

The Footprint of Elk River

City of Elk River's Carbon Footprint

City of Elk River operations GHG emissions for the 2015 total 5,922.33 Metric Tonnes (13,056,487 pounds) CO₂e, an emission rate of 31.92 Metric Tonnes per employee, or 42.57 pounds CO₂e per City facility per year. The City Operations total GHG emissions represent 1.36% of Elk River community-wide GHG emissions.

This represents a volume of man-made atmosphere equal to **116,202,806 cubic feet** annually. This volume would fill a cube of 488' on each side...40' taller than the Foshay tower in Minneapolis.

What is a Carbon Footprint?

Greenhouse Gas emissions (GHG) are produced by burning fossil fuels – both directly like those created by driving, and indirectly like in those created to deliver electricity to our buildings, or to manufacture products we buy. The term "Carbon Footprint" includes all GHG emissions associated with an organization, product, or activity.

Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and a wide range of emissions which have weaker but still cumulative effects. Carbon Dioxide is typically the largest emission by volume.

When calculating Carbon Footprint, BLUEdot uses carbon dioxide equivalents established by the Intergovernmental Panel on Climate Change as well as the United States Environmental Protection Agency.

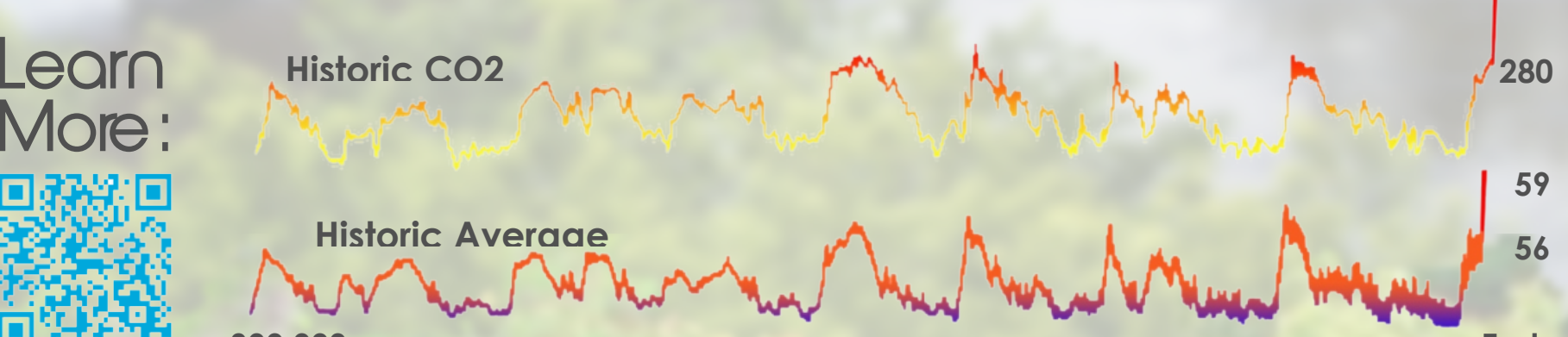
The Greenhouse Effect

The Carbon Cycle is exchanged among the oceans, atmosphere, and ecosystem. This cycle has been a closed, balanced system for hundreds of thousands of years. This cycle is present in the atmosphere primarily as carbon dioxide and methane. These two primary greenhouse gases uniquely allow light to pass while capturing infrared energy. This "Greenhouse Effect" directly impacts Earth's atmospheric energy and temperatures – without the historic levels of greenhouse gases present in the atmosphere, the average surface temperature of the Earth would be 0 degrees Fahrenheit – the same as the moon.

Learn More 

Man-Made Greenhouse Contributions

Burning fossil fuels release hydrocarbons which have been outside the natural carbon cycle for millions of years. These emissions have increased atmospheric greenhouse gases by 40%, changing the chemistry and raising the total atmospheric energy and contributing to climate change. According to the EPA, man-made carbon emissions are likely to remain in our atmosphere for hundreds of years. Though unintended, our individual actions and business operations are contributing to climate change impacts.



