City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Meeting Agenda

Climate Action Plan Steering Committee

Monday, May 12, 2025 | **4:00 PM** | **Eagle Room**

This meeting will also be conducted through video conferencing.

Join Zoom Meeting:
https://cityoflacrosse-org.zoom.us/j/89556262687?pwd=TmzYMQRWEj7sOuWitzv04sLbpMOYp5.1

Meeting ID: 895 5626 2687 Passcode: 102161

Join by Phone: +1-507-473-4847

Call to Order

Roll Call

Approval of Minutes

Notices and Discussion

Updates on grants, outreach, Grow Solar La Crosse, and Direct Pay application

Agenda Items:

1 25-0553 Elections for Chairperson and Vice Chairperson

2 25-0539 Report on City-wide and Municipal Greenhouse Gas Inventories for 2023 - Anders Olson

Attachments: Report

3 25-0427 Youth Climate Action Fund Micro-Grant Application Review and Selection

4 25-0295 Climate Action Plan Implementation Update

Attachments: Slides

Direction for year ahead

5 25-0529 Department of Energy's Energy Saving Performance Contract Campaign Case Study on La Crosse

Attachments: La Crosse ESPC Case Study

Next Meeting / Agenda Items

Adjournment

Notice is further given that members of other governmental bodies may be present at the above scheduled meeting to gather information about a subject over which they have decision-making responsibility.

NOTICE TO PERSONS WITH A DISABILITY
Requests from persons with a disability who need assistance to participate in this meeting should call the City Clerk's office at (608) 789-7510 or send an email to ADAcityclerk@cityoflacrosse.org, with as much advance notice as possible.

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Text File

File Number: 25-0553

Agenda Date: 5/12/2025 **Version:** 1 **Status:** Agenda Ready

In Control: Climate Action Plan Steering Committee **File Type:** General Item

Agenda Number: 1

City of La Crosse, Wisconsin

City Hall
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Text File

File Number: 25-0539

Agenda Date: 5/12/2025 **Version:** 1 **Status:** Agenda Ready

In Control: Climate Action Plan Steering Committee **File Type:** Report

Agenda Number: 2

LA CROSSE
WISCONSIN

City of La Crosse

2023 GHG Inventory Report

March 31, 2025

Prepared by

SUSTAINABILITY ANALYTICS

Contents

Acknowledgements

Many people from the City government and other organizations graciously provided information for this report. Other organizations include Xcel Energy, the La Crosse County Solid Waste Department, local waste haulers, the Wisconsin Department of Natural Resources, and the Wisconsin Department of Transportation. I am particularly grateful to Lewis Kuhlman, the City's Environmental Planner, for facilitating many aspects of the inventory process. He distributed the commute survey to City staff, gathered information, and connected me with City staff.

Introduction

This inventory reports on the City of La Crosse's GHG emissions during calendar year 2023. Two separate levels are examined: community-wide emissions, and emissions generated by City government operations. Emissions were previously inventoried for calendar years 2019 and 2020; this report compares emissions in 2023 with emissions in 2019 and 2020, and it examines trends in emission quantities over time.

The City of La Crosse partnered with Sustainability Analytics LLC to complete the inventory. PaleBLUEdot's GHG Inventory Tool was used to complete this inventory, as well as those for 2019 and 2020. Consistent methodology ensures that the inventories are comparable with one another. PaleBLUEdot's GHG Inventory Tool is consistent with GHG inventory standards established by the GHG Protocol and International Council for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability.

Greenhouse Gases

Greenhouse gases contribute to warming the climate by trapping heat being radiated from earth's surface and preventing it from escaping into space. Multiple greenhouse gases are tracked in this inventory, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O). Carbon dioxide is emitted in the highest quantities, but methane and nitrous oxide are more "potent" (on a gram-for-gram basis), so their contributions to climate warming are still important, despite their lower emission quantities.

The global warming potential (GWP) values shown in Table 1 quantify the heat-trapping effectiveness of each greenhouse gas over a period of 100 years, relative to carbon dioxide (whose GWP value is defined as 1). Methane's GWP value of 28 means that a gram of CH_4 in earth's atmosphere traps 28 times as much heat as a gram of CO_2 over the course of a century. GWP values may be used to convert emission quantities (i.e., metric tons) of GHG compounds into standardized units of "metric tons CO_2 equivalent" (MT CO_2e), which are the units of GHG emission quantities used in this inventory.

Table 1: Global Warming Potential (GWP) Values for Greenhouse Gases

GHG Type	GWP Value (AR5)
Carbon Dioxide (CO_2)	1
Methane (CH_4)	28
Nitrous Oxide (N_2O)	265

Info Source: IPCC AR5 Report

City of La Crosse 2023

Community-Wide GHG Emissions

Community-Wide Emissions Overview

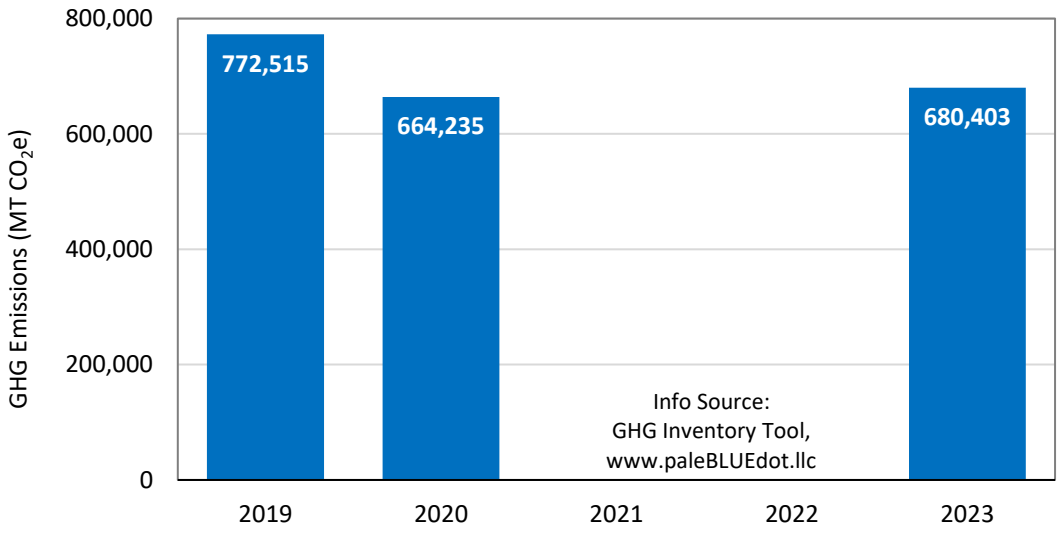
This community-wide inventory includes GHG emissions from the source categories shown in Table 2. Please note that the categories differ slightly from what was reported in the 2019/2020 inventory. The approach and methodology are still comparable; they have just been organized in a slightly different way.

Table 2: Categories Included in Community-Wide GHG Inventory

Category	Description
Electricity	Emissions resulting from the production of grid-sourced electricity that is consumed within the City
Natural Gas	Emissions from the combustion of natural gas within the City, primarily for heating purposes
Transportation	Emissions from combustion vehicles operating on City roads; also includes emissions from aviation fuel dispensed at the La Crosse Regional Airport
Solid Waste	Emissions associated with disposal of solid waste generated within the City
Wastewater (Biogenic)	Biogenic emissions generated during wastewater treatment process at the City Wastewater Treatment Plant

Community-wide, the City of La Crosse generated a total of 680,403 MT CO_2e of GHG emissions in 2023. This was down from 772,515 MT CO_2e in 2019 (-12%), but up from 664,235 MT CO_2e in 2020 (+2%); please refer to Figure 1. Lower emissions in 2020 resulted in part changes brought about by the COVID 19 pandemic.

