

Greenhouse Gas Reporting Updates



Environmental Programs February 2024



Overview

Updates regarding the most recent greenhouse gas (GHG) reporting activities

- 2016 GHG Re-baseline
- SMC Emissions Target Update Recommendations
- Emissions Forecast



Climate Emissions Reporting History



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	2	019	2020) > 2	021	202	2	202	3	
	First time reporting to Carbon Disclosure Project (CDP)		Joined Glo Covenant Mayors (G	bal of CoM)	ICLE unloo mod analy	l member cks new eling and ysis tools	rship	2016 re-ba emissions contracted	aseline foreca d and c	and st ompleted

Last Update to City Council:

- 2016 GHG inventory needed to be re-baselined to align with latest tools and methods
- Emissions forecast needed to help identify emission areas of focus





Emissions Re-baseline

WASHING

Updates to 2016 baseline

What is a greenhouse gas inventory?



- Set of methods for quantifying/estimating GHG emissions produced by a community or other entity.
- Provide insights into top sources of GHG emissions to inform strategic climate action planning.
- Some inputs are measured data (e.g., electricity and natural gas consumption)
- Others are **modeled** using **assumptions** (e.g., transportation mileage, refrigerants, etc.).



Recommended Updates Complete



2016 Inventory

- Prepared using different data sources and methodology than 2017-2019 inventories
- Calculations performed manually instead of in ClearPath
- Does not provide "apples to apples" comparison to 2019 inventory

Consultant Recommendations

- Review 2016 inventory
- Adjust 2016 inventory data inputs to align with 2017-2019 inventories
- Recalculate emissions in ClearPath to get new total
- Restate adjusted 2016 baseline and associated emissions reduction targets



Two Inventory Scales



• Communitywide

- Geographic
- Activity within City Limits

Community wide

Local Government Operations

closed Southside Landfill outside of City boundaries

Local Government Operations

- Activity within the City's operational control
- 7% of Communitywide emissions



Community GHG Emissions Trends



	2016 Emissions (MTCO ₂ e)	2019 Emissions (MTCO ₂ e)	% Change
Energy	1,017,275	1,041,323	2%
Transportation	788,318	850,483	8%
Refrigerants	111,973	120,812	8%
Solid Waste	117,502	116,167	-1%
Wastewater	3,074	2,490	-19%
Total	2,038,142	2,131,275	5%
Per-Capita	9.40	9.38	-0.2%
Per-Degree Day	319	290	-9%



Government Operations Trends

Emissions produced by the **City of Spokane's government operations decreased 2%** from 2016. On a **per-capita basis, emissions** from government operations **decreased 6%** from 2016. **Local Government Operation emissions** represent **7% of Spokane's total** community emissions.



Other Government Operations:

- Vehicle fleet
- Wastewater facilities
- Water facilities
- Energy in other facilities
- Employee commute
- Streetlights and traffic signals
- Refrigerants



GHG Tracker Workbook



	Cit	y of Spokan	e - Greenho	use Gas In	ventory History				
		Community	Greenhouse Gas Emiss	ions (MT CO ₂ e)					
00		Other from	ale Victoriate		Off-sult D-matrixities	Vaar 9.007 9.008 9.008 9.008			
	Lourgy	Comr	munity Greenhouse G	as Emissions (MT	CO ₂ e)				
		0H0 Emissions (MT COJe) Energy Electricity	2015 1,017,275 015,248	2017 21 1,096,640 1 574,962	018 2019 1.001.099 1.041.323 591,974 595,973				
		Natural Gas Other Fuels	A A	B Sub-Sector	C Sub-Sector Type	D Year Greenh	E Rouse Gas Emissions (MT CO.e)		
		Solid Wasto Wastomator	2 Energy	Electricity	Residential	2016	286,285		
		Refrigerants Transportation	3 Energy 4 Energy	Electricity	Residential Residential	2017	279,654		
		Aviation Off-read	5 Energy	Electricity	Residential	2019	289,767		
		On-read vehicles	6 Energy	Electricity	Commercial	2016	307,283		
		Total Emissions	8 Energy	Electricity	Commercial	2017	276,429		
		MT CO _J e per Capita	9 Energy	Electricity	Commercial	2019	286,271		
		MT COue per Degree Day	10 Energy	Electricity	Industrial	2016	21,680		
			12 Energy	Electricity	Industrial	2018	19,538		
			13 Energy	Electricity	Industrial	2019	19,636		
			14 Energy	Natural Gas	Residential	2016	208,722		
			16 Energy	Natural Gas	Residential	2018	244,816		
			17 Energy	Natural Gas	Residential	2019	269,814		
			18 Energy	Natural Gas	Commercial				
			20 Energy	Natural Gas	Commercial				CITY OF S
			21 Energy	Natural Gas	Commercial			Greenhouse Ga	s Inventor
			22 Energy 23 Energy	Natural Gas	Industrial				
			24 Energy	Natural Gas	Industrial	G	reenhouse Gas	Inventory Tracke	r
			25 Energy	Natural Gas	Industrial			·····, ·····	
			27 Energy	Natural Gas	Distribution Losses	W	hat is The GHG inve	entory Tracker?	
			28 Energy	Natural Gas	Distribution Losses			,	
			29 Energy 20 Energy	Natural Gas	Distribution Losses	The	City of Spokane Greenhouse Gas Tr	acker is an Excel file that contains the mo	st up-
			31 Energy	Other Fuels	Residential	to-d	late data for community and local go anhouse das inventory reports act as	vernment operations greenhouse gas em a snanshot in time using the best inform	issions.
			32 Energy	Other Fuels	Residential	avai	lable. However, since inventory metl	hodologies and data availability can chang	ge over
			33 Energy 34 Transportation	Other Fuels Opurpart vehicles	Residential On-road vehicles	the	years, the most up-to-date data is o	ollected in this file for all community mem	bers to
			35 Transportation	On-road vehicles	On-road vehicles	stay	updated with the latest information.	since the inventory report was last public	shed All
			36 Transportation	On-road vehicles	On-road vehicles	figur	res are reported in metric tons of car	bon dioxide equivalent (MT CO2e).	
			38 Transportation	Off-road Venicles	Off-road veniciars				
			39 Transportation	Off-road	Off-road	w	hat Are The Differe	nt Workbook Tabs?	
			40 Transportation 41 Transportation	Off-road	Off-road	Those	re are several tabs within this Event.	workhook Red tabs indicate raw data tab	les
			42 Transportation	Rail	Rail	gree	en tabs indicate printable summaries	, and blue tabs are background informatic	an.
			43 Transportation	Rail	Rail				
			45 Transportation	Rail	Rai	Tal	b Name	Description	
			46 Transportation	Aviation	Aviation	Тга	UNEI PIETO	description of the different workbook tabs.	data
			47 Transportation	Aviation	Aviation			revision notes, and additional information li	inks
			49 Transportation	Aviation	Aviation	GH	G-Overview	This tab includes an overview of the City's greenhouse gas reporting efforts, compliar requirements, reporting overview, and con	nce tact
						Cor	mmunity-Emissions-Graph	This is a printable graphic and tabular sum the Community greenhouse gas emissions	mary of by
						Cor	mmunity-Emissions-Data	This is a data table in database format that includes all the most up-to-date Communit	l (y
						Gov	vernment-Emissions-Graph	greenhouse gas emission final data This is a printable graphic and tabular sum the Local Government Operations greenho	mary of use gas
						Gov	vernment-Emissions-Data	emissions by emissions sector This is a data table in database format that includes all the most up-to-date Local Gov	remment
						For	ecast-Overview	Operations greenhouse gas emission final of This tab includes an overview of the City's greenhouse gas emission forecast reportin police accumptions include	data Ig and
						Emi	issions-Forecast-Graph	This is a printable graphic and tabular sum the Community greenhouse gas emissions forecast	mary of
						Emi	issions-Forecast-Data	This tab contains the different emission sco data and policy reduction emission breakon	enario uts

