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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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.

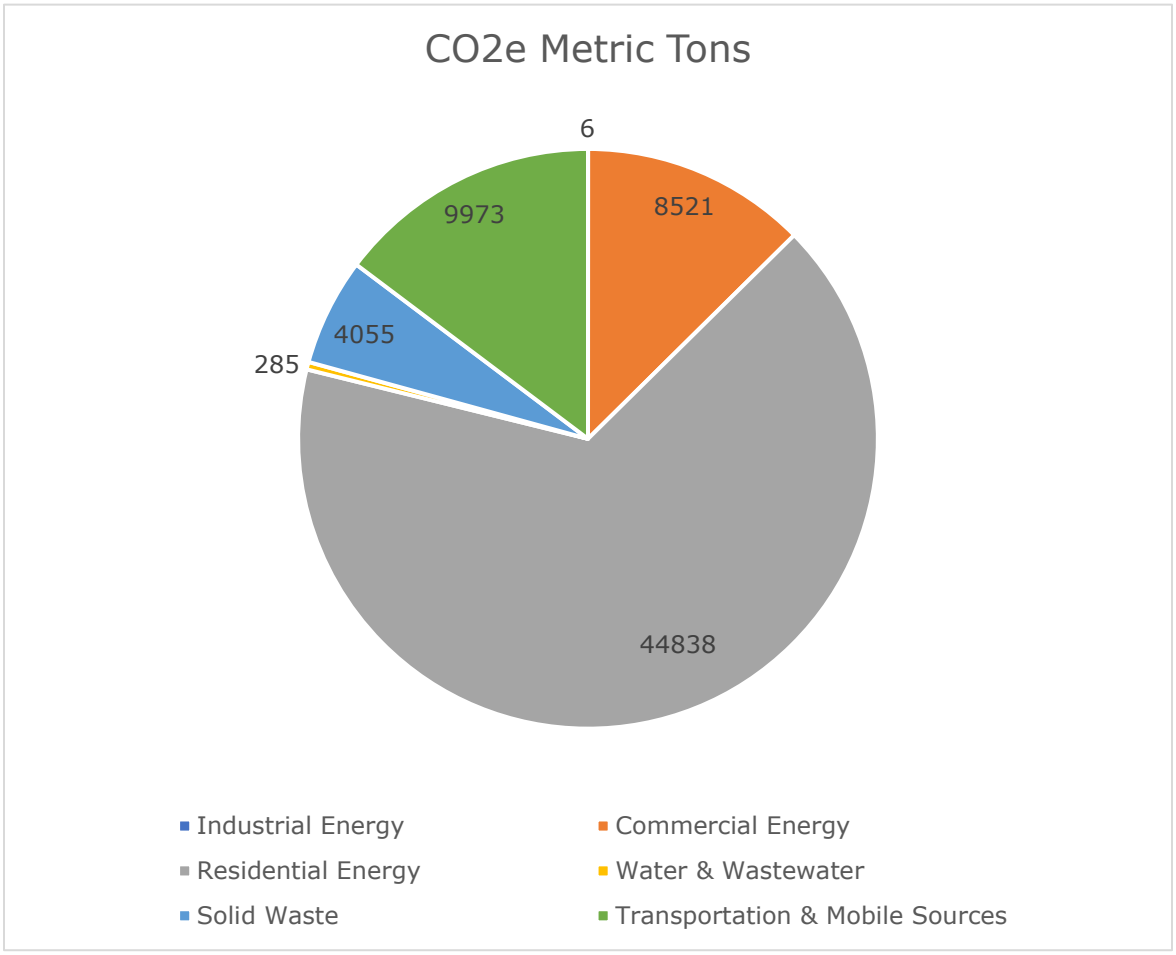


Figure 1: Community Emissions

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.

