that allows them the istitutional knowledge that is required for efficiently facilitating data collection and analysis. Thus, going forward, it would benefit the City to appoint a coordinator for this venture, preferably situated in, or closely working with, the local government to ensure

timely completion of this project. My specific recommendation would be for this coordinator to begin by refining the data set used for the local government operations inventory. This will allow the City to begin decision making regarding setting municipal operations targets, and thus set the example for the community. When that is finished, completing the community-wide inventory can continue, following the recommendations for additional data collection and refinement as outlined in the report.



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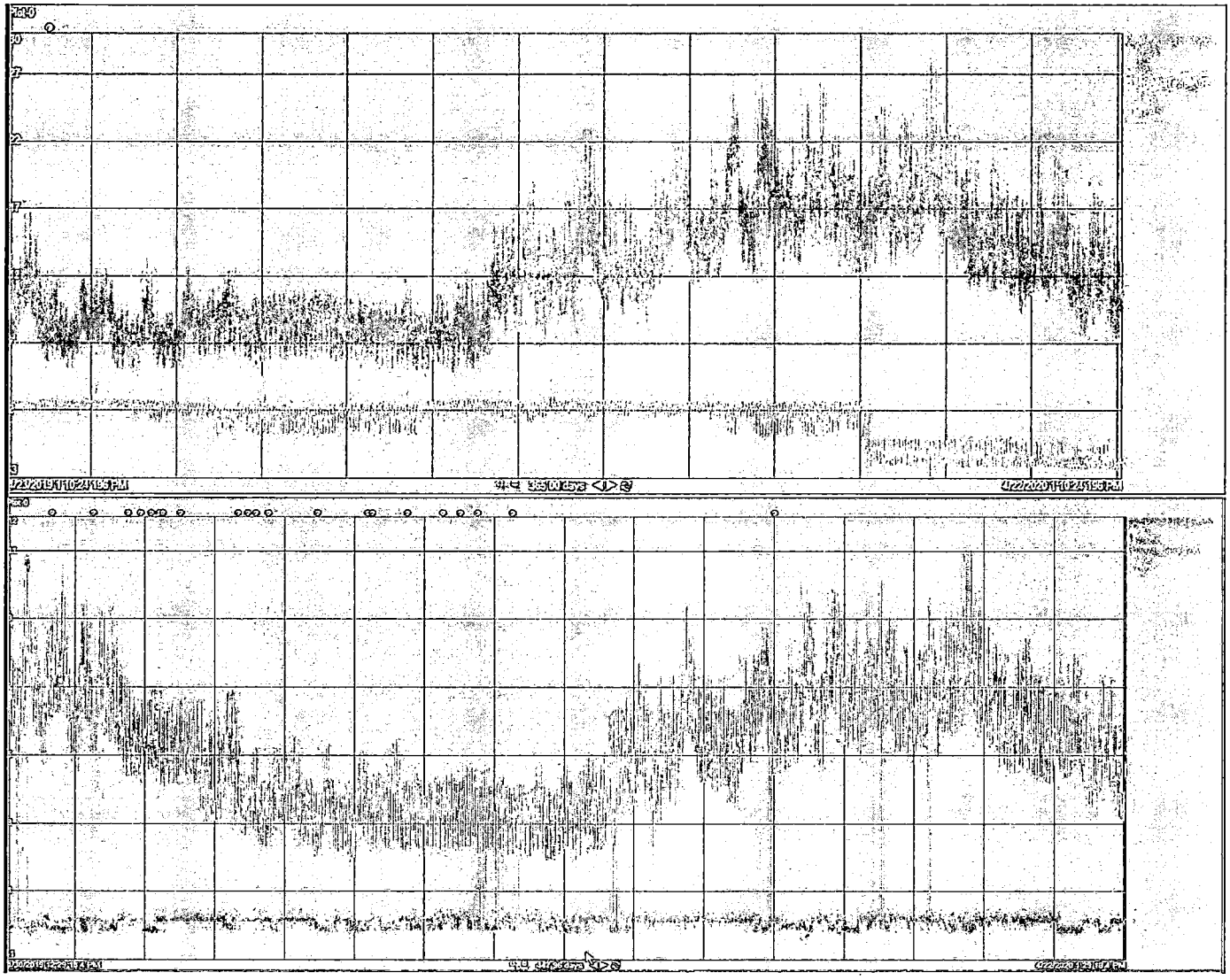
# APPENDIX

- ***Idaho Power Community Electricity Report***
- ***Treasure Valley Transit 2018 Report***
- ***2018 LGO Electrical Consumption Worksheet***
- ***LGO Emissions by Sector***
- ***Employee Commute Survey***

# Idaho Power Community Electricity Report



Active Customers by Class:

| | |
|---|---|
| Residential 1 | 7125 |
| Residential Generation 6 | 40 |
| Small General Service 7 (commercial) | 603 |
| Small General Generation 8 | 2 |
| Large General Service 9S (commercial) | 751 |
| Large Power Service 9P | 1 |

Energy Mix for 2019:

| | |
|---|---|
| Hydro | 44.8 |
| Coal | 16.3 |
| Other Purchases | 8.3 |
| Natural Gas | 11.4 |
| Long Term Purchases | 19.3 |