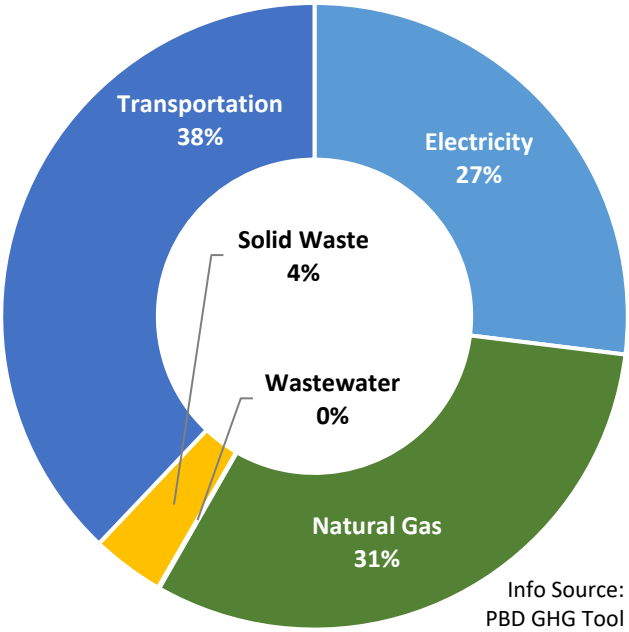
Figure 1: Community-Wide Annual Total GHG Emissions



Emission quantities by source category in 2023 are summarized in Figure 2. Transportation was responsible for 38% of the City's total GHG emissions, which represents the largest share among source categories. Natural gas and electricity also had significant shares (31% and 27%, respectively), while solid waste and wastewater contributed the remainder (4% and <1%, respectively).

Community-wide annual GHG Emissions by source category are summarized in Table 3 below. Please note that some emission values from 2019 and 2020 have been revised from paleBLUEdot's previous GHG inventory report, because minor calculation errors were discovered and corrected.

Figure 2: Community-Wide GHG Emissions in 2023, by Source Category



Info Source: PBD GHG Tool

Table 3: Community-Wide Annual GHG Emissions by Source Category

Source Category	Annual GHG Emissions (MT CO_2e)					Percent Change	
	2019	2020	2021	2022	2023	'19-'23	'20-'23
Electricity	260,955	196,849			183,388	-30%	-7%
Natural Gas	215,482	209,040			213,017	-1%	+2%
Transportation	266,169	226,700			258,014	-3%	+14%
Solid Waste	29,502	31,239			25,529	-13%	-18%
Wastewater	407	407			455	+12%	+12%
Total	**772,515**	**664,235**			**680,403**	**-12%**	**+2%**

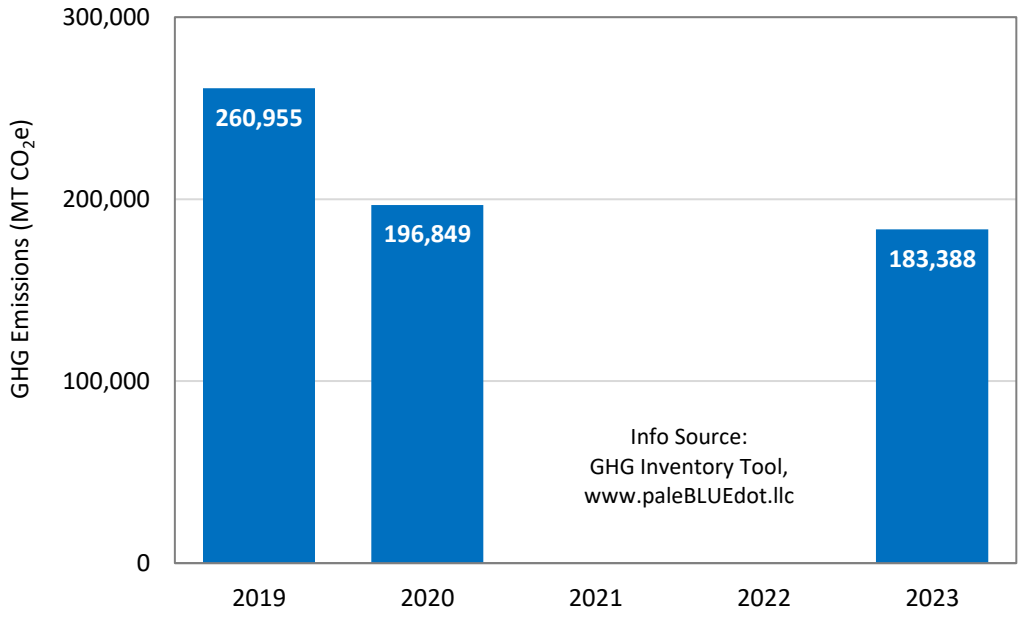
Info Source: GHG Inventory Tool, www.paleBLUEdot.llc

Electricity

Electricity is used for a wide variety of uses, including lighting, air conditioning, operating electrical equipment, and electronics. Xcel Energy provides grid-sourced electricity to residential, commercial, industrial, and municipal customers in the City of La Crosse. Consumption of grid-sourced electricity causes GHG emissions to occur indirectly when the electricity is generated. Power plants that generate electricity by combusting fossil fuels (such as coal, oil, or natural gas) generate carbon dioxide (CO_2) in relatively large amounts, and methane (CH_4) and nitrous oxide (N_2O) in much smaller amounts – all of which are greenhouse gases. Power plants using renewable (such as wind or solar) sources or nuclear sources do not emit greenhouse gases in the generation process.

This category, as defined for this inventory, includes emissions associated with all grid-sourced electricity consumption in the City of La Crosse, except relatively small quantities that were used to provide water for other communities or process wastewater from other communities. Grid-sourced electricity usage in the City of La Crosse was responsible for 27% of the community's total GHG emissions in 2023 – 183,388 MT CO_2e. This was down from 260,955 MT CO_2e in 2019 (-30%) and down from 196,849 MT CO_2e in 2020 (-7%); please refer to Figure 3.

Figure 3: Community-Wide Annual GHG Emissions from Electricity Consumption

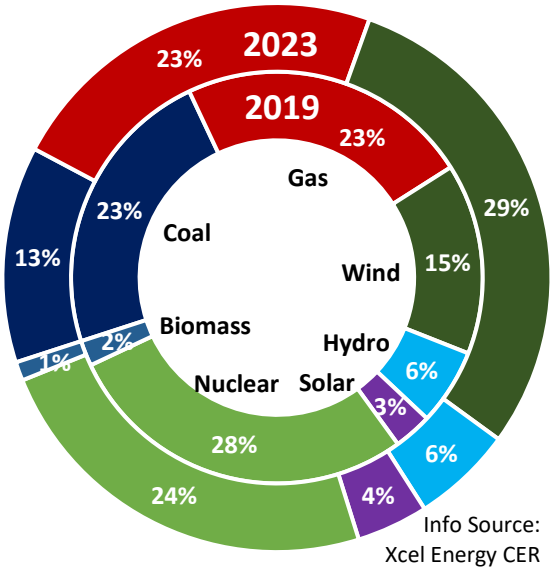


GHG emissions from electricity are determined by two factors: the quantity of grid-sourced electricity consumed, and Xcel Energy's electricity emission rate – i.e., emission quantities per unit of electricity produced. The community consumed slightly less grid-sourced electricity in 2023 than in 2019 (-0.3%).

Xcel's emission rate decreased by 29% from 2019 -2023, largely because of increased electricity production from wind, and decreased production from coal; see Figure 4. Xcel plans to continue reducing emission rates in the future and aims to provide carbon-free electricity by 2050, according to its Carbon Reduction Plan.[1]

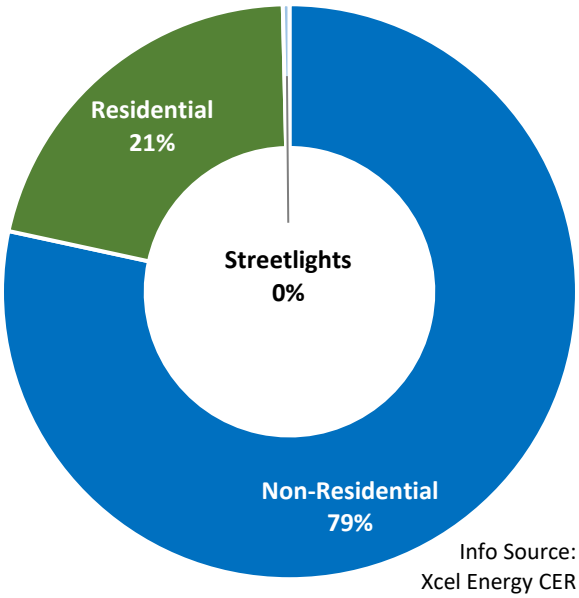
According to Xcel Energy, most of the grid electricity used by the community in 2023 was consumed by non-residential customers. They were responsible for 79% of GHG emissions from electricity production. Residential customers were responsible for 21% and streetlights for less than 1%; please see Figure 5. The non-residential category includes commercial, industrial, and municipal customers.