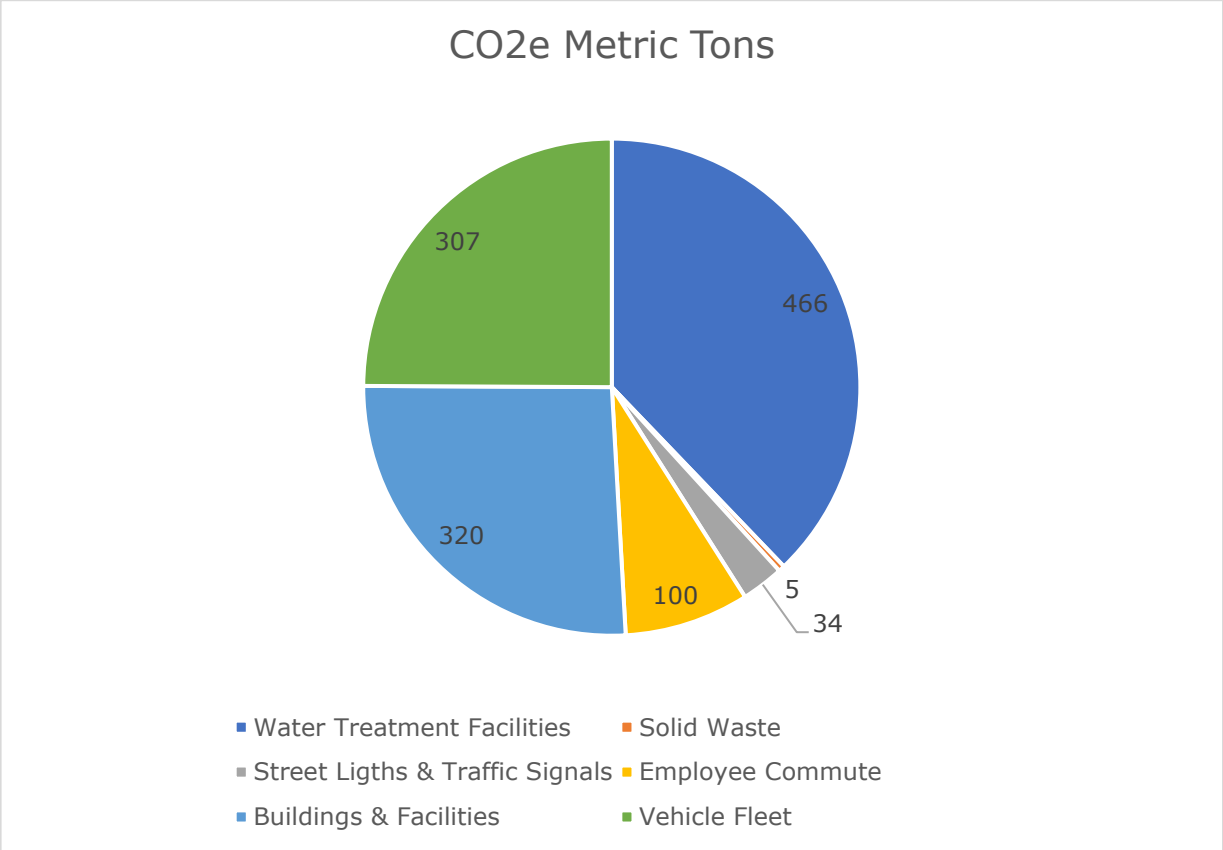


Figure 2: Local Government Operations Emissions

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.
- Continue 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 meaningful 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

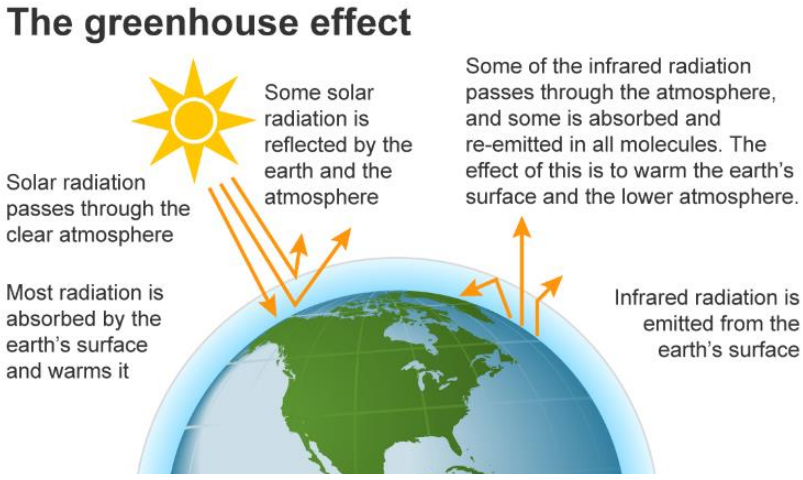
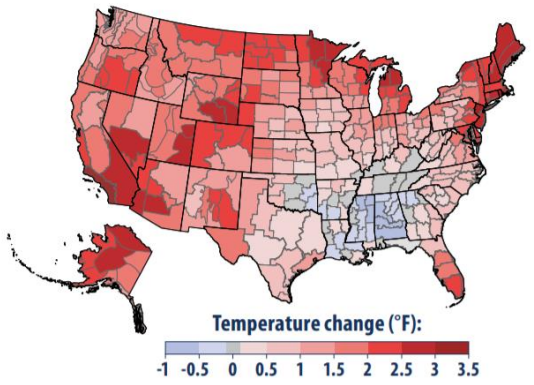


Figure 4: The greenhouse effect; Source: The U.S. Energy Information Administration

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,

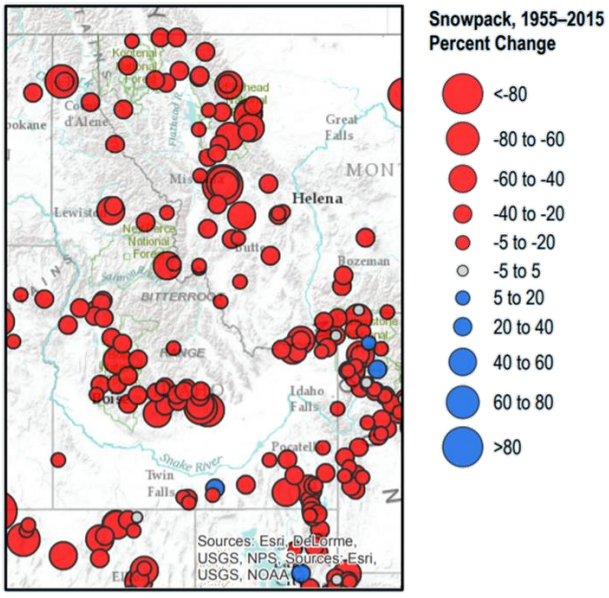


Figure 6: Snowpack in Idaho; Source: U.S. Environmental Protection Agency

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.