# Treasure Valley Transit 2018 Report

| Treasure Valley Transit | | Data provided by Debbie Maxwell | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| 18-Jan | miles | hours | | 18-Jul | miles | hours |
| Redline | 3020 | 198 | | Redline | 6036 | 375 |
| Winter Carnival | 507 | 54 | | Greenline | 12659 | 414 |
| Brundage Shuttle | 2737 | 150 | | | | |
| Greenline | 13046 | 353 | | | | |
| | | | | | **18695** | **789** |
| | | | | | | |
| | **19310** | **755** | | | | |
| | | | | 18-Aug | miles | hours |
| 18-Feb | miles | hours | | Redline | 6288 | 387 |
| Redline | 5357 | 358 | | Greenline | 13537 | 444 |
| Brundage Shuttle | 2197 | 120 | | | | |
| Winter Carnival | 507 | 54 | | | | |
| Greenline | 11890 | 320 | | | **19825** | **831** |
| | | | | | | |
| | | | | | | |
| | **19951** | **852** | | 18-Sep | miles | hours |
| | | | | Redline | 5923 | 361 |
| 18-Mar | miles | hours | | Greenline | 11913 | 395 |
| Redline | 5866 | 396 | | | | |
| Brundage Shuttle | 1097 | 60 | | | | |
| Greenline | 12960 | 350 | | | **17836** | **756** |
| | | | | | | |
| | | | | | | |
| | **19923** | **806** | | 18-Oct | miles | hours |
| | | | | Redline | 5874 | 372 |
| | | | | Greenline | 13490 | 446 |
| 18-Apr | miles | hours | | | | |
| Redline | 5491 | 371 | | | | |
| Greenline | 12357 | 333 | | | **19364** | **818** |
| | | | | | | |
| | | | | | | |
| | **17848** | **704** | | 18-Nov | miles | hours |
| | | | | Redline | 5376 | 348 |
| | | | | Greenline | 12723 | 418 |
| 18-May | miles | hours | | | | |
| Redline | 5557 | 382 | | | | |
| Greenline | 13855 | 376 | | | **18099** | **766** |
| | | | | | | |
| | | | | | | |
| | **19412** | **758** | | 18-Dec | miles | hours |
| | | | | Redline | 5563 | 360 |
| | | | | Greenline | 12080 | 398 |
| 18-Jun | miles | hours | | Brundage S | 1833 | 80 |
| Redline | 5822 | 358 | | | | |
| Greenline | 12452 | 410 | | | | |
| | | | | | **19476** | **838** |
| | | | | | | |
| | **18274** | **768** | | | | |

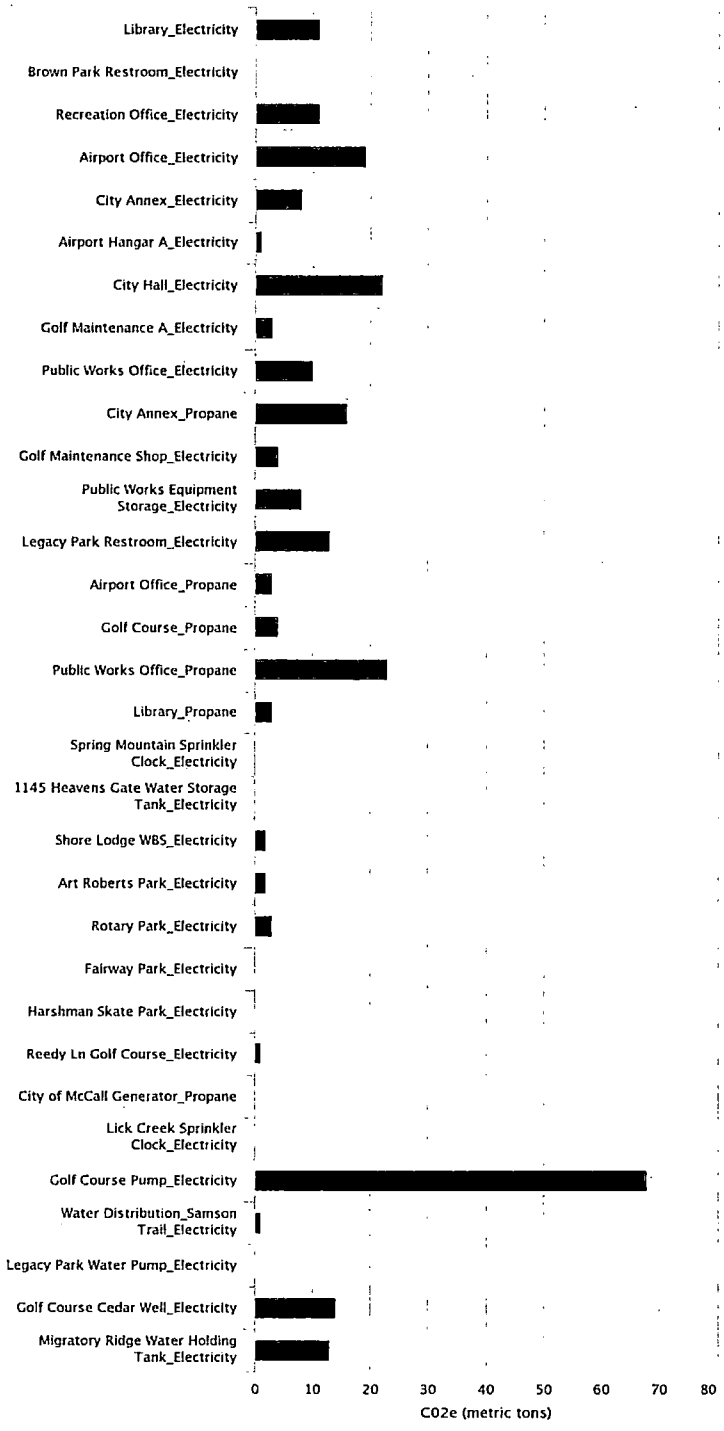
# 2018 LGO Electrical Consumption Worksheet

