

CITY OF WAUWATOSA

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Wauwatosa Sustainability Committee Annual Report to the City for Calendar Year 2024

April 2, 2025

2024 Committee Members

Mike Arney (Chair) Zoe Hastert (Vice Chair) Rob Zimmerman (Secretary) Steve Ostrenga Heather Deaton John Horky

Seth Flanders Rob Hoverman Katherine Riebe

Ian Schmitt-Ernst Chuck Pomerenke (City Liaison, non-voting) Ald. Melissa Dolan (Council Liaison, voting)

Jill McClellan

2024 Executive Summary

The mission of the Wauwatosa Sustainability Committee (WSC) is to champion environmentally-sound practices fostering the City's long-term livability and economic vitality. The Committee advises the Common Council and City staff on sustainability matters and collaborates with residents, businesses, and other partners to advance the City's environmental goals.

Energy and associated greenhouse gas (GHG) emissions increased in Wauwatosa's city-owned facilities in 2024, reversing improvement from previous years. Overview:

- Increased purchased electricity use by 5.3% (242,155 kWh) vs. 2023
- Increased overall GHG emissions by 4.5% (266 tons CO₂e) vs. 2023

Results from 2024 show stability in electricity savings from energy efficiency projects such as street lighting, the successful operation of the PV solar installation at the DPW building, and impacts from the 300 kW PV system at City Hall that started in Spring 2021.

WSC thanks the City's Department of Public Works for its leadership in adopting various energy-efficiency technologies that ultimately benefit local taxpayers and the environment. Year-by-year energy and GHG data illustrate the impact of the investment in efficiency and are especially pronounced in years with spikes in energy prices, as occurred in 2022.

The Committee thanks the Council and City Operations team for funding a part-time sustainability manager for Wauwatosa in late 2024 and for filling the position in early 2025. A primary goal for WSC in 2025 is to support the sustainability manager in pursuing Wauwatosa's sustainability goals and building partnerships and networks with residents, businesses, civic organizations, and other communities.

Energy and GHG Results

Wauwatosa City Operations

The City's 2024 energy usage and GHG emissions were 4.4% higher and 4.5% higher, respectively, in 2024 compared to 2023. However, energy expenses increased by only 1.8% as costs were offset by price decreases in natural gas and fuel. Electricity prices continue to rise faster than the rate of inflation. Continuing reduction of energy use and increasing onsite electricity generation helps ease the financial impact of volatile energy prices.

	HDD	CDD	Purchased Electricity (kWh)	Natural Gas (Therms)	Gasoline (Gallons)	Diesel (Gallons)	ММВТИ	GHG (tons CO2e)	Energy Cost
2023	5,404	875	4,609,213	146,515	93,637	105,142	56,111	5,936	\$1,365,730
2024	5,191	831	4,851,368	159,933	96,044	105,365	58,600	6,202	\$1,390,531
Change	(213)	(44)	242,155	13,418	2,407	223	2,489	266	\$24,801
% Change	(3.9%)	(5%)	5.2%	9.1%	2.6%	0.2%	4.4%	4.5%	1.8%

Looking at the price changes in more detail, most of the increase in energy cost to the City was due to increased electricity use and prices. This was offset by price reductions across the other categories.

	Electricity Price (\$/kWh)	Electricity Cost (\$)	Natural Gas Price (\$/Therm)	Natural Gas Cost (\$)	Gasoline Price (\$/Gallon)	Gasoline Cost (\$)	Diesel Price (\$/Gallon)	Diesel Cost (\$)	Energy Cost
2023	\$0.141	\$651,252	\$0.78	\$115,015	\$2.86	\$267,983	\$3.15	\$331,480	\$1,365,730
2024	\$0.145	\$704,393	\$0.68	\$108,088	\$2.75	\$264,257	\$2.98	\$313,972	\$1,390,531
Change	\$0.004	\$53,141	(\$0.11)	(\$6,927)	(\$0.11)	(\$3,726)	(\$0.17)	(\$17,688)	\$24,800
% Change	2.8%	8.2%	(13.9%)	(6.4%)	(3.9%)	(1.4%)	(5.5%)	(5.3%)	1.8%

Greenhouse gas emissions (GHG) increased in 2024 by 4.5%. This is greater than the expected 2024 worldwide increase of 0.8% (Analysis: Global CO2 emissions will reach new high in 2024 despite slower growth - Carbon Brief). The increased use by the City appears across all energy types, with increases in Natural Gas use despite a reduction in Heating Degree Days. Liquid fuel use again stayed relatively flat with an increase of 1.3% year-on-year.

