

22nd Century Technologies Inc
8251 Greensboro Drive, Suite 900, McLean, VA 22102

Greenhouse Gas Emission Report - 2023 Proprietary Information

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EXECUTIVE SUMMARY

This report presents 22nd Century Technologies, Inc (TSCTI) Scope 1, 2, and Scope 3 GHG emissions. Scope 3 GHG emissions are limited only to business travel and employee commuting. The GHG inventory was based on calendar year 2023 data and followed accounting guidelines as specified in the GHG Protocol Corporate Accounting and Reporting Standard and the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Relevant emission factors from EPA and other credible sources were used in the analysis. Actual activity data was relied upon as much as possible but in certain circumstances assumptions had to be used. Those assumptions are specified in this report.

CHAPTER 1: General Description of the Organization, Goals and Inventory Objectives

1.1 Introduction

22nd Century Technologies, Inc. (TSCTI) measured and established our greenhouse gas emissions for Calendar Year 2023 for all facilities leased and controlled by the company. 22nd Century GHG emissions report provides a measurement of our Scope 1 and Scope 2 emissions, as well as our Scope 3 emissions (limited to business travel and employee commuting) for CY 2023. 22nd Century attests that the Scope 1, 2, and 3 GHG emissions were calculated in accordance with appropriate guidance from the EPA and the GHG Protocol.

1.2 Description of the Reporting Organization

22nd Century Technologies, Inc., is one of the fastest growing IT Service Integrator and Workforce Solution companies in the United States. Founded in 1997, 22nd Century Technologies is a Certified National Minority Business Enterprise with around 5,000 people including 600+ Cyber SMEs nationwide supporting our customers in all 50 states, Canada, and Mexico with HQs in Somerset, NJ and Mclean, VA. As part of our unrelenting focus on quality and compliance, 22nd Century Technologies' delivery is based on Certified Matured Processes including CMMI L3 Dev & SVC, ISO 20000, ISO 27001, and ISO 9001 quality processes. With a strong focus on the public sector, 22nd Century currently holds government contracts with 14 out of 15 Federal Executive agencies including DoD, 37 other Federal agencies, 50 States, 115+ Local agencies, and 37 School Districts. In the last three years, we have expanded our services to Fortune 500 and other commercial clients and currently support 80+ commercial clients.

Facility Location	McLean, VA 22102
Facility Type	Leased Office Space
Facility Location	Alexandria, VA 23310
Facility Type	Leased Office Space
Analysis Year	Calendar Year 2023
Facilities	2
Estimated GHG Emissions (Scope 1, 2, Scope 3 Business Travel, Scope 3 Commuting)	11,668.92 metric tons CO ₂ e
Main sources of GHG emission	Electricity, employee commuting

1.3 Persons or Entity Responsible for this Report

Name: Dr. Albert Chung, PhD, PE

Contact Number: 310-966-0342

1.4 Reporting Period Covered

Calendar Year 2023

Period: From – 01-02-2023 To – 31-12-2023

CHAPTER 2: Scope of Boundaries

The emissions in this report are consolidated using the operational control approach. Under this approach, we reported emissions from assets and activities under TSCTI's operational control. The entirety of TSCTI emissions are from the electricity used in the facilities we lease, which is commercial office space, and from employee business travel and commuting.

CHAPTER 3: GHG Accounting

This report includes in the following GHG emissions:

- Category 1: Direct GHG Emissions (Scope 1)
- Category 2: Indirect GHG Emissions (Scope 2)
- Category 3: Business travel and employee commuting

Emissions are presented in both CO₂, CH₄, N₂O and CO₂e.

3.1 Scope 1 Emissions

Sources included in Scope 1 emissions are mobile source fuel combustion.

Source ID	Vehicle Type	Vehicle Year	Miles Traveled	Est. Fuel Usage (gal)	CO ₂ (kg)	CH ₄ (kg)	N ₂ O (kg)	CO ₂ e (MT)
Ford- F650	Light-Duty Trucks - Gasoline	2019	3,000	461.54	4,052.31	0.02	0.00	4.05
Ford- F150	Light-Duty Trucks - Gasoline	2017	5,000	312.5	2,743.75	0.04	0.01	2.75
Total Mobile Combustion Emissions					6,796.06	0.07	0.01	6.80

3.2 Scope 2 Emissions

Scope 2 emissions included the following source.