- Aligning our 2016 baseline with best practices in data and modeling caused our 2016 baseline emissions to be 3% lower from the original reporting
- All reporting years now complete (including historically missing aviation data) and using the same methodologies and data sources
- GHG tracker now available on website that includes revision history notes and data tables





Addition of Weather Influence Data

- Like population growth, weather is a key driver of variability in energy use.
- Utilizing best practices, degree day data from Energy Star's Portfolio Manager was incorporated.
- Total Degree Days are the sum of Heating Degree Days and Cooling Degree Days.

Total Emissions	2,038,142	2,107,139	2,085,911	2,131,275
Population	216,736	220,444	224,683	227,121
MT CO₂e per Capita	9.40	9.56	9.28	9.38
Total Degree Days (Base 65°F)	6,380	7,647	6,781	7,340
MT CO₂e per Degree Day	319	276	308	290







SMC Updates

Revising absolute emissions targets

Recommended SMC Updates



Current SMC Emission Targets

- Emission targets list both percent and absolute emissions goals
- Reporting improvements since the initial inventory and target setting means these older figures do not provide "apples to apples" comparison due to different data and methodologies from current reporting

Recommendations for Updates

 Update absolute emissions targets to align with the latest rebaseline totals that are 3% down from original values

Title 15 Environmental Stewardship

Chapter 15.05 Climate Change

Section 15.05.020 Greenhouse Gas Emissions Reduction Goals

- A. Consistent with its municipal powers under Washington State Law and RCW 70A.45.020, it is the goal of the City of Spokane to reduce anthropogenic GHG emissions created by any activities within the boundaries of the City of Spokane from 2016 baseline levels to 1,159,838 metric tons CO₂e or 45% below 2016 levels by 2030; 632,639 metric tons CO₂e or 70% below 2016 levels by 2040; and 105,440 metric tons CO₂e and net zero emissions by the year 2050
- Update the circled figures to: 2030 -> 1,120,978 2040 -> 611,443 2050 -> 101,907





Emissions Forecast

Projections through 2050

Emissions Projections







Similar Across All of Washington





95% by 2050 (and achieved) Kenmore is joining peer communities around King County in setting aggressive GHG emissions reduction targets that meet or *NHT5A = National Highway Traffic Safety Administration, in charge of regulating light- an exceed state and federal targets. Specifically, Kennore has pledged uphold the ambitious, yet achievable targets are forth by KE which will be used to track the City's progress over time. Refer to Appendix C for K4C emissions reduction commitments and targets The figure below illustrates the emissions path Kenmore is currently on, anticipated emissions reductions from federal and state policies, and the gap that remains in meeting our reduction targets (to be addressed through the CAP).





CITY OF SPOKANE

Emission Reductions Needed



 To achieve the City's greenhouse gas reduction targets, excess emissions not already covered by current Federal and State policies will need to be addressed at the Federal, State, and/or Local level





Projected Emissions by Sub-Source





City Targets









Focusing on reducing and decarbonizing **natural gas** and **transportation fuel** use is **critical** to achieving GHG reduction goals





Questions?

THANK YOU!

Questions/Comments:

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