St. Joseph's Health Care London

Broader Public Sector

Energy Reporting and Conservation and Demand Management (CDM) Plan

2024 – 2029

Ontario Regulation 25/23, Electricity Act 1998

Prepared by Facilities Management

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1. Background

1.1 Regulatory Update

Ontario's legislative landscape for energy conservation and demand management (CDM) in the broader public sector (BPS) has evolved significantly over the past decade. These developments reflect the province's commitment to promoting energy efficiency, reducing greenhouse gas emissions, and increasing accountability in public sector energy use.

The foundation for CDM planning was laid with the introduction of Ontario Regulation 397/11 under the Green Energy Act, 2009. This regulation came into effect in 2012 and required public sector agencies including: municipalities, school boards, hospitals, and post-secondary institutions to report annually on their energy consumption and greenhouse gas (GHG) emissions. Additionally, agencies were mandated to develop and publish five-year CDM plans to outline their past and proposed energy-saving initiatives.

In 2018, the Ontario government repealed the Green Energy Act through the Green Energy Repeal Act, 2018 (Bill 34). However, rather than abandoning CDM principles, the government transitioned the regulatory framework under the Electricity Act, 1998, and reintroduced the requirements in the form of Ontario Regulation 507/18. This regulation largely mirrored its predecessor but was updated to align with the new legislative context. It reaffirmed the requirement for public agencies to submit annual energy consumption and GHG summaries and maintain five-year CDM plans.

Most recently, on February 23, 2023, Ontario Regulation 507/18 was revoked and replaced by Ontario Regulation 25/23 under the Electricity Act, 1998. This regulation maintains the core requirements of its predecessors while enhancing clarity and administrative efficiency. Key features include:

- Annual reporting of energy consumption and associated GHG emissions via ENERGY STAR Portfolio Manager, due each July 1.
- Public disclosure and internal approval of CDM plans every five years.
- Expanded requirements to report on renewable energy use, heat pump technologies, and projected durations of CDM measures.

These changes underscore a continued emphasis on energy accountability and conservation across Ontario's public institutions. Therefore, St. Joseph's Health Care London remains committed to fulfilling all regulatory obligations under O. Reg. 25/23 and aligning its energy management practices with provincial objectives.

1.2 About St. Joseph's Health Care London

St. Joseph's Health Care London is a leading academic and community teaching health care organization serving Southwestern Ontario. With a legacy rooted in compassion, innovation, and excellence, St. Joseph's provides a broad continuum of services that includes acute and ambulatory medicine, rehabilitation, complex continuing care, geriatric services, long-term care, forensic and mental health services, and academic primary care. Operating across six sites, St. Joseph's integrates patient care with clinical teaching and research, fostering innovation while addressing the diverse and evolving health care needs of the region.

1.3 Introduction

St. Joseph's Health Care London, in alignment with provincial regulations and its own values of respect, excellence, and compassion, has developed this updated Energy Conservation and Demand Management (CDM) Plan to guide strategic energy use and emissions reductions from 2024 through 2029. This CDM Plan fulfills the requirements set out in Ontario Regulation 25/23 under the Electricity Act, 1998, which mandates that broader public sector (BPS) organizations prepare, publish, and maintain updated energy conservation strategies every five years. The plan builds on the foundation of previous CDM efforts developed under O. Reg. 397/11 and O. Reg. 507/18, reflecting a consistent and evolving commitment to energy efficiency, cost savings, and sustainable healthcare operations.

By analyzing past performance, forecasting future reductions, and identifying actionable measures, the CDM Plan serves as both a regulatory compliance tool and a strategic roadmap. It enables Facilities Management and other stakeholders to prioritize energy-efficient design, retrofit aging infrastructure, adopt advanced technologies, and foster organizational accountability. These efforts support St. Joseph's broader mission of delivering exceptional care while minimizing environmental impact.

1.4 Energy Management Vision

At St. Joseph's Health Care London, we believe that energy stewardship is integral to patient care and environmental responsibility. Our energy management vision is rooted in the principle that health care organizations have a duty to "First Do No Harm", a concept that extends beyond clinical settings to encompass the environmental footprint of healthcare operations.

Our vision is to incorporate energy efficiency at every level: from the design and construction of new spaces to the ongoing retrofit of existing infrastructure with more efficient systems and technologies. This vision supports not only the reduction of greenhouse gas emissions and utility costs, but also the creation of healing environments that are thermally comfortable, well-lit, and conducive to health and wellness.

Energy management at St. Joseph's is led by the Facilities Management team in collaboration with London Health Sciences Centre, Honeywell, and other key partners. This multidisciplinary team includes executives, project managers, consultants, analysts, and engineers who are dedicated to embedding sustainability into daily operations. Therefore, St. Joseph's continues to lead by example, making environmentally conscious decisions today that contribute to a healthier, more resilient world tomorrow.

2. Site-Wide Historical Analysis

2.1 Past Site-Wide Energy Intensity

Energy Utilization Index (EUI) measures how much energy a facility uses for every square meter of space. Looking at energy use this way makes it easier to compare buildings of different sizes. For our analysis, we compared our facility against the industry average for hospitals and post-secondary campuses, as reported by Statistics Canada's Commercial and Institutional Energy Use. The benchmark for these facilities is 2.54 GJ/m^2.

Site	2019	2020	2021	2022	2023
St. Joseph's Hospital*	4.44	4.33	4.07	4.31	3.97
Parkwood Institute – Main Building	2.92	2.96	2.71	2.52	2.47
Parkwood Institute – Finch Family Mental Health Care Building	1.81	1.77	1.85	1.55	1.41
Southwest Centre for Forensic Mental Health Care	2.06	1.92	1.78	1.73	1.87
Mount Hope Centre for Long Term Care*	0.57	0.60	0.60	0.59	0.55
St. Joseph's Family Medical and Dental Centre	1.81	1.54	1.47	1.55	1.49

**Purchased steam and on-site produced steam is provided to the St. Joseph's Hospital site and passed through to Mount Hope Centre for Long Term Care and is not separately metered, affecting EUI numbers.*

Table 1: Site-Wide Historic Energy Utilization Indices (GJ/m^2)

2.2 Past Site-Wide GHG Emissions

Greenhouse gas (GHG) emissions are reported in equivalent tonnes of carbon dioxide (tCO_2e). The amount of emissions a facility produces depends on the energy source used. For example, hydroelectricity produces far fewer emissions than coal-fired electricity, and light fuel oil has a lower footprint compared to heavy oil. Table 2 outlines the emission factors used in our calculations. It is important to note that in 2022/2023, emission factors increased, which resulted in higher reported GHG emissions for those years.

Emission Factor	Source	2019	2020	2021	2022	2023
Natural Gas (tCO_2e/m^3)	Enbridge	0.001921	0.001921	0.001921	0.001921	0.001921
Electricity (tCO_2e/kWh)	London Hydro / Hydro One	0.00029	0.00029	0.00029	0.00035	0.00035
	LHSC Co-Generation Plant	0.00075	0.00075	0.00075	0.00075	0.00075
Steam (tCO_2e/mlb)	Enwave	0.1035	0.1035	0.1035	0.1035	0.1035
	LHSC Steam Plant	0.065	0.065	0.065	0.065	0.065

Table 2: Site-Wide Historical GHG Emission Factors

The total site-wide GHG emissions for all St. Joseph's Health Care London sites have been calculated and are shown in Table 3.

Site	2019	2020	2021	2022	2023
St. Joseph's Health Care London	15, 441	14, 894	13, 831	15, 430	13, 851
Parkwood Institute – Main Building	11, 814	11, 224	11, 168	10, 597	10, 494
Parkwood Institute – Finch Family Mental Health Care Building	5, 767	5, 703	5, 876	5, 969	4, 597
Southwest Centre for Forensic Mental Health Care	833	751	730	769	813
Mount Hope Centre for Long Term Care	170	174	175	208	193
St. Joseph's Family Medical and Dental Centre	55	44	36	42	44
Total	34, 080	32, 791	31, 816	33, 015	29, 993

Table 3: Historic Greenhouse Gas Emissions for all Sites

2.3 Past CDM Plan Measures

In July 2019, St. Joseph's Healthcare developed goals and objectives for decreasing the facilities annual energy consumption and resulting greenhouse gas emissions. The following activities, completed between 2019 and 2023, are associated with managing overall energy consumption, lowering annual operating costs, and reducing greenhouse gas emissions.

Site	Measure	Estimated Annual Savings		Project Cost ($)
		Electricity (kWh)	Cost ($)	
St. Joseph's Hospital	Air Handing Unit Variable Frequency Drives (VFDs) and Scheduling	2, 253, 881	926, 145	300, 000
	Chiller Replacement x2	674, 460	75, 000	500, 000
	LED Lighting Retrofit	1, 124, 101	125, 000	300, 000
Parkwood Institute – Main Building	Hot Water Heating System	8, 784	7, 228	450, 000
	Cafeteria Curtain Wall Replacement	8, 784	1, 000	1, 000, 000

Table 4: Past CDM Plan Measures

3. Conservation Demand Management Goals

St. Joseph's Health Care London is committed to advancing energy stewardship as a core part of its operations. The following goals will guide our work over the next five years and ensure that energy management is integrated into decision-making across the organization.

3.1 Integrate Energy Management into Organizational Strategy

We will take a strategic approach to energy management by aligning conservation and demand reduction efforts with our broader organizational priorities. This includes embedding energy considerations into planning, budgeting, and daily operations so that energy efficiency becomes a standard practice at every level of the organization. By connecting energy management to patient care, operational resilience, and financial stewardship, we will achieve lasting reductions in energy use and greenhouse gas emissions. Therefore, energy management will not be seen as a separate initiative but as an essential part of how we operate.

3.2 Support Mission-Critical and Long-Term Organizational Goal

Energy management will directly support St. Joseph's mission to provide compassionate care and act as a responsible steward of the environment. Reducing energy waste improves the healing environment for patients, strengthens the workplace for staff, and helps us reinvest savings into care delivery. Over the long term, we will pursue improvements in building design, equipment efficiency, and procurement practices that deliver measurable reductions in utility costs and emissions. These changes will be sustained by leadership commitment, staff engagement, and strong partnerships with external organizations and funding programs. Therefore, our conservation and demand management efforts will deliver environmental, financial, and community benefits well into the future.

3.3 Achieve Solid Economic Returns from Energy Investments

Energy management initiatives will be evaluated not only for their environmental benefits but also for their financial value. We will use life cycle costing and consistent financial analysis to ensure that projects provide strong returns on investment while lowering the total cost of facility ownership. By approaching energy improvements as sound financial investments, we can demonstrate value to the organization and ensure that savings are redirected toward patient care. Therefore, every conservation effort will be assessed for both sustainability and long-term financial benefit.

3.4 Strengthening Collaboration and Leverage External Resources

We will continue to work with government agencies, local utilities, and external partners to maximize the impact of our energy management initiatives. This includes securing incentive funding, applying best practices from healthcare and energy networks, and adopting innovative technologies that enhance efficiency. Staff across all sites will also be engaged to play a role in identifying and reducing energy waste in day-to-day operations. Therefore, collaboration both within the organization and with external partners will be a key driver of our success.

4. Site Analysis

St. Joseph's Health Care London is one of Ontario's most complex health care organizations, delivering an integrated mix of services supported by a large and diverse health care community. The organization is sustained by 4,814 employees, 1,279 credentialed professionals, 824 volunteers, and nearly 2,200 learners and fellows annually. It provides care through 963 inpatient beds, more than 1,300 inpatient surgeries, over 23,000 day/short-stay surgeries, 848,000 outpatient and outreach visits, and more than 51,000 urgent care visits each year.

Research and innovation are central to St. Joseph's, with the Lawson Health Research Institute leading more than 830 active projects supported by over 2,300 researchers, staff, and fellows. Together, these efforts strengthen patient care, expand medical knowledge, and extend St. Joseph's impact across the province and beyond.

The following section will provide a brief introduction and description of our operations, energy and greenhouse gas (GHG) emissions trends, and specific conservation measures.

4.1 St. Joseph's Hospital

Figure 1: St. Joseph's Hospital

St. Joseph's Hospital continues to expand its role in day and short-stay surgery, ambulatory treatment and management of complex medical and chronic disease, illness prevention, research and education. Interdisciplinary teams provide comprehensive assessment, diagnosis, treatment and follow-up care through our specialty programs, including urology, diabetes, rheumatology, pain management, osteoporosis, hand and upper limb, eye care, lung disease, ears, nose and throat, head and neck surgery, gastroenterology, breast care and more. A full range of diagnostic services, including leading-edge medical imaging, theragnostic, and laboratory services, support the programs.

Facility Information	
Facility Name	St. Joseph's Hospital
Type of Facility	Healthcare
Address	268 Grosvenor Street, London ON
Gross Area (m^2)	81, 708
Average Operational Hours	60 Hours / Week
Outpatient/Outreach Visits	470, 334
Number of Floors	8
Number of Beds	21

Table 5: St. Joseph's Hospital Facility Information

4.1.1 Past Utility Consumption Analysis

St. Joseph's Hospital utilizes electricity, natural gas, and steam as its primary utilities. Purchased steam is passed through the St. Joseph's Hospital site to the Mount Hope Centre for Long Term Care site and is not metered. On-site produced steam is also delivered to Mount Hope. As such, the consumption data for steam and/or natural gas reflects usage from both of these sites. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 6, Figure 2, Figure 3, and Figure 4.