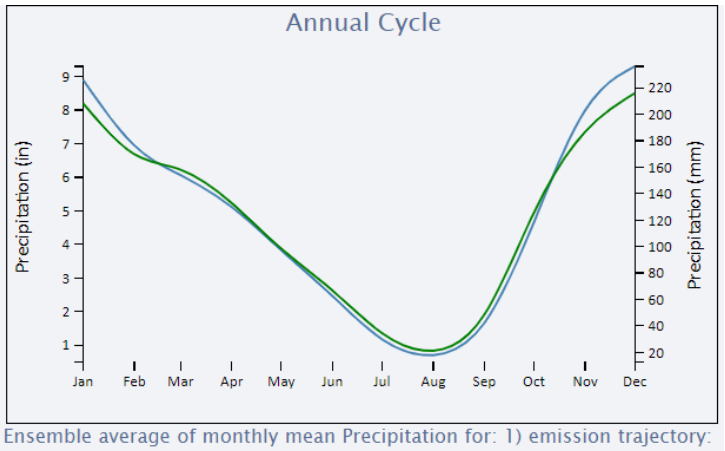


Figure 7: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector

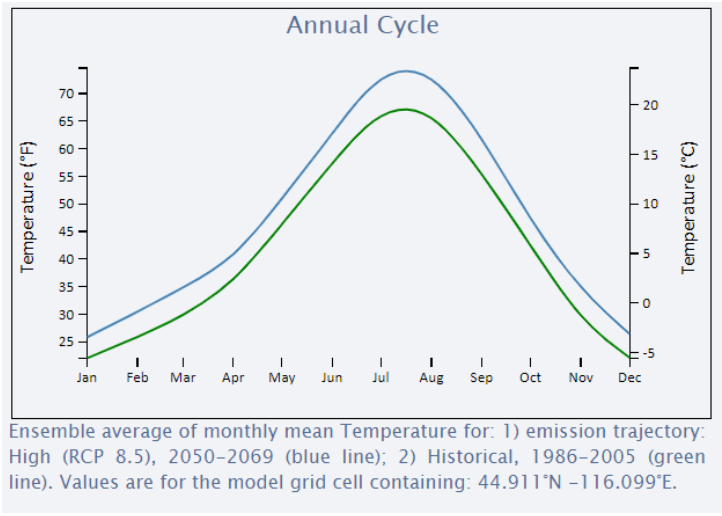


Figure 8: McCall's historical and projected precipitation under RCP 8.5 (Commonly known as the "business as usual" emissions scenario); Source: https://gisclimatechange.ucar.edu/inspector

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.

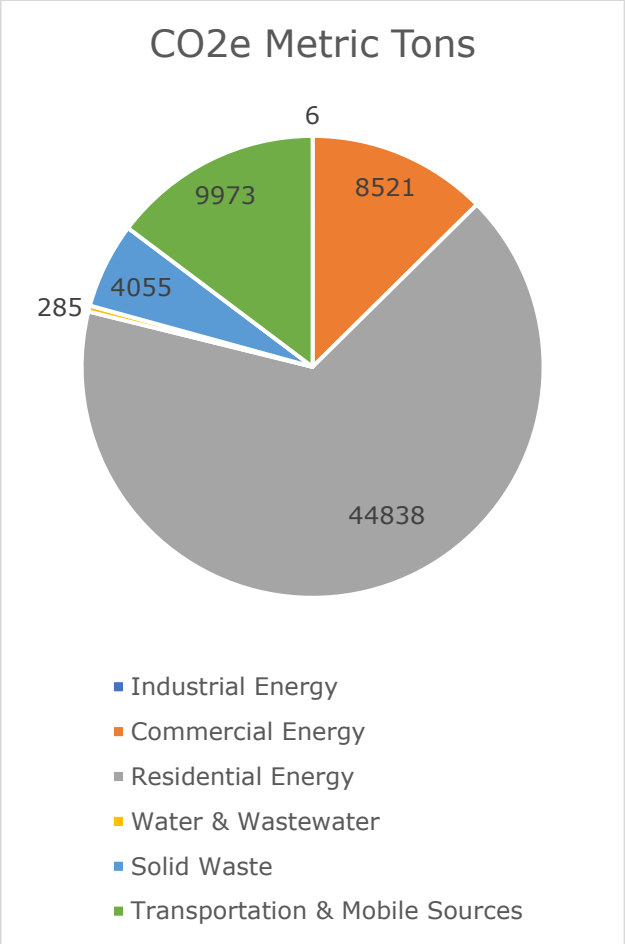


Figure 7: Community Emissions

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.