- Total Amount of Electricity Purchased by eGRID Sub region

Source ID	Source Description	Source Area (Sq Ft)	eGRID Subregion where electricity is consumed	Electricity Purchased (MWh)	CO ₂ (kg)	CH ₄ (g)	N ₂ O (g)	CO ₂ e (MT)
Office - McLean	Submeter	15000	SRVC (SRVC Virginia/ Carolina)	7.49	2,115.98	0.16	0.02	2.13
Office - Alexandria	NP 115 LLC	16035	SRVC (SRVC Virginia/ Carolina)	0.571	161.35	0.01	0.00	0.16
Total Emission for All Sources				8.06	2,277	172	26	2.29

The electricity usage for McLean was provided via invoices for 3 months, which were scaled up to 12 months. The Alexandria office electricity usage was estimated from the 2022 usage.

3.3 Scope 3 Emissions

Scope 3 emissions included the following:

- Business Travel by Passenger Cars and Air Travel
- Employee Commuting

Business Travel by Passenger Cars

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (g)	N ₂ O Emissions (g)	CO ₂ e Emissions (MT)
267	Anil Sharma	Passenger Car	7,135	2,184	64.12	42.91	2.20
32891	Hemant Sharma	Passenger Car	3,642	1,115	32.73	21.90	1.12
476	Jagannath Pakkirisankar	Passenger Car	6,492	1,987	58.34	39.04	2.00
115909	Reddy Prudhvi Bollineni	Passenger Car	4,652	1,424	41.80	27.97	1.43
1041	Sandeep Singh	Passenger Car	9,848	3,015	88.50	59.22	3.03
Total for all Personal Vehicle Business Travel			31,769	9,725	285	191	9.77