Comparing energy use in different years can be challenging due to the circumstances in each year. Energy use will fluctuate due to heating degree days/cooling degree days, snowstorms causing increased fuel use for plowing, and building use or restrictions. Overall spending will change due to price changes in diesel fuel or natural gas in conjunction with fuel use. However, for some of the variables, normalizing the data can help highlight different areas. A specific example of this is natural gas usage for heating buildings. Normalizing the natural gas usage in Therms by Heating Degree Days (HDD) helps to understand the effect of building or equipment improvements. In 2024, the City used 30.8 Therms / HDD vs. 27.1 Therms / HDD in 2023. Both values are much less than the 2010 baseline of 41.8 Therms / HDD. Overall, Wauwatosa buildings have become much more efficient in their natural gas use, but the increase in natural gas use should be investigated further, as this is the highest value since 2019. The supporting data section of this report presents a chart of this data.

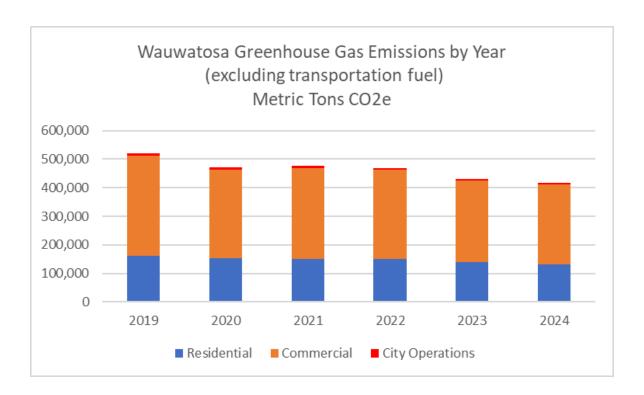
New solar arrays brought major reductions in net City electricity use in 2020 (DPW) and 2021 (City Hall). The City is at the 50%-below-2010 target for municipal operations emissions (target date of 2030) with efforts ongoing to reduce consumption further. Upcoming solar deployments at the Police Department, Muellner Building, and Potter Road pumping station will continue to drive down purchased electricity.

City-Wide Energy Use and Greenhouse Gas (GHG) Emissions

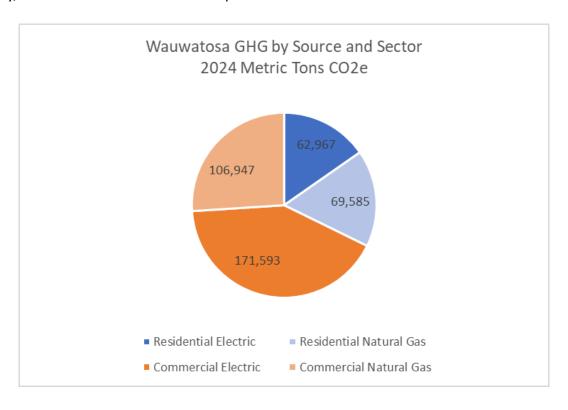
WSC engaged with WE Energies to provide aggregated data on electricity and natural gas use for Wauwatosa's residential and commercial energy customers. Data is available for 2019 through 2024, and will be updated yearly. The data provides a baseline for the City's energy and GHG reduction targets that are under development. Of note is the nearly 20% decrease in overall GHG emissions in 2024 compared to the pre-pandemic year of 2019. Overall GHG emissions, not including transportation, declined by another 3.1% in 2024 vs. 2023.

City operations comprise less than 2% of the city-wide emissions, as represented by the thin red line at the top of each bar in the chart below. While the City Operations staff remains committed to reducing energy use and associated GHG emissions, it is apparent that significant progress is possible only if energy efficiency and renewable energy efforts are directed at both the Commercial and Residential sectors of Wauwatosa. Also, since this analysis is based solely on data from WE Energies, it does not include GHG emissions from transportation fuels. 2022 Data from the EPA suggest that transportation fuels can add up to 28% to these values.