| | | | | | 1/5/2018-2/5/2018 | | 2/6/2018-3/7/2018 | | 3/8/2018-4/6/2018 | | 4/7/2018-5/8/2018 | | 5/9/2018-6/7/2018 | | 6/8/2018-7/9/2018 | | 7/10/2018-8/8/2018 | | 8/9/2018-9/6/2018 | | 9/8/2018-10/9/2018 | | 10/9/2018-11/6/2018 | | 11/7/2018-12/5/2018 | | 12/11/2018-1/9/2019 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Service Address | Description | Category | 2018 Total Usage (kWh) | 2018 Total Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost | kWh used | Cost |
| 216 E PARK ST | CITY HALL | B | 75,469.00 | 6498.08 | 7722 | 670.91 | 7886 | 660.74 | 6671 | 576 | 6047 | 532.71 | 5048 | 425.91 | 5505 | 465.69 | 5888 | 487.05 | 5225 | 442.35 | 5538 | 489.37 | 4978 | 488.85 | 6807 | 582.13 | 8154 | 676.38 |
| 218 E PARK ST | LIBRARY | B | 39,042.00 | 3607.25 | 4830 | 386.68 | 4372 | 361.91 | 3970 | 340.2 | 3275 | 302.59 | 2346 | 255.75 | 2131 | 254.92 | 2374 | 268.49 | 1980 | 240.8 | 2616 | 256.91 | 3330 | 293.33 | 3779 | 316.21 | 4039 | 329.49 |
| 336 E DEINHARD | RECREATION OFFICE | B | 36,415.00 | 2217.31 | 5297 | 404.52 | 5491 | 410.2 | 4999 | 346 | 2270 | 124.38 | 1258 | 17.08 | 1218 | 17.08 | 1140 | 17.08 | 1008 | 17.08 | 1176 | 17.08 | 2500 | 108.78 | 4195 | 315.67 | 5863 | 422.41 |
| 1020 1/2 EVERGREEN DR GC | light Pole | S | 6.00 | 64.79 | 0 | 5.34 | 0 | 5.34 | 1 | 5.46 | 3 | 5.71 | 1 | 5.46 | 0 | 5.34 | 1 | 5.44 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 |
| 1145 HEAVENS GATE | Water Storage Tank/Water Control | W | 1,009.00 | 186.64 | | 12.93 | 129 | 20.91 | 56 | 12.1 | 41 | 10.28 | 38 | 9.81 | 36 | 9.35 | 38 | 9.59 | 34 | 9.14 | 45 | 10.37 | 116 | 18.3 | 235 | 31.59 | 241 | 32.27 |
| 128 IDAHO ST | Harshmen Skate Park | ? | 508.00 | 121.26 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 10 | 6.54 | 51 | 11.38 | 75 | 13.72 | 90 | 15.39 | 103 | 16.84 | 142 | 21.21 | 37 | 9.48 | 0 | 5.34 | 0 | 5.34 |
| 1512 HEMLOCK RESTROOMS ST R | Brown Park Restroom | B | 1,515.00 | 238.26 | 294 | 40.81 | 0 | 5.34 | 58 | 12.34 | 22 | 8 | 76 | 14.35 | 135 | 20.43 | 135 | 20.43 | 113 | 17.97 | 183 | 25.79 | 499 | 62.12 | 0 | 5.34 | 0 | 5.34 |
| 1639 SPRING MTN BLVD SPLK | Sprinkler Clock | W | 0.00 | 64.08 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 |
| 300 E PARK ST | City Annex | B | 27,003.00 | 2902.93 | 2725 | 272.83 | 2653 | 268.95 | 2774 | 275.5 | 2235 | 246.34 | 1516 | 183.7 | 1748 | 218.57 | 2191 | 258.28 | 1710 | 210.28 | 1872 | 212.17 | 1987 | 224.15 | 2578 | 254.97 | 3014 | 277.2 |
| 336 DEINHARD LN EQUIP | Airport Office | B | 65,944.00 | 6058.85 | 10911 | 912.6 | 13767 | 1048.01 | 8267 | 756.4 | 3336 | 480.24 | 735 | 134.12 | 664 | 129.2 | 682 | 131.26 | 628 | 123.36 | 783 | 134.25 | 2991 | 447.21 | 9906 | 799.88 | 13274 | 962.3 |
| 3RD & LENORA DT LIGHTS | Downtown Lights | S | 42,043.00 | 332.53 | 282 | 39.37 | 257 | 36.35 | 157 | 24.28 | 136 | 21.74 | 163 | 24.67 | 225 | 30.48 | 127 | 19.53 | 146 | 21.65 | 184 | 25.91 | 170 | 24.35 | 180 | 25.45 | 40016 | 38.75 |
| 4 CRS-100 S 3RD ST | 4 Corners Intersection Lights | S | 66.00 | 71.7 | 6 | 6.06 | 5 | 5.95 | 5 | 5.95 | 5 | 5.95 | 5 | 5.93 | 7 | 6.12 | 6 | 6 | 6 | 6.01 | 6 | 6 | 5 | 5.91 | 5 | 5.91 | 5 | 5.91 |
| 4 CRS-101 S 3RD ST | 4 Corners Intersection Lights | S | 84.00 | 73.67 | 7 | 6.17 | 6 | 6.06 | 7 | 6.17 | 7 | 6.17 | 7 | 6.16 | 8 | 6.24 | 7 | 6.12 | 8 | 6.22 | 7 | 6.12 | 7 | 6.12 | 6 | 6 | 7 | 6.12 |
| 4 CRS 401 DEINHARD LN | 4 Corners Intersection Lights | S | 85.00 | 73.82 | 7 | 6.17 | 7 | 6.17 | 8 | 6.31 | 7 | 6.17 | 7 | 6.16 | 7 | 6.12 | 7 | 6.12 | 7 | 6.12 | 8 | 6.24 | 6 | 6 | 7 | 6.12 | 7 | 6.12 |