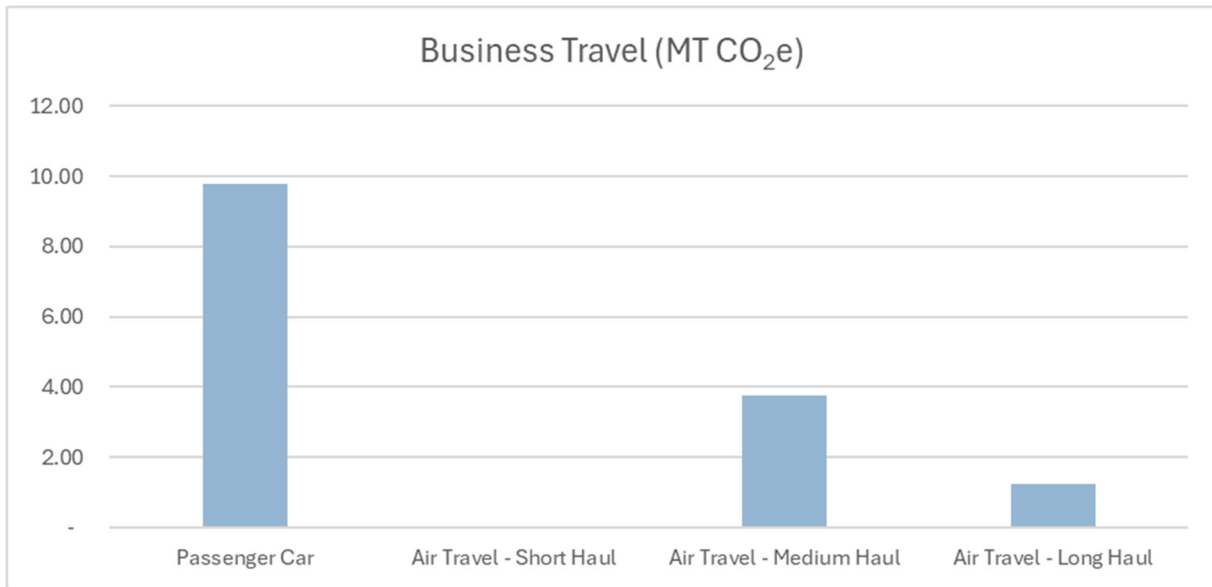
Business Travel by Air

Source ID	Source Description	Flight Length	Passenger - Miles (miles)	Emissions			
				CO ₂ (kg)	CH ₄ (g)	N ₂ O (g)	CO ₂ e (MT)
267	Anil Sharma	Air Long Haul (<1000 miles)	1,190	154	0.77	4.88	0.16
267	Anil Sharma	Air Long Haul (<1000 miles)	1,190	154	0.77	4.88	0.16
267	Anil Sharma	Air Long Haul (<3000 miles)	3,500	569	2.25	18.13	0.57
267	Anil Sharma	Air Long Haul (<3000 miles)	4,000	650	2.57	20.72	0.66
1031	Jessica Duncan	Air Long Haul (>1000 miles)	949	123	0.61	3.89	0.12
1031	Jessica Duncan	Air Long Haul (>=1300 miles)	1,344	174	0.86	5.51	0.18
1031	Jessica Duncan	Air Long Haul (>=1300 miles)	1,343	174	0.86	5.51	0.18
1031	Jessica Duncan	Air Long Haul (>=700 miles)	677	88	0.44	2.78	0.09
1031	Jessica Duncan	Air Long Haul (>=1400 miles)	1,370	177	0.88	5.62	0.18
1031	Jessica Duncan	Air Long Haul (>=400 miles)	451	58	0.29	1.85	0.06
1031	Jessica Duncan	Air Long Haul (>=1000 miles)	949	123	0.61	3.89	0.12
1031	Jessica Duncan	Air Medium Haul (>= 400 miles, <900)	878	113	0.56	3.60	0.11
1031	Jessica Duncan	Air Long Haul (>=900 miles)	967	125	0.62	3.96	0.13
1031	Jessica Duncan	Air Long Haul (>=800 miles)	878	113	0.56	3.60	0.11
1031	Jessica Duncan	Air Long Haul (>=700 miles)	712	92	0.46	2.92	0.09
1041	Sandeep Singh	Air Medium Haul (>= 600 miles, <1100)	1,121	145	0.72	4.60	0.15
1041	Sandeep Singh	Air Medium Haul (>=600 miles, >700)	682	88	0.44	2.80	0.09
1041	Sandeep Singh	Air Long Haul (>=600 miles)	657	85	0.42	2.69	0.09
1041	Sandeep Singh	Air Long Haul (>=600 miles)	639	83	0.41	2.62	0.08
1041	Sandeep Singh	Air Long Haul (>=1000 miles)	1,086	140	0.70	4.45	0.14
32891	Hemant Sharma	Air Long Haul (>=600 miles)	535	69	0.34	2.19	0.07
32891	Hemant Sharma	Air Long Haul (>=600 miles)	535	69	0.34	2.19	0.07
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=400 miles)	399	52	0.26	1.64	0.05
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=1800 miles)	1,816	235	1.17	7.45	0.24
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=800 miles)	816	105	0.52	3.35	0.11
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=800 miles)	816	105	0.52	3.35	0.11
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=800 miles)	816	105	0.52	3.35	0.11
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=800 miles)	816	105	0.52	3.35	0.11
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=500 miles)	454	59	0.29	1.86	0.06
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=500 miles)	454	59	0.29	1.86	0.06
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=2000 miles)	2,080	269	1.34	8.53	0.27
115909	Reddy Prudhvi Bollineni	Air Long Haul (>=2000 miles)	2,080	269	1.34	8.53	0.27
Total for all Air Business Travel				4,929	23.28	156.52	4.97

Total CO₂ Emissions by Travel Type

Transport Type	CO ₂ (kg)	CH ₄ (g)	N ₂ O (g)	CO ₂ e (MT)
Passenger Car	9,725.48	285.48	191.04	9.78
Air Short Haul (< 300 miles)	-	-	-	-
Air Medium Haul (>= 300 miles)	3,709.77	18.46	117.68	3.74
Air Long Haul (>= 2300 miles)	1,219.17	4.82	38.84	1.23

The business travel emissions distribution is as follows,



Personal Vehicles by Employee Commuting

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO ₂ e Emissions (MT)
121937	Pradeep	Passenger Car	3,600	1,102.07	0.03	0.02	1.11
11331	Vivek	Passenger Car	5,000	1,530.66	0.04	0.03	1.54
267	Anil Sharma	Passenger Car	7,680	2,351.09	0.07	0.05	2.37
1041	Sandeep Singh	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
476	Jagan P	Passenger Car	8,640	2,644.97	0.08	0.05	2.66
125811	Venkat P	Passenger Car	4,500	1,377.59	0.04	0.03	1.39
1031	Jessica Duncan	Passenger Car	3,552	1,087.38	0.03	0.02	1.09
115909	Reddy	Passenger Car	2,400	734.71	0.02	0.01	0.74
134759	Simran Kaur	Passenger Car	4,200	1,285.75	0.04	0.03	1.29