Utility	2019	2020	2021	2022	2023
Electricity (kWh)	18,357,874	18,425,563	17,602,556	16,780,826	16,618,855
Natural Gas (m^3)	16, 214	6, 931	90, 370	97, 848	5, 607
Steam (mlb)	143, 746	138, 611	127, 027	141, 590	128, 105

Table 6: St Joseph's Hospital 2019-2023 Utility Consumption

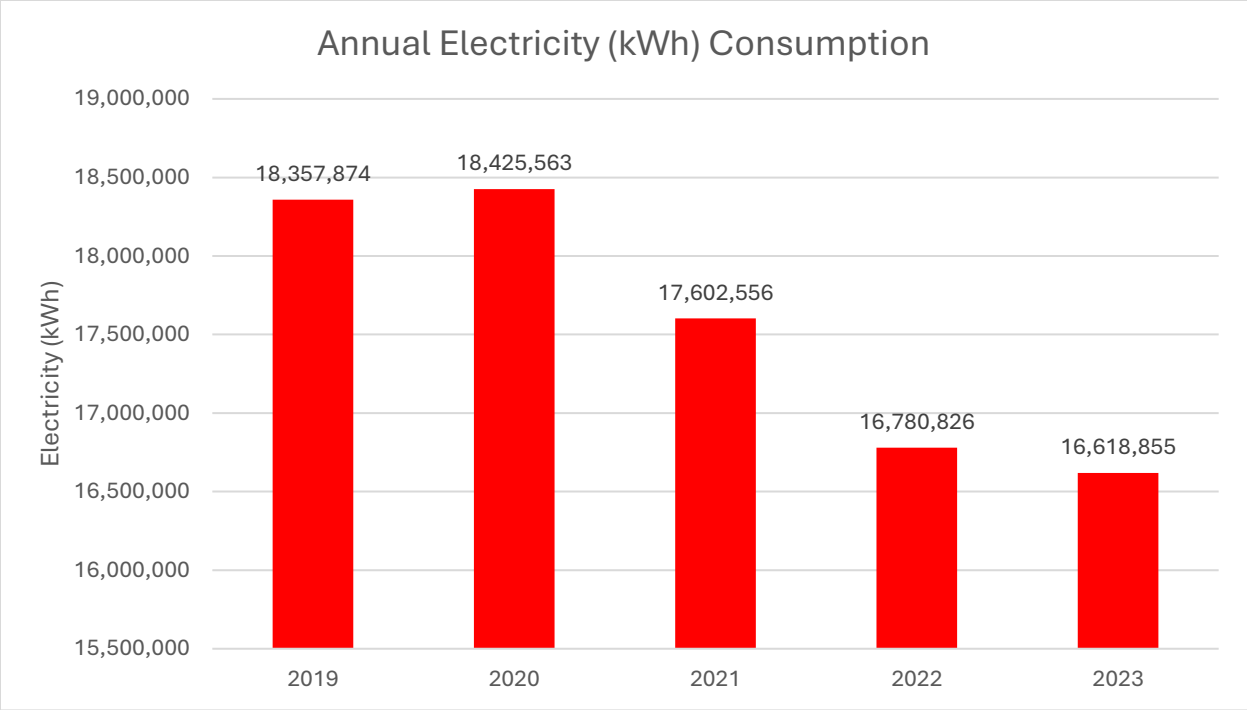

Figure 2: St Joseph's Hospital 2019-2023 Electricity Consumption

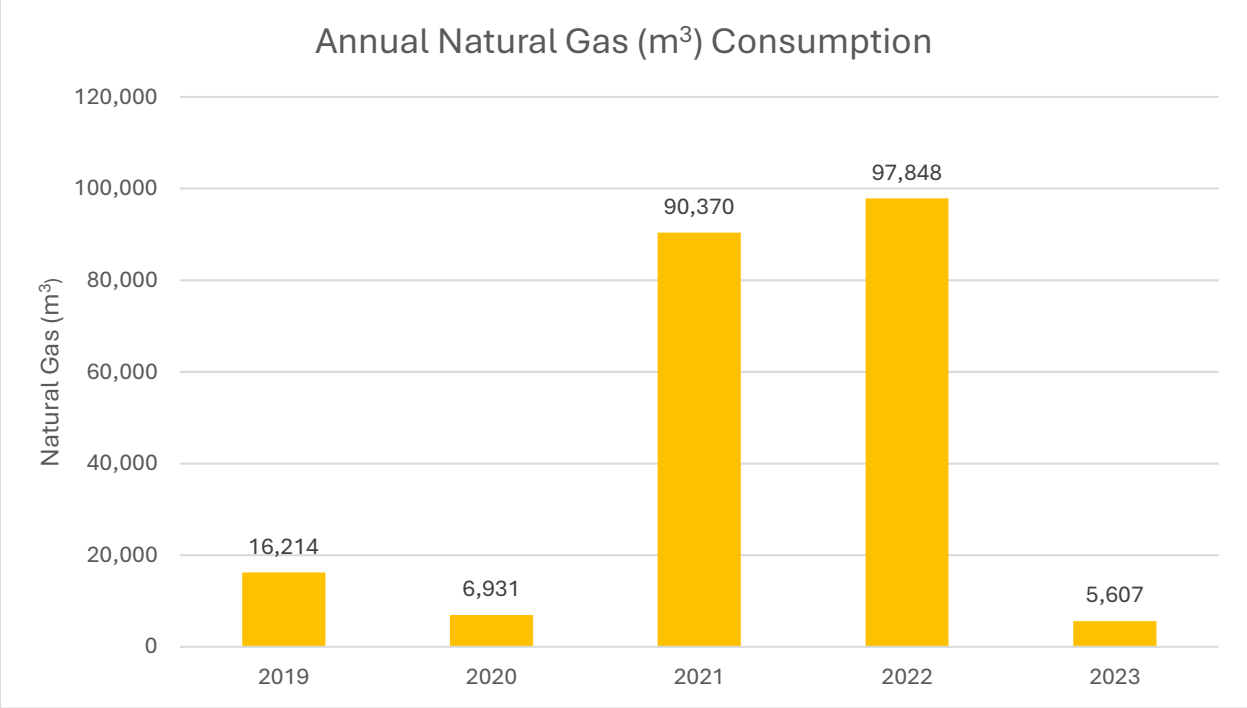

Figure 3: St Joseph's Hospital 2019-2023 Natural Gas Consumption

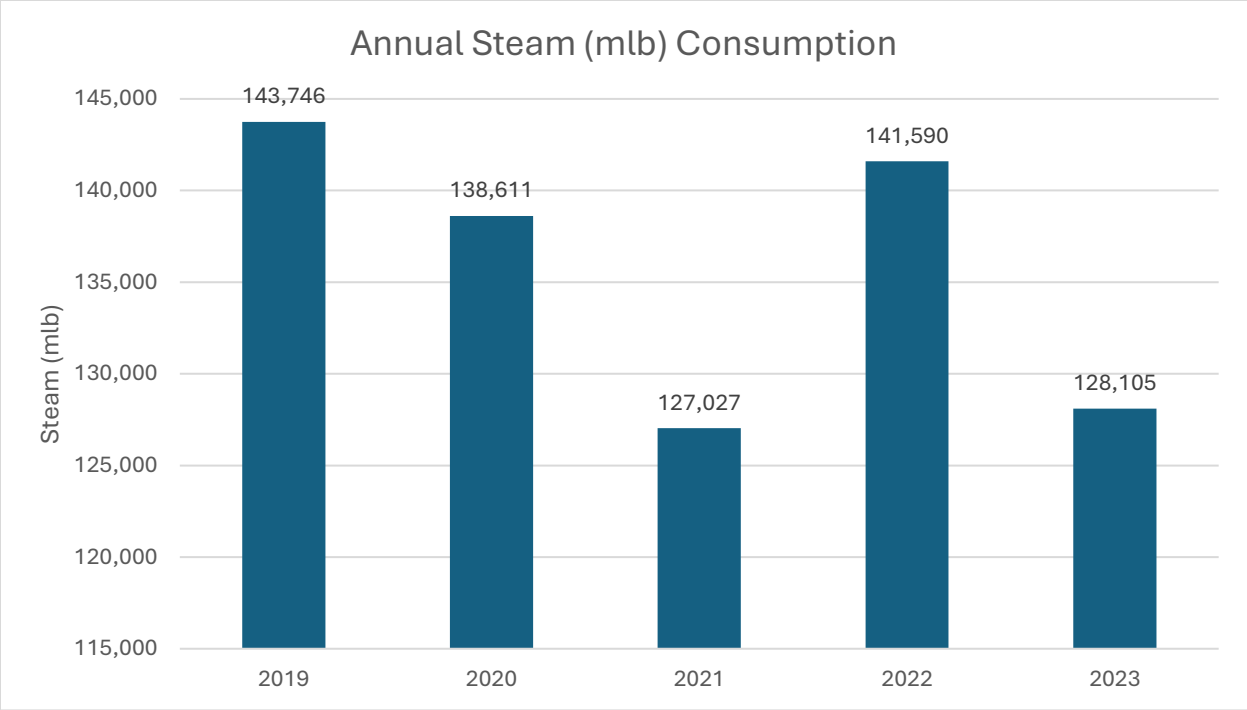

Figure 4: St Joseph's Hospital 2019-2023 Steam Consumption

4.1.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 7 and Figure 5. These emissions have been calculated based on the corresponding energy consumption data provided in Table 6.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	532	534	510	587	582
Natural Gas	31	13	174	188	11
Steam	14, 878	14, 346	13, 147	14, 655	13, 259
Total	15,441	14,894	13,831	15,430	13,851

Table 7: St. Joseph's Hospital 2019-2023 Greenhouse Gas Emissions

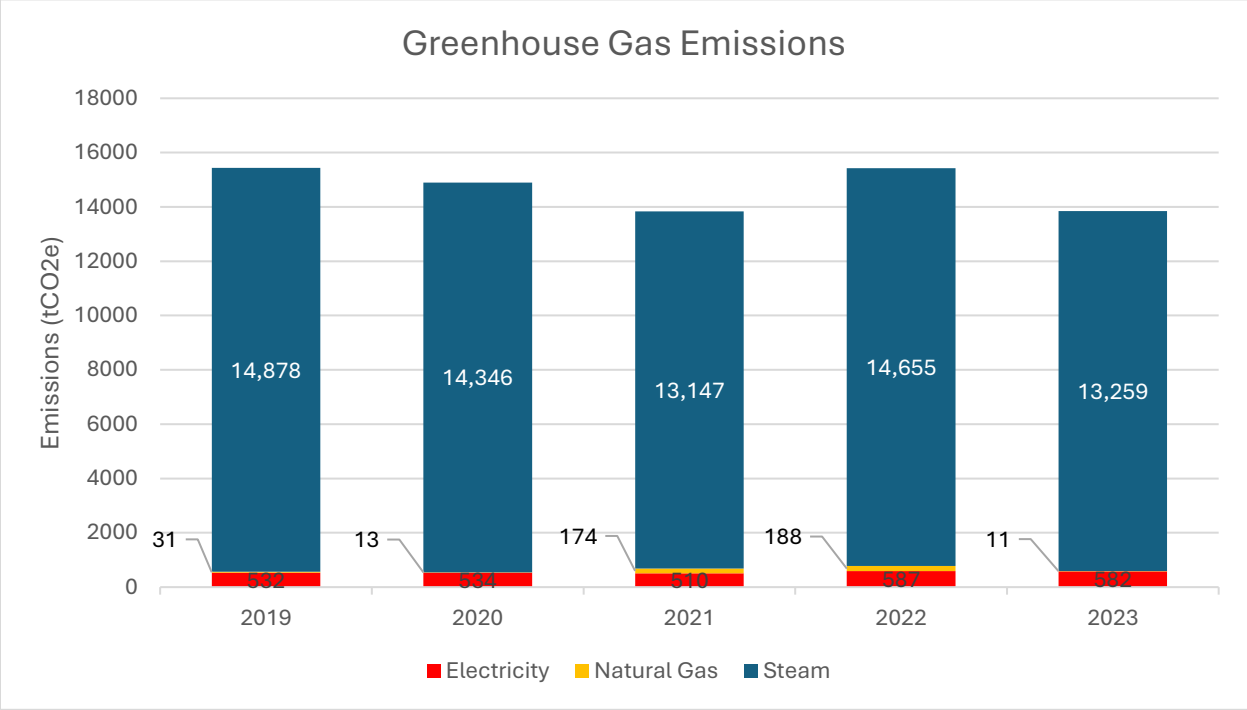

Figure 5: St. Joseph's Hospital 2019-2023 GHG Emissions

4.1.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for St. Joseph's Hospital, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table 8, which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings				Project Cost ($)	Simple Payback (Years)	Project Year
	Electricity (kWh)	Natural Gas (m^3)	Steam (mlb)	Cost ($)			
LED Lighting Retrofit (Illuminating Care)	1, 300, 000	-	-	110, 000	450, 000	4	2025
Flooded Heat Exchanger	-	35, 000	-	35, 000	290, 000	8	2025
Condensing (Flue Gas) Heat Recovery	-	4, 100, 000	-	850, 000	5, 000, 000	6.4	2026
Steam Trap Replacement	-	-	2, 000	25, 000	6, 000	0.15	2025
AHU Run Time Optimization	100, 000	-	-	10, 000	-	-	2025
High Plume Dilution Exhaust Fans	20,000	-	-	2, 000	-	-	-
Photoluminescent Exit Signs	15, 000	-	-	1, 350	3, 500	2.5	2026

Table 8: St. Joseph's Hospital Proposed Conservation Measures

4.1.4 Utility Consumption Forecast

Forecasted electricity, natural gas, and steam consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 9: Table 9, Figure 6, Figure 7, and Figure 8 with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	17,708,226	+ 6.5	16,223,855	- 2	15,828,855	- 5	15,433,855	- 7	15,183,855	- 9
Natural Gas (m^3)	2, 339	- 58	4,078,969	+ 72647	2,541,236	+ 45223	2,541,236	+ 45223	2,541,236	+ 45223
Steam (mlb)	113, 267	- 13	100, 000	- 21	100, 000	- 21	100, 000	- 21	89,673	- 30