| 4 CRS-345 DEINHARD LN | 4 Corners Intersection Lights | S | 84.00 | 73.68 | 7 | 6.17 | 7 | 6.17 | 7 | 6.17 | 7 | 6.17 | 7 | 6.16 | 8 | 6.24 | 7 | 6.12 | 7 | 6.12 | 7 | 6.12 | 7 | 6.12 | 6 | 6 | 7 | 6.12 |
| 401 W LAKE ST-WLS S | Shore Lodge WBS #6A | W | 6,136.00 | 867.44 | 638 | 86.17 | 784 | 101.97 | 675 | 90.17 | 533 | 74.79 | 474 | 68.92 | 502 | 74.94 | 237 | 44.4 | 185 | 38.1 | 224 | 40.42 | 440 | 62.93 | 690 | 88.98 | 754 | 95.65 |
| 445 OSPREY VIEW DR | BETSY'S POND | W | 10,078.00 | 1313.5 | 259 | 36.59 | 354 | 48.33 | 307 | 42.42 | 270 | 37.92 | 729 | 95.49 | 2297 | 301.61 | 2180 | 286.21 | 1572 | 203.09 | 1160 | 139.35 | 365 | 46.45 | 287 | 37.41 | 298 | 38.63 |
| 546 AIRPORT HANGAR A | Airport HangarA/Bathroom/Irrigatic | B | 3,885.00 | 525.19 | 603 | 79.68 | 637 | 83.96 | 533 | 70.86 | 329 | 45.17 | 120 | 19.53 | 72 | 13.38 | 33 | 9.02 | 33 | 9.02 | 99 | 16.4 | 276 | 36.18 | 491 | 61.17 | 659 | 80.82 |
| 590 LICK CREEK RD | Davis Beach W-PS #3 | W | 28,940.00 | 4023.19 | 1380 | 166.5 | 1580 | 188.16 | 1380 | 166.5 | 7360 | 590.16 | 12260 | 1149.88 | 640 | 730.39 | 200 | 118.84 | 320 | 131.53 | 520 | 149.98 | 560 | 154.14 | 980 | 197.92 | 1760 | 279.19 |
| 603 3RD ST CITY | Street Lights? | S | 2,124.00 | 312.73 | 296 | 41.06 | 262 | 39.96 | 155 | 24.04 | 118 | 19.58 | 118 | 19.29 | 120 | 18.75 | 117 | 18.41 | 123 | 19.09 | 154 | 22.56 | 157 | 22.88 | 184 | 25.91 | 320 | 41.2 |
| 720 FAIRWAY BALL PARK | Fairway Park | B | 1,096.00 | 187.7 | 5 | 5.95 | 5 | 5.95 | 5 | 5.95 | 44 | 10.65 | 111 | 18.37 | 240 | 32.15 | 196 | 27.23 | 209 | 28.69 | 230 | 31.04 | 42 | 10.03 | 5 | 5.91 | 4 | 5.78 |
| 800 N 3RD-DT ST LTS | Downtown Lights | S | 858.00 | 163.37 | 124 | 20.29 | 124 | 20.29 | 64 | 13.07 | 44 | 10.65 | 42 | 10.3 | 43 | 10.14 | 41 | 9.92 | 44 | 10.26 | 55 | 11.48 | 57 | 11.71 | 74 | 13.61 | 146 | 21.65 |
| 815 N SAMSON TR-WD | Water Distribution | W | 4,219.00 | 571.46 | 481 | 64.33 | 554 | 73.5 | 666 | 87.6 | 948 | 123.1 | 262 | 36.4 | 42 | 10.03 | 12 | 6.68 | 25 | 8.14 | 34 | 9.15 | 519 | 64.46 | 664 | 81.39 | 12 | 6.68 |
| 888 FAIRWAY DR | WCV-ARV-87 (Air release valve) | GC Pump | 233,080.00 | 19930.84 | 800 | 259.84 | 680 | 246.84 | 520 | 229.5 | 2880 | 551.61 | 28560 | 2604.62 | 47880 | 3856.52 | 63560 | 4744.65 | 46240 | 3606.45 | 36120 | 2784.86 | 4200 | 530.35 | 920 | 268.21 | 720 | 247.38 |
| 924 FAIRVIEW DR A | Golf Maintenance A | B | 9,427.00 | 1208.72 | 311 | 42.91 | 303 | 41.91 | 224 | 32.36 | 540 | 71.74 | 1238 | 160.61 | 1188 | 155.7 | 1316 | 172.54 | 1184 | 150.25 | 1331 | 159.33 | 1258 | 155.48 | 219 | 29.82 | 275 | 36.07 |
| 924 FAIRVIEW DR SHOP | Golf Maintenance Shop | B | 15,328.00 | 1929.24 | 1180 | 152.3 | 1655 | 212.08 | 1224 | 157.8 | 1052 | 136.18 | 1099 | 142.81 | 1104 | 144.64 | 1474 | 193.33 | 1051 | 133.47 | 1012 | 122.06 | 1034 | 124.62 | 1267 | 151.85 | 2176 | 258.07 |
| 958 LICK CREEK RD SPCLK | Sprinkler Clock | W | 264.00 | 94.94 | 88 | 15.95 | 30 | 8.96 | 15 | 7.15 | 13 | 6.91 | 13 | 6.87 | 12 | 6.68 | 13 | 6.78 | 14 | 6.91 | 15 | 7.02 | 16 | 7.13 | 18 | 7.35 | 17 | 7.23 |
| AIRPORT BEACON LT | Airport Signal Light | S | 20,033.00 | 2295.94 | 1714 | 202.68 | 2591 | 265.59 | 1658 | 196.6 | 1288 | 156.55 | 1160 | 144.84 | 1485 | 188.26 | 1385 | 176.73 | 1146 | 146.11 | 1429 | 166 | 1381 | 160.99 | 2206 | 236 | 2590 | 255.58 |