Figure 4: Xcel Energy Upper Midwest Electricity Resource Mix, 2019 & 2023



Info Source: Xcel Energy CER

Figure 5: Community-Wide 2023 GHG Emissions from Electricity Consumption by Customer Type



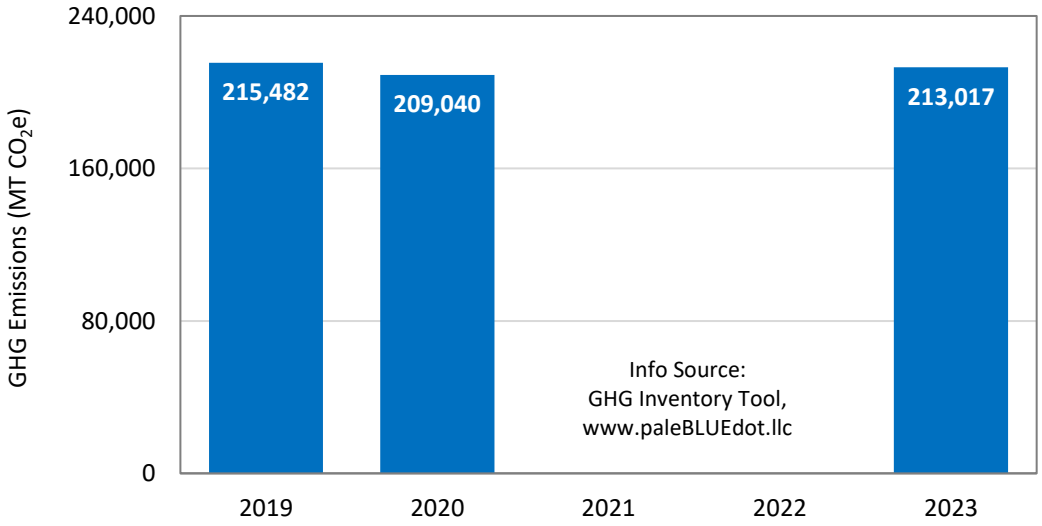
Info Source: Xcel Energy CER

[1] https://wi.my.xcelenergy.com/s/our-commitment/carbon-reduction-plan

Natural Gas

Natural gas is consumed for heating buildings, heating water, cooking, and industrial uses. Xcel Energy provides natural gas to residential, commercial, industrial, and municipal customers within the City of La Crosse. Carbon dioxide (CO_2) is the primary GHG produced during combustion of natural gas, but much smaller amounts of methane (CH_4) and nitrous oxide (N_2O) are emitted as well.

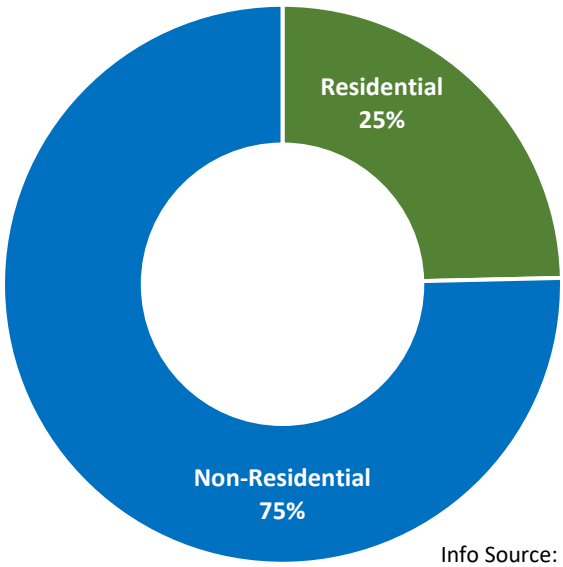
Figure 6: Community-Wide Annual GHG Emissions from Natural Gas Consumption



The natural gas category, as defined for this inventory, includes emissions associated with all natural gas consumption in the City of La Crosse, except relatively small quantities used to process wastewater from other communities. Natural gas usage in the City of La Crosse was responsible for 31% of the community's total GHG emissions in 2023 – 213,017 MT CO_2e. This was down from 215,482 MT CO_2e in 2019 (-1%) but up from 209,040 MT CO_2e in 2020 (+2%); see Figure 6.

According to Xcel Energy, most of the natural gas used by the community in 2023 was consumed by non-residential customers. They were responsible for three quarters of GHG emissions from natural gas usage, while residential customers were responsible for one quarter; see Figure 7. The non-residential category includes commercial, industrial, and municipal customers.

Figure 7: Community-Wide GHG Emissions from Natural Gas Consumption in 2023, by Customer Type

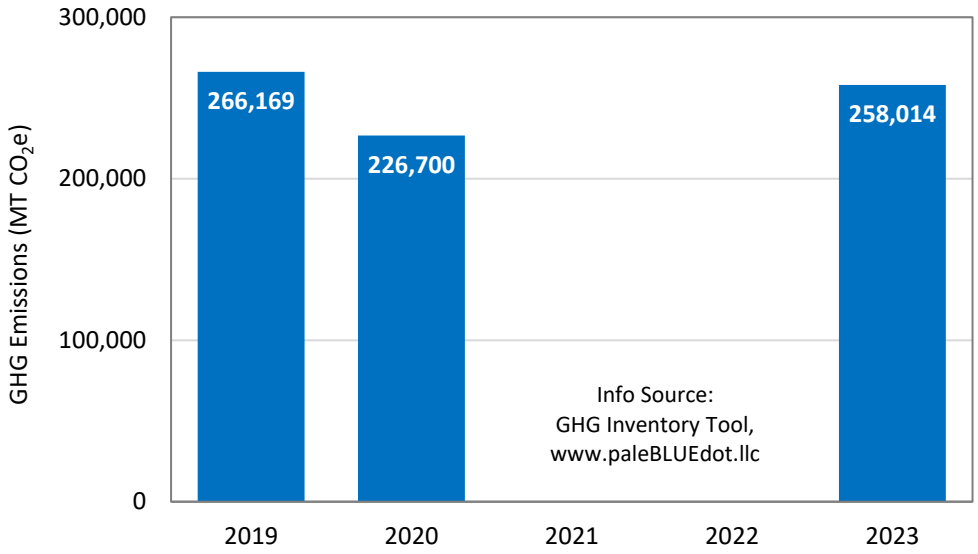


Info Source:
Xcel Energy CER

Transportation

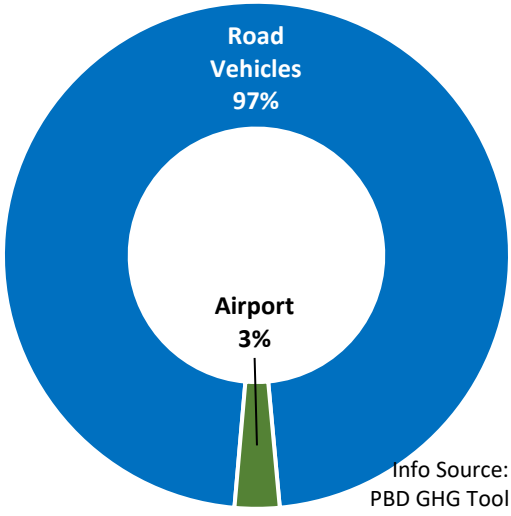
This category tracks emissions from combustion-powered vehicles traveling on public roads, as well as emissions associated with the La Crosse Regional Airport. Airport emission sources include combustion of jet fuel and aviation gasoline sold, and ground support vehicles such as snowplows which clear runways and taxiways. Emissions from electric vehicles are included in the electricity category rather than this one, because it is not possible to separate out vehicle charging from other uses in available electricity usage data from Xcel Energy. Carbon dioxide (CO_2) is the primary GHG produced during combustion of vehicle fuels, but relatively small amounts of methane (CH_4) and nitrous oxide (N_2O) are emitted as well.