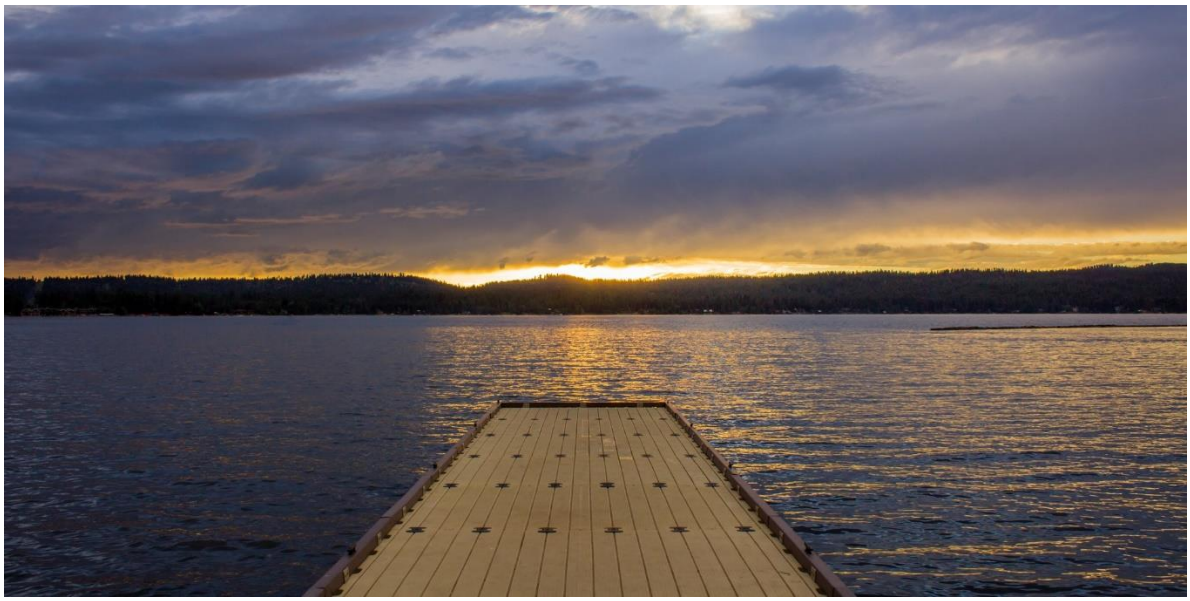
Further refinement of this sector could be done by separating out ownership of each Idaho Power account, and attributing it to city or utility ownership. Additionally, it is unknown if any of the accounts are accessory lights, and not street lights.

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 Public Works Department, followed by 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.