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO _{2e} Emissions (MT)
134513	Chandra Sekhar Reddy Sadi	Passenger Car	960	293.89	0.01	0.01	0.30
134520	Godson Yogarajan	Passenger Car	2,880	881.66	0.03	0.02	0.89
134757	Rishikesh Baral	Passenger Car	360	110.21	0.00	0.00	0.11
123786	Caroline Rist	Passenger Car	9,000	2,755.18	0.08	0.05	2.77
32594	Kashif Hashmi	Passenger Car	7,200	2,204.14	0.06	0.04	2.22
134391	Matthew E Patton	Passenger Car	7,000	2,142.92	0.06	0.04	2.16
123597	Michel Bright	Passenger Car	8,944	2,738.04	0.08	0.05	2.75
18	Sidhant Jain	Passenger Car	1,040	318.38	0.01	0.01	0.32
32891	Hemant Sharma	Passenger Car	9,120	2,791.91	0.08	0.05	2.81
119040	Sean Conner	Passenger Car	6,656	2,037.61	0.06	0.04	2.05
116820	Rohit Gautam	Passenger Car	480	146.94	0.00	0.00	0.15
134541	Hamza Muhammad	Passenger Car	2,880	881.66	0.03	0.02	0.89
11261	Vinod Kamath	Passenger Car	48	14.69	0.00	0.00	0.01
118189	Samir Nassar	Passenger Car	312	95.51	0.00	0.00	0.10
134917	Alexis Solis	Passenger Car	1,512	462.87	0.01	0.01	0.47
32694	Arun Tuniki	Passenger Car	408	124.90	0.00	0.00	0.13
145	Pavan Tuniki	Passenger Car	52	15.92	0.00	0.00	0.02
116219	Shainy Sharma	Passenger Car	600	183.68	0.01	0.00	0.18
134240	Mohammed Ali	Passenger Car	1,248	382.05	0.01	0.01	0.38
130770	Olkar Siddiqui	Passenger Car	5,096	1,560.04	0.05	0.03	1.57
130822	Kiran Kumar Perapragada	Passenger Car	2,600	795.94	0.02	0.02	0.80
203892	Ritesh Pahwa	Passenger Car	2,080	636.75	0.02	0.01	0.64
130968	Kasi Kranti	Passenger Car	2,912	891.45	0.03	0.02	0.90
134533	Raj Patil	Passenger Car	5,040	1,542.90	0.05	0.03	1.55
134513	Chandra Sekhar Reddy Sadi	Passenger Car	960	293.89	0.01	0.01	0.30

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO ₂ e Emissions (MT)
118783	Chetan Patil	Passenger Car	2,400	734.71	0.02	0.01	0.74
134540	Scott Owens	Passenger Car	3,000	918.39	0.03	0.02	0.92
132420	Artum Khorshid	Passenger Car	264	80.82	0.00	0.00	0.08
135503	Mark Erik Hilton	Passenger Car	340	104.08	0.00	0.00	0.10
131846	Abdul Wadud	Passenger Car	9000	2,755.18	0.08	0.05	2.77
115651	Adebiyi Adetona	Passenger Car	7200	2,204.14	0.06	0.04	2.22
129164	Adiyb Muhammad	Passenger Car	10000	3,061.31	0.09	0.06	3.08
115425	Ahmadullah Nawrozy	Passenger Car	10000	3,061.31	0.09	0.06	3.08
115366	Ahmed Ahmed Elsheikh	Passenger Car	6672	2,042.51	0.06	0.04	2.05
120945	Alexander Tsehay	Passenger Car	7200	2,204.14	0.06	0.04	2.22
129246	Alexis Hunter	Passenger Car	9600	2,938.86	0.09	0.06	2.96
115493	Ali Nobarian	Passenger Car	10000	3,061.31	0.09	0.06	3.08
115652	Andrew Sari	Passenger Car	7200	2,204.14	0.06	0.04	2.22
119191	Brad Lewis	Passenger Car	4800	1,469.43	0.04	0.03	1.48
119191	Brad Lewis	Passenger Car	4800	1,469.43	0.04	0.03	1.48
129729	Bryan Pho	Passenger Car	8400	2,571.50	0.08	0.05	2.59
131845	Carlos Hurtado	Passenger Car	9600	2,938.86	0.09	0.06	2.96
133618	Charle Torossian	Passenger Car	10000	3,061.31	0.09	0.06	3.08
115696	Charles Slay	Passenger Car	6000	1,836.79	0.05	0.04	1.85
115657	Christopher Arboleda	Passenger Car	3600	1,102.07	0.03	0.02	1.11
115341	Cortney Bledsoe	Passenger Car	1536	470.22	0.01	0.01	0.47
117676	D'Andre Willis	Passenger Car	8000	2,449.05	0.07	0.05	2.46
115662	Danilo Castro	Passenger Car	8000	2,449.05	0.07	0.05	2.46
115345	Darren Phounsavath	Passenger Car	24000	7,347.14	0.22	0.14	7.39
115350	David Jernigan	Passenger Car	6720	2,057.20	0.06	0.04	2.07
DavidStuart	David Stuart	Passenger Car	10000	3,061.31	0.09	0.06	3.08

