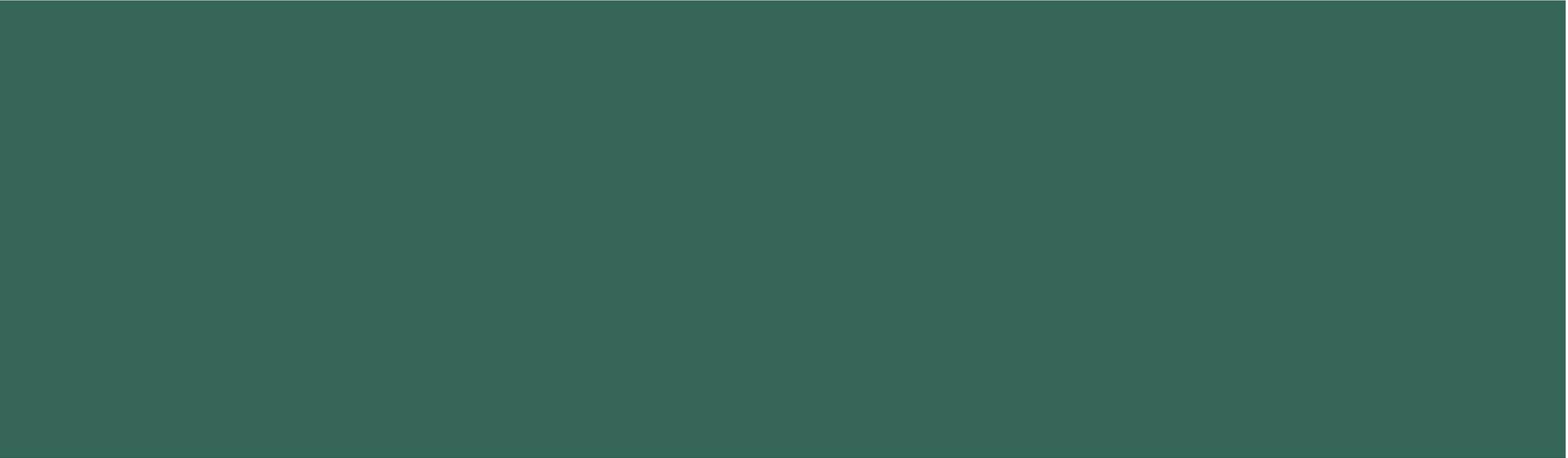




MAYOR'S CLIMATE PROTECTION AGREEMENT RECOMMENDATIONS

2023 REVIEW AND UPDATE



BACKGROUND

Time Period	Billion-Dollar Disasters	Events/Year	Cost	Percent of Total Cost	Cost/Year	Deaths	Deaths/Year
1980s (1980-1989)	33	3.3	\$213.6B	8.0%	\$21.4B	2,994	299
1990s (1990-1999)	57	5.7	\$326.8B	12.3%	\$32.7B	3,075	308
2000s (2000-2009)	67	6.7	\$604.2B	22.7%	\$60.4B	3,102	310
2010s (2010-2019)	131	13.1	\$967.5B	36.4%	\$96.8B	5,227	523
Last 5 Years (2019-2023)	102	20.4	\$603.0B	22.7%	\$120.6B	1,996	399
Last 3 Years (2021-2023)	66	22.0	\$431.4B	16.2%	\$143.8B	1,690	563
Last Year (2023)	28	28.0	\$92.9B	3.5%	\$92.9B	492	492
All Years (1980-2023)	376	8.5	\$2,661.0B	100.0%	\$60.5B	16,350	372

<https://www.ncei.noaa.gov/access/billions/summary-stats>

Screenshot of a table of summary statistics of billion-dollar disasters by decade and by latest 1, 3-, and 5-year periods. NCEI Billion-dollar disaster