Figure 8: Community-Wide Annual GHG Emissions from Transportation



Transportation was responsible for 38% of the community's total GHG emissions in 2023 – 258,014 MT CO_2e. This was down from 266,169 MT CO_2e in 2019 (-3%), but up from 226,700 MT CO_2e in 2020 (+14%); see Figure 8. Relatively low transportation emissions in 2020 resulted from the COVID-19 pandemic. Road vehicle emissions were 2% lower in 2023 than in 2019, which resulted from improved average vehicle fuel efficiency; total road vehicle miles traveled (as estimated by the WI DOT) were slightly higher in 2023. Airport emissions were 36% lower in 2023 than in 2019, due to a decrease in jet fuel sales. Road vehicle travel contributed 97% of total transportation emissions in 2023; see Figure 9.

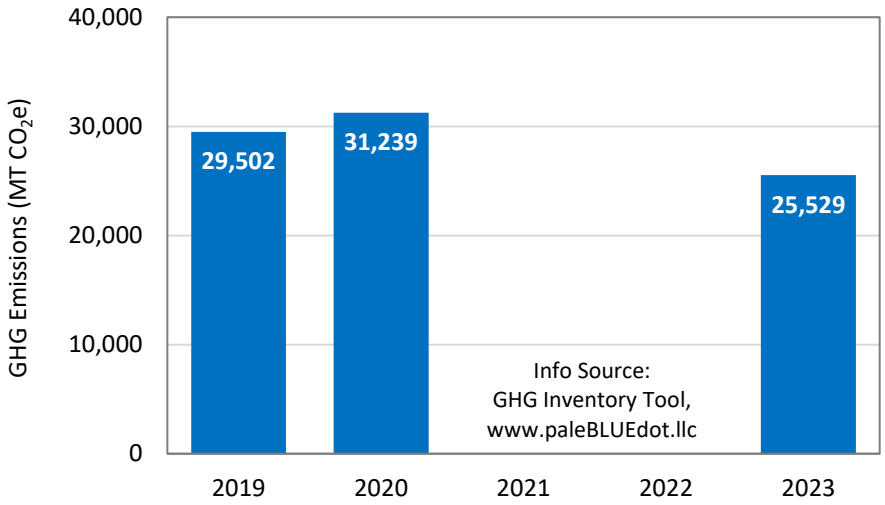
Figure 9: Community-Wide GHG Emissions from Transportation in 2023, by Category



Solid Waste

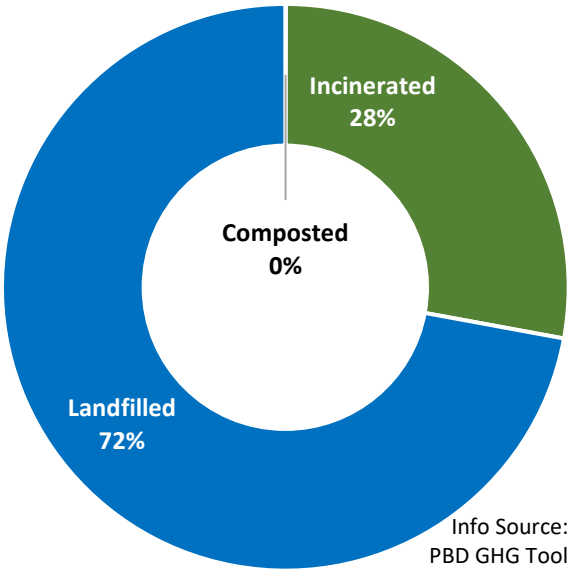
This category estimates emissions associated with solid waste generated within the City of La Crosse, which includes landfilled, incinerated, and composted waste streams. Landfills generate methane (CH4) when organic materials break down under anaerobic conditions beneath the surface. Incineration produces carbon dioxide (CO_2) as a product of solid waste combustion, and composting releases carbon dioxide (CO_2) when organic materials decompose under aerobic conditions.

Figure 10: Annual GHG Emissions from Solid Waste Generated in the City of La Crosse



Solid waste was responsible for an estimated 4% of the community's total GHG emissions in 2023 – 25,529 MT CO_2e. This was down from 29,502 MT CO_2e in 2019 (-13%), and down from 31,239 MT CO_2e in 2020 (-18%); see Figure 10. Lower emissions in 2023 compared to previous years were driven primarily by a smaller landfill emission factor. Please note that City-level solid waste quantities were estimated from County-level information (based on population proportion), as City-level quantity information was not available. Landfilled waste accounted for 72% of the City's GHG emissions from solid waste in 2023, incinerated waste for 28%, and composted waste for <1%; see Figure 11.

Figure 11: GHG Emissions from Solid Waste Generated in the City of La Crosse in 2023, by Waste Stream

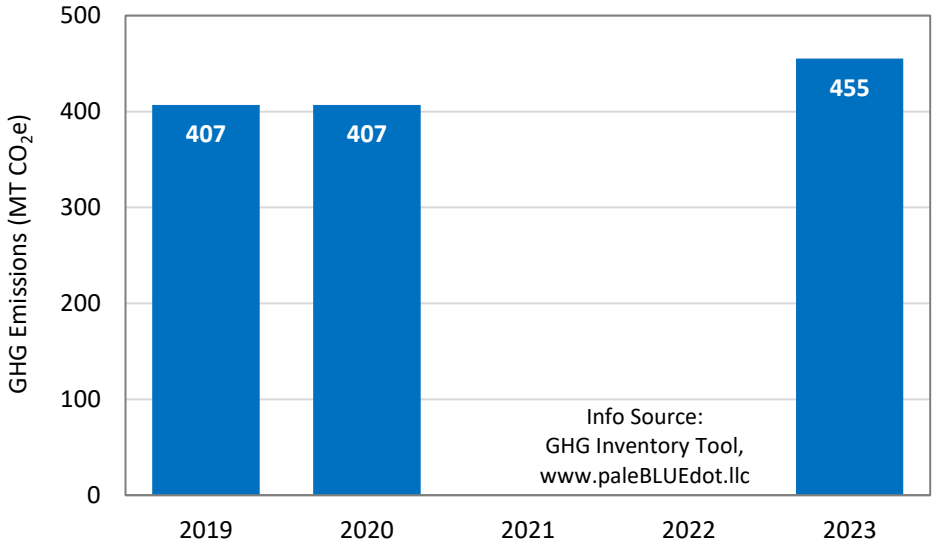


Wastewater

This category quantifies biogenic GHG emissions generated during wastewater processing at the City's Wastewater Treatment Plant. These emissions include methane (CH_4) produced when organic matter in wastewater and sludge decomposes anaerobically, nitrous oxide (N_2O) produced during processes used to remove nitrogen from wastewater, and carbon dioxide (CO_2) generated when organic matter in wastewater and sludge decomposes aerobically.

The City's Wastewater Treatment System processes all wastewater generated within the City of La Crosse, and some wastewater generated in neighboring communities as well. In 2023, 84% of wastewater treated by the City's Wastewater Treatment System was generated in the City of La Crosse, while 16% was generated in other communities (including La Crescent, Onalaska, Campbell, and Shelby). This community-level inventory includes emissions associated with wastewater generated within the City of La Crosse only; wastewater from other communities is excluded. Please note that this differs from the Wastewater category in the City Government Operations GHG Inventory.

Figure 12: Annual Biogenic GHG Emissions from Treatment of Wastewater Generated in the City of La Crosse



Biogenic wastewater emissions represented less than 1% of the community's total GHG emissions in 2023 – 455 MT CO_2e. This was up from 407 MT CO_2e in 2019 and 2020 (+12%); see Figure 12. The increase occurred because more wastewater was treated in 2023 than in 2019 or 2020. Please note that although significant amounts of electricity and natural gas are consumed during the wastewater treatment process, emissions from this energy consumption are included in the electricity and natural gas categories of the inventory, rather than this one.