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO ₂ e Emissions (MT)
115619	Demarcus Noland	Passenger Car	4800	1,469.43	0.04	0.03	1.48
115400	Demerus Lambeth	Passenger Car	4800	1,469.43	0.04	0.03	1.48
115337	Donald Besden	Passenger Car	10000	3,061.31	0.09	0.06	3.08
120182	Donald Martin	Passenger Car	3360	1,028.60	0.03	0.02	1.03
115373	Donte' Harvey	Passenger Car	7200	2,204.14	0.06	0.04	2.22
133956	Douglass Thompson	Passenger Car	4320	1,322.49	0.04	0.03	1.33
118493	Driss Jamay	Passenger Car	9600	2,938.86	0.09	0.06	2.96
115890	Edgar David	Passenger Car	1440	440.83	0.01	0.01	0.44
115511	Eldad Muwonge	Passenger Car	17000	5,204.23	0.15	0.10	5.24
115469	Endalkachew Mekonnen	Passenger Car	3840	1,175.54	0.03	0.02	1.18
115658	Eric Martins	Passenger Car	1440	440.83	0.01	0.01	0.44
115803	Fitsum Ghebrewoldi	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
120265	Francisco Torres	Passenger Car	3,600	1,102.07	0.03	0.02	1.11
134091	Fredrick Kambugu	Passenger Car	18,480	5,657.30	0.17	0.11	5.69
122720	Guy Serge Kodjo	Passenger Car	17,000	5,204.23	0.15	0.10	5.24
115442	Hassan Ali	Passenger Car	3,360	1,028.60	0.03	0.02	1.03
134539	Henrika Hurtado	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
115874	Heran Hailu	Passenger Car	7,200	2,204.14	0.06	0.04	2.22
115960	Hussain Naveed	Passenger Car	17,000	5,204.23	0.15	0.10	5.24
115704	Jamal Edwards	Passenger Car	4,800	1,469.43	0.04	0.03	1.48
115357	James Stewart	Passenger Car	18,480	5,657.30	0.17	0.11	5.69
115354	Jared Proctor	Passenger Car	20,000	6,122.62	0.18	0.12	6.16
133376	Jason Weimar	Passenger Car	8,400	2,571.50	0.08	0.05	2.59
115417	Jerome Weekes Jr	Passenger Car	16,500	5,051.16	0.15	0.10	5.08
115807	John Boling	Passenger Car	5,280	1,616.37	0.05	0.03	1.63
115659	John Russell	Passenger Car	8,000	2,449.05	0.07	0.05	2.46