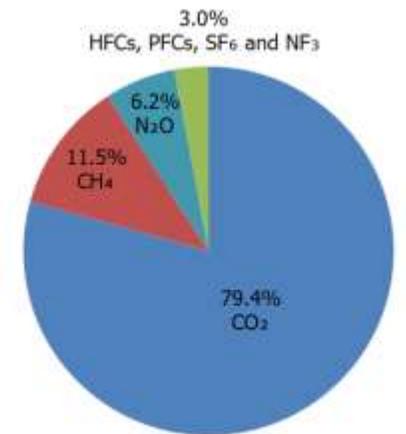
BACKGROUND

- Signed by Mayor Haralson in 2005
 - Endorsed by the US conference of Mayors in 2005
 - Aligned with Kyoto protocol of 2005
 - 12 Elements designed to reduce emissions and increase conservation
 - ECAB tasked with creation of plan and updates
- Initial recommendations provided March 2007
 - Formal adoption February 2009
 - Intended as reference tool for future climate protection plan
- First review and update in 2018
 - Listed accomplishments and made additional recommendations

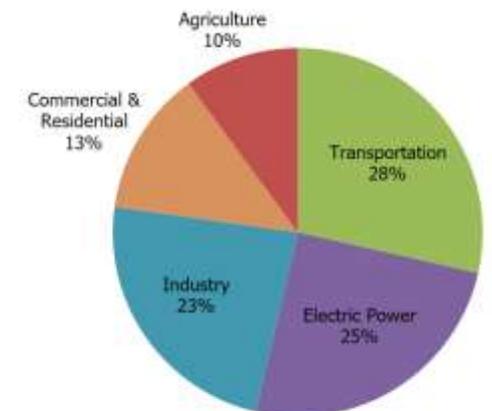


ACTION ITEM 1: INVENTORY GREENHOUSE GAS EMISSIONS

- Identify and quantify pollution from heat-trapping pollutants like methane, carbon dioxide and nitrous oxide to set goals and measure progress
- Baseline – 2000; Comparison – 2021; Forecast - 2026
- Accomplishments include
 - Per capita emissions decreased 17.6%
 - Streetlights and traffic lights emissions very low in comparison with other cities (traffic lights to LED 2011, streetlights 2022)
 - The Water Reclamation Facility decreased emissions from energy use by 88%
- Top three recommendations
 - Complete inventory update every 5 years with Koch methodology; work to include Scope 3 emissions
 - Reduce GHG emissions by 25% by the year 2028
 - Continue creation of renewable-friendly-dedicated parking spaces throughout Norman



U.S. Environmental Protection Agency (2023). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021