| AIRPORT GT HWY 55 | Airport Gate Off HWY 55 | S | 380.00 | 108.21 | 52 | 11.62 | 52 | 11.62 | 40 | 10.17 | 25 | 8.36 | 25 | 8.29 | 34 | 9.15 | 24 | 8.02 | 21 | 7.69 | 32 | 8.91 | 23 | 7.9 | 29 | 8.58 | 23 | 7.9 |
| AIRPORT RW LITE | Dusk to Dawn Lighting | S | 2.00 | 124.48 | | 10.53 | | 10.53 | 1 | 10.53 | 1 | 10.53 | | 10.4 | | 10.28 | | 10.28 | | 10.28 | | 10.28 | | 10.28 | | 10.28 | | 10.28 |
| ART ROBERTS PRK XTRE | Art Roberts Park | B | 5,228.00 | 765.86 | 987 | 123.94 | 921 | 116.8 | 618 | 84 | 354 | 55.41 | 152 | 33.77 | 110 | 29.77 | 118 | 30.68 | 115 | 30.07 | 147 | 32.39 | 368 | 55.43 | 419 | 60.75 | 919 | 112.85 |
| DEINHARD-SAMSON PRVS | PRV #6 | S | 180.00 | 85.49 | 89 | 16.07 | 15 | 7.15 | 16 | 7.27 | 22 | 8 | 14 | 6.97 | 12 | 6.68 | 2 | 5.56 | 3 | 5.67 | 3 | 5.67 | 3 | 5.67 | 1 | 5.44 | 0 | 5.34 |
| E LAKE & FIR ST LITE | Light pole? | S | 611.00 | 134.5 | 63 | 12.93 | 56 | 12.1 | 47 | 11.01 | 46 | 10.89 | 41 | 10.2 | 45 | 10.37 | 43 | 10.14 | 43 | 10.15 | 54 | 11.37 | 55 | 11.48 | 58 | 11.81 | 60 | 12.05 |
| E LAKE DOCK PMP OUT | Water Pump 3 at Legacy Park/Dock | W | 0.00 | 64.08 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 |
| E LAKE ST RESTROOM | Legacy Park Restroom | B | 45,653.00 | 4281.61 | 8052 | 631.25 | 7126 | 576.41 | 3579 | 379.8 | 2444 | 318.45 | 1157 | 188.21 | 1373 | 201.04 | 1500 | 202.93 | 1170 | 162.2 | 939 | 127.87 | 3757 | 374.81 | 7586 | 574.76 | 6980 | 543.86 |
| FIR ST PARKING LT LTS | Mill St Parking Lot Lights | S | 2,016.00 | 293.95 | 97 | 17.04 | 85 | 15.59 | 74 | 14.26 | 90 | 16.2 | 137 | 21.58 | 188 | 26.34 | 233 | 31.37 | 221 | 30.02 | 322 | 41.44 | 398 | 50.31 | 89 | 15.29 | 82 | 14.51 |
| GC IRR PMP-CEDAR WEL | Golf Course Irrigation Pump- Cedar | W | 47,327.00 | 3478.6 | 124 | 30.51 | 128 | 30.94 | 119 | 29.95 | 114 | 29.43 | 2743 | 279.52 | 10278 | 709.21 | 10912 | 744.55 | 9861 | 663.37 | 10188 | 643.1 | 2587 | 255.43 | 141 | 31.76 | 132 | 30.83 |
| KNOWLES RD BSTR STN | Knowles Road Booster Station | W | 47,960.00 | 4324.81 | 3920 | 347.36 | 4400 | 373.32 | 3960 | 349.5 | 3560 | 327.89 | 3640 | 335.54 | 4320 | 386.69 | 5640 | 564.42 | 4800 | 409.71 | 3240 | 299.51 | 3880 | 330 | 3120 | 291.24 | 3480 | 309.6 |
| LAKE ST DT LIGHTS | Downtown Lights | S | 1,998.00 | 421.51 | 266 | 45.88 | 236 | 42.63 | 154 | 33.75 | 145 | 32.78 | 138 | 32.25 | 146 | 33.9 | 139 | 33.1 | 133 | 32.11 | 147 | 32.39 | 131 | 30.73 | 125 | 30.11 | 238 | 41.88 |
| LEGACY PARK WLSBS | Water Treatment Building Legacy Pa | B | 568,000.00 | 38202.57 | 33720 | 2237.75 | 31480 | 2116.62 | 30440 | 2065 | 25360 | 1771.4 | 23200 | 1779.16 | 65720 | 4807.55 | 96880 | 6726.24 | 85840 | 5790.06 | 54120 | 3405.45 | 37600 | 2399.25 | 39040 | 2486.72 | 41600 | 2617.28 |
| LICK CREEK LIGHTS | Lick Creek Street Lights | S | 5,676.00 | 342.16 | 473 | 29.36 | 473 | 29.36 | 473 | 29.36 | 473 | 29.36 | 473 | 28.72 | 473 | 28 | 473 | 28 | 473 | 28 | 473 | 28 | 473 | 28 | 473 | 28 | 473 | 28 |
| MAJESTIC VW DR PRV1 | PRV#1 | S | 243.00 | 92.12 | 25 | 8.36 | 24 | 8.24 | 23 | 8.12 | 19 | 7.62 | 18 | 7.44 | 14 | 6.9 | 15 | 7.02 | 16 | 7.12 | 19 | 7.47 | 21 | 7.68 | 25 | 8.13 | 24 | 8.02 |
| MG RDG/W SD TNK | Water Holding Tank Migratory Ridg | W | 43,240.00 | 4286.11 | 7760 | 571.52 | 8160 | 587.66 | 5720 | 455.7 | 4360 | 382.16 | 1680 | 505.88 | 1160 | 200.4 | 1360 | 199.72 | 1720 | 238.05 | 1800 | 230.54 | 1640 | 213.86 | 3320 | 318.69 | 4560 | 381.93 |
| MILL & PINE LIGHTS | Mill and Pine Lights | S | 352.00 | 63.69 | 25 | 5.1 | 22 | 4.93 | 19 | 4.74 | 18 | 4.68 | 14 | 4.42 | 25 | 5.03 | 27 | 5.15 | 29 | 5.27 | 39 | 5.84 | 40 | 5.91 | 44 | 6.13 | 50 | 6.49 |