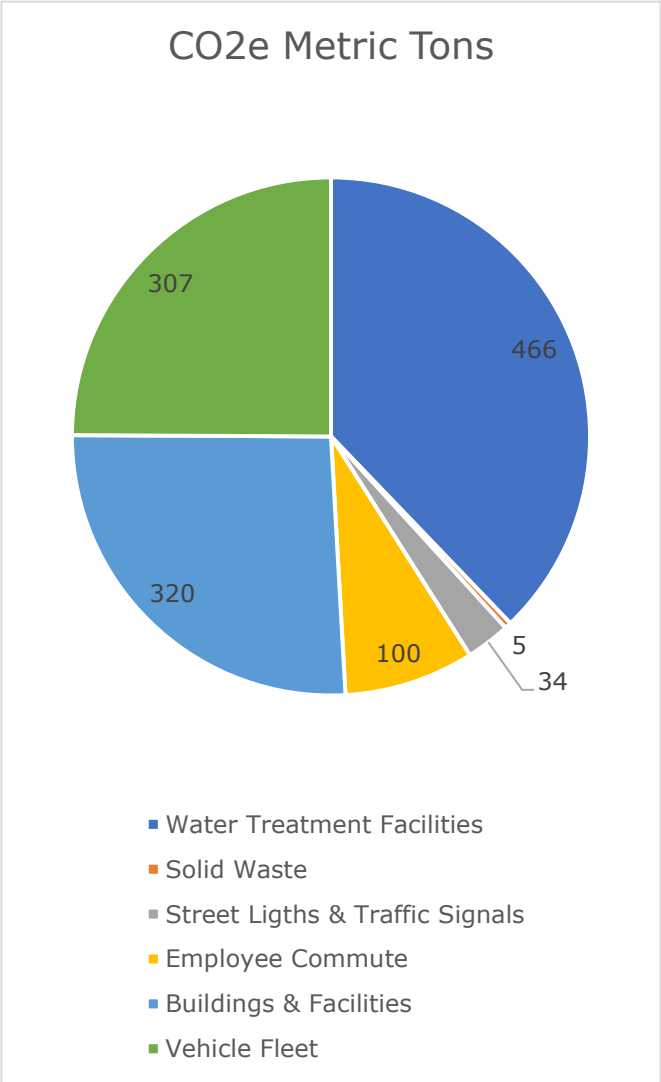


Figure 9: LGO Emissions

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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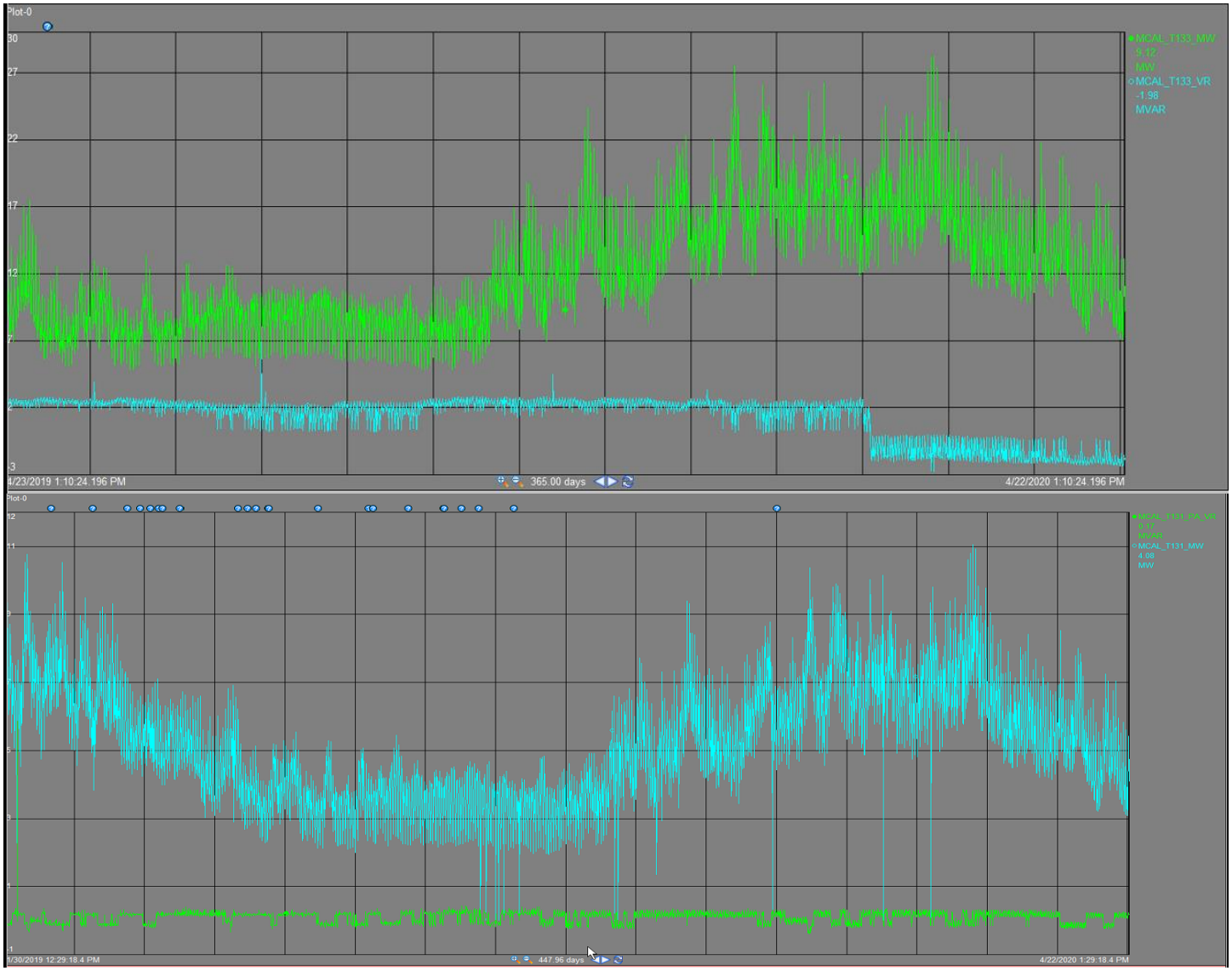
APPENDIX

- ***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

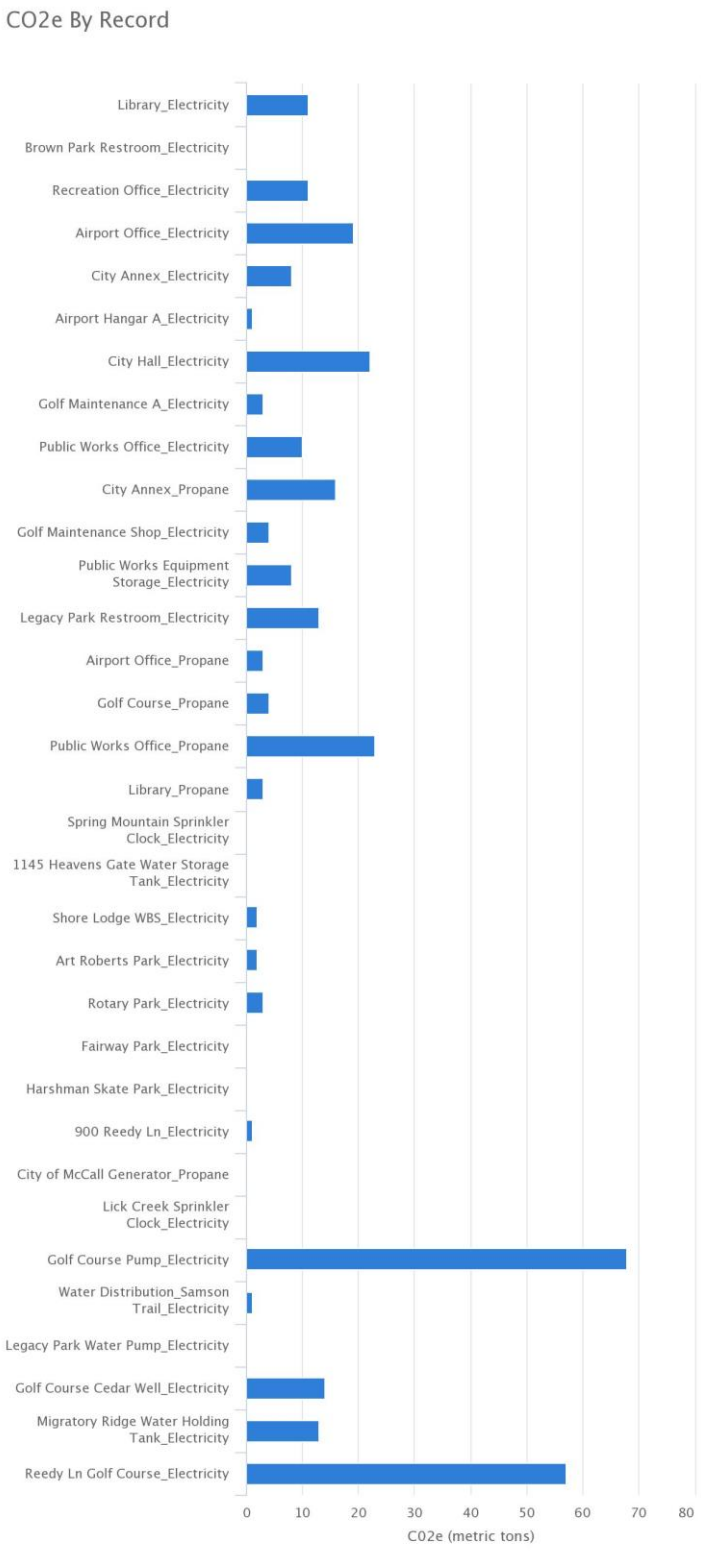
Treasure Valley Transit		Data provided by Debbie Maxwell				
18-Jan	miles	hours		18-Jul	miles	hours
Redline	3020	198		Redline	6036	375
Winter Carnival	507	54		Greenline	12659	414
Brundage Shuttle	2737	150				
Greenline	13046	353				
					18695	**789**
	19310	**755**				
				18-Aug	miles	hours
18-Feb	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