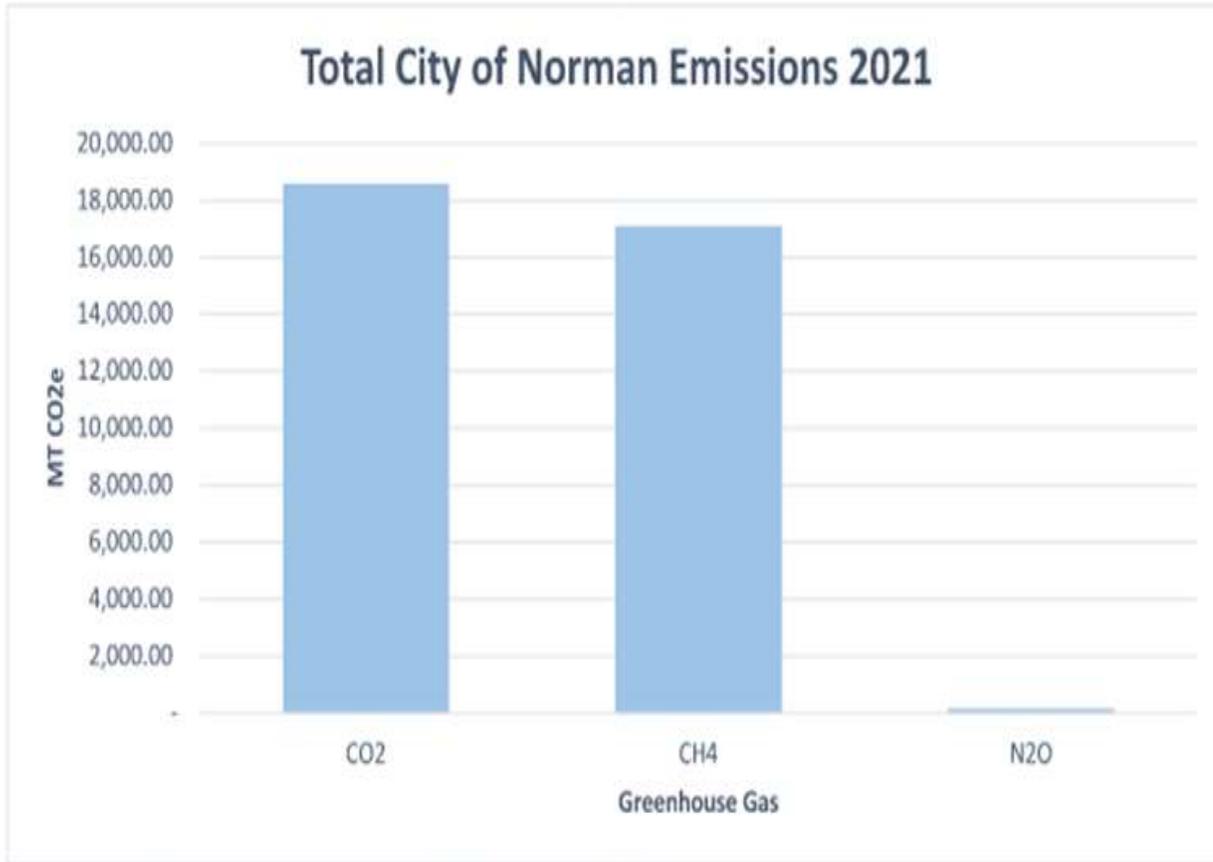


Figure 4. Total City of Norman Emissions in 2021 by Greenhouse Gas.