Table 9: St Joseph's Hospital 2024-2028 Utility Consumption Forecast

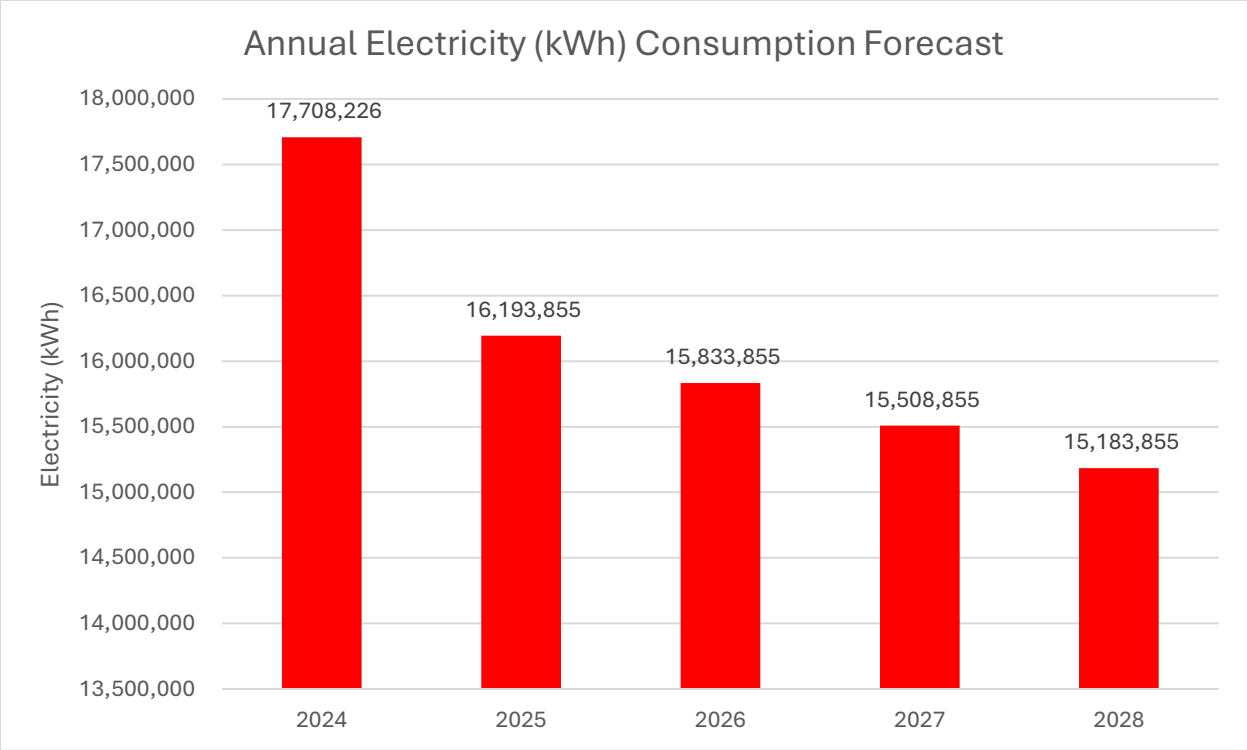

Figure 6: St. Joseph's Hospital 2024-2028 Electricity Consumption Forecast

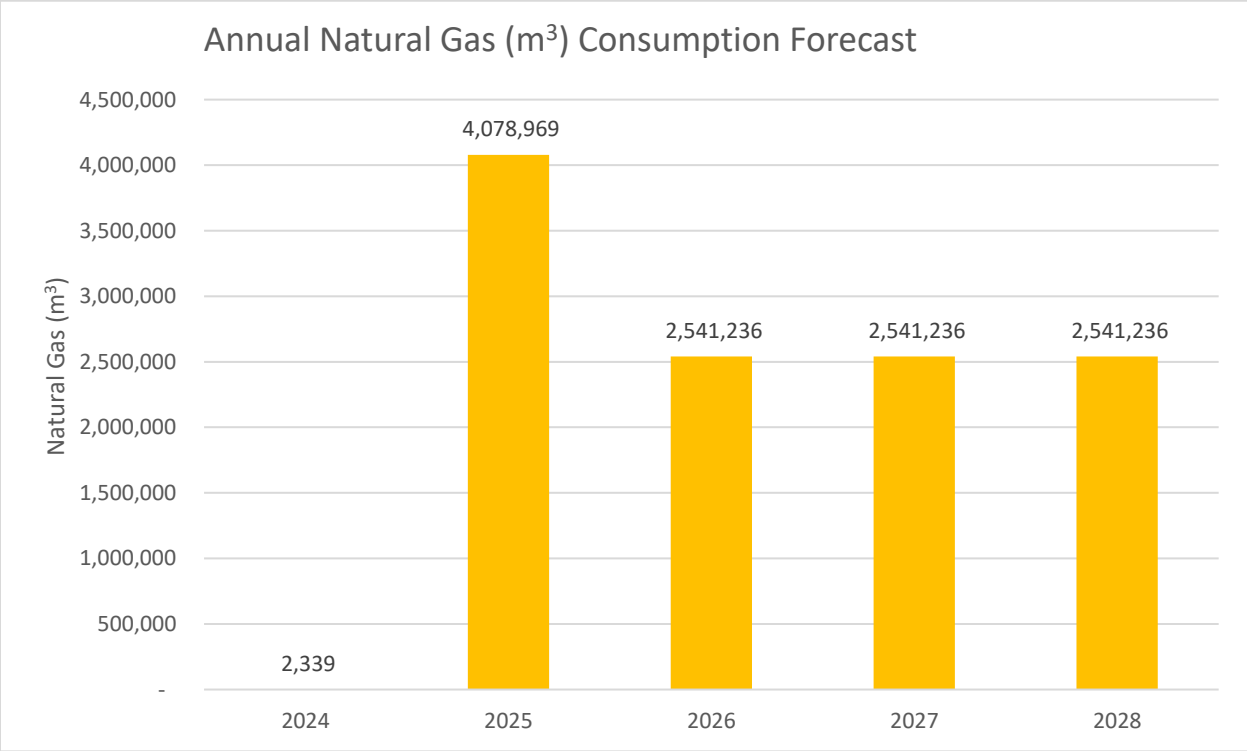

Figure 7: St. Joseph's Hospital 2024-2028 Natural Gas Consumption Forecast

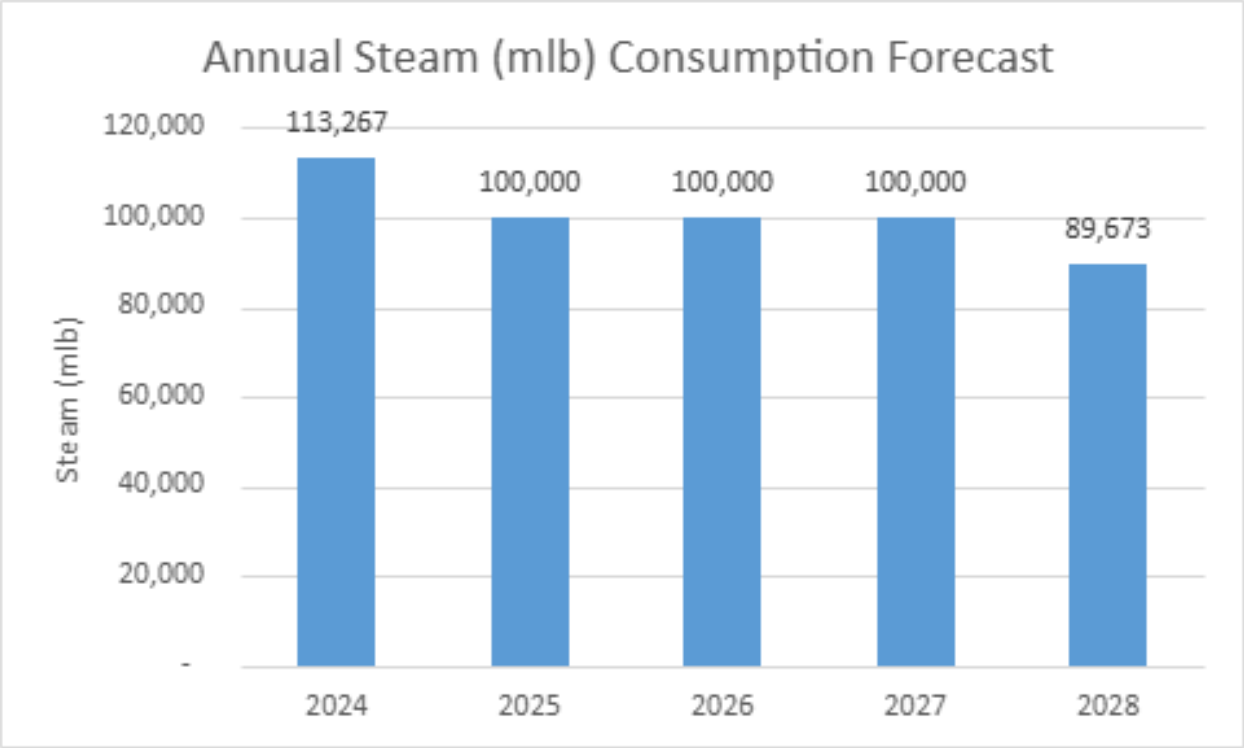

Figure 8: St. Joseph's Hospital 2024-2028 Steam Consumption Forecast

4.1.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 10 and Figure 9, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	620	567	554	543	531
Natural Gas	4	7,836	4,882	4,882	4,882
Steam	11723	3450	-	-	-
Total	12,347	11,852	5,436	5,425	5,413
Reduction from Baseline Year	10.9%	14.4%	60.7%	60.8%	61%

Table 10: St. Joseph's Hospital 2024-2028 Greenhouse Gas Emissions Forecast

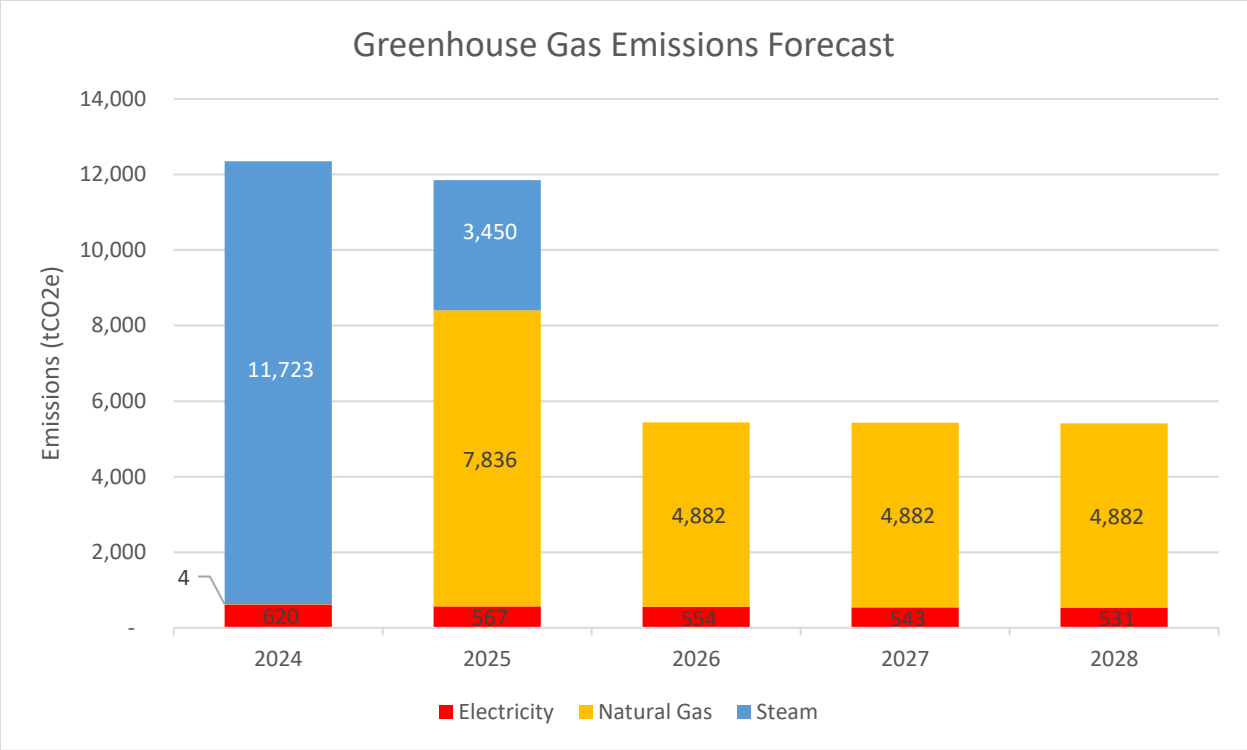

Figure 9: St. Joseph's Hospital 2024-2028 GHG Emissions Forecast

4.2 Parkwood Institute – Main Building

Figure 10: Parkwood Institute Main Building

The programs located at Parkwood institute Main Building (including the Arthur J. Hobbins Building and the Western Counties Wing) offer complex care, rehabilitation, palliative care, specialized geriatric services and veterans care for inpatients and outpatients, and long-term care for veterans.

Facility Information	
Facility Name	Parkwood Institute Main Building
Type of Facility	Healthcare
Address	550 Wellington Road, London ON
Gross Area (m^2)	53, 380
Average Operational Hours	168 Hours / Week
Outpatient/Outreach Visits	203, 439
Number of Floors	6
Number of Beds	323

Table 11: Parkwood Institute Main Building Facility Information

4.2.1 Past Utility Consumption Analysis

Parkwood Institute Main Building utilizes electricity, natural gas, and steam as its primary utilities. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 12, Figure 11, Figure 12, and Figure 13.