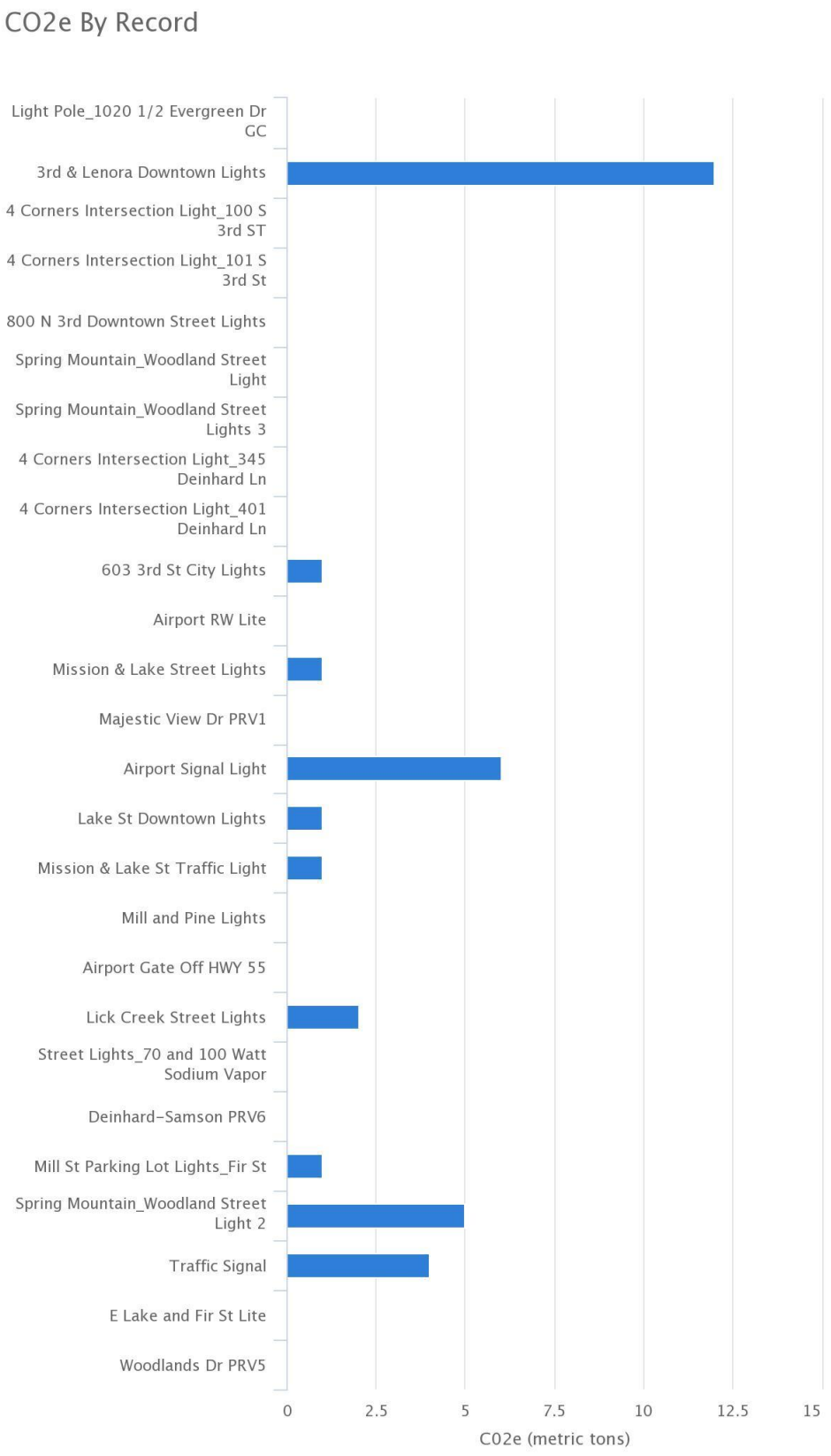
					1/5/2018-2/5/2018		2/6/2018-3/7/2018		3/8/2018-4/6/2018		4/7/2018-5/8/2018		5/9/2018-6/7/2018		6/8/2018-7/9/2018		7/10/2018-8/8/2018		8/9/2018-9/6/2018		9/8/2018-10/9/2018		10/9/2018-11/6/2018		11/7/2018-12/5/2018		12/11/2018-1/9/2019	
Service Address	Description	Category	2018 Total Usage (kWh)	2018 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	Harshman 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 CRNS-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 CRNS-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 5	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/Irrigatio	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	1298	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 PRV6	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	45,663.00	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 WLS#5	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	99880	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
MIG RDG/W SD TNK	Water Holding Tank Migratory Ridge	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-815 N 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	3422.66	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 PRV5	PRV #5 Lighth Pole PRI-2683?	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	5094.18	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	1424.46	11880	940.09	12600	930.06	15120	1156.77