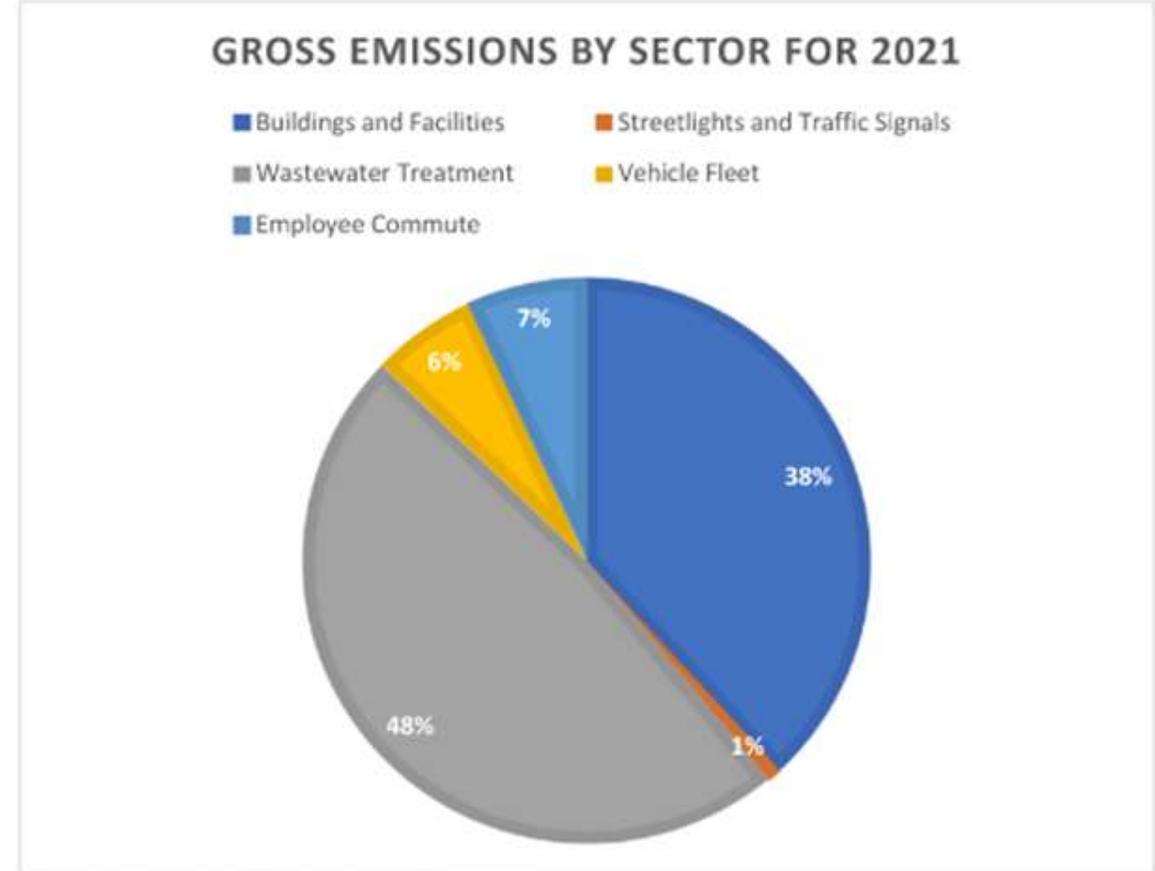


Figure 6. Gross Emissions by Sector for 2021 Percentage.

ACTION ITEM 2: ADOPT AND ENFORCE LAND USE POLICIES

- Accomplishments include
 - Current work on the AIM Norman project
 - Revision of the CCFBC to promote wider variety of housing types and eliminating unit maximums
 - Retention of rural nature of east Norman through lot-size requirements
- Top three recommendations
 - Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities
 - Refine CCFBC to enhance walkable, bikeable areas of core Norman, and continue connection efforts for downtown and Campus Corner
 - Expand and refine development rules to prioritize Nature-based Solutions/LID over traditional



ACTION ITEM 3: PROMOTE ALTERNATIVE TRANSPORTATION

- Accomplishments include
 - Extension of bicycle and multi-modal trails throughout much of Norman
 - Sidewalk improvements and installations in areas expanding from core Norman
 - Commitment to alternative transportation infrastructure through route optimization and many investments, including the City Transit Center
- Top three recommendations
 - Continue Embark support with goal of bringing service to southeast Norman as soon as possible
 - Continue bicycle route expansion with an eye to bicycle safety and practicality
 - Extend bicycle path along 24th Ave NW to the north for access to University North Park businesses



ACTION ITEM 4: RENEWABLE ENERGY AND ENERGY EFFICIENCY

- Accomplishments include
 - Completion of solar-farm projects at WTP and WRF
 - EV charging station implementation throughout Norman
 - Shout out to NPS on update of their energy guidelines in 2020
- Top three recommendations
 - Explore the creation of a renewable energy employment initiative
 - Encourage installation of solar panels on private homes, private businesses, municipal buildings; work with HOAs to revise bylaw prohibition
 - Request electric utility companies to purchase back the power generated by those solar panels at the same price



ACTION ITEM 5: SUSTAINABLE BUILDING PRACTICES

- Accomplishments include
 - 23 LEED certified buildings in Norman, 4 are City-owned
 - Many building codes were updated to 2018 or later standards in June 2023
 - The Engineering Design Criteria was updated in February 2023 and Chapter 7000 added
- Top three recommendations
 - Encourage review and use of principles and standards from programs like LEED, Living Building Challenge, Energy Star, etc.,
 - Encourage and recommend the use of higher quality energy and water conservation practices w.r.t. to building envelope, HVAC, lighting and fixtures, as well as the addition of additional exterior rigid installation
 - Adopt the most current version of the International Energy Conservation Code (IECC)