| MISSION & LAKE ST | Traffic Control Metered | T | 2,509.00 | 168.4 | 217 | 15.01 | 206 | 14.25 | 204 | 14.11 | 218 | 15.09 | 204 | 13.93 | 219 | 14.41 | 207 | 13.62 | 198 | 13.03 | 221 | 14.54 | 202 | 13.27 | 202 | 13.27 | 211 | 13.87 |
| MISSION/LAKE ST LTS | Street Light Metered | S | 4,584.00 | 314.15 | 497 | 33.83 | 419 | 29.08 | 374 | 26.34 | 353 | 25.07 | 297 | 21.45 | 298 | 20.86 | 291 | 20.46 | 320 | 22.13 | 402 | 26.89 | 417 | 27.76 | 444 | 29.34 | 472 | 30.94 |
| PW SHP-815N SAMSN TR | Public Works Equipment Storage | B | 26,830.00 | 2398.65 | 4779 | 383.92 | 4450 | 366.13 | 4638 | 376.3 | 2550 | 263.38 | 10 | 18.18 | 11 | 18.35 | 10 | 18.23 | 15 | 18.79 | 364 | 55.02 | 2598 | 255.99 | 3400 | 296.61 | 4005 | 327.75 |
| PW SHP-815N SAMSN TR | Public Works Office/Shop | B | 35,680.00 | 3422.65 | 3880 | 335.31 | 3680 | 324.48 | 3400 | 309.4 | 2960 | 285.56 | 1960 | 232.5 | 2080 | 252.08 | 2320 | 265.46 | 1960 | 238.52 | 2120 | 231.61 | 3680 | 311.17 | 3800 | 317.29 | 3840 | 319.33 |
| REEDY LN GOLF COURSE | 900 Reedy Lane Golf Course | B | 4,088.00 | 545.48 | 481 | 64.33 | 610 | 80.55 | 486 | 64.95 | 301 | 41.67 | 131 | 20.7 | 133 | 20.2 | 133 | 20.2 | 108 | 17.41 | 102 | 16.74 | 438 | 54.98 | 571 | 70.53 | 594 | 73.22 |
| SPG MTN-WOODLAND | Street Light UNMETERED DEVICE | S | 1,212.00 | 73.17 | 101 | 6.28 | 101 | 6.28 | 101 | 6.28 | 101 | 6.28 | 101 | 6.19 | 101 | 5.98 | 101 | 5.98 | 101 | 5.98 | 101 | 5.98 | 101 | 5.98 | 101 | 5.98 | 101 | 5.98 |
| SPG MTN-WOODLAND | Street Light UNMETERED DEVICE | S | 18,252.00 | 1101.22 | 1521 | 94.42 | 1521 | 94.42 | 1521 | 94.42 | 1521 | 94.42 | 1521 | 93.4 | 1521 | 90.02 | 1521 | 90.02 | 1521 | 90.02 | 1521 | 90.02 | 1521 | 90.02 | 1521 | 90.02 | 1521 | 90.02 |
| SPG MTN-WOODLAND | Street Light UNMETERED DEVICE | S | 288.00 | 17.37 | 24 | 1.49 | 24 | 1.49 | 24 | 1.49 | 24 | 1.49 | 24 | 1.47 | 24 | 1.42 | 24 | 1.42 | 24 | 1.42 | 24 | 1.42 | 24 | 1.42 | 24 | 1.42 | 24 | 1.42 |
| STREET LIGHTS | 70 and 100 Watt Sodium Vapor | S | 1,200.00 | 17239.14 | 120 | 1457.33 | 120 | 1457.33 | 120 | 1457 | | 1457.3 | | 1448.19 | 120 | 1423.09 | 120 | 1423.09 | 120 | 1423.09 | 120 | 1423.09 | 120 | 1423.09 | 120 | 1423.09 | 120 | 1423.09 |
| TRAFFIC SINGAL | THE Traffic Signal? | T | 15,036.00 | 1009.15 | 1253 | 86.67 | 1253 | 86.67 | 1253 | 86.67 | 1253 | 86.67 | 1253 | 85.67 | 1253 | 82.4 | 1253 | 82.4 | 1253 | 82.4 | 1253 | 82.4 | 1253 | 82.4 | 1253 | 82.4 | 1253 | 82.4 |
| W LAKE ST RTRY PK | Rotary Park | B | 10,390.00 | 1320.07 | 1338 | 161.95 | 1593 | 189.56 | 1183 | 145.2 | 956 | 120.59 | 372 | 57.97 | 319 | 53.86 | 314 | 53.27 | 298 | 50.75 | 495 | 68.66 | 907 | 111.6 | 1189 | 140.99 | 1426 | 165.69 |
| WOODLANDS DR PRVS | PRV #5 Lighth Pole PM-26837 | S | 13.00 | 65.58 | 0 | 5.34 | 1 | 5.46 | 4 | 5.81 | 4 | 5.81 | 2 | 5.58 | 1 | 5.44 | 0 | 5.34 | 0 | 5.34 | 0 | 5.34 | 1 | 5.44 | 0 | 5.34 | 0 | 5.34 |
| 1240 BITTERROOT DR | WATER TREATMENT PLANT | B | 755,120.00 | 58004.96 | 48480 | 3894.17 | 51440 | 4054.26 | 47680 | 3708 | 45920 | 3746.2 | 63200 | 5054.18 | 88000 | 6904.81 | 116880 | 8539.57 | 90160 | 6712.43 | 64480 | 4736.86 | 45120 | 3511.01 | 46720 | 3494.43 | 47040 | 3608.94 |
| REEDY LN GOLF COURSE | Reedy Lane Golf Course | B? | 197,880.00 | 15963.04 | 10920 | 977.95 | 16080 | 1285.56 | 10920 | 1007 | 10920 | 949.38 | 15600 | 1247.08 | 22200 | 1737.22 | 30600 | 2384.05 | 23880 | 1923.91 | 17160 | 1424.45 | 11880 | 940.09 | 12600 | 930.06 | 15120 | 1156.77 |