Utility	2019	2020	2021	2022	2023
Electricity (kWh)	12,183,711	11.653.643	11.759.160	11,001,448	10,980,890
Natural Gas (m^3)	56, 633	50, 319	44, 941	61, 098	51, 886
Steam (mlb)	40, 409	37, 608	35, 682	35, 115	34, 037

Table 12: Parkwood Institute Main Building 2019-2023 Utility Consumption

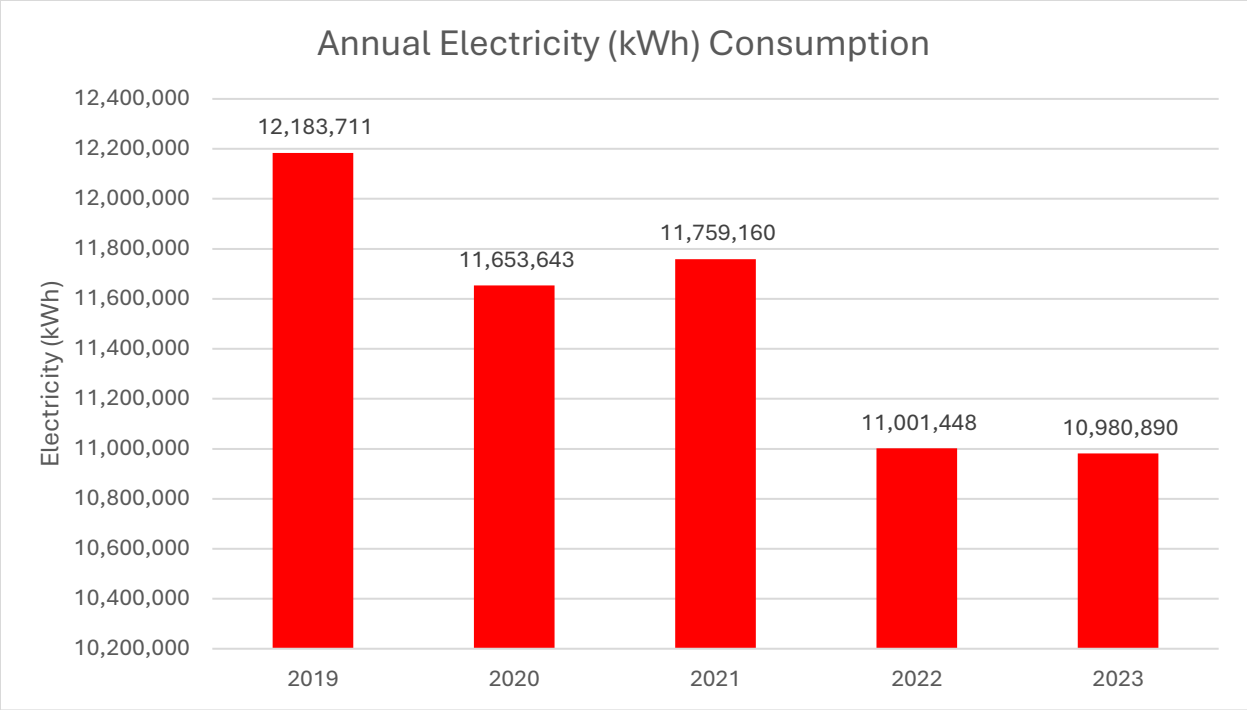

Figure 11: Parkwood Institute Main Building 2019-2023 Electricity Consumption

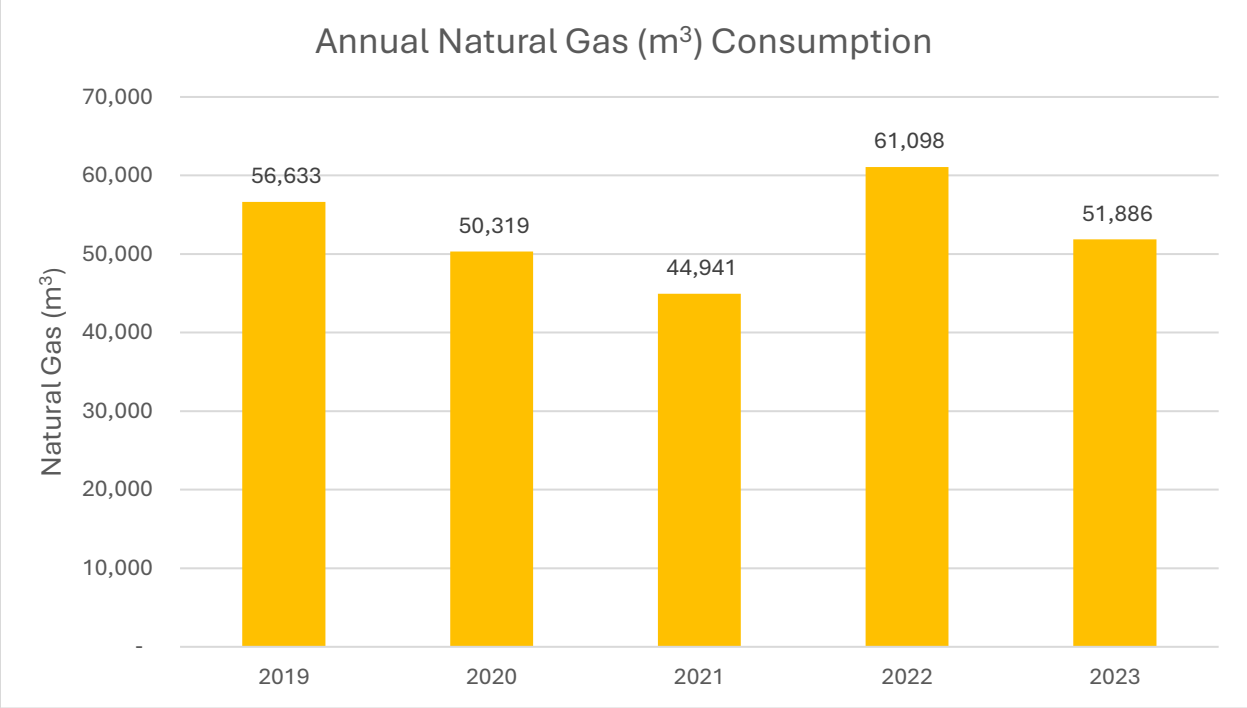

Figure 12: Parkwood Institute Main Building 2019-2023 Natural Gas Consumption

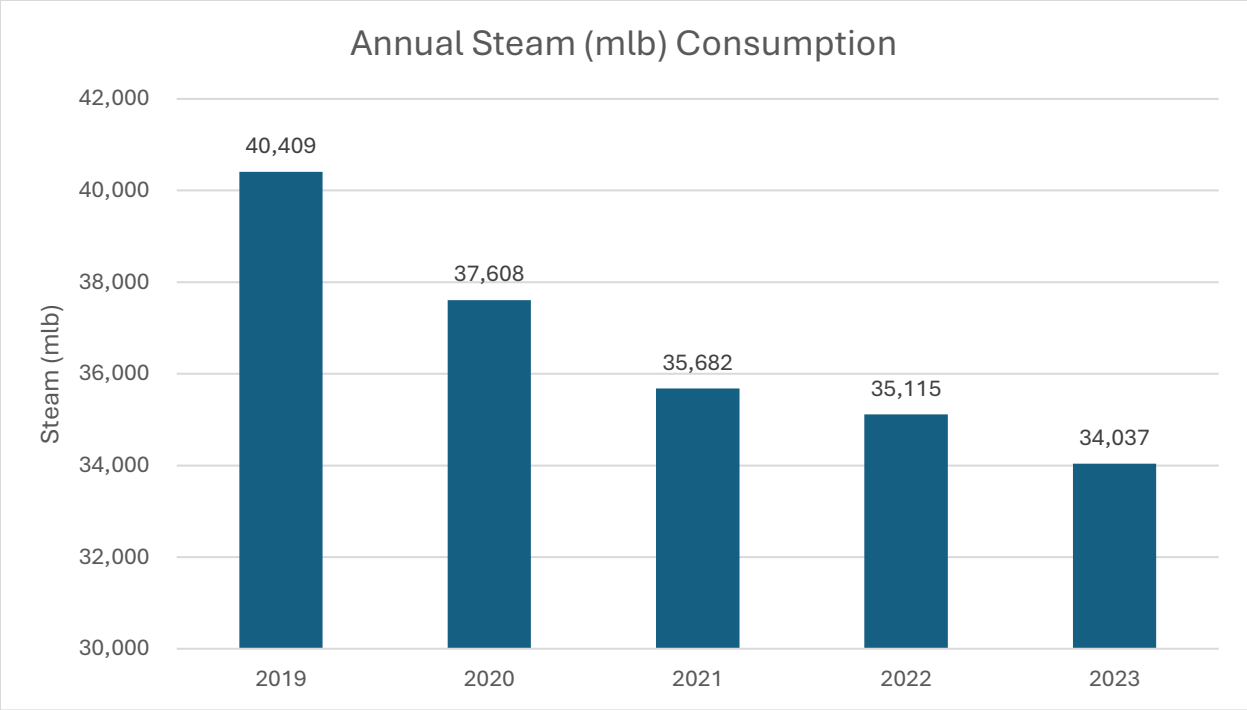

Figure 13: Parkwood Institute Main Building 2019-2023 Steam Consumption

4.2.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 13 and Figure 14. These emissions have been calculated based on the corresponding energy consumption data provided in Table 12.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	9, 078	8, 683	8, 762	8, 197	8, 182
Natural Gas	109	97	86	117	100
Steam	2, 627	2, 445	2, 319	2, 283	2, 212
Total	11, 814	11, 225	11, 167	10, 597	10, 494

Table 13: Parkwood Institute Main Building 2019-2023 Greenhouse Gas Emissions

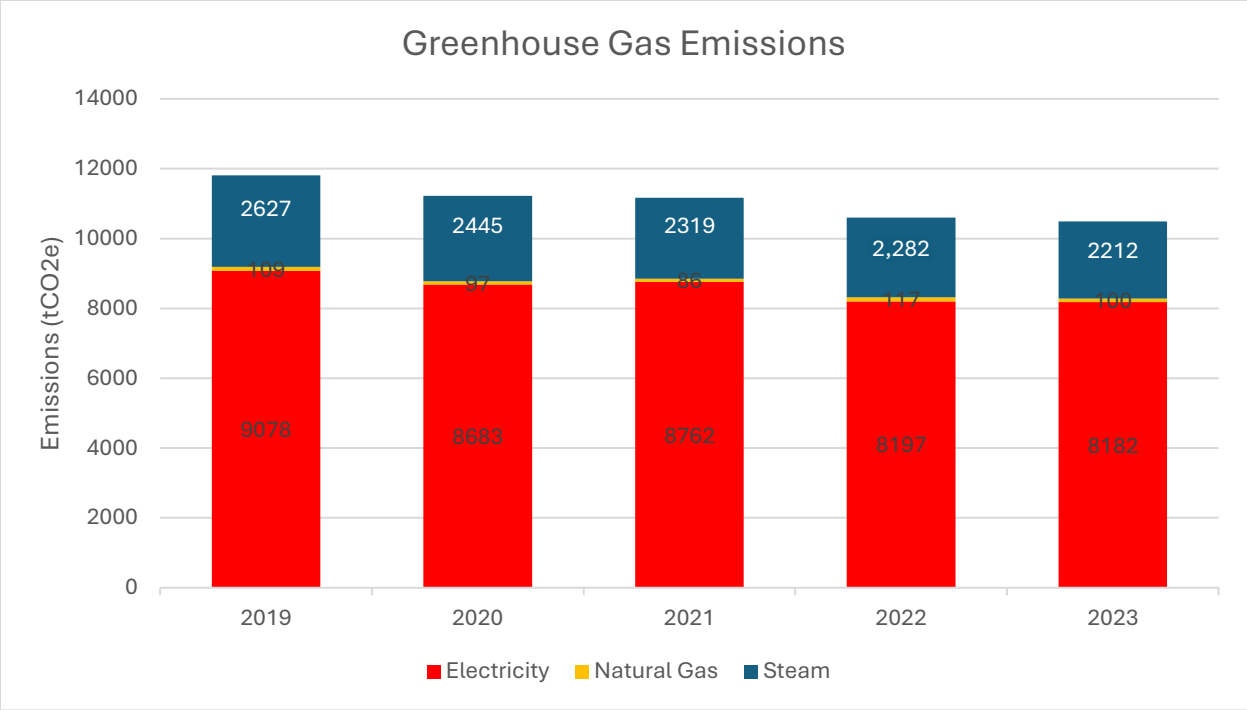

Figure 14: Parkwood Institute Main Building 2019-2023 GHG Emissions

4.2.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for Parkwood Institute Main Building, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table 14, which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings				Project Cost ($)	Simple Payback (Years)	Year
	Electricity (kWh)	Natural Gas (m^3)	Steam (mlb)	Cost ($)			
AHU Run Time Optimization	35, 000	-	-	3, 000	-	-	2025
Replace Western County Chillers	800,000			-	4, 000, 000	-	2026
Electrical Heat Recovery Dishwasher	11, 000	-	-	1, 000	-	-	2025
VFD Fan Motor Replacement	1,081,301	-	-	$133,000	500,000	3	2027
Photoluminescent Exit Signs	9, 000	-	-	800	1, 600	2	2026

Table 14: Parkwood Institute Main Building Proposed Conservation Measures

4.2.4 Utility Consumption Forecast

Forecasted electricity, natural gas, and steam consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 15, Figure 15, Figure 16, and Figure 17, with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	11,486,753	+ 5	10,934,890	0	10,125,890	-8	9,044,589	-18	9,044,589	-18
Natural Gas (m^3)	59, 819	+ 15	50, 848	- 2	50, 848	- 2	50, 848	- 2	50, 329	- 3
Steam (mlb)	29, 676	- 13	32, 335	- 5	32, 335	- 5	32, 335	- 5	32, 335	- 5

Table 15: Parkwood Institute Main Building 2024-2028 Utility Consumption Forecast

