



FY 2024 GREENHOUSE GAS INVENTORY

Valley Children's Healthcare

Prepared by:

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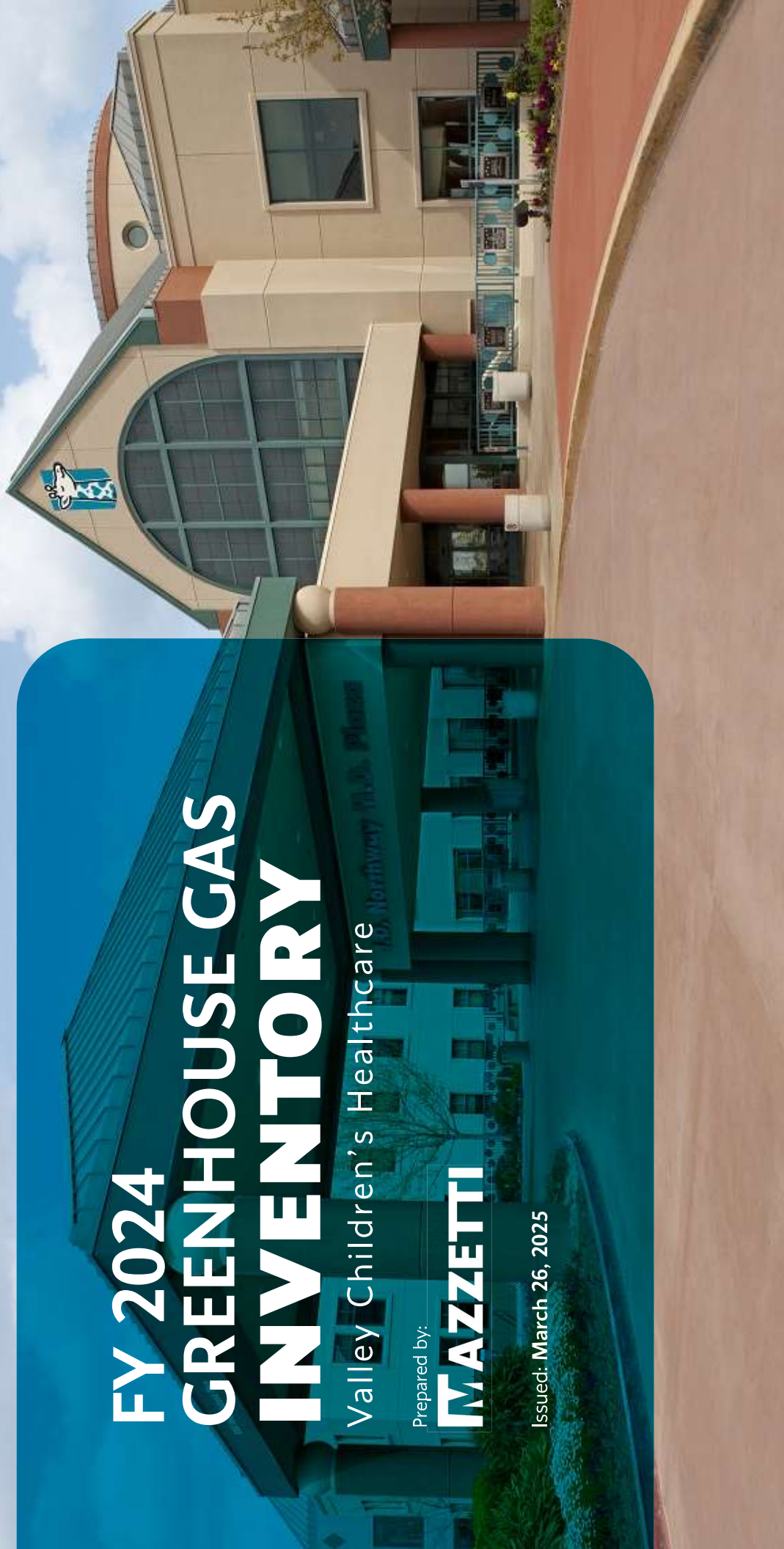




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EXECUTIVE SUMMARY

The following Greenhouse Gas Inventory was prepared for Valley Children's Healthcare (VCH) by Mazzetti, following the GHG Protocol Accounting and Reporting Standards. This emissions inventory provides a high-level perspective of anthropogenic greenhouse gas (GHG) emissions from various sectors in VCH. Mazzetti was engaged in calculating the Hospital's greenhouse gas emissions inventory for the fiscal year (FY) 2024, marking the second year of emissions reporting since the baseline year, 2023. This reflects VCH's unwavering commitment to transparency, environmental stewardship, and sustainability.

The inventory was formulated with the following considerations:

- It includes Scope 1, Scope 2, and Scope 3 emissions sources for FY 2024, that is, October 1, 2023, to September 30, 2024.
- The greenhouse gases considered include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, desflurane, isoflurane, and sevoflurane.
- The contribution of each emission source is shown in Metric Tons of CO₂ equivalent (MTCO₂e)

In FY 2024, VCH emitted a total of 74,364 MTCO₂e across four buildings, the main hospital, professional center, therapy center, and the central plant. These emissions were categorized into three scopes as per the Greenhouse Gas Protocol:

- **Scope 1 Emissions:** Accounted for 6,266 MTCO₂e, encompassing direct emissions from sources owned or controlled by the hospital, such as on-site fuel combustion, fleet vehicles, medical gas, and refrigerants.
- **Scope 2 Emissions:** Amounted to 5,547 MTCO₂e, resulting from indirect emissions from purchased electricity.
- **Scope 3 Emissions:** This represents the majority of emissions at 62,551 MTCO₂e, and it refers to indirect emissions from sources not owned or controlled by the hospital, such as employee commuting, business travel, patient transport, waste generation, and supply chain activities.

Mazzetti extends its sincere gratitude to all stakeholders involved in providing the necessary data for calculating this inventory. Their cooperation and dedication have been instrumental in ensuring the accuracy and completeness of this report.

Valley Children's Healthcare FY 2024 Emissions Summary

Emissions Type	Annual Emissions per Scope for FY 2023 (MT CO ₂ e)	Annual Emissions per Scope for FY 2024 (MT CO ₂ e)	Percentage Change
Scope 1	6,202	6,266	1%
Scope 2	6,389	5,547	-13%
Scope 3	69,523	62,551	-10%
TOTAL	82,114	74,364	-9%

VCH achieved a remarkable 9% reduction in emissions compared to FY2023. Scope 2 emissions decreased by 13%, while Scope 3 emissions saw a 10% reduction. These significant improvements highlight VCH's dedication to minimizing its environmental impact.



METHODOLOGY

This Greenhouse Gas (GHG) inventory was prepared for Valley Children's Healthcare following the GHG Protocol Corporate Accounting and Reporting Standard. It includes:

- Scope 1 - Direct emissions from owned or controlled sources such as natural gas boilers, mobile sources such as fleet vehicles, and unintentional fugitive emissions like refrigerant loss and anesthetic gas use.
- Scope 2 - Indirect emissions from generating purchased energy such as electricity, chilled water, and hot water.
- Scope 3: All other indirect emissions that occur upstream and downstream in the value chain for the portion of VCH's operations included in the boundary of this inventory.

BOUNDARY OF INVENTORY

This inventory includes the following buildings:

- Main Hospital - 619,884 sq. ft.
- Professional Center - 62,703 sq. ft.
- Therapy Center - 11,941 sq. ft.
- Central Plant - 29,728 sq. ft.



CONSOLIDATION APPROACH

<input checked="" type="checkbox"/> Equity Share	<input checked="" type="checkbox"/> Financial Control	<input checked="" type="checkbox"/> Operational Control
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Defining an organizational boundary is a vital component in corporate GHG accounting, as this determines which elements will be included as part of the carbon footprint and how emissions from each operation are consolidated and reported.

The Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard details three consolidation approach options for defining an organizational boundary, which encourages a consistent approach across the Scope 1, scope 2, and Scope 3 inventories. The selection of a consolidation approach affects which activities in the company’s value chain are categorized as direct emissions (scope 1) and indirect emissions (scope 2 & 3). The Operational Control consolidation approach was used for this inventory.

CONSOLIDATION APPROACH	DESCRIPTION
Equity Share	The equity share approach reflects economic interest, which is the extent of rights a company has to the risks and rewards flowing from an operation. Typically, the share of economic risks and rewards in an operation is aligned with the company’s percentage ownership of that operation, and the equity share will normally be the same as the ownership percentage. Under the equity share approach, a company accounts for GHG emissions from operations according to its share of equity in the operation.
Financial Control	Financial control is defined as the ability to direct the financial and operating policies of an operation to gain economic benefits. A company is considered to financially control an operation if it retains a majority of risks and rewards of ownership of the operation’s assets.
Operational Control	Operational Control is defined as the authority to introduce and implement operating policies. Based on his definition, it was determined that VCH has operational control over its facilities. Under the operational control approach, a complete inventory accounts for 100% of emissions from operations under the organization’s control, including owned and leased assets. As a result, this constitutes a partial inventory due to its limitation to the facilities listed above.

DATA COLLECTED

The table below summarizes the data types that were collected and analyzed for this inventory.

EMISSIONS SCOPE	EMISSIONS SOURCE	DATA COLLECTED
Scope 1	On-site Natural Gas	Natural gas usage and vendor details
	Fleet Vehicles	Annual vehicle distance traveled along with vehicle type, make, model, year, and fuel type for all owned and leased vehicles.
	Generator Fuel	Annual fuel purchase record for emergency generators.
	Medical Gas	Annual Anesthetic/Medical gas usage record.
	Refrigerants	Annual Refrigerant recharge record by campus.
Scope 2	Purchased Electricity - Market-based	Electricity usage and vendor details
	Purchased Electricity - Location based	Electricity usage and vendor details
	3.1 Capital Goods	Annual general ledger reporting for capital procurement expenses.
	3.2 Purchased Goods & Services	Annual general ledger reporting for non-personnel expenses.
	3.3 Fuel & Energy-Related Activities	Annual fuel data and grid report on transmission and distribution losses.
Scope 3	3.5 Solid Waste	Annual water consumption volume, municipal utility greenhouse gas reporting, municipal utility total volume treated.
	3.5 Wastewater	Annual solid waste volume by type.
	3.6 Business Travel	Dollars spent in various transportation modes (annual).
	3.7 Employee Commute	Annual employee work location data.
	3.9 Patient Transport	Patients in-person encounter annual data.
	3.9 Helicopter Fuel	Annual Flight hours and fuel burn rate.
	3.11 Use of Sold Products	Inhalers type and quantity sold.

DATA EXCLUSIONS

Emissions sources excluded from this inventory.

EXCLUDED SOURCES	SCOPE 3 SOURCES
	3.1 Purchased Goods and Services
	3.2 Capital Goods
	3.3 Fuel and Energy Related Activities
X	3.4 Upstream Transportation and Distribution
	3.5 Waste Generated in Operations
	3.6 Business Travel
	3.7 Employee Commuting
X	3.8 Upstream Leased Assets
	3.9 Downstream Transportation and Distribution
X	3.10 Processing of Sold Product
	3.11 Use of Sold Product
X	3.12 End-of-Life Treatment of Sold Product
X	3.13 Downstream Leased Assets
X	3.14 Franchises
X	3.15 Investments

GLOBAL WARMING POTENTIAL

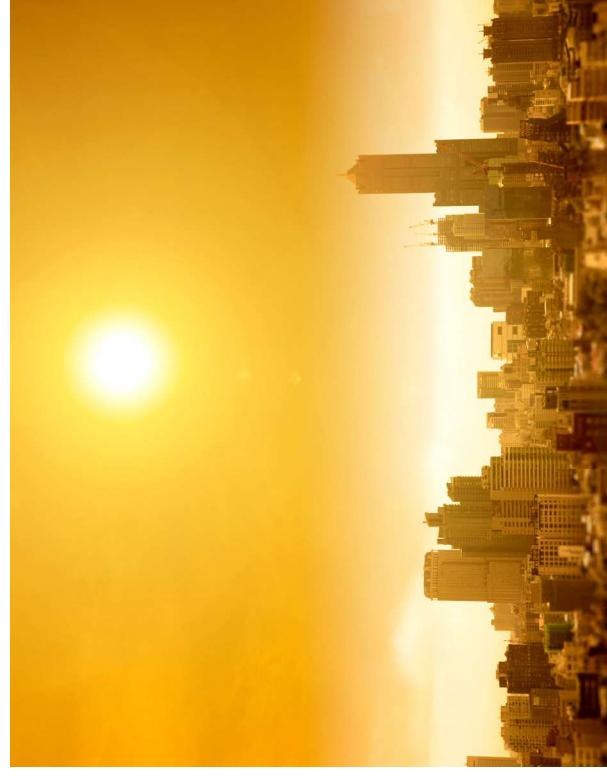
GWP values from the Intergovernmental Panel on Climate Change (IPCC) sixth assessment report (AR6) are used when calculating metric tons of carbon dioxide equivalent (MTCO₂e).

GREENHOUSE GAS	GWP*
CO ₂	1
CH ₄	29.8
N ₂ O	273
HFC's	1,300-4,000
Desflurane	2,590
Isoflurane	539
Sevoflurane	195

*[Source](#)






STANDARDS APPLIED

This GHG inventory was compiled following the GHG Protocol Corporate Accounting and Reporting Standard, revised edition, published by the World Resource Institute in 2015.





EMISSIONS CALCULATION METHODOLOGY





Scope 1

Scope 1 Emission Sources	Description of the types, sources, and quality of data used to calculate emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions
 <p>On-site Natural Gas</p>	<p>Natural gas data was provided by the VCH Facilities Management team. VCH gets its On-site Natural gas from NRG Energy.</p>	<p>The emissions factors for natural gas were obtained from the EPA GHG Emission Factors Hub.</p>
 <p>Fleet Vehicles</p>	<p>Fleet mileage data was provided by the VCH Facilities Management team. Fleet vehicle data included in this report includes the fleet vehicles owned by VCH.</p>	<p>EPA Simplified GHG Emissions Calculator (SGEC) version 7 was used to calculate GHG emissions from this source.</p>
 <p>Generator Fuel</p>	<p>Diesel fuel data was provided by VCH Facilities Management team.</p>	<p>The diesel fuel emission factors came from the EPA GHG emission factors hub.</p>
 <p>Medical Gas</p>	<p>Medical gas data was provided by the VCH Pharmacy.</p>	<p>Emissions factors for medical nitrous oxide were obtained from the IPCC Climate Change 2021 Report. 100-year Global Warming Potentials for desflurane, sevoflurane, and isoflurane came from IPCC AR6 Supplementary Material.</p>
 <p>Refrigerants</p>	<p>Refrigerant data was provided by the VCH Engineering and Maintenance team using the refrigerant usage records.</p>	<p>The GHG Protocol Approach 2: Lifecycle Stage Approach emissions factors were used to calculate emissions.</p>







Scope 2

Scope 2 Emission Sources	Description of the types, sources, and quality of data used to calculate emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions
 <p>Purchased Electricity - Market-Based Emissions</p>	<p>Electricity data was provided by the Facilities Management team. Electricity is sourced from Calpine and distributed by PG&E (Pacific Gas & Electric).</p>	<p>Valley Children's Healthcare sources all of its electricity from Calpine Solutions. The emissions factors are derived from the EPA eGrid Subregion CAMX, reflecting Calpine Solutions' power mix compliant with California State requirements, thus closely mirroring the emissions factors of the California subregion.</p>
 <p>Purchased Electricity - Location-Based Emissions</p>	<p>Electricity data was provided by the Facilities Management team. Electricity is sourced from Calpine and distributed by PG&E (Pacific Gas & Electric).</p>	<p>The annual location-based emissions factors can be found using the EPA's eGrid Explorer tool on their website. The emissions factor is based on the CAMX region for 2023, which was the most current date available.</p>

Scope 3

Scope 3 Emission Sources		Description of the methodologies, allocation methods, and assumptions used to calculate emissions
 <p>Capital Goods</p>	<p>Description of the types, sources, and quality of data used to calculate emissions</p> <p>Expense data was provided by the VCH Finance Department via general ledger reporting.</p>	<p>Expenses were matched with the categories and emissions factors from the EPA Supply Chain Greenhouse Gas Emissions Factors v1.3 by NAICS-6. The National Consumer Price Index (CPI) values with margins were used to adjust spend-based data for inflation. For the Purchased Goods and Services data, an inflation factor of 1.06—calculated from the CPI values for 2022 and 2024—was applied to convert FY2024 dollars into 2022 dollars, aligning with the use of the EPA 2022 emission factors for this category.</p> <p>Expenses were matched with the categories and emissions factors from the EPA Supply Chain Greenhouse Gas Emissions Factors v1.3 by NAICS-6. The National Consumer Price Index (CPI) values with margins were used to adjust spend-based data for inflation. For the Purchased Goods and Services data, an inflation factor of 1.06—calculated from the CPI values for 2022 and 2024—was applied to convert FY2024 dollars into 2022 dollars, aligning with the use of the EPA 2022 emission factors for this category.</p> <p>The total emissions for this category reflect reductions achieved through VCH's partnership with SWITCH, a 100% renewable data center facility. SWITCH provided VCH with 440 Renewable Energy Solar Credits, helping to offset emissions from these services.</p>
 <p>Purchased Goods and Services</p>	<p>VCH Finance Department provided expense data via general ledger reporting.</p>	<p>Upstream Emissions of Purchased Fuels: The emissions associated with the extraction, production, and transportation of natural gas, diesel, and gasoline are reported in Scope 3 emissions using emissions factors from the UK Department for Business, Energy, and Industrial Strategy's 2024 Greenhouse Gas Reporting Conversion Factors. US-based factors are not available via the EPA or other trusted US sources.</p> <p>Upstream Emissions of Purchased Electricity: Directly purchased electricity from Calpine has extraction, production, and transportation emissions associated with it. Emissions were calculated using the UK factors for overseas US electricity production.</p> <p>Transmission and Distribution (T&D) Losses: T&D losses are associated with directly purchased electricity from Calpine Solutions. Grid losses were calculated at 4.2% per the California Energy Commission data.</p>
 <p>Fuel and Energy Related Activities</p>	<p>Electricity data was provided by the Facilities Management team. Electricity is sourced from Calpine and distributed by PG&E (Pacific Gas & Electric).</p>	<p>To calculate emissions from each waste stream, emission factors were used from the EPA GHG emission factors hub.</p>
 <p>Solid Waste</p>	<p>Waste tonnage data for the campus was provided by the Facilities Management team. Miles for the transportation of waste were not included in the inventory.</p>	

Scope 3

Scope 3 Emission Sources		Description of the types, sources, and quality of data used to calculate emissions	Description of the methodologies, allocation methods, and assumptions used to calculate emissions
	Wastewater Treatment and Transport	Wastewater data was provided by the VCH Facilities Management team. Madera county is responsible for the wastewater treatment.	The Madera County wastewater treatment and disposal estimate was used to calculate wastewater Emissions.
	Business Travel	VCH Finance Department provided spend data for this category.	The spend-based method was used to estimate emissions, using secondary EEIO (environmentally extended input-output) factors from the EPA Supply Chain Greenhouse Gas Emissions Factors v1.2 by NAICS-6 . The National Consumer Price Index (CPI) values with margins were used to adjust spend-based data for inflation. For the Purchased Goods and Services data, an inflation factor of 1.06—calculated from the CPI values for 2022 and 2024—was applied to convert FY2024 dollars into 2022 dollars, aligning with the use of the EPA 2022 emission factors for this category.
	Employee Commute	VCH Human Resources Department provided the employee data along with information on workplace preference, that is, in-person/telework. Due to lack of employee mode of transport, it was assumed that all employees commuted to work in single occupancy vehicles.	The Passenger Car (fuel unknown) emission factors were used from the EPA GHG emission factors hub . Assumptions include 48 work weeks per year and two trips per day.
	Patient Transport	The Planning and Data Analytics team provided the total miles travelled by patients in FY2024.	Patient trips of 250 miles or less were assumed to be via passenger car, trips over 250 miles were assumed to be via air, and the distance-based method was used to estimate emissions. The Passenger Car (fuel unknown) and air travel emission factors were used from the EPA GHG emission factors hub .
	Helicopter Fuel	Jet fuel data for VCH was provided by REACH.	The jet fuel (jet A fuel) emission factors came from the Climate Registry 2023 Default Emission Factor Document .
	Use of Sold Products	Data for the annual sale of Metered Dose Inhalers (MDIs) was provided by the Pharmacy team at VCH.	Emissions factors were obtained from IPCC Climate Change 2021 Report and the IPCC AR6 Supplementary Material .

ENTERPRISE-WIDE EMISSIONS SUMMARY

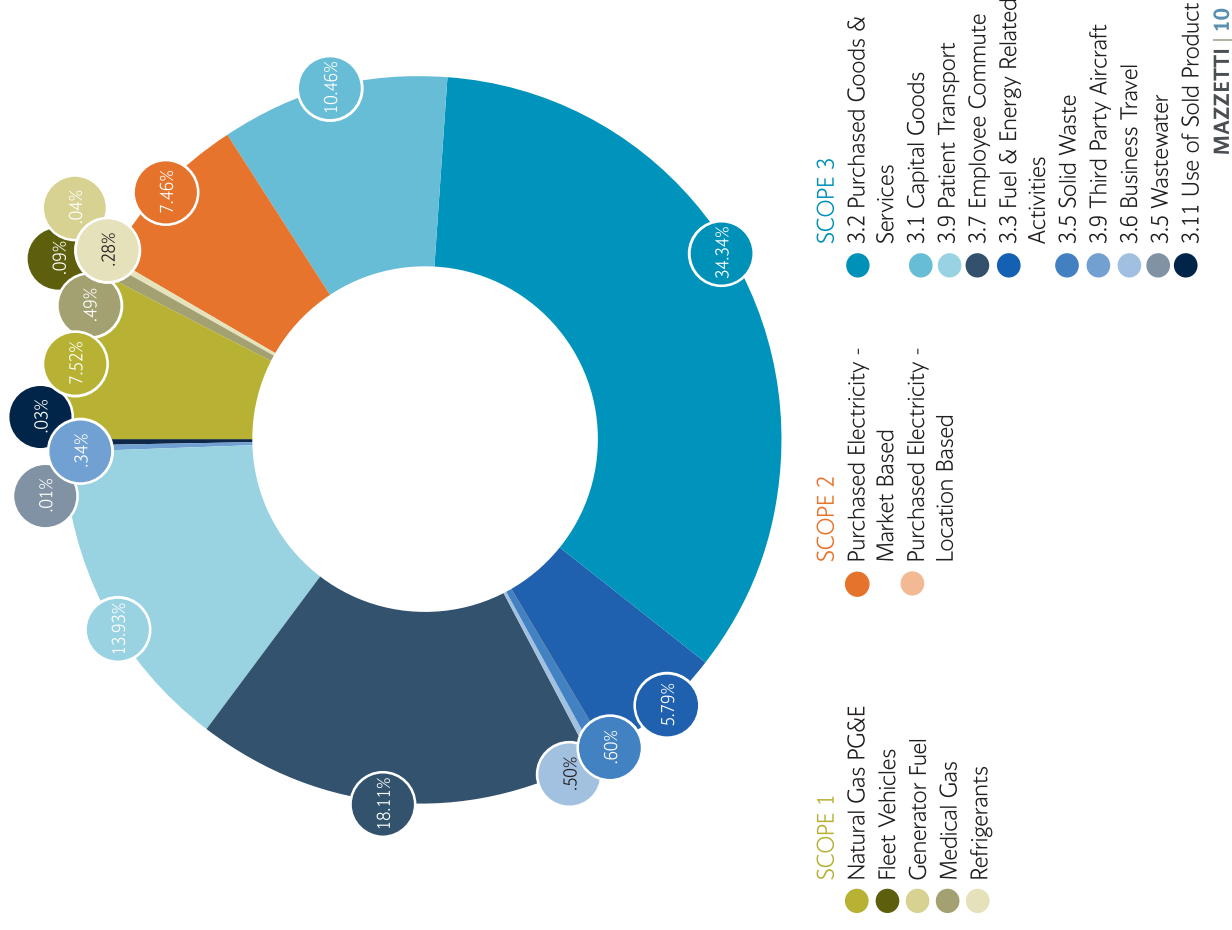
In FY 2024, the greenhouse gas emissions for Valley Children's Healthcare amounted to 74,364 Metric Tons of CO₂ equivalent (MTCO₂e). Scope 1 emissions totaled 6,266 MTCO₂e, Scope 2 emissions totaled 5,547 MTCO₂e, while Scope 3 totaled 62,551 MTCO₂e.



The table below lists VCH enterprise-wide emissions sources from the highest percentage of total emissions to the lowest. This list serves as a guide for prioritizing action, focusing on addressing the larger emissions sources first.

Emissions Category	Percentage of Total Emissions
3.2 Purchased Goods & Services	34.34%
3.7 Employee Commute	18.11%
3.9 Patient Transport	13.93%
3.1 Capital Goods	10.46%
Natural Gas	7.52%
Purchased Electricity - Market Based Emissions	7.46%
3.3 Fuel & Energy Related Activities	5.79%
3.5 Solid Waste	0.60%
3.9 Third Party Aircraft	0.50%
Medical Gas	0.49%
3.6 Business Travel	0.34%
Refrigerants	0.28%
Fleet Vehicles	0.09%
Generator Fuel	0.04%
3.11 Use of Sold Product	0.03%
3.5 Wastewater	0.01%

ENTERPRISE-WIDE SCOPE 1, 2, & 3 EMISSIONS PERCENTAGE BREAKDOWN

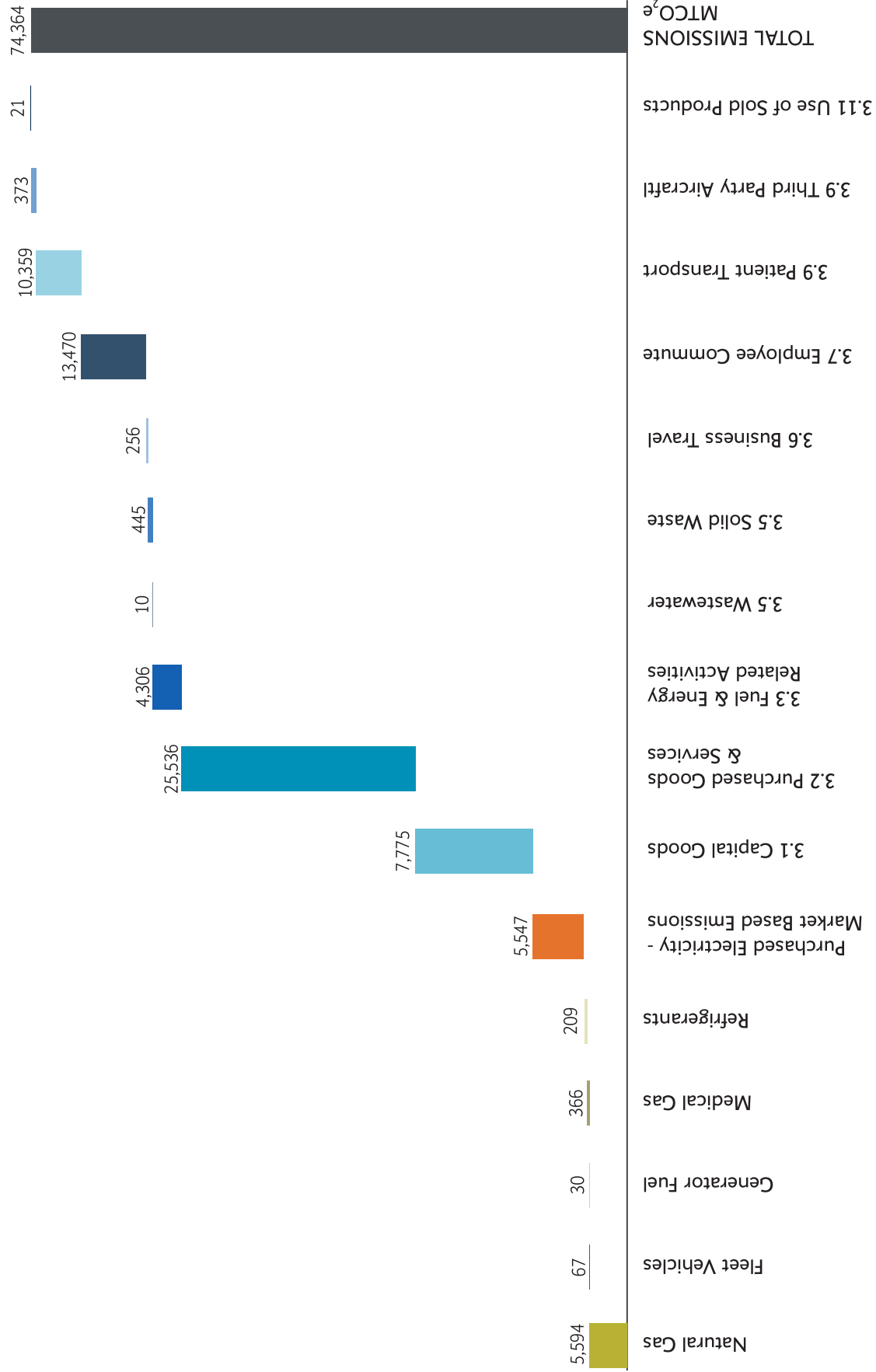


ENTERPRISE-WIDE EMISSIONS BREAKDOWN (MTCO₂e)

Emissions Scope	Emissions Category	Total MTCO ₂ e
SCOPE 1:	Natural Gas	5,594
	Fleet Vehicles	67
	Generator Fuel	30
	Medical Gas	366
	Refrigerants	209
SCOPE 2	Purchased Electricity - Market Based Emissions	5,547
	<i>Purchased Electricity – Location Based Emissions</i>	5,547
SCOPE 3	3.1 Capital Goods	7,775
	3.2 Purchased Goods & Services	25,536
	3.3 Fuel & Energy Related Activities	4,306
	3.5 Wastewater	10
	3.5 Solid Waste	445
	3.6 Business Travel	256
	3.7 Employee Commute	13,470
	3.9 Patient Transport	10,359
	3.9 Third Party Aircraft	373
	3.11 Use of Sold Products	26
	Total Scope 1,2,3 Emissions	74,364

*The GHG Protocol requires Location-based emissions to be reported, with the option of excluding the emission category from the total.

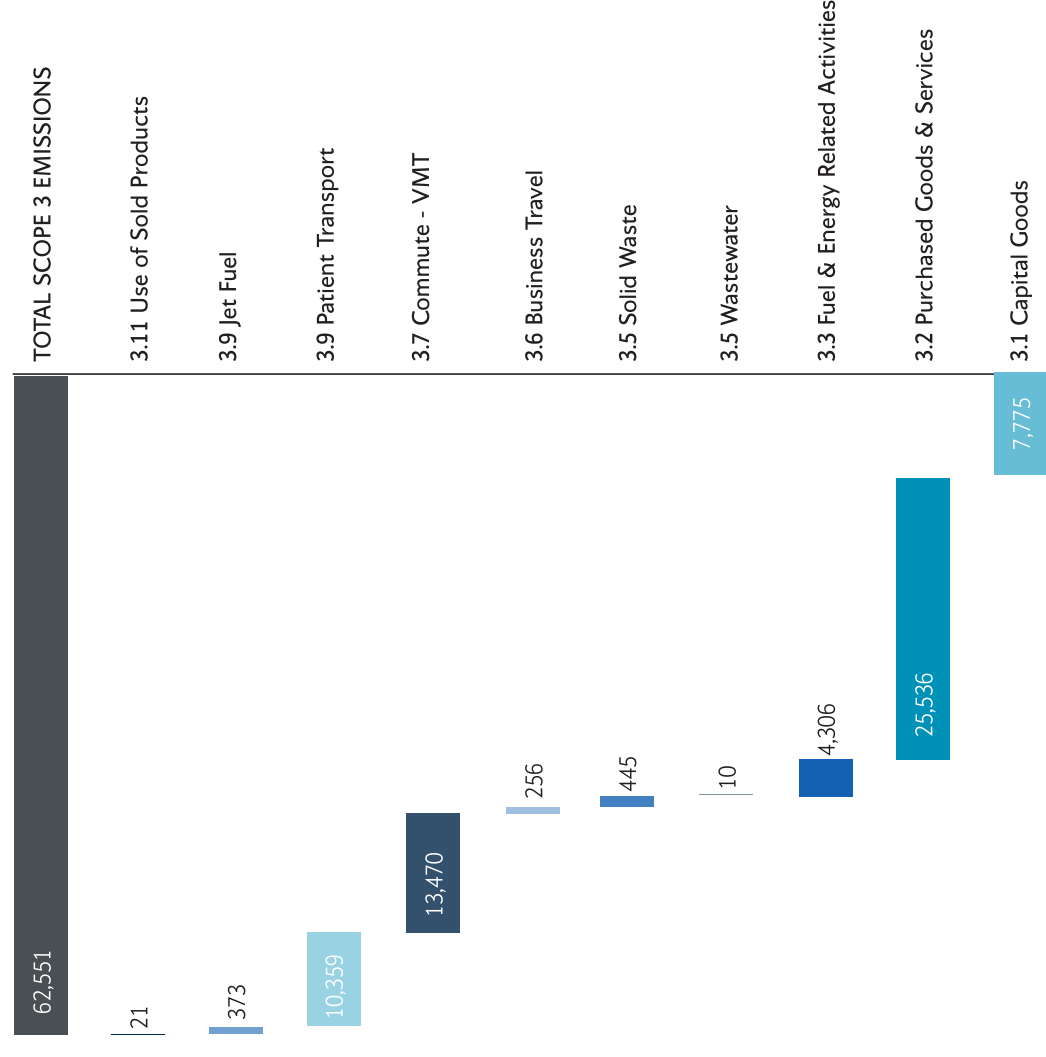
ENTERPRISE-WIDE SCOPES 1, 2, & 3 EMISSIONS BREAKDOWN (MTCO₂e)



ENTERPRISE-WIDE SCOPE 3 BREAKDOWN

Capital Goods, representing 10.46% of VCH Scope 3 emissions, refers to emissions associated with the production, procurement, and use of long-lasting physical assets such as buildings, infrastructure, machinery, and equipment used in the organization's operations. Purchased Goods and Services, the largest source of VCH Scope 3 emissions, constitutes 34.34% of the organization's emissions. This category refers to emissions associated with the goods and services procured by the organization to support its operations.	with employee travel for business purposes. This includes flights, train travel, car rentals, and other modes of transportation used by employees for work-related reasons. Employee Commute, which accounts for 18.11% of VCH Scope 3 emissions, refers to emissions associated with the daily travel of employees to and from their workplace. This includes emissions from transportation modes such as personal vehicles, public transportation, carpooling, and vanpooling.
Fuel and Energy Related Activities, accounting for 5.79% of VCH Scope 3 emissions, refers to emissions associated with the extraction, production, and transportation of fuel and energy sources the organization uses. Wastewater Treatment and Transport, comprising 0.01% of VCH Scope 3 emissions, refers to emissions associated with treating and transporting wastewater the organization generates. Solid waste, accounting for 0.6% of VCH Scope 3 emissions, refers to emissions associated with waste disposal within the organization. Business Travel, accounting for 0.34% of VCH Scope 3 emissions, refers to emissions associated	Patient Transport, representing 13.93% of VCH Scope 3 emissions, refers to emissions associated with transporting patients to and from VCH facilities for medical purposes. It includes emissions from ambulance services, medical shuttle services, and transportation arranged by patients or their caregivers to access healthcare services. Third-party aircraft (Jet Fuel), comprising 0.5% of VCH Scope 3 Emissions, refers to emissions associated with the use of leased aircraft for the transport of patients. Use of Sold Products, which accounts for 0.03% of TCH Scope 3 Emissions, refers to the emissions from the sale of Metered Dose Inhalers (MDIs).

ENTERPRISE-WIDE SCOPE 3 BREAKDOWN (MTCO₂e)



VCH HISTORICAL EMISSIONS COMPARISON SCOPE 1 & 2

The table and graph below illustrate a comparison of Scope 1 and 2 carbon emissions at VCH, offering insights into emissions efficiency.

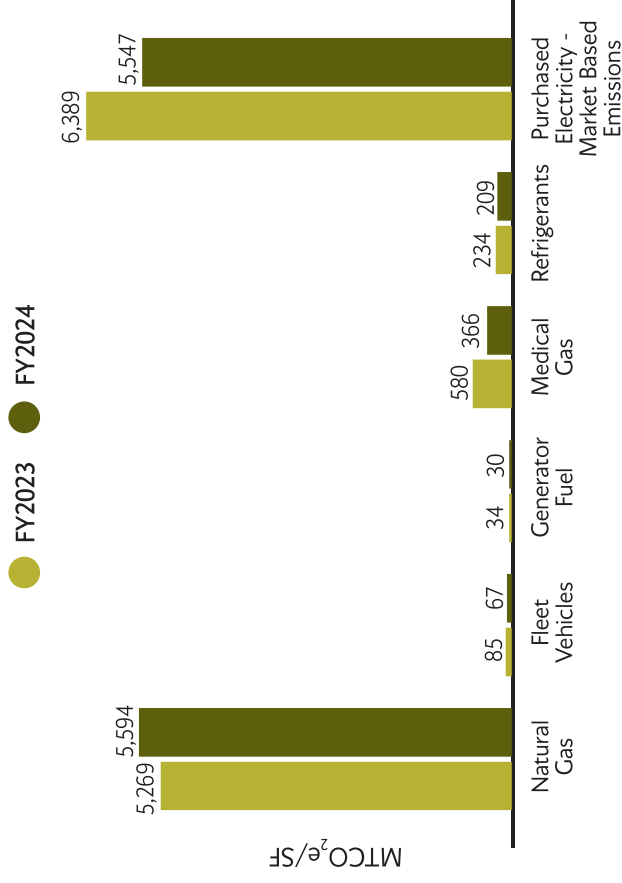
In FY 2024, VCH's total emissions decreased by 9% compared to the baseline year, FY 2023. This reduction was primarily driven by a notable decline in Scope 2 and Scope 3 emissions, which fell by 13% and 10%, respectively.

Further analysis revealed that electricity consumption at VCH increased by 6%. However, overall Scope 2 emissions declined due to a cleaner energy grid compared to the previous year. Calpine Solution continues to integrate more renewable energy into its portfolio to align with California's energy regulations, contributing to a cleaner regional grid. As a result, emissions decreased despite the rise in electricity consumption.

Meanwhile, Scope 1 emissions saw a 1% increase, primarily due to a 6% rise in natural gas consumption in FY 2024. All other Scope 1 categories experienced a decline in emissions.

On further analysis we found the average energy use intensity (EUI kbtu/sf/y) for VCH is 276.98 kbtu/sf/yr. This is 18% higher than the US average for hospitals which is at 234.3 kbtu/sf/yr as stated in [Portfolio Manager Technical Reference: U.S. National Energy Use Intensity](#).

HISTORICAL SCOPE 1 & 2 EMISSIONS COMPARISON



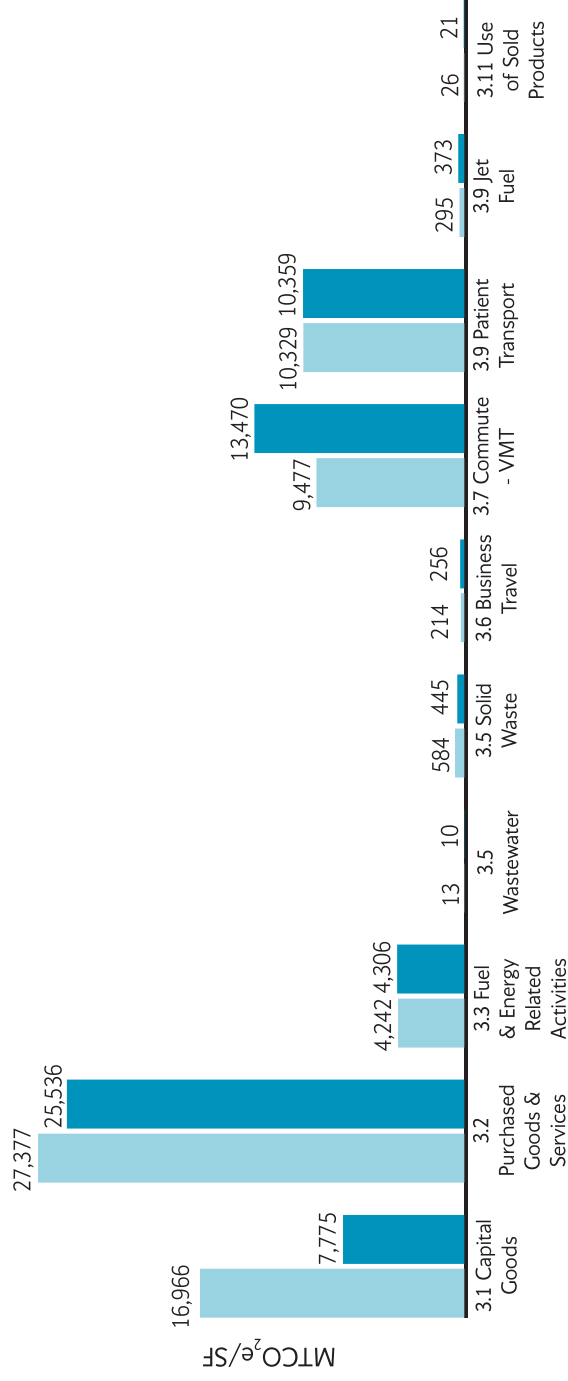
SCOPE	EMISSION SOURCE	FY23 ACTIVITY DATA	FY24 ACTIVITY DATA	UNIT	FY23 TOTAL CO ₂ e	FY24 TOTAL CO ₂ e	UNIT	PERCENTAGE CHANGE
Scope 1	Natural Gas	991,893	1,053,414	Therms	5,269	5,594	Metric Tons	6%
	Fleet Vehicles	154,269	133,750	Miles	85	67	Metric Tons	-21%
	Generator Fuel	3,267	2,906	Gallons	34	30	Metric Tons	-12%
	Medical Gas	6	7	Metric Tons	580	366	Metric Tons	-37%
	Refrigerants	192	198	Pounds	234	209	Metric Tons	-11%
Scope 2	Purchased Electricity - Market Based Emissions	26,426,979	27,920,855	kWh	6,389	5,547	Metric Tons	-13%

VCH HISTORICAL EMISSIONS COMPARISON SCOPE 3

Scope 3 emissions saw major changes in categories 3.1 Capital Goods and 3.7 Employee Commute categories. FY24 expense data showed a 40% reduction in capital goods expenses which results in about 54% decreases in the emissions for this category. Whereas, for employee commute, higher commute miles were reported which could be a result of an increase in in-person employees. The emissions for this category increased by 42%.

HISTORICAL SCOPE 3 EMISSIONS COMPARISON

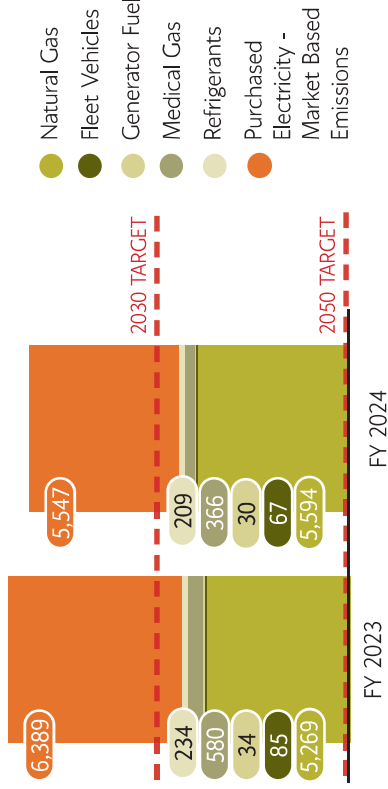
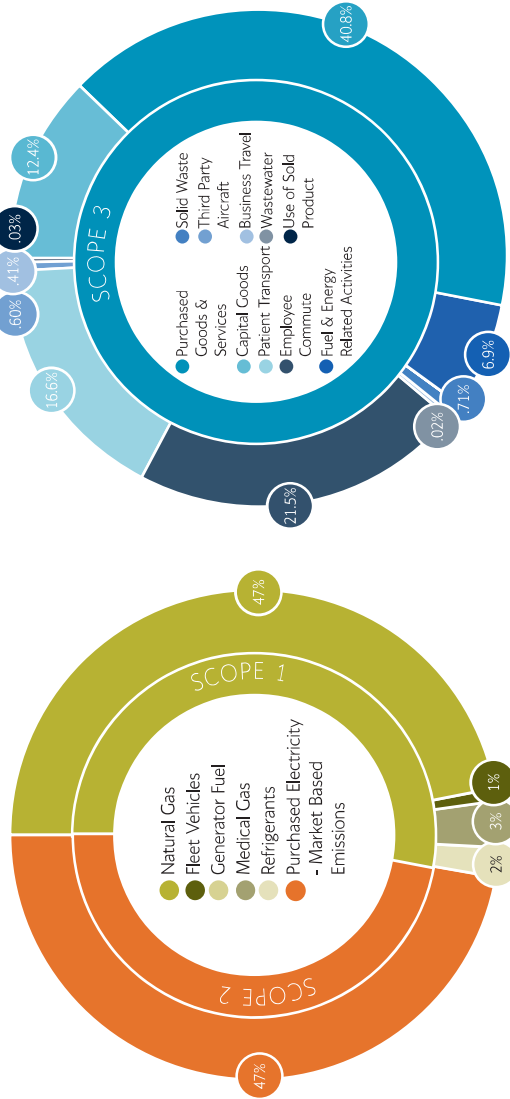
● FY2023 ● FY2024



SCOPE	EMISSION SOURCE	FY23 ACTIVITY DATA	FY24 ACTIVITY DATA	UNIT	FY23 TOTAL CO ₂ E	FY24 TOTAL CO ₂ E	UNIT	PERCENTAGE CHANGE
Scope 3	3.1 Capital Goods	75,291,373	39,243,721	Dollars	16,966	7,775	Metric Tons	-54%
	3.2 Purchased Goods & Services	226,939,740	242,559,773	Dollars	27,377	25,536	Metric Tons	-7%
	3.3 Fuel & Energy Related Activities	-	-	Muiltple	4,242	4,306	Metric Tons	1%
	3.5 Wastewater	2,000	2,000	kWh/MG	13	10	Metric Tons	-25%
	3.5 Solid Waste	1,259	934	Tons	584	445	Metric Tons	-24%
	3.6 Business Travel	481,410	929,319	Dollars	214	256	Metric Tons	20%
	3.7 Employee Commute	30,072,284	43,737,690	Miles	9,477	13,470	Metric Tons	42%
	3.9 Patient Transport	34,320,771	34,087,564	Miles	10,329	10,359	Metric Tons	0%
	3.9 Third Party Aircraft	30,000	38,270	Gallons	295	373	Metric Tons	26%
	3.11 Use of Sold Product	11,647	15,829	gram	26	21	Metric Tons	-18%

Valley Children's Healthcare

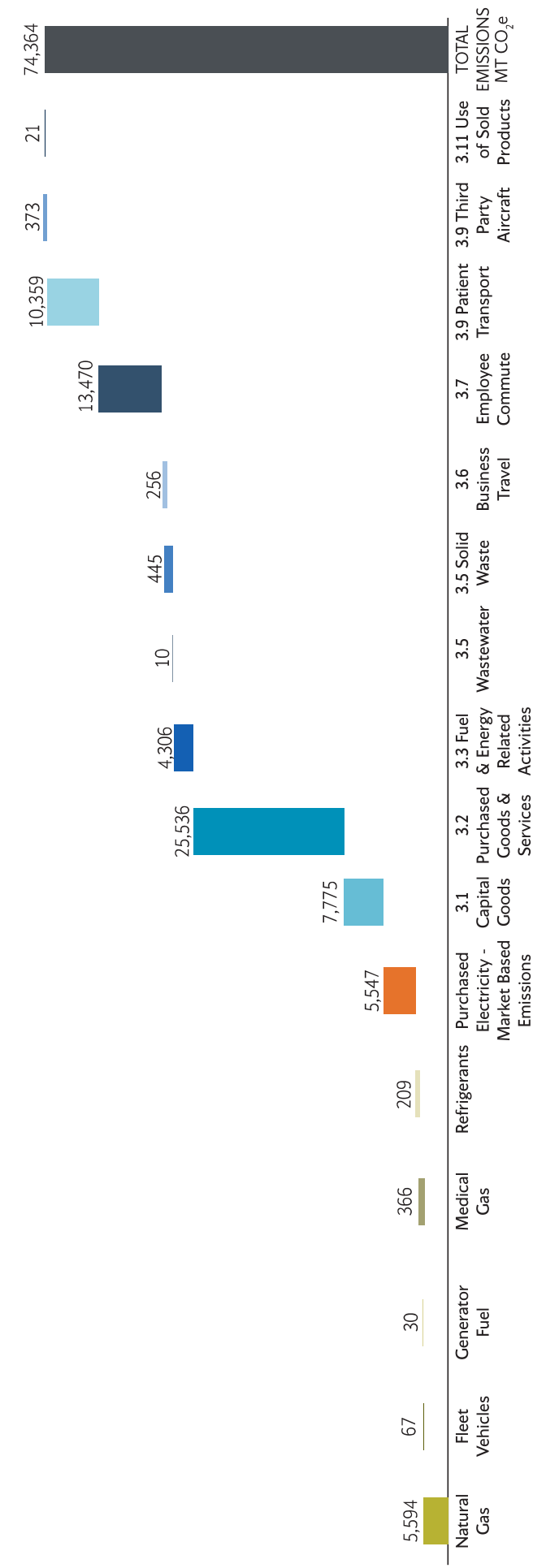
9300 Valley Children's Place, Madera, CA



SCOPE 1 & 2 EMISSIONS BREAKDOWN

SCOPE 3 EMISSIONS BREAKDOWN

HISTORICAL SCOPE 1 & 2 EMISSIONS COMPARISON



EMISSIONS BREAKDOWN SCOPE 1, 2, & 3 (MT CO₂e)

CONCLUSION

This Fiscal Year 2024 Greenhouse Gas (GHG) Inventory provides valuable insights into the environmental impact of Valley Children’s Healthcare. It is the second inventory to comprehensively analyze all three scopes for VCH. Additionally, this report presents an outlook on emissions reduction, aligning with the healthcare sector’s climate aspiration to decrease GHG emissions by 50% by 2030 and ultimately achieve net zero emissions by 2050. Comprehensive data collection and analysis identified key carbon-intensive areas across the campus.

In FY 2024, VCH emitted an aggregate of 74,364 MTCO₂e Scope 1, 2, and 3 emissions. 8% of emissions come from Scope 1 sources, which would require capital investment to be reduced, and 7% comes from Scope 2 which could be addressed by either on-site renewable electricity generation and/or a change in electricity procurement practices.

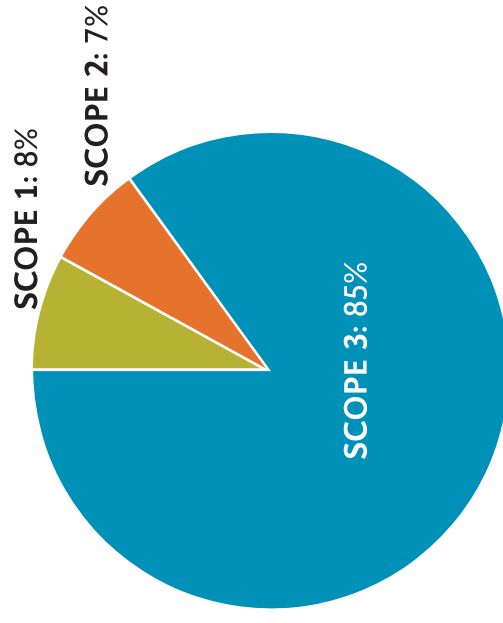
This report demonstrates that VCH achieved a 9% reduction in total emissions from FY2023 to FY2024, with a notable decrease of 13% in Scope 2 emissions. Whereas Scope 1 emissions increased by 1%. Scope 3 emissions saw a decrease of 10% and most of this can be attributed to Capital Goods that saw a notable decrease in expenditure.

The increase in Scope 1 emissions underscores the importance of optimizing operations and enhancing energy efficiency.

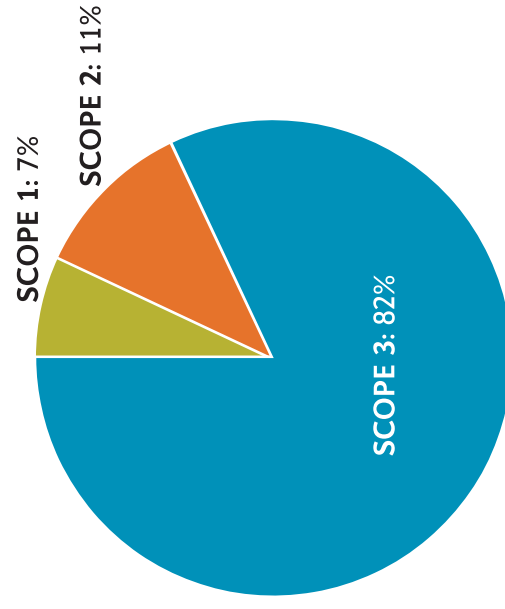
Valley Children’s aggregate market-based emissions are the same as location-based emissions. The emissions factors are derived from the EPA eGrid Subregion CAMX, reflecting Calpine Solutions’ power mix compliant with California State requirements, thus closely mirroring the emissions factors of the California subregion.

EMISSION SCOPE	VCH	AVERAGE US HEALTHCARE EMISSIONS BREAKDOWN	PERCENTAGE DIFFERENCE
Scope 1	8%	7%	20%
Scope 2	7%	11%	-32%
Scope 3	85%	82%	3%

VCH EMISSIONS BREAKDOWN (METRIC TONS OF CO₂e)

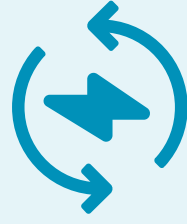


AVERAGE US HEALTHCARE EMISSIONS BREAKDOWN



Reference: <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01247>

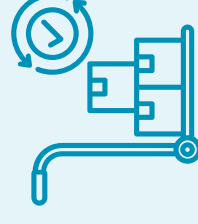
RECOMMENDATIONS



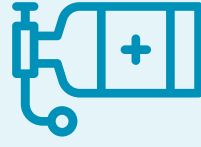
The first step to reducing emissions is to reduce consumption. VCH should perform enterprise-wide energy audits and identify and implement energy reduction opportunities to reduce the overall energy use and make their building more efficient. VCH is in the process of installing a microgrid on campus which will impact Scope 2 emissions significantly.



Scope 3 categories, such as employee commuting and patient transport, can be more effectively monitored by prioritizing the collection of actual data, including the mode of transportation, to ensure more accurate analysis.



The hospital should implement a sustainable procurement policy that includes environmental criteria in selecting and evaluating suppliers to reduce purchased goods and services emissions, the largest source of VCH enterprise-wide emissions. The hospital should prioritize suppliers with solid sustainability practices and certifications and engage with suppliers to encourage sustainable practices throughout the supply chain.



VCH should continue using sevoflurane and isoflurane as anesthetic agents as they have lower GWP than desflurane. To further reduce emissions associated with medical gas, VCH can implement sustainable practices like sourcing local e-cylinders for nitrous oxide for locations that use piped nitrous oxide delivery.



To reduce emissions from Employee Commuting, the hospital should promote alternative transportation methods with lower carbon footprints, such as carpooling, public transportation, cycling, or walking. The hospital can also provide incentives or subsidies for employees who choose these options, such as discounted public transit passes, bike storage facilities, or carpool matching services.

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