City of La Crosse 2023

Government Operations GHG Emissions

Government Operations Emissions Overview

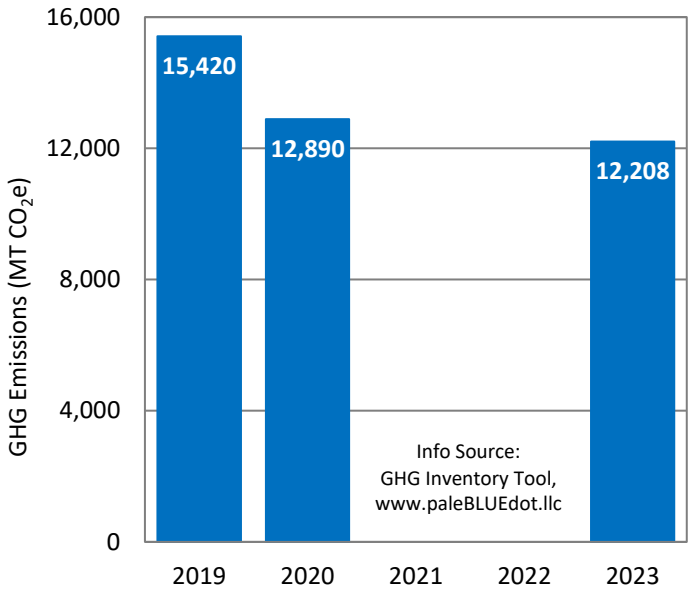
This government operations inventory includes GHG emissions from the source categories shown in Table 4. Please note that the categories differ slightly from what was reported in the 2019/2020 inventory. The approach and methodology are still comparable, but the results have been organized in a slightly different way.

Table 4: Categories Included in Government Operations GHG Inventory

Category	Description
Electricity	Emissions resulting from the production of grid-sourced electricity that is consumed at City facilities
Natural Gas	Emissions from the combustion of natural gas at City facilities, primarily for heating
Transportation	Emissions from operation of City fleet vehicles and work-related travel by City employees
Employee commuting	Emissions from employee travel to and from work
Solid Waste	Emissions associated with disposal of solid waste generated by City Government Operations
Wastewater	Biogenic emissions generated during wastewater treatment process at the City Wastewater Treatment Plant

Emissions from employee commuting were included in the 2023 inventory, but not in the 2019 or 2020 inventories. These emissions from were therefore kept separate from other transportation emissions in the 2023 inventory, to allow for a fair comparison with the previous years' results.

Figure 13: Government Operations Annual Total GHG Emissions

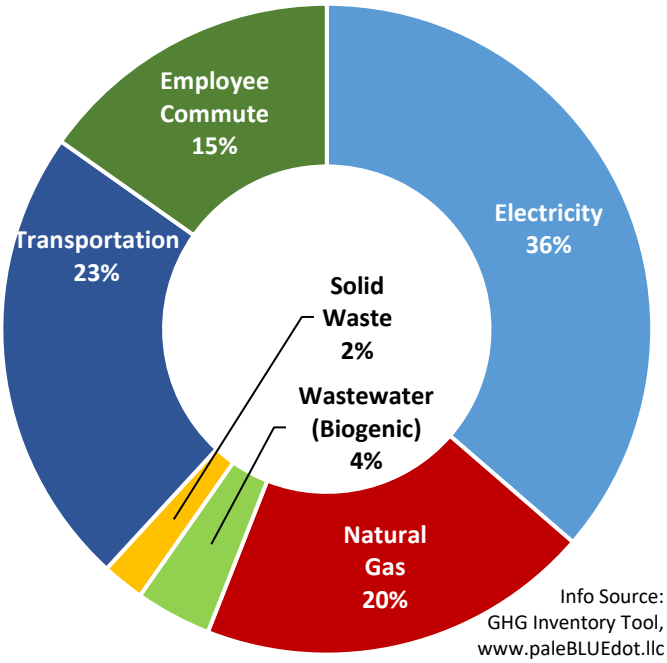


Overall, 14,398 MT CO_2e of GHG emissions were associated with City of La Crosse government operations in 2023. Of that total, 2,190 MT CO_2e resulted from employee commuting. After removing these, the remainder may be compared fairly with results from previous years. Total emissions in 2023, excluding

employee commuting, were 12,208 MT CO_2e — down from 15,420 MT CO_2e in 2019 (-21%) and down from 12,890 MT CO_2e in 2020 (-5%); please see Figure 13. Total emissions from City government operations constituted 2% of community-wide emissions in 2023.

Emission quantities by source category in 2023 are summarized in Figure 14. Grid electricity usage was responsible for 36% of the City government's total GHG emissions, which represents the largest share among source categories. Transportation had the second largest share (23%), but it would have had the largest share if combined with emissions from employee commuting (15%). Natural gas was responsible for 20% of the City government's total emissions, while wastewater and solid waste contributed 4% and 2%, respectively.

Figure 14: Government Operations GHG Emissions in 2023, by Source Category



Info Source: GHG Inventory Tool, www.paleBLUEdot.llc

Annual GHG Emissions by source category are summarized in Table 5 below. Please note that some emission values from 2019 and 2020 have been revised from paleBLUEdot's previous GHG inventory report, because minor calculation errors were discovered and corrected.

Table 5: Government Operations Annual GHG Emissions by Source Category

Source Category	Annual GHG Emissions (MT CO_2e)					Percent Change	
	2019	2020	2021	2022	2023	'19-'23	'20-'23
Electricity	7,869	5,440			5,234	-33%	-4%
Natural Gas	2,834	3,063			2,822	-0%	-8%
Transportation	3,791	3,437			3,306	-13%	-4%
Solid Waste	432	455			302	-30%	-34%
Wastewater	495	495			544	+10%	+10%
Subtotal	**15,420**	**12,890**			**12,208**	**-21%**	**-5%**

Info Source: GHG Inventory Tool, www.paleBLUEdot.llc

Employee Commute	NA	NA			2,190
Total	**NA**	**NA**			**14,398**

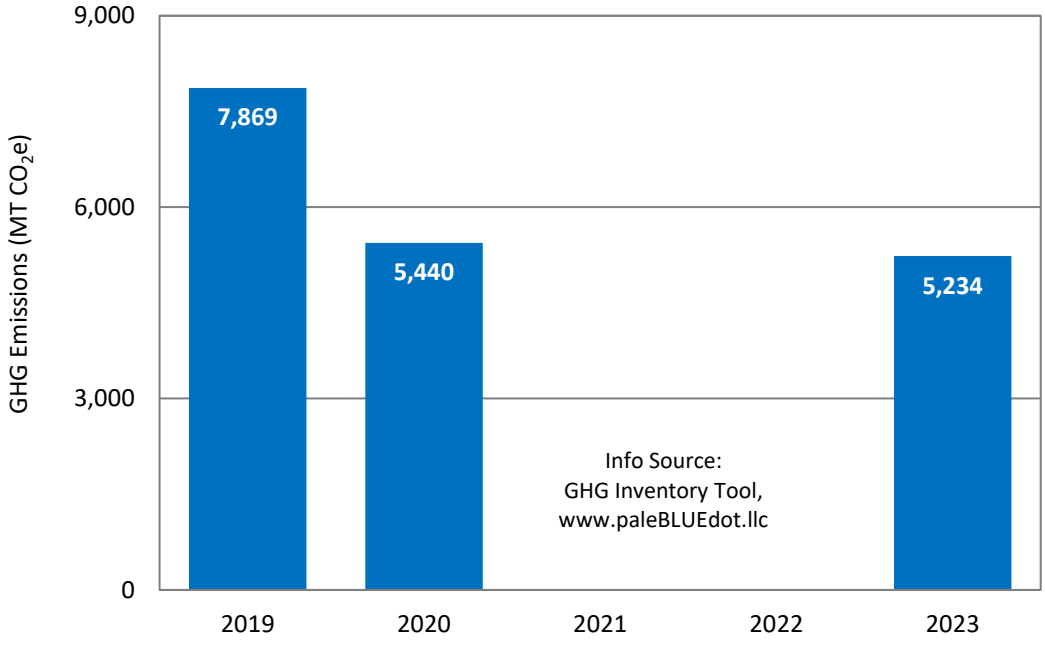
Info Source: City Staff Commute Survey, Sustainability Analytics

Electricity

City government operations utilize electricity in a variety of ways, including water pumping, wastewater processing, street lighting, and facility space conditioning, lighting, electronics, and other equipment. Electricity consumption causes GHG emissions to occur indirectly when the electricity is generated. Power plants that generate electricity by combusting fossil fuels (such as coal, oil, or natural gas) generate carbon dioxide (CO_2) in relatively large amounts, and methane (CH_4) and nitrous oxide (N_2O) in much smaller amounts – all of which are greenhouse gases. Power plants using renewable (such as wind or solar) sources or nuclear sources do not emit greenhouse gases in the generation process.