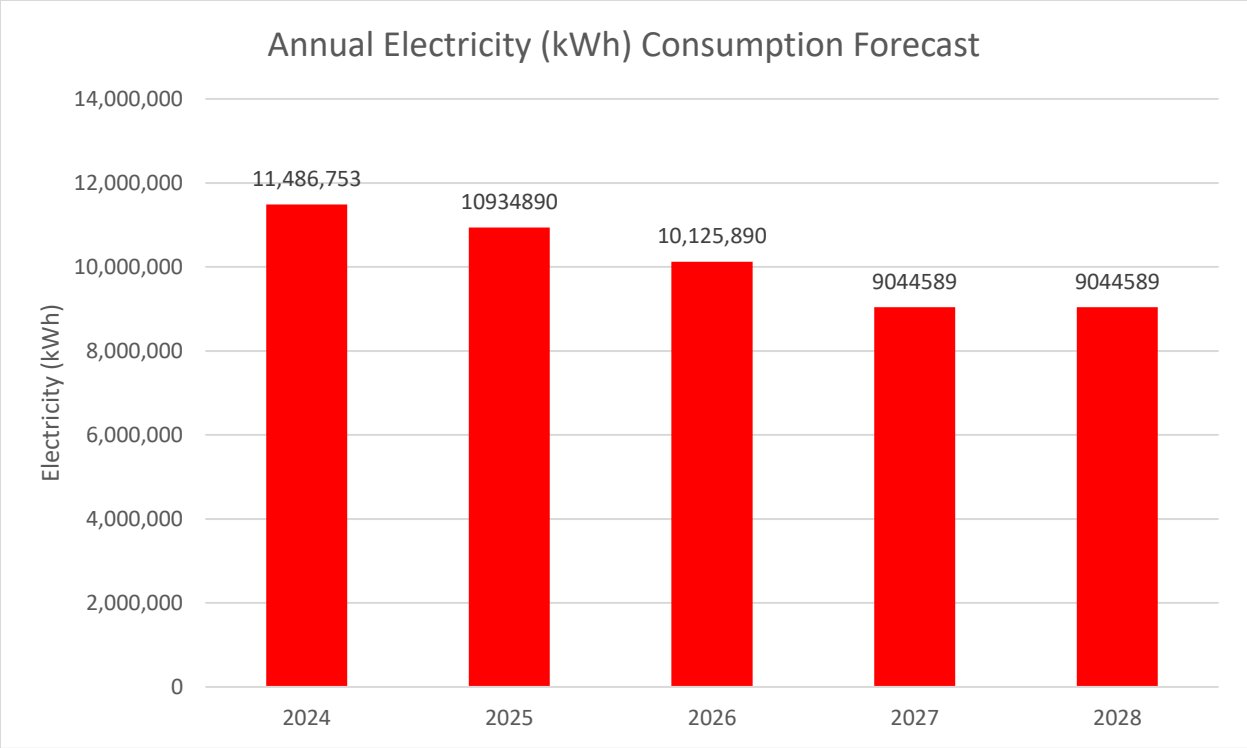

Figure 15: Parkwood Institute Main Building 2024-2028 Electricity Consumption Forecast

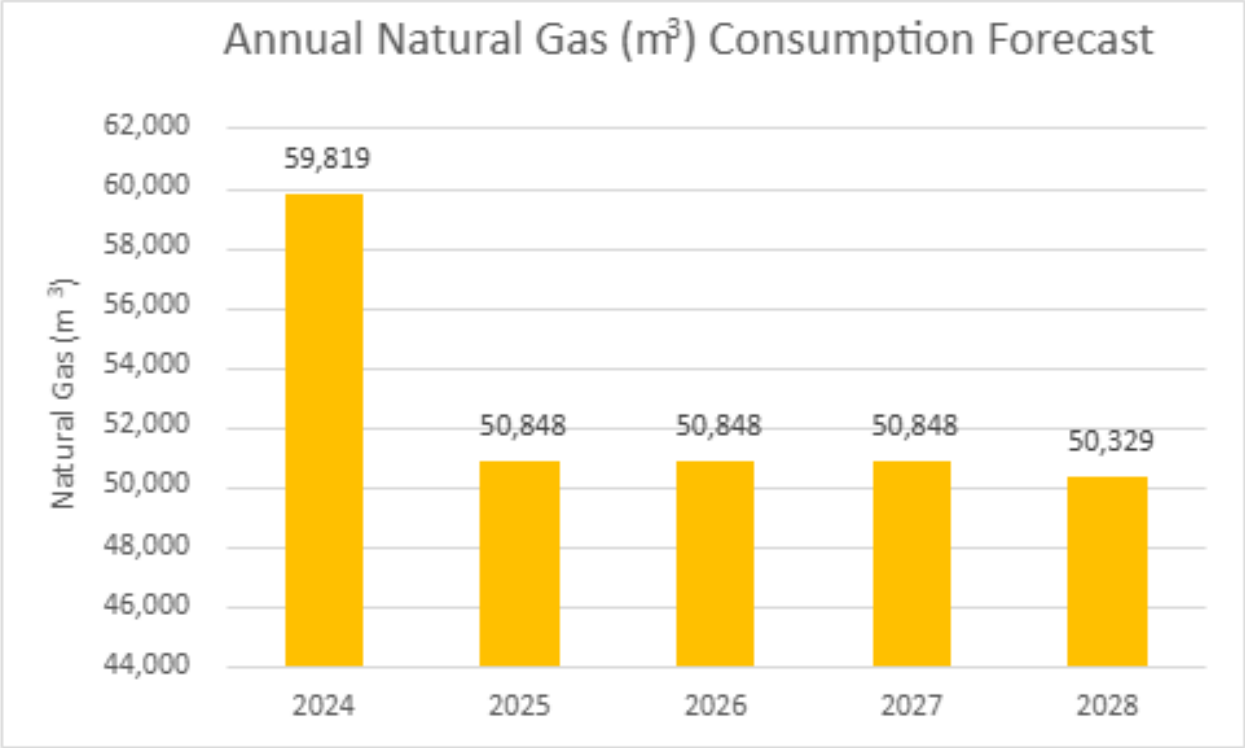

Figure 16: Parkwood Institute Main Building 2024-2028 Natural Gas Consumption Forecast

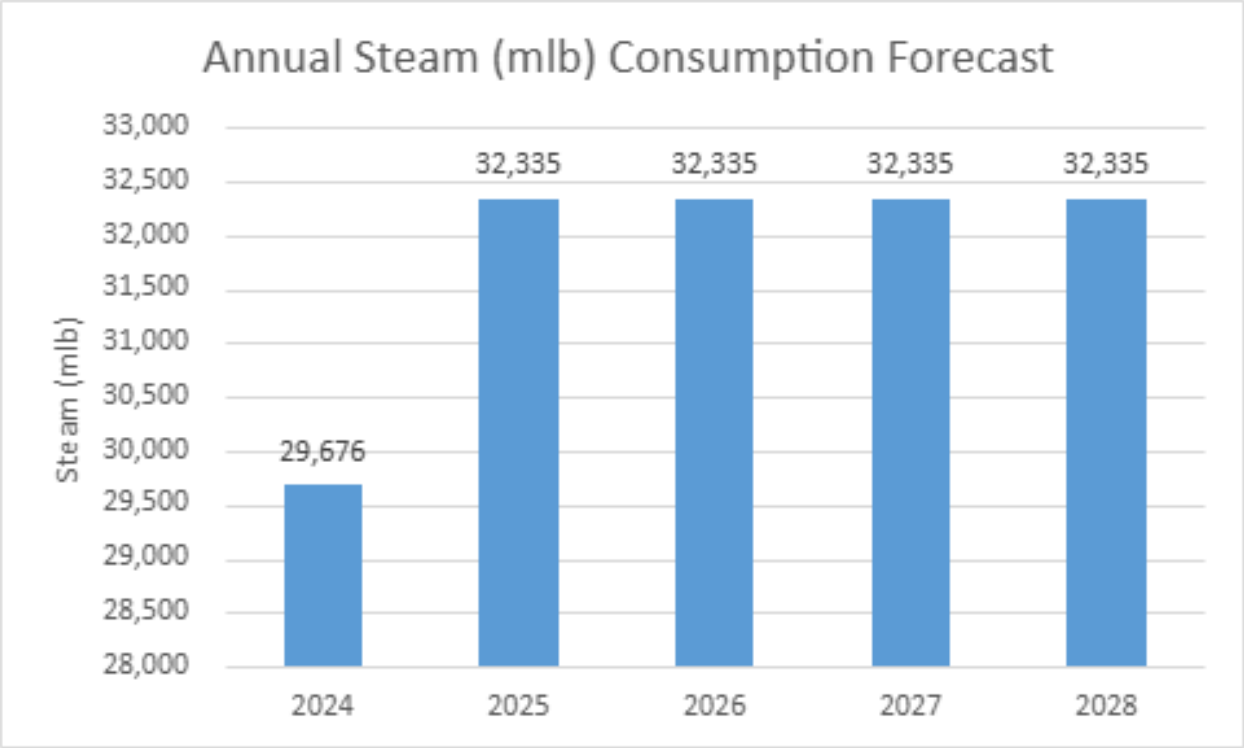

Figure 17: Parkwood Institute Main Building 2024-2028 Steam Consumption Forecast

4.2.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 16 and Figure 18, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	8,559	8,148	7,545	6,739	6,739
Natural Gas	115	98	98	98	97
Steam	1, 929	2, 102	2, 102	2, 102	2, 102
Total	10,603	10,347	9,744	8,939	8,938
Reduction from Baseline Year	0%	1.5%	7.1%	14.8%	14.8%

Table 16: Parkwood Institute Main Building 2024-2028 Greenhouse Gas Emissions Forecast

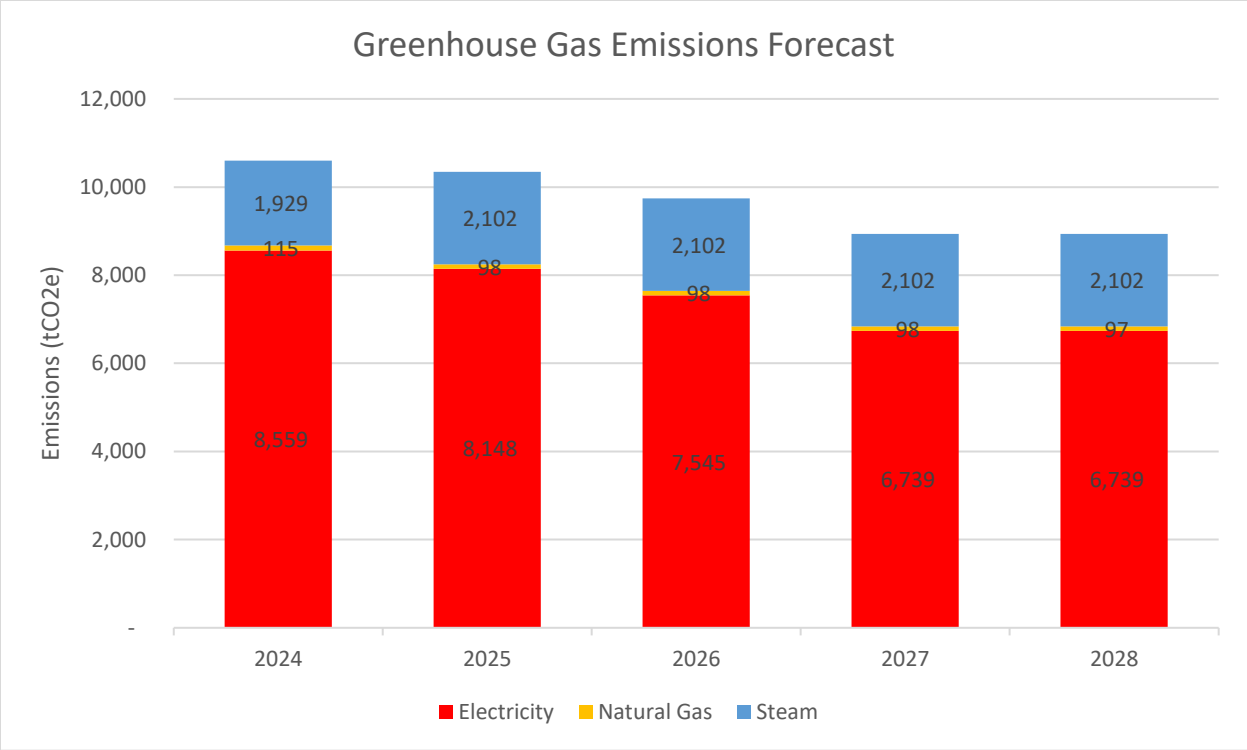

Figure 18: Parkwood Institute Main Building 2024-2028 GHG Emissions Forecast

4.3 Parkwood Institute – Finch Family Mental Health Care Building

Figure 19: Parkwood Institute Finch Family Mental Health Care Building

Parkwood Institute Finch Family Mental Health Care Building offers specialized bed-based and community-based mental health care services for individuals with serious mental illness. Interdisciplinary teams provide assessment, treatment and rehabilitation services and strengthen community partnerships to help people regain independence in the place of their choice.

Facility Information	
Facility Name	Parkwood Institute Finch Family Mental Health Care Building
Type of Facility	Healthcare
Address	550 Wellington Road, London ON
Gross Area (m^2)	38,163 m^2
Average Operational Hours	168 Hours / Week
Outpatient/Outreach Visits	159, 393
Number of Floors	7
Number of Beds	156

Table 17: Parkwood Institute Finch Family Mental Health Care Building Facility Information

4.3.1 Past Utility Consumption Analysis

Parkwood Institute Finch Family Mental Health Care Building utilizes electricity, natural gas, and steam as its primary utilities. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 18, Figure 20, Figure 21, and Figure 22.