Source: https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions



WE Energies has made public commitments to decarbonize its electricity generation by 2050. The CO₂ emissions to produce one kWh of electricity have decreased over the past decade due to WE Energies' conversion of power stations from coal to natural gas. However, to fully decarbonize, WE Energies needs to deploy renewable sources such as wind and solar much faster. As they do so, the GHG impact from Wauwatosa's electricity use will decrease. In 2024, approximately 55% of Wauwatosa's GHG emissions were due to electricity use, and the remaining 45% was due to burning natural gas. As stated previously, this data does not include transportation fuels.



Recycling and Composting Results

The City's solid waste diversion rate decreased again in 2024, from 25% to 24%. During 2024, 15,312 tons of municipal solid waste were collected in the City. Of that, 3,713 tons were diverted for recycling. The continuing decrease in diversion rate of approximately 1% each year (29% in 2020 to 24% in 2024) is a concerning trend. The City continues to explore methods to increase the recycling diversion rate, but challenges exist. The biggest challenge to curbside recycling continues to be the contamination of the materials that residents deposit in recycling bins. For example, many residents are still placing plastic bags in their bins. The plastic bags clog the sorting machinery and result in lower recyclable payments to the City. It is in the City's best interest, both financially and environmentally, to purify the recycling stream.

The City collected and composted 7,142 tons of yard waste in 2024. Diverting this material from landfills reduces the total volume of solid waste while providing organic materials such as landscaping mulch and wood chips, used by the City and available for pickup by Wauwatosa residents. In addition, Wauwatosa businesses and households participated, at their own expense, in private curbside food waste composting services. One such provider, Compost Crusader, reports composting over 115,000 pounds of waste in 2024, from an average of 455 monthly subscribers in Wauwatosa. Organic matter in sanitary landfills decomposes anaerobically to produce methane, a potent greenhouse gas. Studies in other communities report that 2-10% of their overall GHG emissions are from landfills.

Water Use

The City's water use decreased by 2.3% in 2024 vs. 2023. Residential water use decreased by 4.9%, with CII (Commercial, Industrial, Institutional) uses increasing by 5.8%. Overall, the City billed for 1.477 billion gallons of water in 2024. Of this, 796 million gallons was for residential use. This equates to 44.1 gallons per capita per day (gpcd), which is typical of older cities in the Midwest and slightly lower than the national average of 52.1 gpcd.

Designations and Partnerships

Green Tier Legacy Communities

The City has been a member of the DNR-sponsored Green Tier Legacy Communities (GTLC) since 2017. The GTLC gives Wauwatosa access to DNR resources and a network of peer municipalities and non-profits with similar sustainability goals. GTLC members such as La Crosse, Sheboygan, and Wausau are similar in size to Wauwatosa. Sharing with and hearing from these communities, as well as larger (Racine) and much smaller ones (Egg Harbor), has been affirming and motivating. The list of GTLC participants can be found here.

GTLC membership requires submission of an annual report, due March 31 for the previous year. In early 2025, City staff and WSC members gathered 52 metrics across six different areas for the 2024 report. Notable results for 2024:

- 67% of Wauwatosa residences are within a 10-minute walk of a park ("Land Use").
- The City now has 4 public EV charging stations, up from 2 in 2023 ("Transportation Systems").
- There are 25 LEED, Energy Star, and/or WELL buildings in Wauwatosa, several of which were newly certified in 2024 ("Energy and Emissions").
- The City brought sewer inspection in-house in 2024 and is starting to train staff to do it ("Water Quality and Conservation").

Wisconsin Local Government Climate Coalition

Wauwatosa is part of the <u>Wisconsin Local Government Climate Coalition</u> (WLGCC), whose member cities represent 1.7 million Wisconsinites. The WLGCC identifies decarbonization strategies both within their cities and across the state. Statewide strategies include distributed electricity generation policies, building codes, and building performance benchmarking and reporting. Members of WSC have represented Wauwatosa in this group since 2021. WSC participates in the monthly meetings and also attended the 2024 member working retreat in Appleton. This responsibility will transition to the new Wauwatosa Sustainability Manager in 2025.