The electricity category, as defined for this inventory, includes emissions associated with all grid-sourced electricity consumption by the City government except electricity that was used to charge the MTU's two electric buses. Emissions associated with that electricity usage is included in the transportation category rather than this one. Electricity usage by the City government was responsible for 36% of the City government's total GHG emissions in 2023 – 5,234 MT CO_2e. This was down from 7,869 MT CO_2e in 2019 (-33%) and down from 5,440 MT CO_2e in 2020 (-4%); please see Figure 15. Electricity emissions from City government operations constituted 3% of community-wide electricity emissions in 2023.

Figure 15: Government Operations Annual GHG Emissions from Electricity Consumption

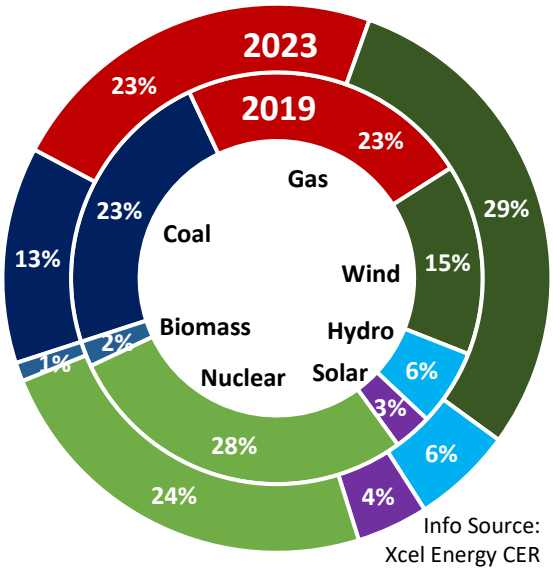


GHG emissions from electricity are determined by two factors: the quantity of grid-sourced electricity consumed by the City government, and Xcel Energy's electricity emission rate – i.e., emission quantities per unit of electricity produced. The City government consumed 6% less grid-sourced electricity in 2023 than in 2019. This reduction was achieved in part through energy efficiency upgrades such as LED lighting retrofits, as well as installation of solar photovoltaic arrays at six City facilities. In 2023 these arrays provided approximately 7% of the City's total electricity consumption and avoided 178 MT CO_2e of GHG emissions.

Xcel's emission rate decreased by 29% from 2019 -2023, largely because of increased electricity production from wind, and decreased electricity production from coal; please see Figure 16. Xcel plans to continue reducing emission rates in the future and aims to provide carbon-free electricity by 2050, according to its Carbon Reduction Plan.[2]

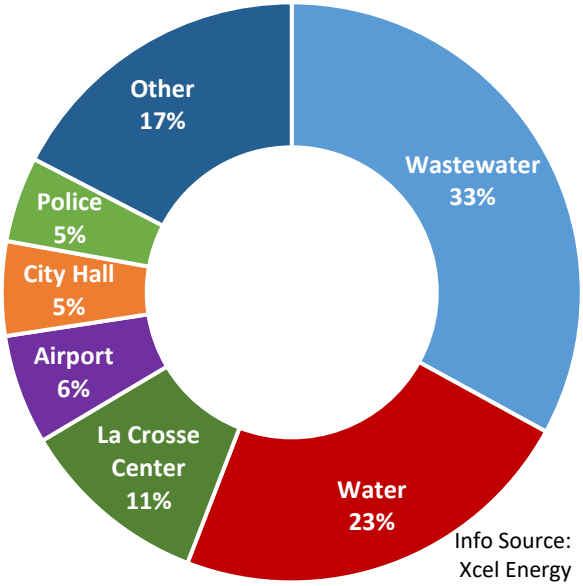
Among City facilities/departments, the Wastewater Treatment System was responsible for a third of the City government's electricity-related GHG emissions, which was the largest share among departments/facilities; please see Figure 17. The Water Utility's share was almost a quarter (23%), and the La Crosse Center's was 11%. The La Crosse Regional airport, City Hall, and Police Department also had relatively large shares (6%, 5%, and 5%, respectively).

Figure 16: Xcel Energy Upper Midwest Electricity Resource Mix, 2019 & 2023



Info Source: Xcel Energy CER

Figure 17: Government Operations GHG Emissions from Electricity Consumption in 2023, by Facility / Department



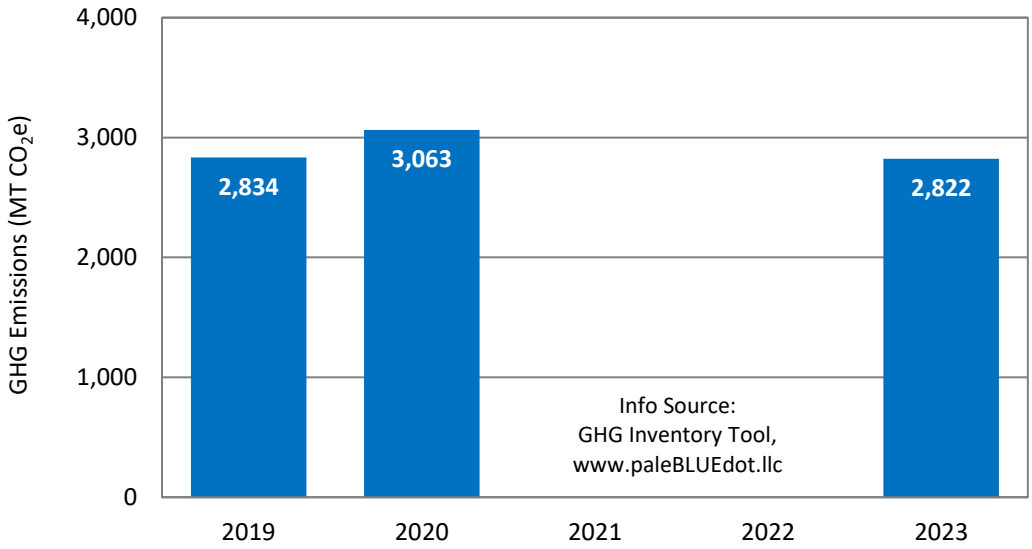
Info Source: Xcel Energy

[2] https://wi.my.xcelenergy.com/s/our-commitment/carbon-reduction-plan

Natural Gas

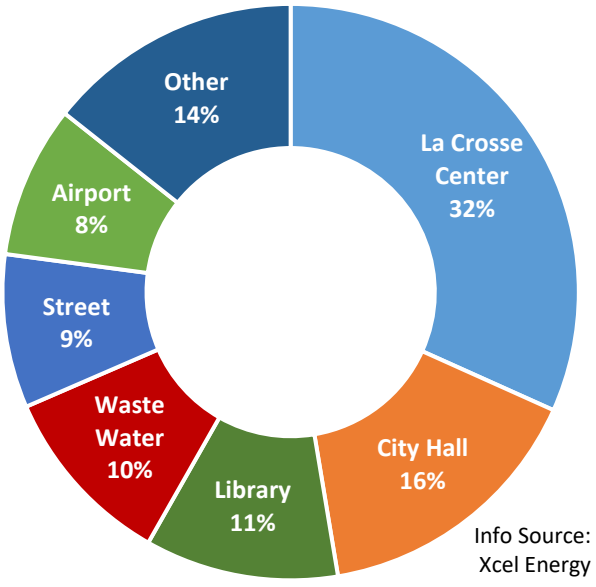
This category inventories emissions from natural gas consumption at City government facilities. Natural gas is consumed for space heating, primarily, but also for heating water and other uses. Carbon dioxide (CO_2) is the primary GHG produced during combustion of natural gas, but much smaller amounts of methane (CH_4) and nitrous oxide (N_2O) are emitted as well.

Figure 18: Government Operations Annual GHG Emissions from Natural Gas Consumption



Natural gas consumption was responsible for 20% of the City Government's total GHG emissions in 2023 – 2,822 MT CO_2e. This was down slightly from 2,834 MT CO_2e in 2019 (-0%) and down from 3,063 MT CO_2e in 2020 (-8%); please see Figure 18. Natural gas emissions from City government operations constituted 1% of community-wide natural gas emissions in 2023.