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO _{2e} Emissions (MT)
115429	Jose Vela Cano	Passenger Car	4,800	1,469.43	0.04	0.03	1.48
132379	Josph Saunders	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
116271	Julian Kodjo	Passenger Car	10,000	3,061.31	0.09	0.06	3.08
116210	Karnav Haria	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
115410	Keith Morton	Passenger Car	8,000	2,449.05	0.07	0.05	2.46
128216	Kendall Dawson	Passenger Car	10,800	3,306.21	0.10	0.06	3.33
115863	Kendhe Deligny	Passenger Car	4,800	1,469.43	0.04	0.03	1.48
115402	Kenneth Sailor	Passenger Car	1,920	587.77	0.02	0.01	0.59
115340	Kimberly Evans	Passenger Car	8,000	2,449.05	0.07	0.05	2.46
115627	Lang Pho	Passenger Car	3,840	1,175.54	0.03	0.02	1.18
115508	LaShawn Smith	Passenger Car	7,200	2,204.14	0.06	0.04	2.22
115365	Latonya Strozier	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
115398	Leonard Glover	Passenger Car	20,000	6,122.62	0.18	0.12	6.16
135239	Lolita Leverett	Passenger Car	6,000	1,836.79	0.05	0.04	1.85
130566	Lorenda Swann	Passenger Car	15,400	4,714.42	0.14	0.09	4.74
115329	Majid Nikfarjam	Passenger Car	13,440	4,114.40	0.12	0.08	4.14
115333	Marie Barbot-Cooper	Passenger Car	11,500	3,520.51	0.10	0.07	3.54
115396	Martin McCluskey	Passenger Car	3,840	1,175.54	0.03	0.02	1.18
135298	Masood Aboali	Passenger Car	1,280	391.85	0.01	0.01	0.39
115420	Masood Ahmad	Passenger Car	9,600	2,938.86	0.09	0.06	2.96
115623	Mathew Quioyo	Passenger Car	4,800	1,469.43	0.04	0.03	1.48
129165	Melvin Edwards	Passenger Car	10,560	3,232.74	0.09	0.06	3.25
115397	Michael Harley Jr	Passenger Car	13000	3,979.70	0.12	0.08	4.00
131125	Milos Miletic	Passenger Car	1440	440.83	0.01	0.01	0.44
115582	Momar Diawara	Passenger Car	9600	2,938.86	0.09	0.06	2.96
115522	Muhammed Kashif	Passenger Car	7200	2,204.14	0.06	0.04	2.22

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO _{2e} Emissions (MT)
116206	Mustafa Yaghmour	Passenger Car	13000	3,979.70	0.12	0.08	4.00
115823	Phi Mai	Passenger Car	4272	1,307.79	0.04	0.03	1.32
Personal Vehicle 126 miles round trip.	Phillip Stewart	Passenger Car	11500	3,520.51	0.10	0.07	3.54
115519	Radu Maftai	Passenger Car	1920	587.77	0.02	0.01	0.59
122338	Rania Gabir	Passenger Car	6720	2,057.20	0.06	0.04	2.07
125745	Rebecca Laryea	Passenger Car	20000	6,122.62	0.18	0.12	6.16
132912	Reward Ezeogu	Passenger Car	12960	3,967.46	0.12	0.08	3.99
115407	Ricaphel Verano	Passenger Car	5760	1,763.31	0.05	0.03	1.77
115403	Richard Scipio	Passenger Car	12480	3,820.51	0.11	0.08	3.84
115381	Roaneickie Montgomery	Passenger Car	960	293.89	0.01	0.01	0.30
116086	Ronald Dudley	Passenger Car	17000	5,204.23	0.15	0.10	5.24
115661	Ronald Hunter	Passenger Car	9600	2,938.86	0.09	0.06	2.96
115394	Roosevelt Hall	Passenger Car	5760	1,763.31	0.05	0.03	1.77
133962	Saikiran Yerrapragada	Passenger Car	10000	3,061.31	0.09	0.06	3.08
115335	Sharrie Scott	Passenger Car	4320	1,322.49	0.04	0.03	1.33
115491	Shola Johnson	Passenger Car	6500	1,989.85	0.06	0.04	2.00
115344	Steve Verano	Passenger Car	5760	1,763.31	0.05	0.03	1.77
132300	Syed Naqvi	Passenger Car	15600	4,775.64	0.14	0.09	4.80
115363	Tamar Holloman	Passenger Car	15600	4,775.64	0.14	0.09	4.80
115864	Thomas Herder	Passenger Car	14300	4,377.67	0.13	0.09	4.40
115484	Thomas Todd	Passenger Car	12960	3,967.46	0.12	0.08	3.99
123617	Timothy Angell	Passenger Car	15400	4,714.42	0.14	0.09	4.74
115664	Tin Tran	Passenger Car	16000	4,898.10	0.14	0.10	4.93
115378	Torre Kent	Passenger Car	6720	2,057.20	0.06	0.04	2.07
121069	Wendy Bassil	Passenger Car	7680	2,351.09	0.07	0.05	2.37