Milwaukee City-County Task Force on Climate and Economic Equity

In 2020 and 2021, WSC members participated in work groups of the City-County Task Force on Climate and Economic Equity. The Task Force's work culminated in June 2023 with the City of Milwaukee passing a <u>Climate and Equity Plan</u>, featuring 10 "big ideas" for climate action. This plan was the basis for regional efforts beyond the City of Milwaukee, including the 2024 EPA Climate Pollution Reduction Grant that Milwaukee unsuccessfully applied for and Wauwatosa (among others) supported. The Task Force was not active in 2024 but was reconstituted as an advisory board in early 2025.

Energy Independent Community

Wauwatosa's 2020 Energy Resolution set a goal for the city to obtain at least 25% of energy for municipal operations from local, renewable sources by 2025. This goal included Wauwatosa in a list of Wisconsin Energy Independent Communities.

In 2024, 6.5% (vs. 6.7% in 2023) of city energy came from local, renewable sources. About three-fourths of this was from the solar arrays on City Hall and the Department of Public Works. The remaining one-fourth of municipal energy used was the renewable portion of the electricity Wauwatosa purchases from WE Energies. (Per WE Energies, renewables constituted 6.5% of their electricity mix in 2023, but only 5% in 2024.) Therefore, Wauwatosa is not on track to meet this goal. However, the addition of the solar arrays will move Wauwatosa closer to its goals.

Focus on Energy

The WSC is working on a partnership with Focus on Energy, which helps residents and businesses save energy, save money, and protect the environment by promoting energy efficiency and renewable energy projects. It aims to empower people to make smart energy decisions that provide enduring economic benefits. Focus on Energy equips Wisconsin residents and businesses with tools and resources, training and education, and rebate opportunities to help reduce costs and make decarbonization and sustainability easier and more attainable. WSC sees an opportunity to strengthen this partnership and educate Wauwatosa residents on maximizing this organization's support.

Joint Housing Coalition

The WSC collaborates with the Wauwatosa Joint Housing Coalition (JHC) — whose mission is to increase affordable, sustainable and equitable housing in the City — on strategies which directly, or broadly, impact the City's long-term sustainability, livability and economic vitality. Some of the shared concerns actively shaping the work of both the WSC and the JHC include housing density, walkability, readily available multi-modal public transportation, and a decreased reliance on off-street parking.

WSC has supported JHC's and the City's efforts to allow for more housing in Wauwatosa. In 2024, the City adopted an ordinance that allowed multi-family residential development by right and removed density restrictions in the City's commercial zones (C1 and C2) (GTLC 2024 report, LUSA-16). Throughout 2024 we followed the evolution of the "Tosa Tomorrow 2045 Comprehensive Plan" and submitted a letter in support of many of its energy, transportation, and land use aspects.

2024 Wauwatosa Sustainability Committee Work Streams

Work Stream	Status	Comments
Create and maintain an energy and greenhouse gas (GHG) inventory for the City to use as a baseline for near-term energy and GHG reduction goals.	Complete; ongoing	 Energy and GHG emissions for City operations as well as cumulative data for Wauwatosa, are being collected and reported annually. Also including waste/recycling and water use
2. Identify and recommend specific policies, actions, or long-range goals which the City can enact or promote, consistent with the City's Energy Resolution of October 2020.	In progress; continuing in 2025	 City Sustainability Manager position approved and posted; position filled as of March 10, 2025 WSC facilitated a meeting between City staff to discuss Grow Solar Group Buy, City of Milwaukee partnership opportunities, the Sustainability Manager position, and other opportunities City signed on to WLGCC data sharing resolution City signed on to a regional partnership for EPA Climate Pollution Reduction Grant (CPRG). Unfortunately, the grant was not awarded.
3. Establish and grow partnerships with City departments and committees, elected officials, civic groups, the Wauwatosa School District, and other communities and organizations that support Wauwatosa's efforts to reduce its overall environmental impact and achieve its sustainability goals.	In progress; continuing in 2025	 WSC agreed to support the Wauwatosa Joint Housing Coalition in areas where their objectives will also lead to environmental gains for the City. WSC met with the School district facility manager to discuss sustainability improvements Meetings with school board members and participation on schools' 2075 task force Participation in monthly WLGCC meetings and annual all-day retreat Worked with Milwaukee ECO on funding mechanisms for a staff position focused on sustainability Meetings with City staff including communications
4. Engage with Wauwatosa residents and businesses to share ideas and practices that enhance sustainability in the community.	In progress; continuing in 2025	 Staffed informational tables at the Tosa Community Fair, Tosa Farmers Market, Tosa Night Out Exhibited at the Tosa Green Summit in September 2024 Connected with over 230 residents at events Provided content for City's sustainability webpage redesign with focus on useful resources to residents and business owners Championed "No Mow May" by coordinating outreach, signage, and information