Utility	2019	2020	2021	2022	2023
Electricity (kWh)	6,535,314	6,567,507	6,661,432	4,982,299	4,654,566
Natural Gas (m^3)	8, 699	7, 949	6, 859	5, 940	6, 037
Steam (mlb)	13, 553	12, 221	13, 837	15, 298	13, 433

Table 18: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 Utility Consumption

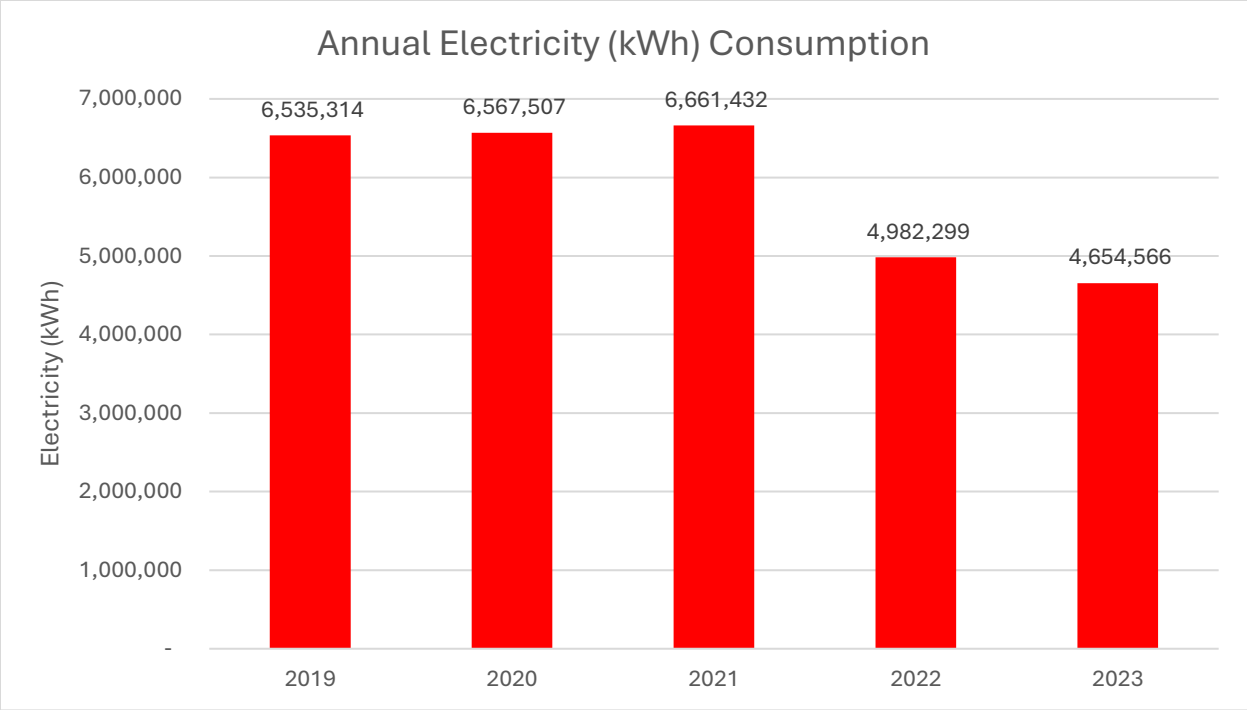

Figure 20: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 Electricity Consumption

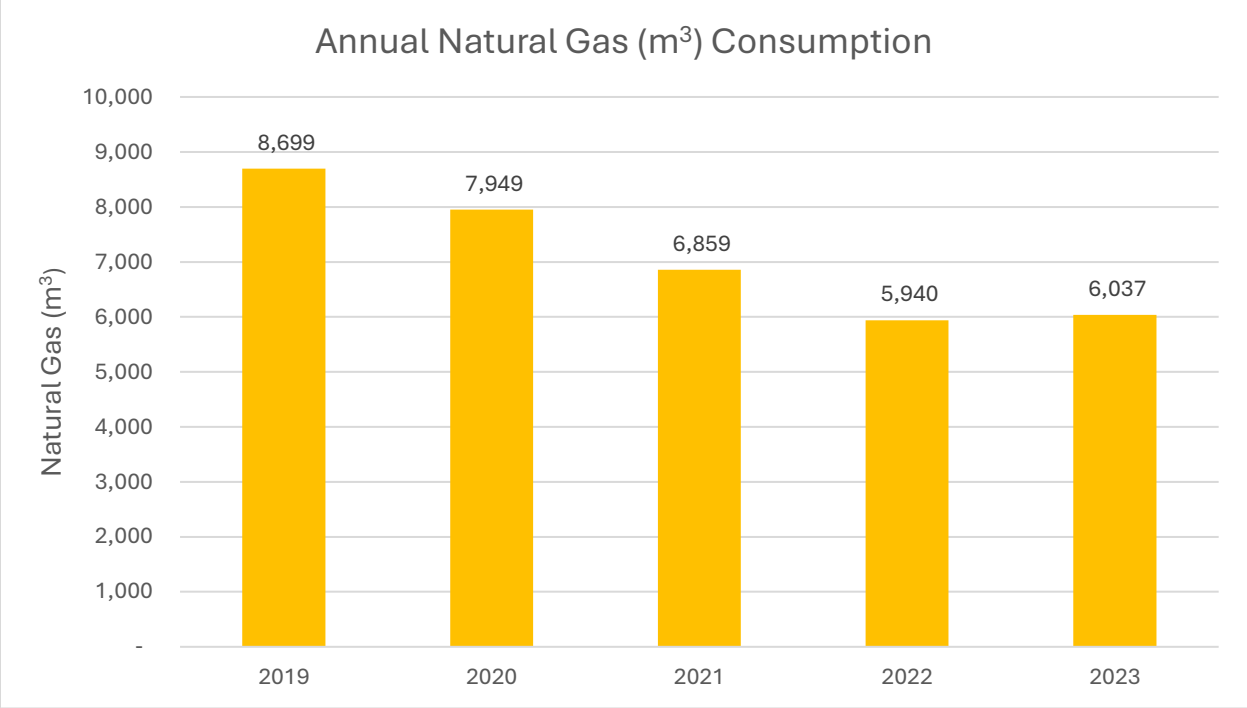

Figure 21: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 Natural Gas Consumption

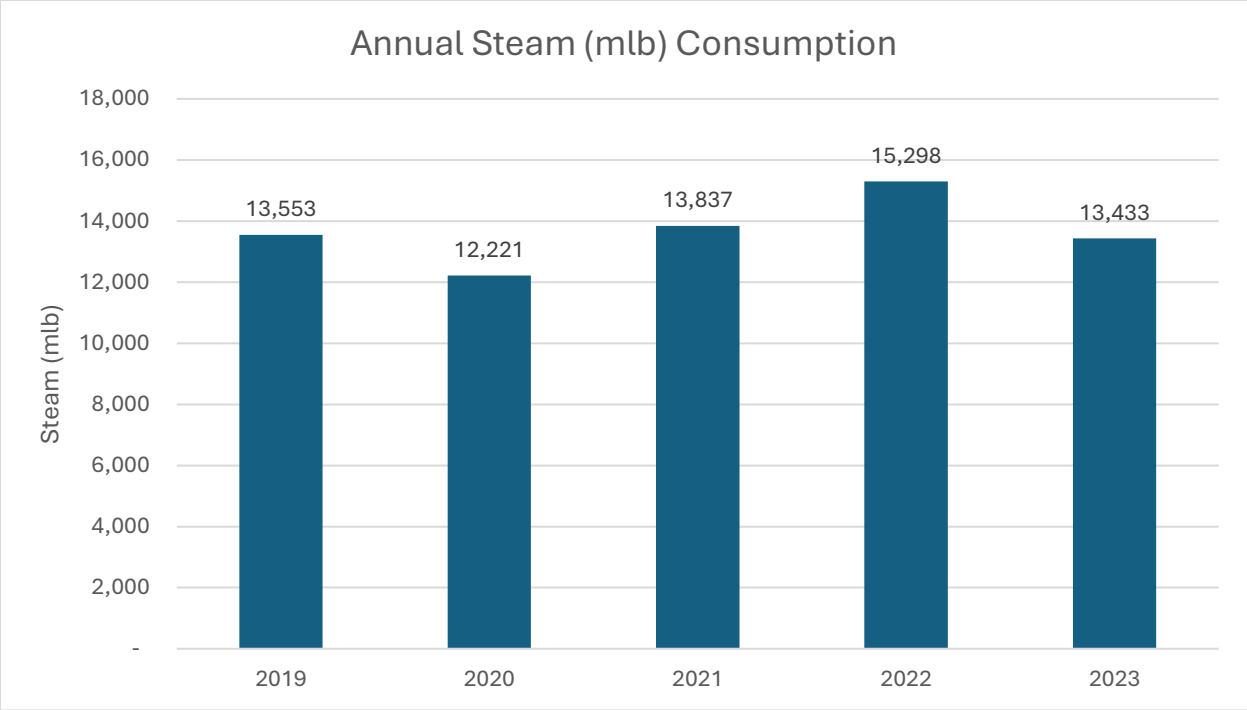

Figure 22: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 Steam Consumption

4.3.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 19 and Figure 23. These emissions have been calculated based on the corresponding energy consumption data provided in Table 18.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	4, 870	4, 894	4, 963	4, 963	3, 712
Natural Gas	17	15	13	11	12
Steam	881	794	899	994	873
Total	5,767	5,703	5,876	5,969	4,597

Table 19: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 Greenhouse Gas Emissions

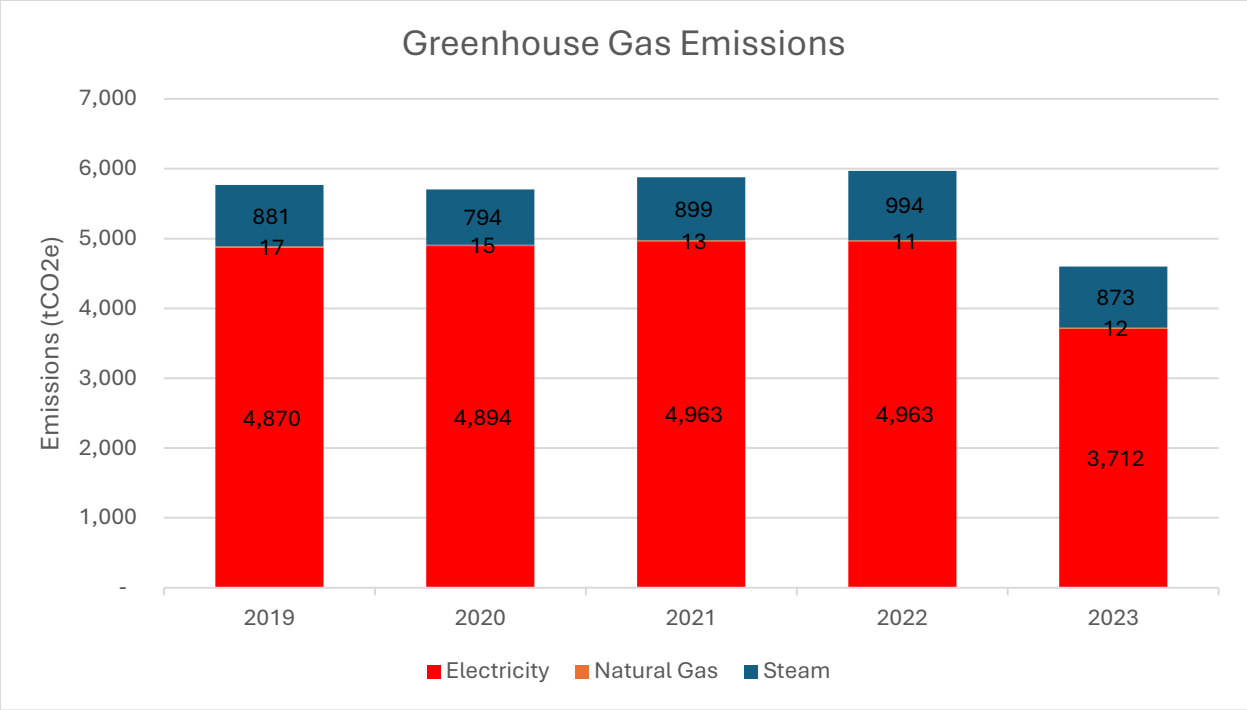

Figure 23: Parkwood Institute Finch Family Mental Health Care Building 2019-2023 GHG Emissions

4.3.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for Parkwood Institute Finch Family Mental Health Care Building, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table [], which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings				Project Cost ($)	Simple Payback (Years)	Year
	Electricity (kWh)	Natural Gas (m^3)	Steam	Cost ($)			
Heating Plant Controls Upgrade	-	-	1000 GJ	20,000	5000	0.4	2024
AHU 8/9 Pharmacy Cooling Coil Bypass	-	-	-	-	-	-	2025

Table 20: Parkwood Institute Finch Family Mental Health Care Building Proposed Conservation Measures

4.3.4 Utility Consumption Forecast

Forecasted electricity, natural gas, and steam consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 21 and Figure 24, Figure 25, and Figure 26, with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	4,722,490	+ 2	4,561,475	- 2	4,561,475	- 2	4,561,475	- 2	4,561,475	- 2
Natural Gas (m^3)	5, 083	- 16	5, 725	- 5	5, 725	- 5	5, 725	- 5	5, 725	- 5
Steam (mlb)	11, 086	- 17	12, 733	- 5	12, 733	- 5	12, 733	- 5	12, 500	- 7

Table 21: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 Utility Consumption Forecast

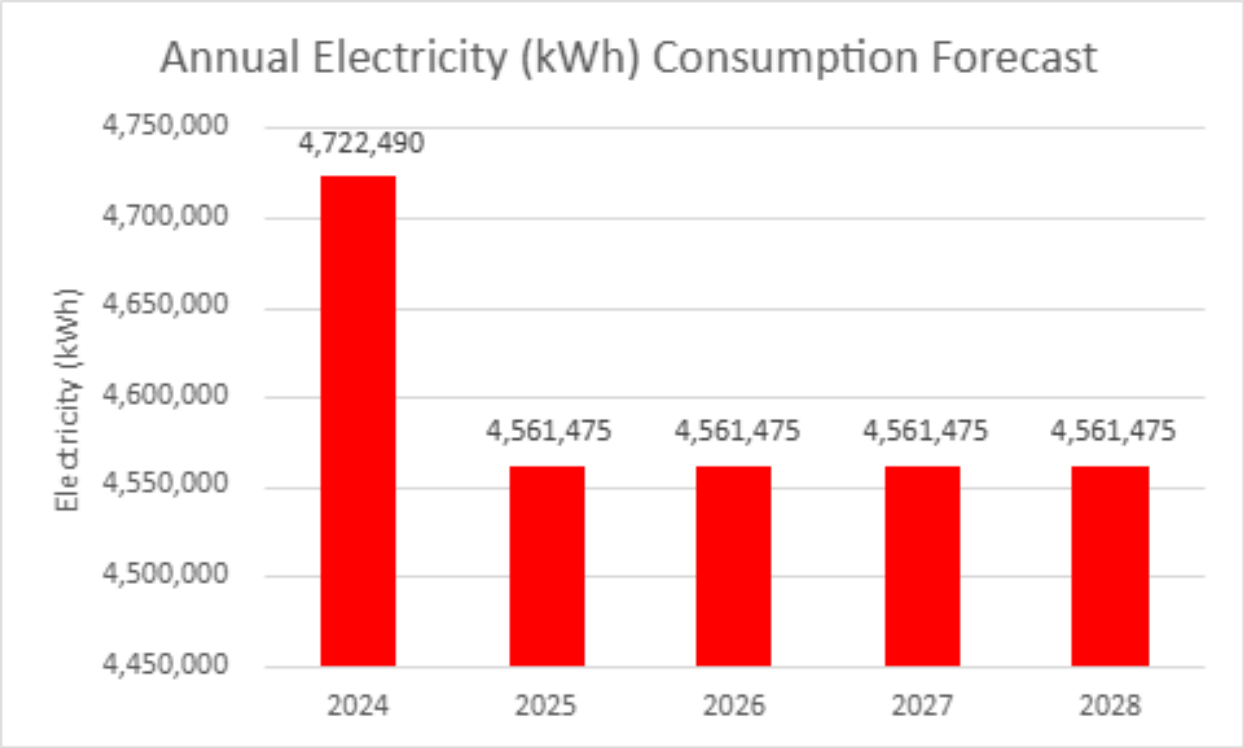

Figure 24: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 Electricity Consumption Forecast

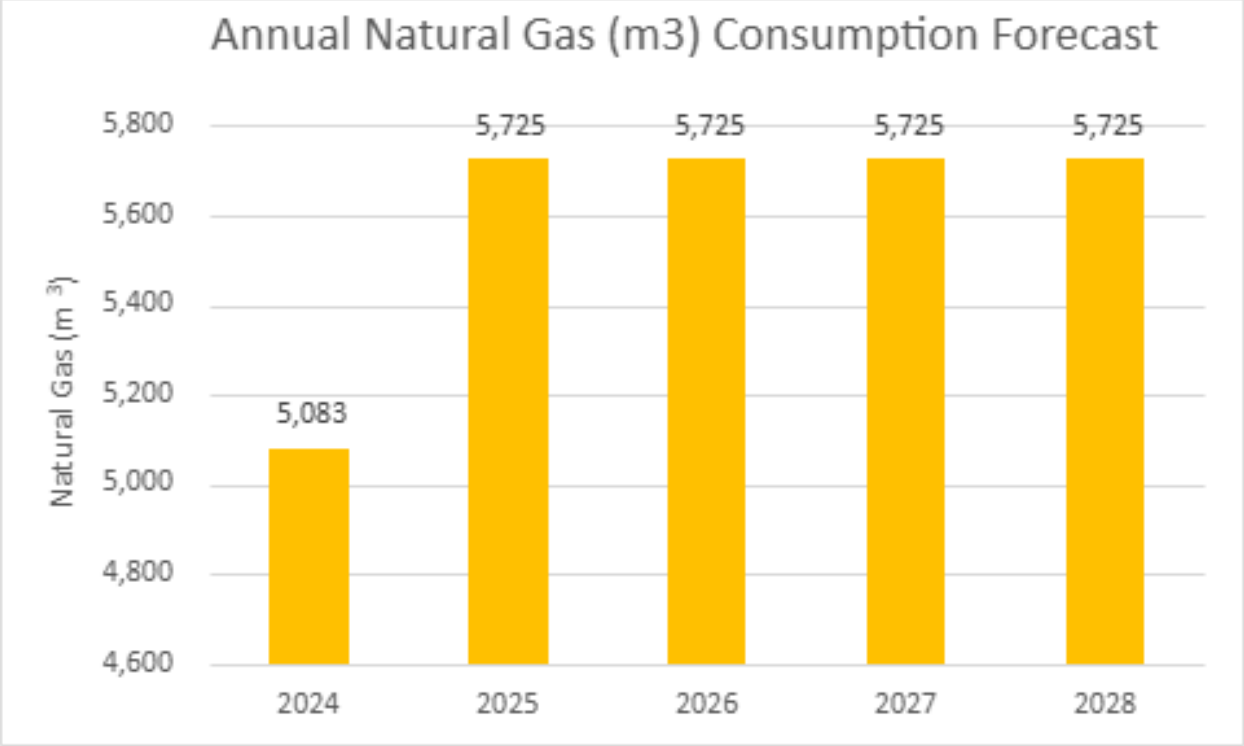

Figure 25: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 Natural Gas Consumption Forecast

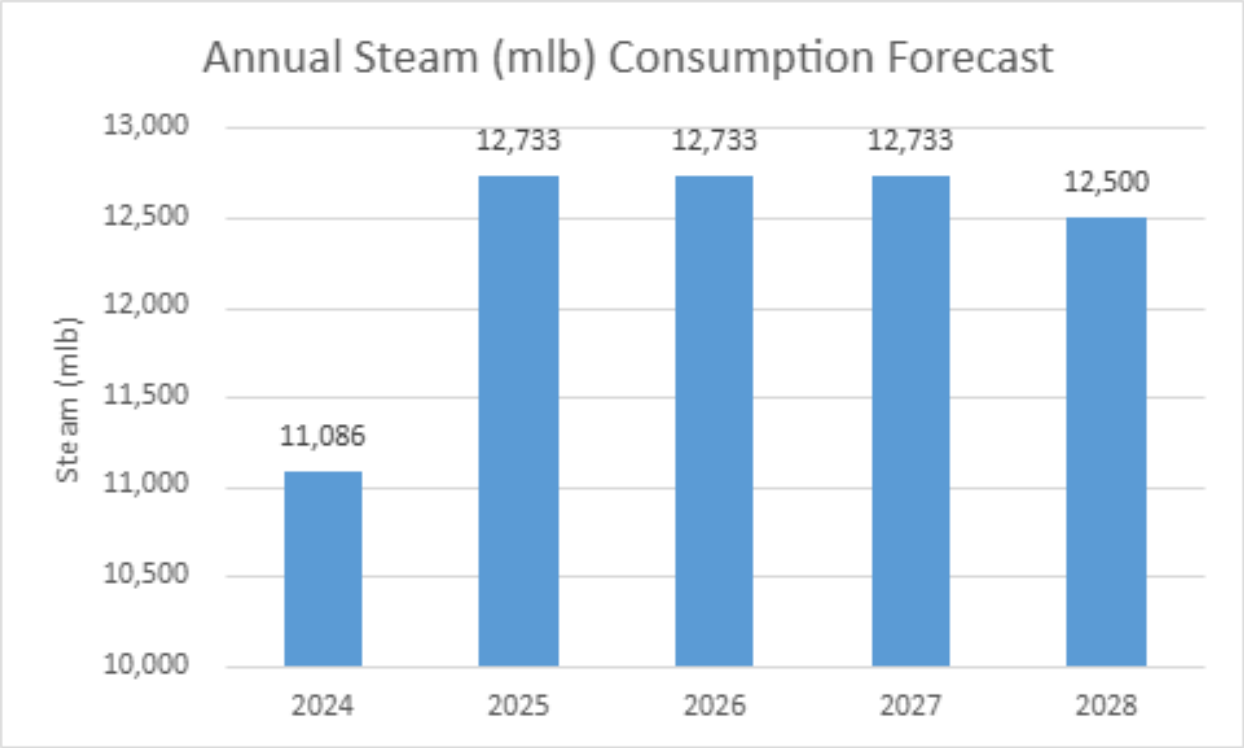

Figure 26: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 Steam Consumption Forecast

4.3.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 22 and Figure 27, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	3, 519	3, 399	3, 399	3, 399	3, 399
Natural Gas	10	10	10	10	10
Steam	721	828	828	828	828
Total	4, 249	4, 236	4, 237	4, 237	4, 237
Reduction from Baseline Year	7.5%	7.8%	7.8%	7.8%	7.8%

Table 22: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 Greenhouse Gas Emissions Forecast

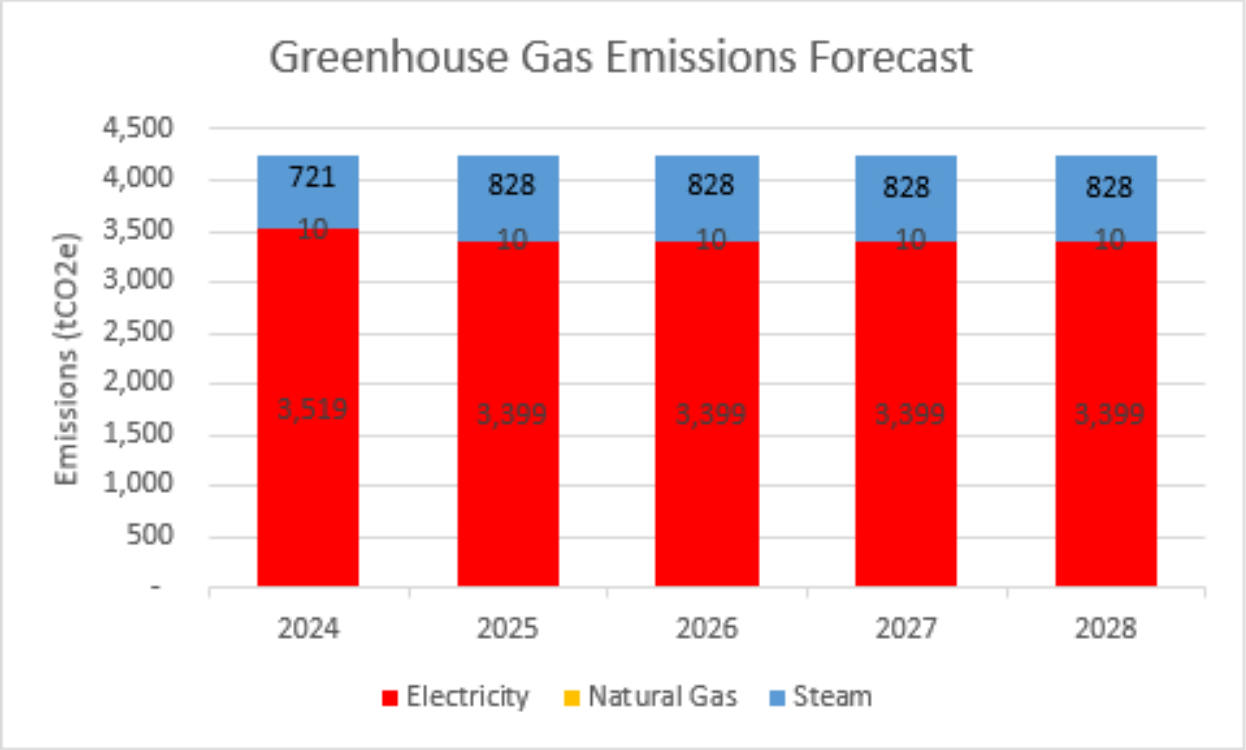

Figure 27: Parkwood Institute Finch Family Mental Health Care Building 2024-2028 GHG Emissions Forecast

4.4 Southwest Centre for Forensic Mental Health Care

Figure 28: Southwest Centre for Forensic Mental Health

Located in Elgin County, our Forensic Mental Health Care Program is devoted to caring for people with a mental illness who have also come into contact with the criminal justice system. A recovery philosophy of care promotes each individual's journey of recovery towards community re-integration.

Facility Information	
Facility Name	Southwest Centre for Forensic Mental Health Care
Type of Facility	Healthcare
Address	401 Sunset Drive, Central Elgin
Gross Area (m^2)	21,519 m^2
Average Operational Hours	168 Hours / Week
Number of Floors	4
Number of Beds	88

Table 23: Southwest Centre for Forensic Mental Health Care Facility Information

4.4.1 Past Utility Consumption Analysis

Southwest Centre for Forensic Mental Health Care utilizes electricity and natural gas as its primary utilities. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 24, Figure 29, and Figure 30.

Utility	2019	2020	2021	2022	2023
Electricity (kWh)	4,218,377	3,980,000	3,608,807	4,077,252	3,847,583
Natural Gas (m^3)	370, 122	331, 101	325, 776	385, 000	353, 064

Table 24: Southwest Centre for Forensic Mental Health Care 2019-2023 Utility Consumption

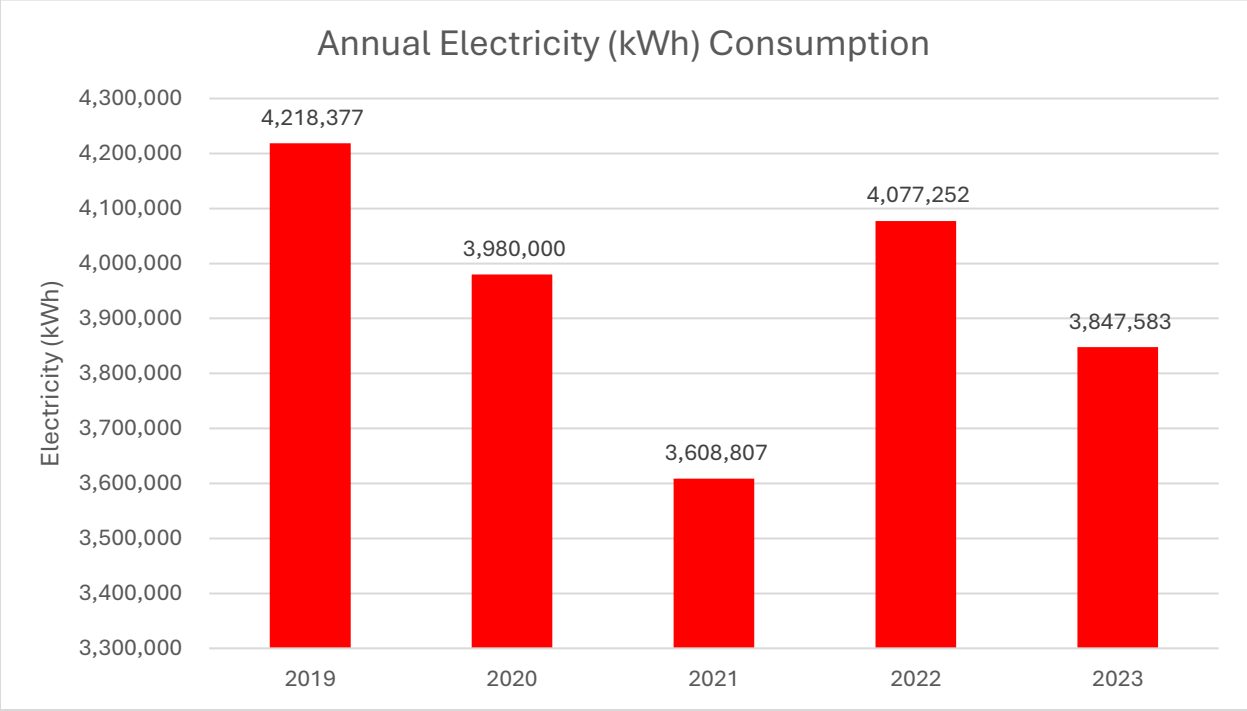

Figure 29: Southwest Centre for Forensic Mental Health Care 2019-2023 Electricity Consumption