# LGO Emissions by Sector

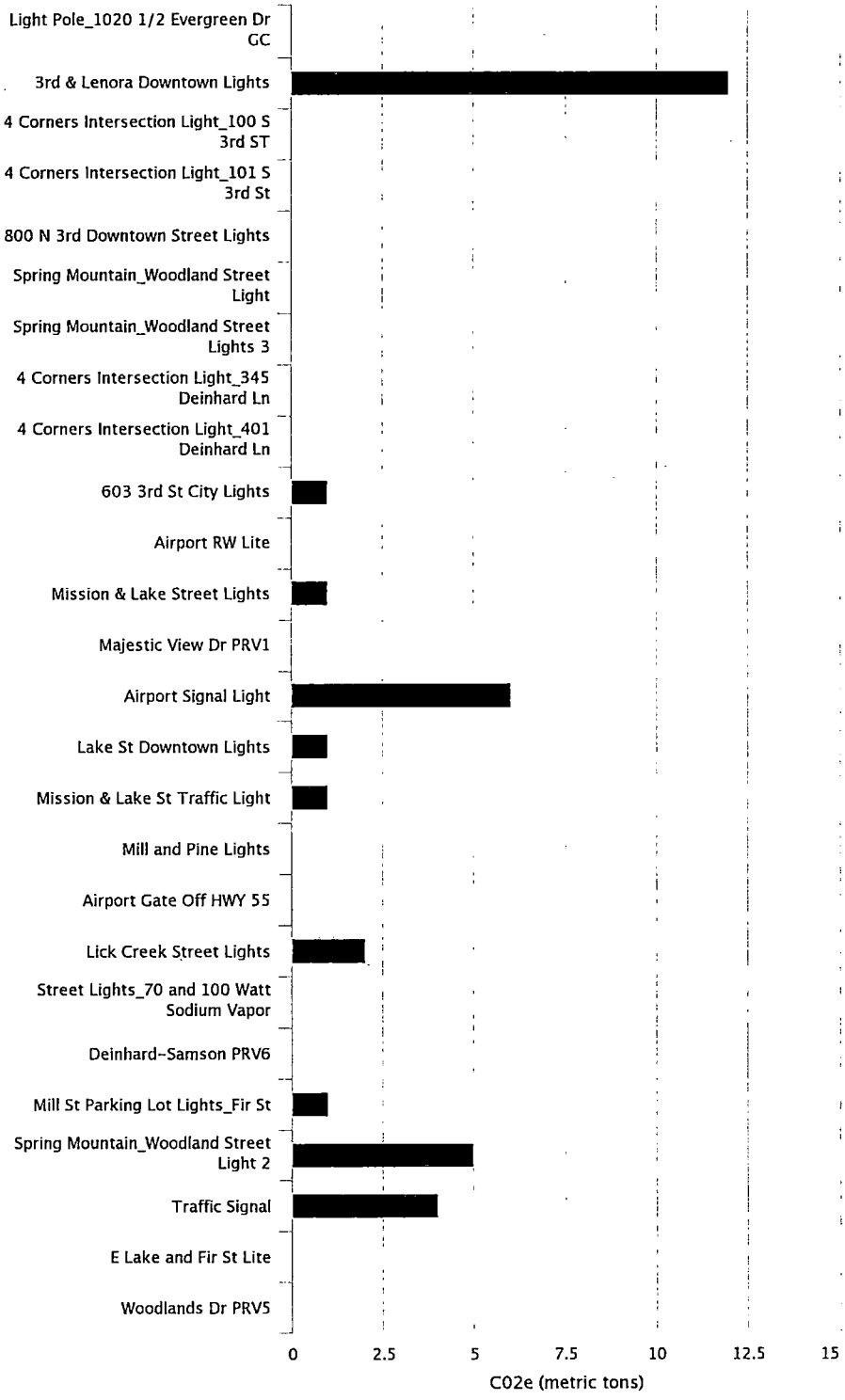
## Buildings and Facilities

CO2e By Record



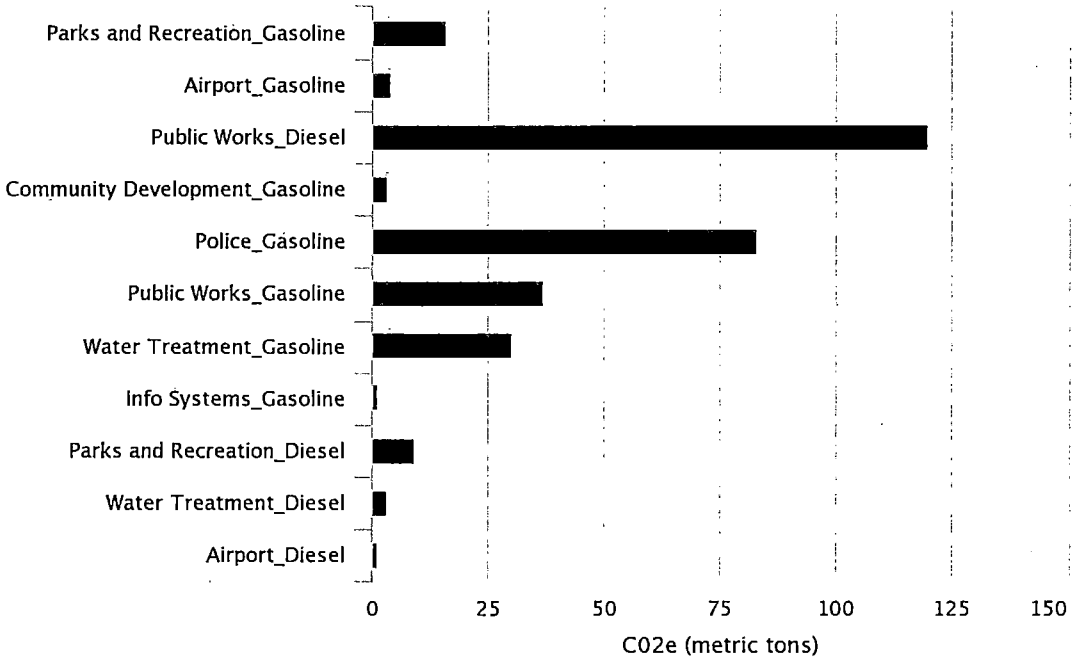
## Street Lights and Traffic Signals

CO2e By Record



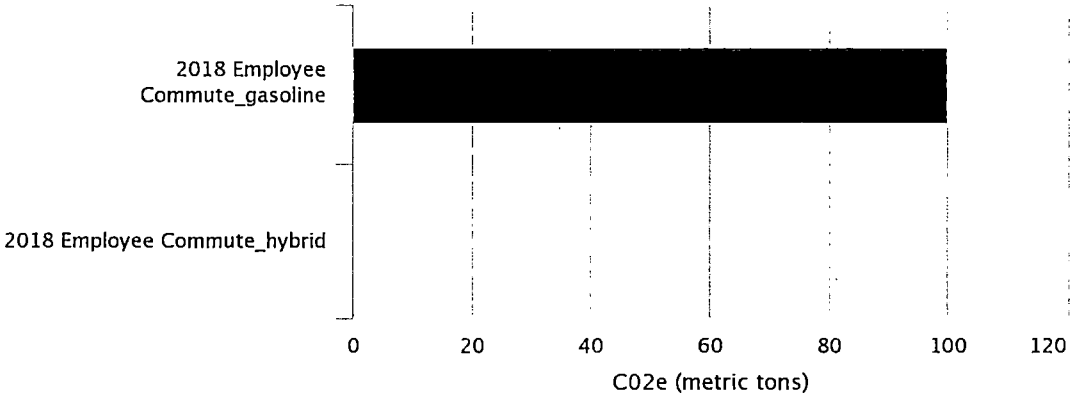
## Vehicle Fleet

CO2e By Record



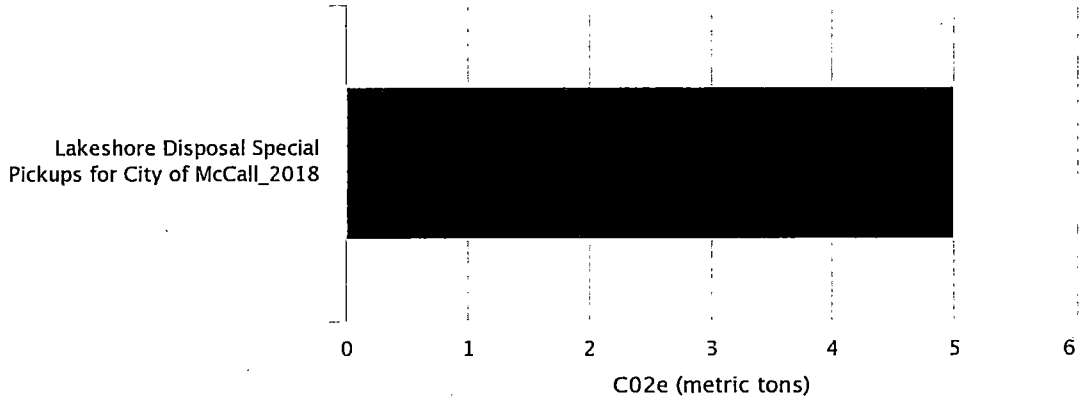

## Employee Commute

CO2e By Record



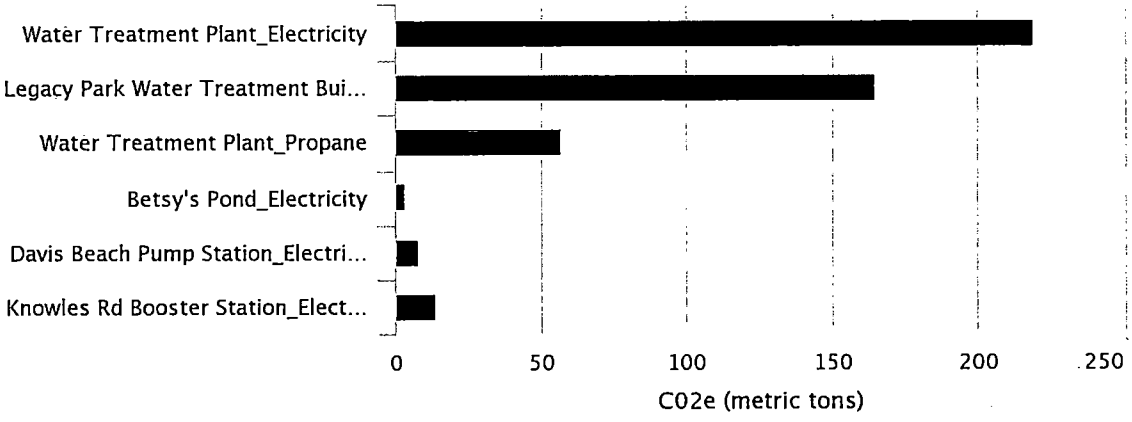
## Solid Waste

CO2e By Record




## Water Treatment Facilities

CO2e By Record



# Employee Commute Survey

## City of McCall Employee Commute Survey

The City of McCall is working to create our Greenhouse Gas Emissions Inventory to establish a baseline level of municipal and community-wide emissions. We are currently gathering data to calculate emissions for the year 2018. As part of the effort to get a complete picture of total emissions, we are asking City employees to participate in the following survey regarding your commute to/from work in the calendar year 2018.

1. Did you work for the City of McCall in 2018? If no, please do not complete the remainder of the survey.

- ◯ Yes
- ◯ No

2. In 2018, how did you travel to and from work? If you used more than one mode of transportation, include the number of days that you used that particular mode during a typical week.