Figure 19: Government Operations GHG Emissions from Natural Gas Consumption in 2023, by Department/Facility

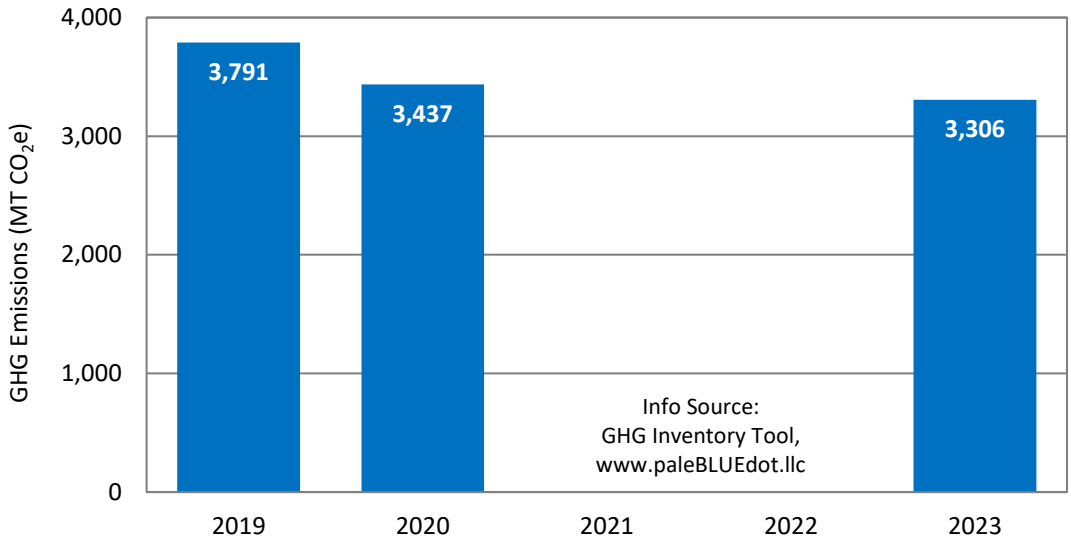


Among City government facilities/ departments, the La Crosse Center contributed the largest share of total GHG emissions from natural gas consumption in 2025 -- nearly a third (32%); see Figure 19. City Hall was responsible for 16%, and Library and Wastewater Treatment Plant facilities were also responsible for relatively large shares (11% and 10%, respectively).

Transportation

This category inventories emissions from transportation related to City government operations – including the Municipal Transit Utility (MTU) buses, department fleet vehicles, and ground vehicles at the La Crosse Regional Airport. It also includes out-of-town employee travel for work purposes, via personal vehicles and/or commercial air transport. Carbon dioxide (CO_2) is the primary GHG produced during combustion of vehicle fuels such as diesel and gasoline, but relatively small amounts of methane (CH_4) and nitrous oxide (N_2O) are emitted as well.

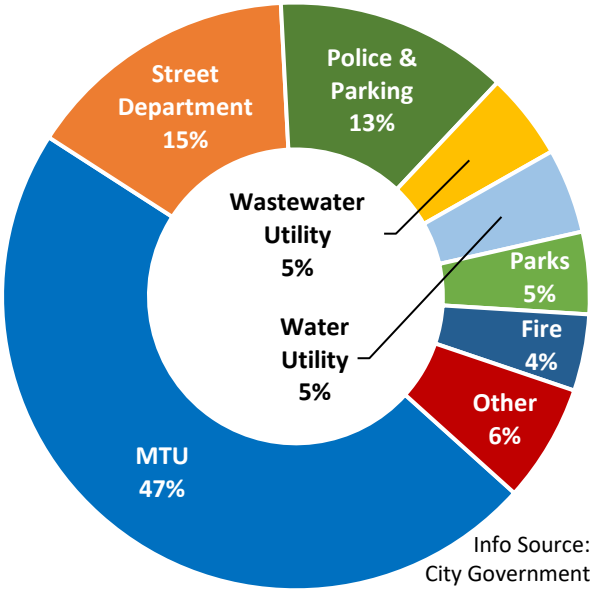
Figure 20: Government Operations Annual GHG Emissions from Transportation



Transportation was responsible for 23% of the City government's total GHG emissions in 2023 -- 3,306 MT CO_2e. This was down from 3,791 MT CO_2e in 2019 (-13%) and down from 3,437 MT CO_2e in 2020 (-4%); please see Figure 20. The MTU's placement of two battery-electric buses into service in early 2022 contributed to this trend; electric buses have much lower per-mile operating emissions than diesel buses.

MTU buses contributed almost half (47%) of the City's transportation emissions in 2023; please see Figure 21. The Street and Police Departments (including Parking Utility) contributed 15% and 13%, respectively, while the Water Utility, Wastewater Utility, Parks Department, and Fire Department were each responsible for 4-5%.

Figure 21: Government Operations GHG Emissions from Transportation in 2023, by Department

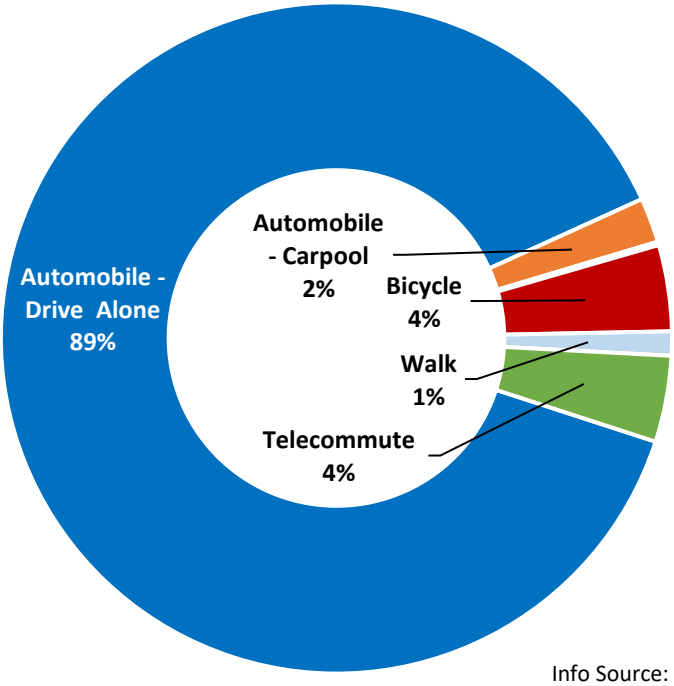


Employee Commuting

This category estimates emissions associated with City employees' travel to and from work. Although it might otherwise make sense to include commuting emissions within the transportation category, it was kept separate for purposes of fair comparison with previous years – because commuting emissions were added into the City's GHG inventory for the first time in 2023.

Commuting emissions were estimated based on survey responses from 119 City employees who shared information about their commuting distance, frequency, and method(s). The average one-way commuting distance was 10.6 miles, and most employees drove alone; commuting methods are summarized in Figure 22. Average commuting emissions per FTE employee were calculated from this information and then multiplied by the City government's total number of FTE employees in 2023, to estimate total commuting emissions.

Figure 22: Commute Methods Utilized by City Employees in 2023



Info Source: City Staff Commute Survey

On average, each FTE City employee's commuting emissions in 2023 were estimated to be 1.79 MT CO_2e. After extrapolating across 1,223 FTE City employees, this translates to 2,190 MT CO_2e commuting emissions overall – 15% of the City government's 2023 total. These results are summarized in Table 6. Transportation emissions from government operations, combined with employee commute emissions, constituted 2% of community-wide transportation emissions in 2023.