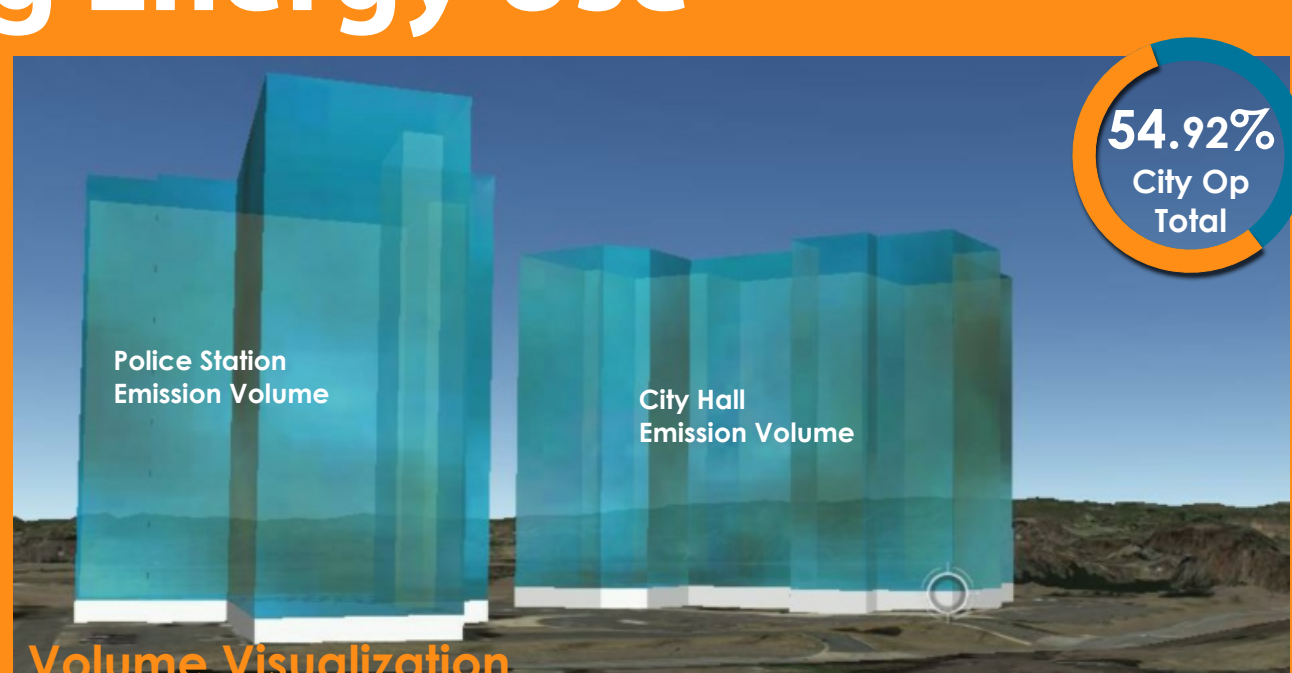
Why Measure?

As the management consultant and author Peter Drucker noted, "What gets measured gets managed". Measurement provides data both to understand where opportunities for improvement exist as well as to understand and reward success. Measurement of GHG emissions is the essential first step to successfully meet reduction goals. Establishing a baseline emissions understanding and updating the data annually is a critical component of meeting the emission reduction goals established by the City of Elk River's adoption of the U.S. Mayors Climate Protection Agreement as well as the Statewide reduction targets. By undertaking this initiative to track emissions, the City of Elk River is yet again illustrating its leadership in sustainability.




City Building Energy Use

63,821,145 cubic feet GHG

For 2015, the City of Elk River buildings consumed a total of 3,215,907 kWh of electricity and 135,447 therms of natural gas. This relates to an average Energy Use Intensity (EUI) of 106.77 kBtu's per square foot of building space.



The light gray mass represents the Police and City Hall facilities relative height compared with Elk River annual building emissions. These emissions average a volume of man-made atmosphere equal to a mass over 206' high per building.

On the chart below,  represents the level of energy consumed at each building while  represents the median energy consumption for similar buildings nationally. High performance buildings, meanwhile, have energy consumption at  level.



How much can pinching save?

By making energy reducing building and operations changes at just four of the City's buildings from current levels to national median levels might save:



City Vehicle Use

Municipal streets within the City of Elk River total

253

12.58% City Op Total

Operations of City of Elk River vehicles generates a volume of greenhouse gas that would cover municipal streets to a depth of: 12'

The City of Elk River owns and operates vehicles as a critical support to functions in Police, Fire, Public Works, Streets, Parks, Waste Water, and City Administration functions. During the 2015 Baseline year, the City's vehicle fleet used 53,691 gallons of gasoline and 79,872 gallons of diesel fuel. The emissions volume associated with the fleet's fuel consumption totaled 744.08 Metric Tonnes (1,640,414 pounds) CO₂e, approximately 0.60% of community wide vehicle emissions.

What Can Be Saved Switching To Electric Vehicles?



For every older gas vehicle in the City's fleet that is replaced with an Electric Vehicle, the City can save:

