



MetroStar

GHG Emissions Report

Dated: 08/10/2023

MetroStar Systems

1856 Old Reston Ave., Ste. #100
Reston, VA 20190

CONTENTS

1 Introduction	4	Table 1: Sign-Off & Versioning	3
2 Methodology	5	Table 2: Referenced Documents	3
2.1 Scope 1 Guidance	6	Table 3: Company Info	4
2.1.1 Scope 1 Fire Suppression Guidance	6	Table 4: Scope 1 Emission Sources	8
2.2 Scope 2 Guidance	6	Table 5: Scope 2 Emission Sources	9
3 Reporting Boundaries	7	Table 6: Total GHG Emissions	11
3.1 Scope 1	8	Table 7: Scope 1 Emissions	11
3.2 Scope 2	9	Table 8: Scope 2 Emissions	11
3.3 Data Inventory & Assumptions	10	Table 9: Scope 1 MetroStar Data	12
4 Results	11	Table 10: GHG Emissions Detailed Scope 1	12
4.1 Emissions Data Summary	11	Table 11: Scope 2 MetroStar Data	13
4.2 Scope 1 Emissions Data	12	Table 12: GHG Emissions Detailed Scope 2 (Market Based)	13
4.2.1 MetroStar Data	12	Table 13: GHG Emissions Detailed Scope (Location Based)	13
4.2.2 GHG Emissions	12		
4.3 Scope 2 Emissions Data	13		
4.3.1 MetroStar Data	13		
4.3.2 Market Based	13		
4.3.3 Location Based	13		
5 Corporate Actions	14		



Approved By: President

TABLE 1: SIGN-OFF & VERSIONING

AUTHOR	SIGNED-OFF BY	DATE	VERSION	CHANGE REFERENCE
Venkatesan Krishnaswamy	Robert Santos	8/10/2023	1.0	Final for Approval

TABLE 2: REFERENCED DOCUMENTS

DOCUMENT	OWNER	LOCATION
2 MetroStar GHG Emissions.xlsm	Venkatesan Krishnaswamy	2 MetroStar GHG Emissions.xlsm (Scope 2 – Electricity)
GHG Emissions Calculation Tool 0.xlsx	Venkatesan Krishnaswamy	GHG Emissions Calculation Tool 0.xlsx (Scope 1 – Gas Consumption)
Bills Data.xlsx	Venkatesan Krishnaswamy	Bills Data.xlsx (Base data for Scope 1 and 2)

1 INTRODUCTION

Today, environmental consciousness and sustainability has become a focal point and even the smallest contributors to greenhouse gas (GHG) emissions can play a role in shaping the global carbon footprint. MetroStar Systems (MetroStar) although categorized as a very, very small quantity generator (VVSQG), has put effort to create a sustainability program and report on our GHG emissions. This report provides an analysis of our greenhouse gas emissions. Despite our scale of operations, we believe our individual actions can contribute to the broader environmental landscape.

MetroStar is an IT and digital services and solutions provider with a rich, two-decade legacy of building the brightest teams. As we navigate a new era of technology, our mission is to serve and transform how people, agencies, and tech enthusiasts connect in the digital age. Everything we touch begins and ends with people—the civil servants, service members, farmers, and immigrants (to name a few)—and our tools empower faster solutions worldwide, supporting dozens of federal agencies, hundreds of thousands of users, and millions of Americans.

This report provides a summary of the GHG emissions from MetroStar operations from January 1, 2022 to December 31, 2022.

TABLE 3: COMPANY INFO

COMPANY INFORMATION	
Website	www.metrostar.com
Business Area	IT Services and Consulting
Reporting Period	2022

2

METHODOLOGY



2 METHODOLOGY

MetroStar estimates and inventories their annual greenhouse gas (GHG) emissions for its Reston operations. All methodologies and default values provided are based on guidance from <https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>.

The GHG accounting and reporting is based on the guidance described below:

2.1 SCOPE 1 GUIDANCE

Scope One includes fuel consumption at a facility to produce electricity, steam, heat, or power. The combustion of fossil fuels by natural gas boilers, diesel generators, and other equipment emits carbon dioxide, methane, and nitrous oxide into the atmosphere.

Data required:

- Fuel type
- Fuel Usage
- Units for usage (volume or weight)

$$\text{Emissions}_{\text{GHG, fuel}} = \text{Fuel Consumption}_{\text{fuel}} * \text{Emission Factor}_{\text{GHG, fuel}}$$

2.1.1 SCOPE 1 FIRE SUPPRESSION GUIDANCE

- **Material Balance Method (Simplified):**
Enter organization-wide fire suppression gas in units (by gas) in Table 2.
- New units are those installed during reporting period (do not include any data for new units pre-charged by supplier), disposed units were disposed of during the reporting period, and existing units are all others.
- **Charge/Recharge** = gas added to units by organization or a contractor (do not include pre-charge by manufacturer).
- **Capacity** = sum of the full capacity for all units (do not include new units pre-charged by manufacturer).
- **Amount recovered** = total gas recovered from all retired units.

2.2 SCOPE 2 GUIDANCE

The Indirect Emissions from Purchased Electricity Guidance document provides guidance for quantifying scope two emissions totals, using a location-based method and a market-based method. The organization should quantify and report both totals in its GHG inventory. The location-based method considers average emission factors for the electricity grids that provide electricity. The market-based method considers contractual arrangements under which the organization procures electricity from specific sources, such as renewable energy.

3

REPORTING BOUNDARIES

3 REPORTING BOUNDARIES

Our organizational boundaries are defined by the control approach, covering all entities over which MetroStar has operational control. The 2022 accounting included the operational emissions of MetroStar's headquarters in Reston, Virginia, and focused on the reporting of Scope One and Scope Two emissions.

3.1 SCOPE 1

Scope One includes all carbon emissions that can be directly managed by MetroStar (direct GHG emissions). This includes the emissions from the combustion of fossil fuels in mobile and stationary sources (e.g., owned or controlled boilers, power generators, and vehicles) and carbon emissions generated by chemical and physical processes, as well as fugitive emissions from the use of cooling and air conditioning (AC) equipment. The table below gives an overview of the emission sources considered in Scope One based on the information provided by MetroStar.

TABLE 4: SCOPE 1 EMISSION SOURCES

CATEGORY	EMISSION SOURCE	BOUNDARY
Stationary Combustion	Generation of Electricity & Heat	Included
Mobile Combustion	Company-Owned or Leased Vehicles	Not Applicable
Physical or Chemical Processing	Manufactured or Processing of Chemicals & Materials	Not Applicable
Fugitive Emissions	Emissions from the Use of Cooling Systems & AC Equipment, Leakage from CO2 Tanks or Methane Tubes	Included, No Emissions

3.2 Scope 2

Scope Two includes indirect GHG emissions from the generation of purchased electricity, steam, heat, or cooling purchased by MetroStar from external energy providers. The table below gives an overview of the emission sources considered in Scope Two.

TABLE 5: SCOPE 2 EMISSION SOURCES

CATEGORY	EMISSION SOURCE	BOUNDARY
Electricity	Purchased Electricity	Included
Steam	Purchased Steam	Not Applicable
Heating	Purchased Heating	Not Applicable
Cooling	Purchased Cooling	Not Applicable

3.3 DATA INVENTORY & ASSUMPTIONS

Overall, the data inventory, emission factors, and assumptions are based on the 'GHG Protocol'. The choice of assumptions and emission factors followed a conservative approach. Unless otherwise specified, all final emission values in this report are given in Metric Tons

Where activity data of the inventory was lacking, extrapolations and estimations were made.



4

RESULTS



4 RESULTS

Based on the data we have gathered, MetroStar's total GHG emissions for 2022 are 231.5 Metric Tons.

TABLE 6: TOTAL GHG EMISSIONS

GHG EMISSIONS FOR THE YEAR 2022	
Scope 1	22.488 Metric Tons
Scope 2	209 Metric Tons
Total GHG Emissions (Tons CO ₂ e)	231.5 Metric Tons

4.1 EMISSIONS DATA SUMMARY

A summary of the Scope One and Scope Two emissions are provided in below tables.

TABLE 7: SCOPE 1 EMISSIONS

SCOPE 1 EMISSIONS				
GHG EMISSIONS (Tons CO ₂ e)				
CO ₂ (Tons)	CH ₄ (Tons)	N ₂ O (Tons)	CO ₂ e (Tons)	Biofuel CO ₂ (Tons)
22.488	0.0004238	0.0000424	22.512	0.000

TABLE 8: SCOPE 2 EMISSIONS

SCOPE 2 EMISSIONS		
CO ₂ Emissions (lb)	CH ₄ Emissions (lb)	N ₂ O Emissions (lb)
458,244.0	37.2	5.0
CO ₂ Equivalent Emissions (Metric Tons)		
Location-Based Electricity Emissions	209.0	
Market-Based Electricity Emissions	209.0	

4.2 SCOPE 1 EMISSIONS DATA

4.2.1 METROSTAR DATA

TABLE 9: SCOPE 1 METROSTAR DATA

LOCATION:	RESTON, VA	BASE DATA		2022 NATURAL GAS CONSUMPTION	
User Supplied Data					
Facility ID	Year	Custom Emission Factors?	Fuel	Amount of Fuel	Units (e.g., kg or kWh)
1	2022	No	Natural Gas	4238.3	Therm

4.2.2 GHG EMISSIONS

TABLE 10: GHG EMISSIONS DETAILED SCOPE 1

GHG EMISSIONS (Tons CO ₂ e)				
CO ₂ (Tons)	CH ₄ (Tons)	N ₂ O (Tons)	CO ₂ e (Tons)	Biofuel CO ₂ (Tons)
22.488	0.0004238	0.0000424	22.512	0.000
Emission Factor				
EF (kgCO ₂ e/unit)	Source			
53.1145	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 Stationary Combustion Emission Factors, March 9, 2018 (https://www.epa.gov/climateleadership/center-corporate-climate-leadership-ghg-emission-factors-hub).			
Total GHG Emissions from Fossil Fuels (Tons CO ₂ e):	22.51			
Total CO ₂ Emissions from Biomass (Tons):	0.00			

4.3 SCOPE 2 EMISSIONS DATA

4.3.1 METROSTAR DATA

TABLE 11: SCOPE 2 METROSTAR DATA

Source	Source	Source	eGRID Subregion	Electricity
ID	Description	Area (sq ft)	Where Electricity is Consumed	Purchased
				(kWh)
2022	Reston Office	18,401	SRVC (SERC Virginia/Carolina)	716,342

4.3.2 MARKET BASED

TABLE 12: GHG EMISSIONS DETAILED SCOPE 2 (MARKET-BASED)

MARKET-BASED EMISSIONS			
	CO ₂	CH ₄	N ₂ O
YEAR	EMISSIONS (lb)	EMISSIONS (lb)	EMISSIONS (lb)
2022	458,244.0	37.2	5.0

4.3.3 LOCATION BASED

TABLE 13: GHG EMISSIONS DETAILED SCOPE 2 (LOCATION-BASED)

LOCATION-BASED EMISSIONS			
	CO ₂	CH ₄	N ₂ O
YEAR	EMISSIONS (lb)	EMISSIONS (lb)	EMISSIONS (lb)
2022	458,244.0	37.2	5.0



5

CORPORATE ACTIONS



5 CORPORATE ACTIONS

In the realm of sustainability, the journey of a VVSQG serves as a resounding testament to the impact that proactive measures can have, even within the confines of limited resources and scale. Through the strategic implementation of a multi-faceted sustainability program encompassing a Zero Waste initiative, a Green Purchasing program, and an Energy Efficiency and Reduction program, MetroStar demonstrates the potential of concerted efforts to migrate GHG emissions.

Our Zero Waste program is a testament to the power of reimagining waste as a valuable resource. By implementing practices that minimize waste generation, maximize recycling, and embrace circular economy principles, this initiative showcases the ripple effect of responsible waste management on both environmental health and economic viability. With a focus on electronic waste, we look to divert electronic waste from landfills and enable the recovery of valuable resources; this program showcases the potential to minimize environmental harm while simultaneously promoting the efficient use of materials.

Our Green Purchasing program showcases MetroStar's proactive approach to influencing supply chains. By opting for environmentally friendly products and materials, MetroStar is actively supporting eco-conscious manufacturers and suppliers. This initiative highlights MetroStar's understanding of our role in driving demand for greener alternatives, reinforcing the idea that purchasing decisions, irrespective of scale, can steer markets toward sustainability.

Our Energy Efficiency and Reduction program highlights the significance of minimizing energy consumption. By adopting measures that enhance operational efficiency and reduce energy usage during peak times, MetroStar shows our dedication to decreasing our carbon footprint and cutting operational costs.

The integrated efforts across these programs collectively highlight MetroStar's commitment to holistic sustainability. Our actions emphasize that meaningful change emerges when diverse strategies converge toward a common goal. While our scale might be small, its impact is magnified by the broader message it sends—that all entities, regardless of size, possess the capacity to contribute significantly to global sustainability goals.

As we conclude this report, we demonstrate the power of intention, innovation, and collaboration in shaping a future defined by responsible environmental stewardship. By recognizing that every action, from waste reduction to energy efficiency, plays a vital role in reducing greenhouse gas emissions, we embrace our shared responsibility to safeguard the planet for present and future generations. Although ours is a journey of a VVSQG generator, we hope it emboldens us all to aspire for a world where sustainability is not merely an aspiration but a collective commitment embedded within the fabric of our existence.