New/Additional Activities

No Mow May

While it was not a directly stated goal, the Committee identified the practice known commonly as "No Mow May" as a step toward promoting sustainable landscape practices in Wauwatosa. The intent of "No Mow May" is to allow early blooming vegetation for pollinators to consume as a source of dwindling food supplies. The Common Council approved delaying enforcement of grass heights until June, thereby updating an existing code, on December 20, 2022.

No Mow May was observed formally in May 2024 and the WSC purchased signs distributed to residents at City Hall. Feedback from participants was generally positive. Few, if any, complaints were received. WSC will again support No Mow May in 2025 and will market guidance published by the Zoological Society of Milwaukee. Participation by City residents and businesses is voluntary.

Sustainability Manager Staff Position

WSC has recognized the importance of having a staff person focused on sustainability for at least 5 years. In late 2022 the Common Council directed City staff to investigate such a position. WSC provided staff with a draft position description for a part-time sustainability manager. In late 2023 it was determined that funding was not available for the position in the 2024 budget. These discussions led to Mayor McBride proposing a shared sustainability position to the Intergovernmental Cooperation Council (ICC). This in turn led to inclusion of a shared suburban sustainability position in the City of Milwaukee's 2024 Climate Pollution Reduction Grant noted above. These efforts were helpful in building relationships but did not result in a funded position.

In 2024, Director Simpson restructured Public Works to include a part-time sustainability manager within the existing budget. The position was posted in November 2024, interviews occurred in January 2025, and our new part-time sustainability manager, Megan Conway, started on March 10, 2025.

Wauwatosa Sustainability Committee 2025 Goals

- 1. Identify and recommend specific policies, actions, or long-range goals which the City can enact or promote, consistent with the City's Energy Resolution of October 2020. In particular, support Wauwatosa's new sustainability manager in pursuing Wauwatosa's sustainability goals and building partnerships and networks with residents, businesses, civic organizations, and other communities.
- 2. Establish and grow partnerships with City departments and committees, elected officials, civic groups, the Wauwatosa School District, and other communities and organizations that support Wauwatosa's efforts to reduce its overall environmental impact and achieve its sustainability goals.
- 3. Engage with Wauwatosa residents and businesses to gather feedback on resident concerns and ideas and share ideas and practices that enhance sustainability in the community. Participate in community events and host WSC-led events to drive community engagement and interest in sustainability.
- 4. Maintain and improve an energy/greenhouse gas inventory and reporting framework for the City to use as a baseline for near-term energy and GHG reduction goals. Continue to track WSC activities, meet Green Tier reporting requirements and produce the WSC annual report.

Supporting Data

City Government Energy and GHG Results, 2010-2024

Year	HDD	CDD	Purchased Electricity (KWh)	Natural Gas (Therms)	Gasoline (gallons)	Diesel (gallons)	ммвти	CO2e (Tons)	Dollars
2010	6,183	944	9,538,796	258,700	96,266	91,890	82,645	10,725	\$1,514,995
2011	6,633	793	9,136,848	253,225	94,670	93,689	80,781	10,392	\$1,650,433
2012	5,703	1,041	8,993,549	207,404	96,288	93,958	75,941	10,034	\$1,651,593
2013	7,233	688	8,679,293	268,624	91,341	103,216	81,668	10,207	\$1,724,667
2014	7,616	464	8,878,545	300,852	88,088	111,957	86,380	10,612	\$1,750,699
2015	6,468	622	8,850,347	237,108	85,097	97,590	77,574	10,029	\$1,452,050
2016	6,068	991	8,807,278	210,261	87,949	97,361	75,055	9,865	\$1,374,577
2017	5,926	777	8,471,286	196,238	88,551	92,683	71,936	9,482	\$1,364,956
2018	6,694	929	8,299,790	210,478	91,561	101,098	74,294	9,557	\$1,460,888
2019	6,835	727	7,896,032	211,152	95,998	105,970	74,188	8,631	\$1,427,603
2020	6,094	938	6,037,021	162,325	93,611	97,533	61,515	6,952	\$1,075,791
2021	5,731	1,075	5,310,268	166,168	87,298	105,784	59,793	6,486	\$1,210,164
2022	6,364	947	5,266,684	176,601	91,084	106,273	61,211	6,549	\$1,554,434
2023	5,404	875	4,609,213	146,515	93,637	105,142	56,111	5,936	\$1,365,730
2024	5,191	831	4,851,368	159,933	96,044	105,365	58,600	6,202	\$1,390,531

The spreadsheet is available in Microsoft Excel format by request of the Committee. Selections from the data are presented graphically on the following pages.

Abbreviations

HDD: heating degree days CDD: cooling degree days

KWh: kilowatt-hours of electricity

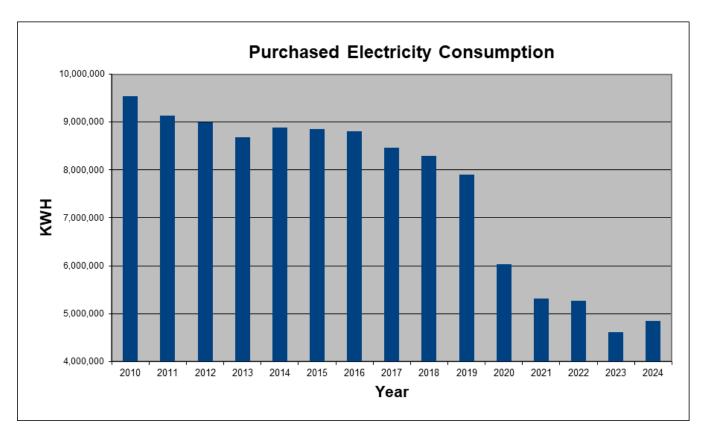
Therm: amount of natural gas required to produce 100,000 BTU (0.1 MMBTU) of heat

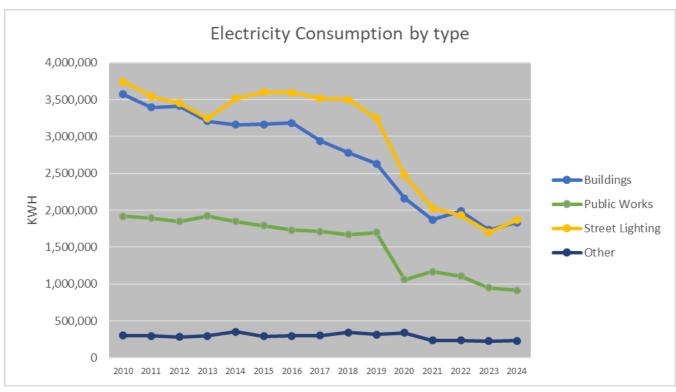
MMBTU: million BTU. Energy content of various fuels purchased are expressed in MMBTU and summed

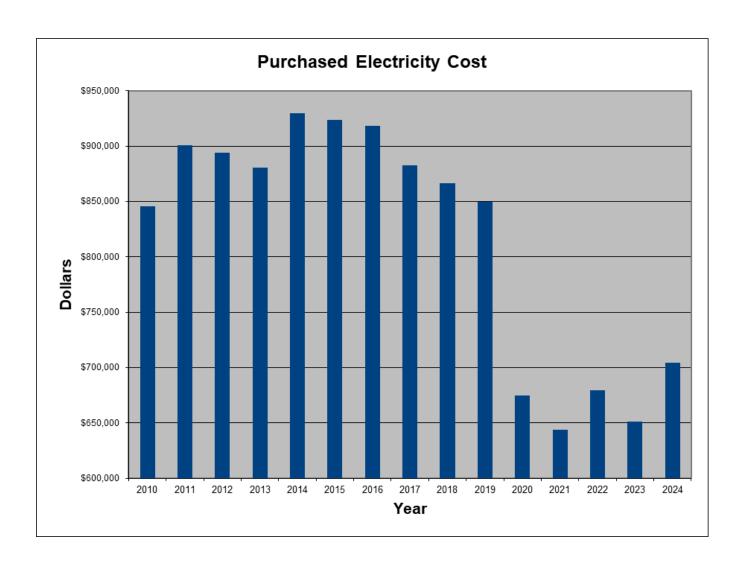
to show the total energy used for City operations.

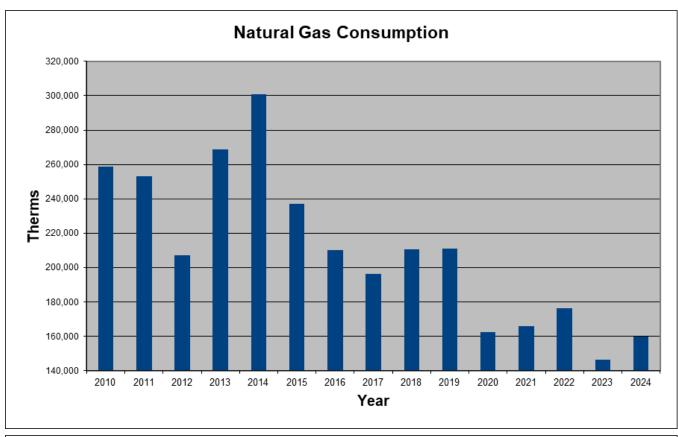
 CO_2e : estimated emission of greenhouse gases, in tons of CO_2 equivalent. Greenhouse gases other than CO_2 are assigned factors based on their relative global warming potential and are included in this value.

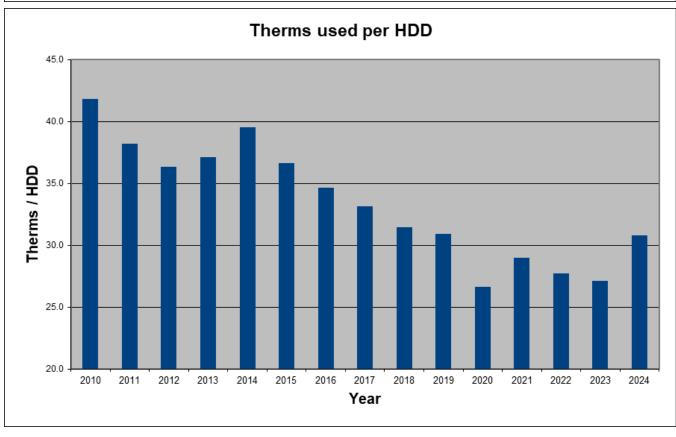
Source: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

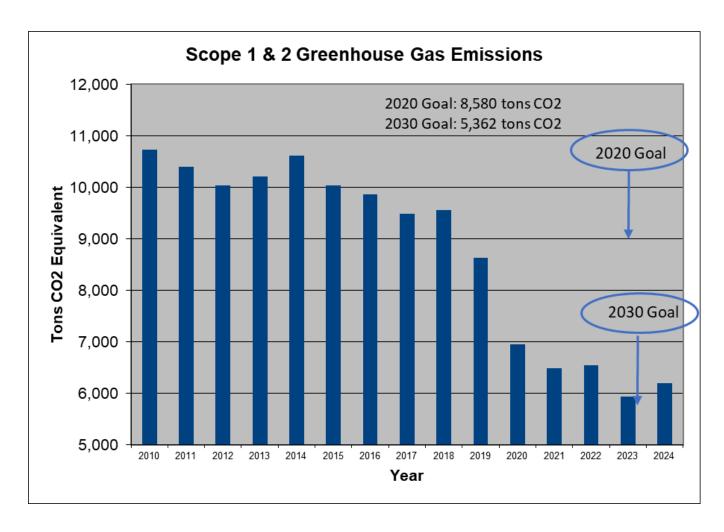












WE Energies City-Wide Energy Data, 2019-2023

	2019 2020		2021			2022			2023			2024					
Residential	GI	HG (MT CO2e)		GHG (MT CO2e)	y/y change	GI	HG (MT CO2e) y	/y change		GHG (MT CO2e) y	/y change	GH	IG (MT CO2e) y	/y change		GHG (MT	y/y change
Electric Customers:	23,959		23,936			24,317			22,161			22,606			23,024		
Electricity (kWh):	149,249,818	73,132	159,431,943	73,020	-0.2%	160,460,770	71,405	-2.2%	156,040,679	64,757	-9.3%	150,055,153	62,273	-3.8%	151,727,359	62,967	1.19
Gas Customers:	21,468		21,518			21,701			19,710			19,957			20,336		
Gas (therms):	16,891,191	89,523	15,129,368	80,186	-10.4%	15,021,828	79,616	-0.7%	16,405,364	86,948	9.2%	14,489,041	76,792	-11.7%	13,129,264	69,585	-9.49
Total Residential:		162,655		153,206	-5.8%		151,021	-1.4%		151,705	0.5%		139,065	-8.3%		132,552	-4.79
Commercial																	
Electric Customers:	1,316		1,318			1,310			2,250			2,317			2,375		
Electricity (kWh):	435,758,457	213,522	406,627,927	186,236	-12.8%	434,921,137	193,540	3.9%	423,505,260	175,755	-9.2%	404,740,875	167,967	-4.4%	413,476,516	171,593	2.29
City Operations:	7,896,032		5,951,905		-24.6%	5,310,268		-10.8%	5,266,684		-0.8%	4,609,213		-12.5%	4,851,368		5.39
Gas Customers:	1,010		1,025			1,072			1,400			1,418			1,430		
Gas (therms)	25,500,658	135,153	23,486,797	124,480	-7.9%	23,666,237	125,431	0.8%	25,469,314	134,987	7.6%	22,145,373	117,370	-13.1%	20,178,731	106,947	-8.99
City Operations:	211,152		162,325		-23.1%	166,168		2.4%	176,601		6.3%	146,515		-17.0%	159,933		9.29
Total Commercial:		348,675		310,716	-10.9%		318,971	2.7%		310,742	-2.6%		285,338	-8.2%		278,540	-2.49
Private Street Lighting																	
Electricity (kWh):	507,979	249	514,145	235	-5.4%	422,774	188	-20.1%	419,724	174	-7.4%	419,724	174	0.0%	419,724	174	0.09
TOTAL GHG (MT CO2e)		511,579		464,157	-9.3%		470,180	1.3%		462,622	-1.6%		424,577	-8.2%		411,266	-3.19
	delta from 2019	9			-9.3%			-8.1%			-9.6%			-17.0%			-19.69
Does not include transp																	
Does not include fuel o																	
City Operations use is i		mercial data fro	om WE Energie	5													
"Customers" are discre	et meters																

Compost Crusaders - Wauwatosa Year End Composting Reporting

COMPOST CRUSADE	R REPORTING METRICS	
Date of Service	Weight of Tosa Material	Notes
Jan-24	23,284	Current number of active subscribers: 446
Feb-24	14,342	Current number of active subscribers: 450
Mar-24	12,274	Current number of active subscribers: 451
Apr-24	13,319	Current number of active subscribers: 456
May-24	16,591	Current number of active subscribers: 457
Jun-24	15,037	Current number of active subscribers: 454
Jul-24	20,370	Current number of active subscribers: 453
Aug-24	17,381	Current number of active subscribers: 456
Sep-24	16,338	Current number of active subscribers: 458
Oct-24	18,384	Current number of active subscribers: 460
Nov-24	13,816	Current number of active subscribers: 460
Dec-24	12,413	Current number of active subscribers: 456
2024 TOTAL	115,217	