LGO Emissions by Sector

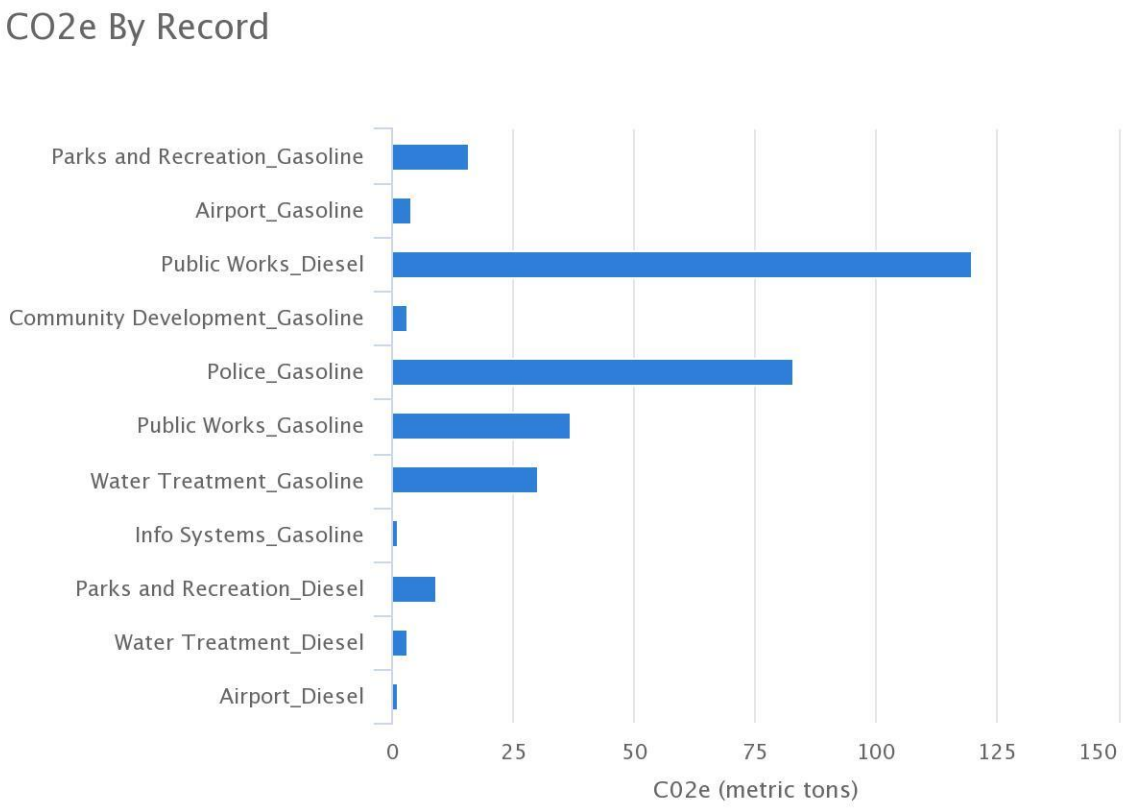
Buildings and Facilities



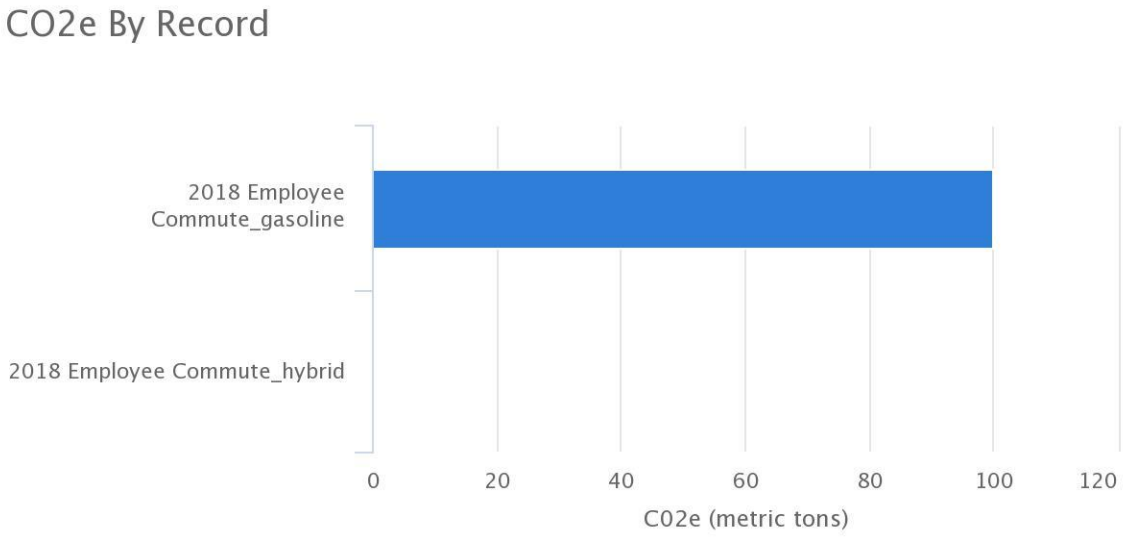
Street Lights and Traffic Signals



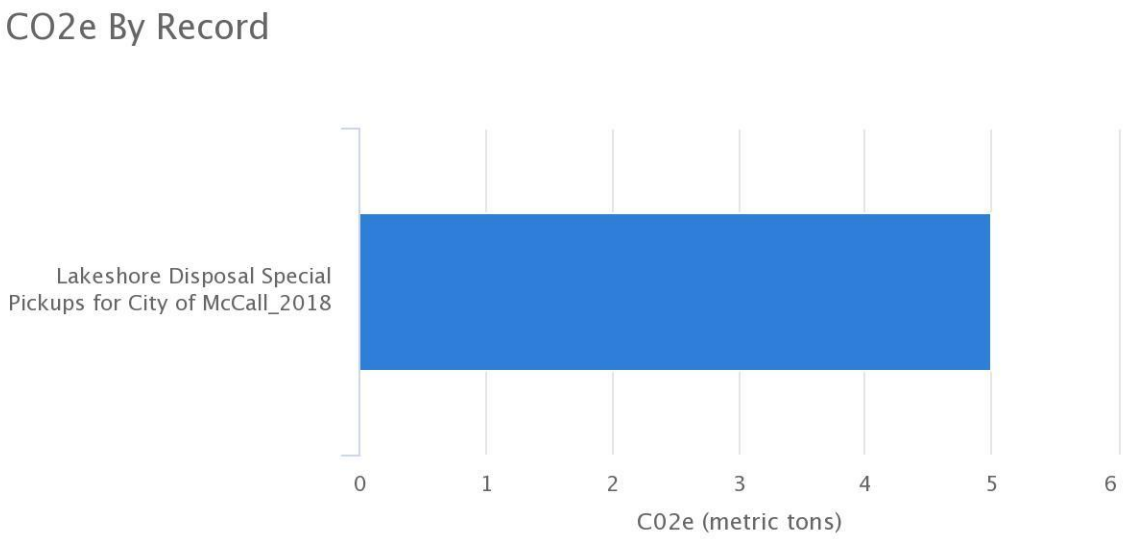
Vehicle Fleet



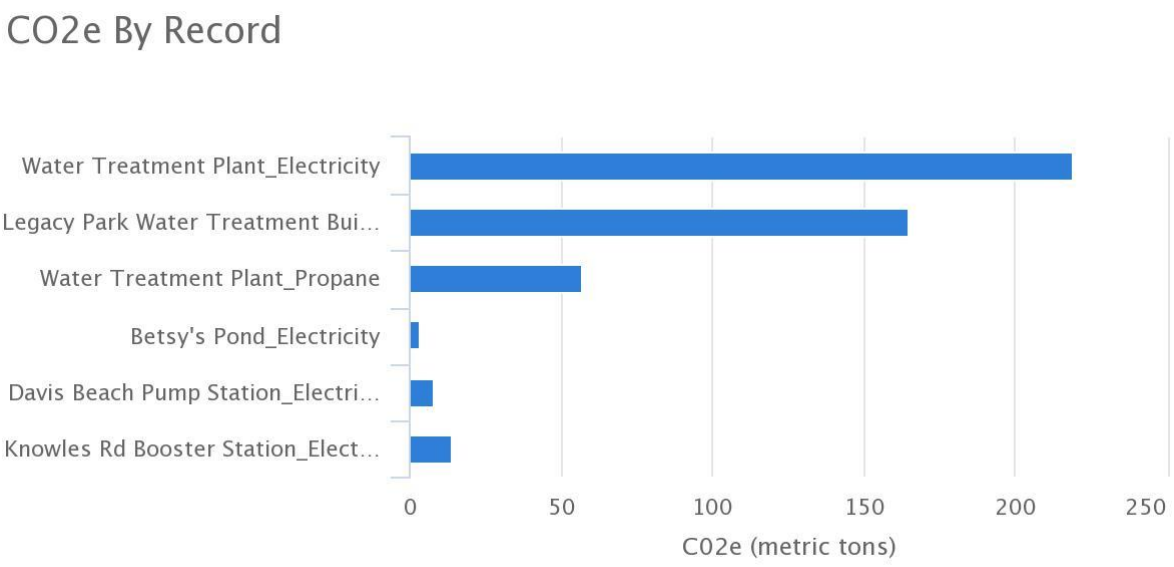
Employee Commute



Solid Waste



Water Treatment Facilities



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