| | 7 days a week | 6 days a week | 5 days a week | 4 days a week | 3 days a week | 2 days a week | 1 day a week | 0 days a week |
|---|---|---|---|---|---|---|---|---|
| Drive | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Bus | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Bike | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Walk | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Carpool | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

3. In 2018, if you drove, what type of vehicle did you drive most often?

- ◯ Auto-Full size
- ◯ Auto-Mid size
- ◯ Auto-Compact
- ◯ Heavy or Full-sized Truck
- ◯ Light Truck/SUV
- ◯ Motorcycle
- ◯ Van

4. What type of fuel does your vehicle use?

- ◯ Diesel
- ◯ Gasoline
- ◯ Hybrid (gasoline/electric)
- ◯ Hybrid (diesel/electric)
- ◯ Biodiesel
- ◯ Newer Electric Vehicle
- ◯ N/A don't drive to work
- ◯ Other (please specify)

5. Please estimate the average number of miles you traveled to and from work each day (round trip) in 2018).
(If you need help estimating this you can visit Google Maps. Just type in your home address for the starting location and your work location for the end address. Multiply by 2 for round trip if needed.)

6. What is the approximate fuel economy, in miles per gallon, of your vehicle? (enter 0 if you do not use a motor vehicle or if you use an electric car)

Done