Table 6: City Employee Commuting Emissions Summary

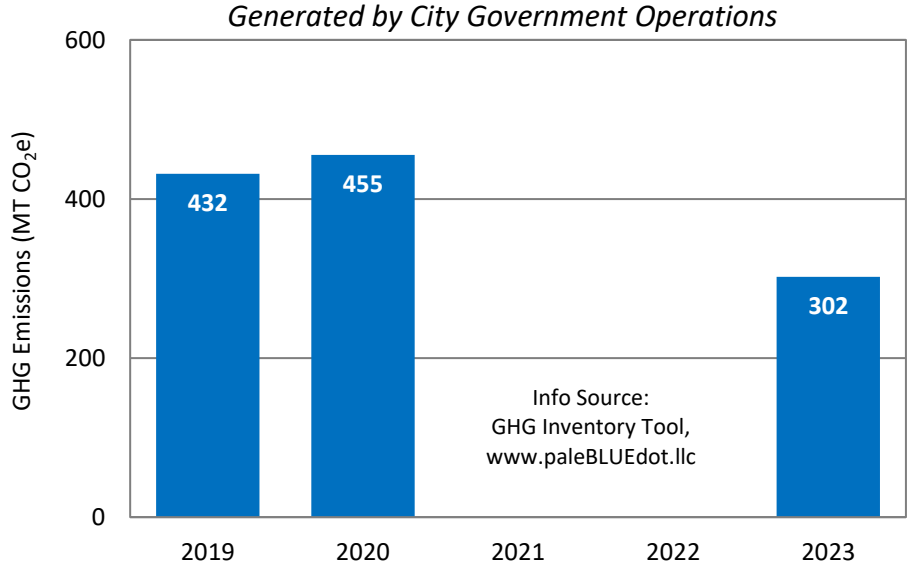
Year	Number of FTE Employees	Annual Commute Emissions per FTE Employee (MT CO_2e)	Total Commute Emissions (MT CO_2e)
2023	1,223	1.79	2,190

Info Source: City Staff Commute Survey

Solid Waste

This category estimates emissions associated with solid waste generated by City government operations, which includes landfilled, incinerated, and composted waste streams. Landfills generate methane (CH4) when organic materials break down under anaerobic conditions beneath the surface. Incineration produces carbon dioxide (CO_2) as a product of solid waste combustion, and composting releases carbon dioxide (CO_2) when organic materials decompose under aerobic conditions.

Figure 23: Annual GHG Emissions from Solid Waste Generated by City Government Operations



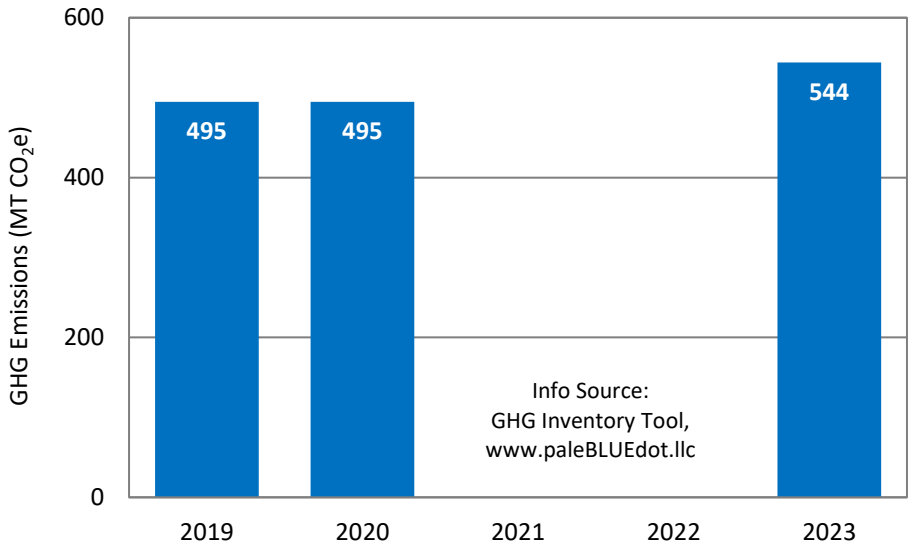
Solid waste was responsible for an estimated 2% of the City government's total GHG emissions in 2023 – 302 MT CO_2e. This was down from 432 MT CO_2e in 2019 (-30%), and down from 455 MT CO_2e in 2020 (-34%); please see Figure 23. Lower emissions reflect smaller quantities of waste generated and a lower landfill emission factor. Please note that quantities of solid waste generated by the City government were estimated based on a proportion of City-wide waste quantities for the purposes of this inventory, as actual quantities of solid waste generated by City government operations were not measured. Solid waste emissions from government operations constituted 1% of community-wide solid waste emissions in 2023.

Wastewater

This category quantifies biogenic GHG emissions generated during processing of wastewater by the City's Wastewater Treatment System. These emissions include methane (CH_4) produced when organic matter in wastewater and sludge decomposes anaerobically, nitrous oxide (N_2O) produced during processes used to remove nitrogen from wastewater, and carbon dioxide (CO_2) generated when organic matter in wastewater and sludge decomposes aerobically.

The City's Wastewater Treatment system processes all wastewater generated within the City of La Crosse, and some wastewater generated in neighboring communities as well. This government operations inventory includes emissions associated with all wastewater treated, regardless of where it was generated. Please note that this differs from the wastewater category in the Community-wide GHG Inventory.

Figure 24: Annual Biogenic GHG Emissions from Treatment of All Wastewater Processed by La Crosse's Wastewater Treatment System



Biogenic wastewater emissions represented 4% of the City government's total GHG emissions in 2023 – 544 MT CO_2e. This was up from 495 MT CO_2e in 2019 and 2020 (+10%); please see Figure 24. The increase occurred because more wastewater was treated in 2023 than in 2019 or 2020. Please note that although significant amounts of electricity and natural gas are consumed during the wastewater treatment process, emissions from this energy consumption are included in the electricity and natural gas categories of the inventory, rather than this one.

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 25-0427

Agenda Date: 4/14/2025 **Version:** 1 **Status:** Agenda Ready

In Control: Climate Action Plan Steering Committee **File Type:** Application

Agenda Number: 3

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 25-0295

Agenda Date: 3/10/2025 **Version:** 1 **Status:** Agenda Ready

In Control: Climate Action Plan Steering Committee **File Type:** Status Update

Agenda Number: 4

City of La Crosse, Wisconsin

City Hall
400 La Crosse Street
La Crosse, WI 54601

Text File

File Number: 25-0529

Agenda Date: 5/12/2025 **Version:** 1 **Status:** Agenda Ready

In Control: Climate Action Plan Steering Committee **File Type:** Report

Agenda Number: 5

City of La Crosse, Wisconsin

Recognizing that the City prioritized budget allocations for large infrastructure projects rather than sustainability initiatives, the City of La Crosse leveraged a budget-neutral ESPC project to advance its Climate Action Plan and long-term energy goals. This initiative also incorporated infrastructure upgrades, solar arrays, and deferred maintenance while reducing energy consumption. Additionally, it generated cost savings and contributed to a safer, more comfortable environment for the community.

Location and Information:	**City of La Crosse, Wisconsin** ● 13 Buildings addressed as part of project ● City Population: 51,000+ ● 800,000+ sq feet at City Hall, Libraries, Municipal Service Center, Stadium, Fire Stations, Parks, Street lighting and the La Crosse Center
Construction Completion Year:	2026
Scope and Benefits:	4-Phase project **Energy Demand Reduction** ● LED Lighting ● HVAC ● Building Automation System (BAS) / Controls ● Boilers / Chillers ● Efficiency monitoring and reporting **Renewable Energy Supply** ● City-owned Solar Arrays: seven (7) locations totaling over 0.5 MW Future opportunities include exploring potential microgrid solutions and water system efficiencies.
Financing/ Funding Information:	● Tax Exempt Lease Purchase ● Bond ● Utility rebates (Xcel Energy) ● Focus on Energy (Utility program)
Implementation Price ($):	$11,173,635 for all phases
Annual M&V Price ($):	Averages over 3 year M&V term: Phase 1: $24,350, Phase 2: $13,280, Phase 3: $13,840, Phase 4: $12,500
Savings ($):	Total guaranteed savings for all 4 Phases over each 20 year term: $6,943,543. First year savings: $869,070 (Phases 1 and 2). The City of La Crosse has saved $2,041,682 in utility bills and reduced GHG emissions by 6,343 metric tons over 3 years.
Term:	● Contract term: 20 years (each phase) ● M&V Term: 3 years (Phases 1-3), 1 year (Phase 4) ● M&V Approach: IPMVP Option A
Owner's Rep:	None
ESCO Partner:	Johnson Controls, Inc.
Contact Information:	Lewis Kuhlman, Environmental Planner, kuhlmanl@cityoflacrosse.org, 608-789-7361
Additional Information:	A public dashboard was installed at the library to promote community awareness and education of solar generation.

ESC thanks the City of La Crosse, Wisconsin for sharing the above ESPC project information. The publication of this case study was supported through a Cooperative Agreement with the U.S. Department of Energy (DOE) under Award Number DE-SE0000349. Learn more about the U.S. DOE ESPC Campaign here: https://www.energy.gov/scep/espc-campaign/home.