Source ID	Source Description	Vehicle Type	Vehicle-Miles (miles)	CO ₂ Emissions (kg)	CH ₄ Emissions (kg)	N ₂ O Emissions (kg)	CO ₂ e Emissions (MT)
115422	Wondewossen Tessema	Passenger Car	12960	3,967.46	0.12	0.08	3.99
115933	Yaw-Yuan Chang	Passenger Car	8000	2,449.05	0.07	0.05	2.46
136	Kulpreet Singh	Passenger Car	14000	4,285.83	0.13	0.08	4.31
		Passenger Car	1440	440.83	0.01	0.01	0.44
		Passenger Car	4320	1,322.49	0.04	0.03	1.33
Total for Personal Vehicles			1,061,304	324,898.06	9.54	6.38	326.86

The data above is only representative of 157 employees. There are approximately 5,000 employees and it is assumed that the remaining 4,843 employees commute by passenger car to client sites. To estimate the emissions from their commute, the data for passenger cars above (which represents 140 employees) was scaled up to 4,843 employees. Therefore, emissions from the remaining employees are 11,306.90 MT CO₂e. This is assuming each employee commutes 30 miles daily, 5 days a week. This emissions total is most likely overreported.

Public Transport by Employee Commuting (Rail, Bus, Transit)

Source ID	Source Description	Transport Type	Passenger-Miles (miles)	Emissions			
				CO ₂ (kg)	CH ₄ (g)	N ₂ O (g)	CO ₂ e (MT)
154	Sat Singh	Intercity Rail	14,000	1,582	129	36	1.60
135388	Mrunali Patel	Bus	600	42	3	1	0.04
134538	Alithia Mansour	Transit Rail	2,400	223	18	2	0.22
120739	Austin Budrich	Transit Rail	4,800	447	36	5	0.45
115581	Bisrat Dagnachew	Bus	2,400	170	12	5	0.17
115487	Bryant Adams	Transit Rail	3,840	357	29	4	0.36
123064	Chemire Brown	Intercity Rail	25,920	2,929	238	67	2.95
115401	Huy Lam	Intercity Rail	14,400	1,627	132	37	1.64
130009	Ivory Gaines	Bus	9,600	679	48	20	0.69
115485	Muhammed Zaidi	Transit Rail	4,800	447	36	5	0.45
115382	Ronald Webb	Transit Rail	4,800	447	36	5	0.45
116391	Ryan Rice	Transit Rail	4,800	447	36	5	0.45
122891	Charniqua Carpentier	Transit Rail	4,560	424	34	5	0.43
115620	Desmond Rowe	Transit Rail	6,000	558	45	6	0.56
135496	Endia Sharpe	Transit Rail	6,000	558	45	6	0.56
115390	Joseph Matovu	Bus	2,880	204	14	6	0.21
115660	Marcus Gaylord	Transit Rail	1,200	112	9	1	0.11
Total for all Public Transportation Employee Commuting				11,253.30	899.98	218.10	11.34

Total CO₂ Emissions by Commuting Type

Transport Type	CO ₂ (kg)	CH ₄ (g)	N ₂ O (g)	CO ₂ e (MT)
Passenger Car	11,239,152.26	329,916.41	220,774.25	11,306.90
Intercity Rail - Other Routes	6,138.16	499.74	141.23	6.19
Transit Rail (i.e. Subway, Tram)	4,020.58	322.37	43.96	4.04
Bus	1,094.55	77.87	32.91	1.11

Note: The passenger car emissions presented above are scaled up to 5,000 employees based on employee commuting survey data of 157 employees.

CHAPTER 4: Summary

4.1 Year to Year Comparison Summary of Calculated GHG Emissions

Scope	Source	2023 Emissions (MT CO _{2e})	2022 Emissions (MT CO _{2e})
Scope 1	Mobile Combustion	6.80	9.2
Scope 2	Purchased Electricity	2.29	7.8
Scope 3	Category 6 Business Travel	14.75	16.5
Scope 3	Category 7 Employee Commuting	11,645.09	346.7
All	2023 Total Emissions	11,668.92	381

4.1.1 Methods and Emission Factors

Emission factors from the EPA Emission Factors Hub 2024 were used in the calculation of emissions. This includes EPA eGRID2022 emission factors for electricity. Electricity usage was provided in the form of invoices for McLean, and the 2022 electricity usage for Alexandria was assumed for 2023. The annual mileage for each Ford vehicle was provided by TSCTI. Business travel data was provided in the form of miles traveled. Employee commuting data was estimated using 2022 data for ~150 employees and was scaled to include all 5,000 employees.