1000 SUSTAINABLE STORMWATER DEVELOPMENT	
1001 INTRODUCTION	
1001.1 Background	<p>Stormwater can have significant impact on the water quality of Norman's natural areas. To minimize the effect of non-point source pollutants in urban areas, stormwater control measures (SCMs), or controls, also referred to as "best practices", are essential to reduce the impact of development. Controls are designed to improve water quality by removing suspended particulate matter and associated constituents such as bacteria, nutrients and metals.</p> <p>SCMs are in-line with sustainable design practice goals and complete streets principles. As elements for the street, Norman encourages the use of SCMs on all developments, including new, existing, and redevelopment sites. Installing such controls are encouraged through coordination with the City but are also encouraged under the Land Use/Transportation Ordinance as prescribed in the Water Quality Protection Zone (WQPZ) Ordinance.</p> <p>The information in this section is intended to define the technical design criteria to be used in the design of SCMs. This document provides criteria for both the design of stormwater controls to enhance water quality and for the long-term maintenance of these facilities. The criteria should be followed to provide protection of the water resources in Norman and to maximize time and effort in obtaining project review and approval.</p>
1001.2 Site Design Credits	RESERVED
1001.3 Sustainable Development Incentives	RESERVED
1002 GENERAL DESIGN CRITERIA	
1002.1 Water Quality Incentives	<p>The primary control strategy for water quality issues is to capture a minimum volume of stormwater runoff for treatment and to release the treated volume in a length of time specified. The maximum volume is the amount of runoff that is produced by the first one inch (1") of rainfall. The depth of runoff from the contributing drainage area to the control is and will be referred to as the Water Quality Volume (WQV). The WQV must be stored through the SCM as designed in the Section of the SDC.</p> <p>A. The water quality volume must consist of runoff from all impervious surfaces existing and proposed conditions such as rooftops, parking</p>

ACTION ITEM 6: MUNICIPAL FLEET VEHICLES

- Accomplishments include
 - Addition of 15 hybrid police cars to existing 133 CNG powered vehicles and 2 EV buses
 - Continual and dedicated monitoring of the renewable-friendly vehicle industry
 - Installation of EV chargers for Fleet and public use
- Top three recommendations
 - Continue to monitor and explore alternative fuel technologies
 - Continue investment in alternative fuel infrastructure
 - Implement internal education campaign to reduce fuel usage



ACTION ITEM 7: EFFICIENCIES AT WATER AND WASTEWATER PLANTS

- Accomplishments include
 - Purchases of higher efficiency motors
 - Solar projects completed at both facilities
 - Phase 2 plant upgrades completed at both facilities that included energy efficiency pieces
- Top three recommendations
 - Installation of covered area for storage of dewatered sludge
 - Devise new method of using recovered methane as the primary fuel source for the boilers
 - Explore more efficient biogas generation at WRF and alternative funding sources for implementation



ACTION ITEM 8: RECYCLING IN CITY OPERATIONS AND COMMUNITY

- Accomplishments include
 - Establishment of the permanent Household Hazardous Waste Facility
 - 88% curbside recycling participation rate in 2022
 - Diversion of 27.5% of the total waste stream from landfill in 2022
- Top three recommendations
 - Work to reduce contamination rate
 - Explore and implement opportunities for apartment and business recycling
 - Work to improve recycling rates



ACTION ITEM 9: MAINTAIN HEALTHY URBAN ECOSYSTEMS

- Accomplishments include
 - Hired full-time Forester in March 2022
 - Several capstone projects designs were sponsored by the City including an LID-retrofit to the detention pond at City Hall, and treatment wetlands to support indirect potable reuse
 - Collaboration on multiple graduate research efforts including the Trailwoods paired watershed assessment and the current treatment wetland mesocosm project at the WRF
- Top three recommendations
 - Update the Forestry Master Plan and Community Forest Management Plan
 - Refine the EDC to comprehensively and explicitly include nature-based solutions
 - Increased and improved interdepartmental coordination and communication to ensure projects are implemented as approved



ACTION ITEM 10: PUBLIC EDUCATION OF ENVIRONMENTAL DISCIPLINES

- Accomplishments include
 - Collaboration with outside experts to provide workshop opportunities to enhance City and volunteer board efforts
 - Improved environmental content on recently updated website
 - Increase in social media support for various environmental education campaigns
- Top three recommendations
 - Employ or contract with a public education professional to expand and enhance current efforts
 - Expand environmental content on website
 - Develop and implement a strategy to utilize social media to promote environmental content





QUESTIONS