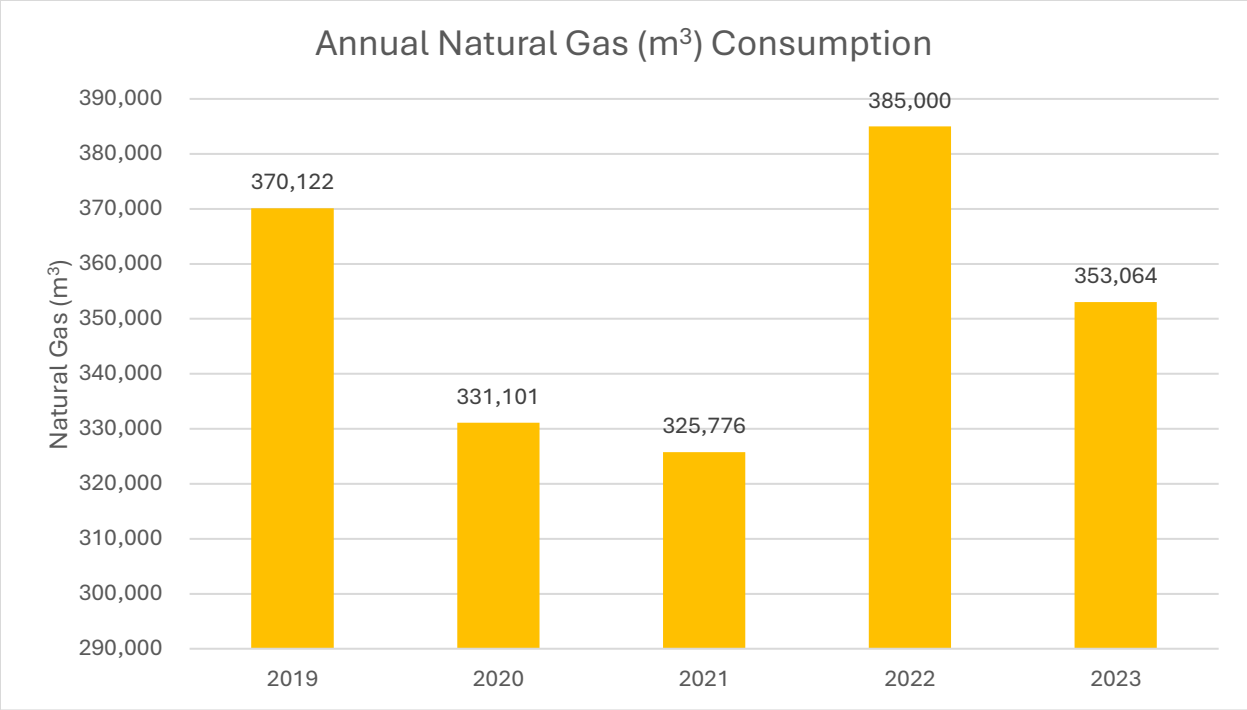

Figure 30: Southwest Centre for Forensic Mental Health Care 2019-2023 Natural Gas Consumption

4.4.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 25 and Figure 31. These emissions have been calculated based on the corresponding energy consumption data provided in Table 24.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	122	115	105	143	135
Natural Gas	711	636	626	626	678
Total	833	751	730	769	813

Table 25: Southwest Centre for Forensic Mental Health Care 2019-2023 Greenhouse Gas Emissions

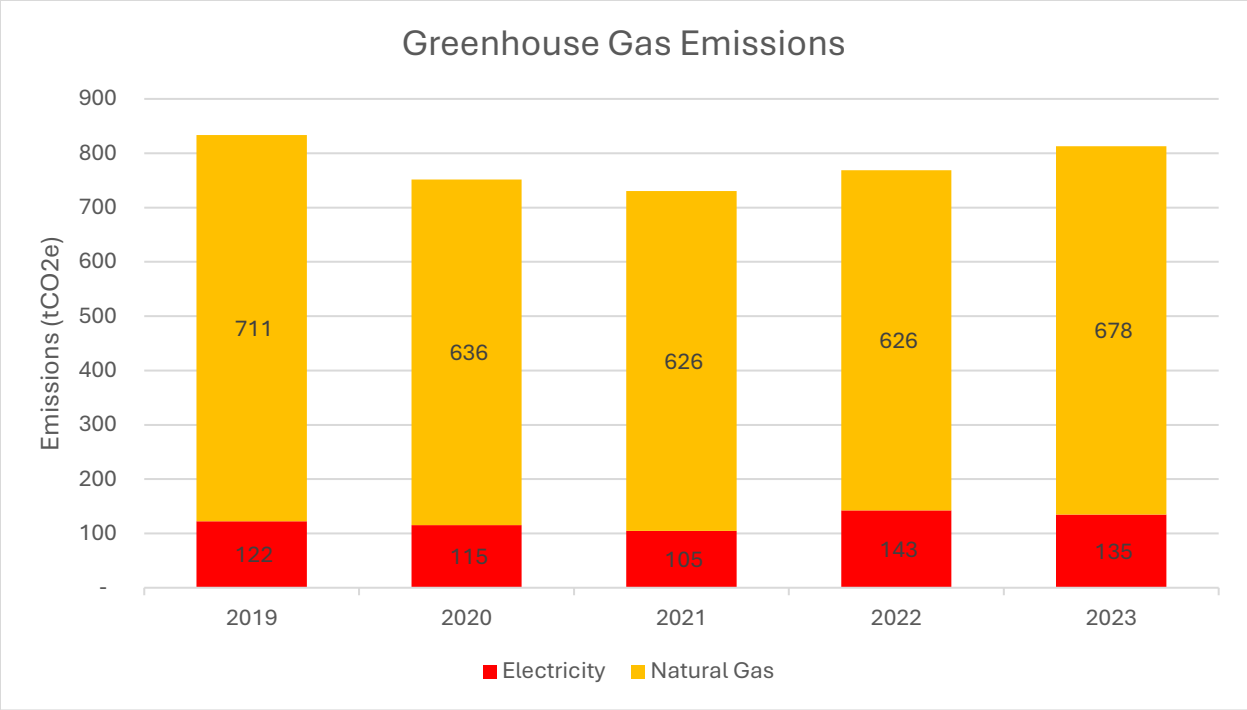

Figure 31: Southwest Centre for Forensic Mental Health Care 2019-2023 GHG Emissions

4.4.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for Southwest Centre for Forensic Mental Health Care, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table 26, which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings			Project Cost ($)	Simple Payback (Years)	Year
	Electricity (kWh)	Natural Gas (m^3)	Cost ($)			
Heating Plant Controls Upgrade – In Progress	-	20, 000	5, 000	3, 000	-	2025
AHU-8 Pharmacy – Cooling Coil Bypass – In Progress	-	-	-	-	-	2025

Table 26: Southwest Centre for Forensic Mental Health Care Proposed Conservation Measures

4.4.4 Utility Consumption Forecast

Forecasted electricity, and natural gas consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 27, Figure 32, and Figure 33, with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	3,932,747	+ 2	3,732,156	- 3	3,732,156	- 3	3,732,156	- 3	3,732,156	- 3
Natural Gas (m^3)	384, 202	+ 9	333, 064	- 6	333, 064	- 6	333, 064	- 6	330, 000	- 6

Table 27: Southwest Centre for Forensic Mental Health Care 2024-2028 Utility Consumption Forecast

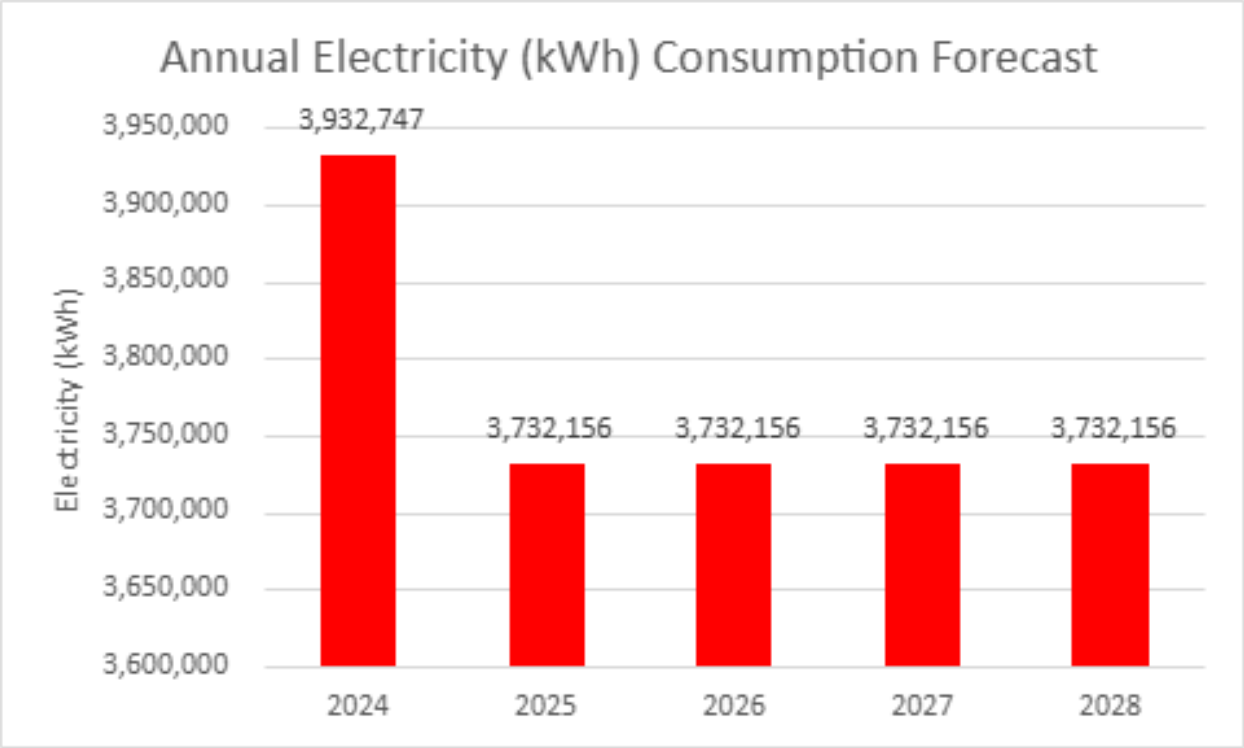

Figure 32: Southwest Centre for Forensic Mental Health Care 2024-2028 Electricity Consumption Forecast

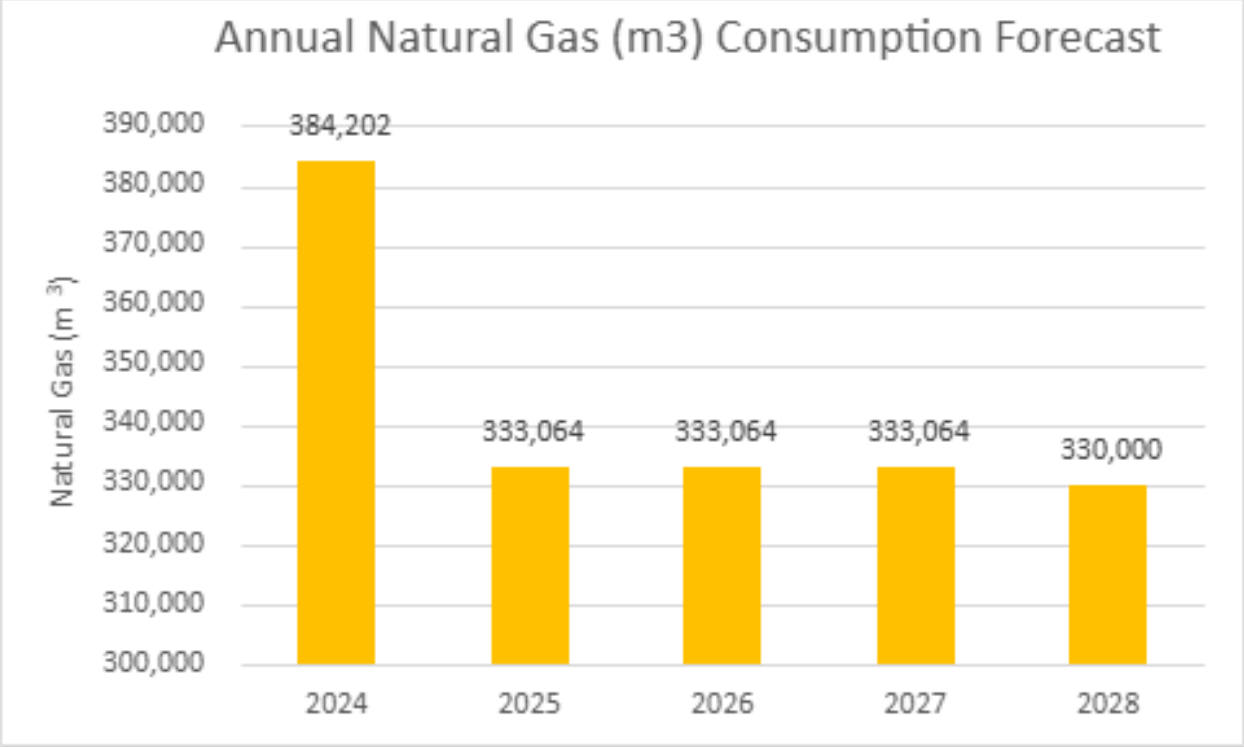

Figure 33: Southwest Centre for Forensic Mental Health Care 2024-2028 Natural Gas Consumption Forecast

4.4.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 28 and Figure 34, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	138	131	131	131	131
Natural Gas	738	640	640	640	640
Total	876	771	771	771	771
Reduction from Baseline Year	0%	5.1%	5.1%	5.1%	5.1%

Table 28: Southwest Centre for Forensic Mental Health Care 2024-2028 Greenhouse Gas Emissions Forecast

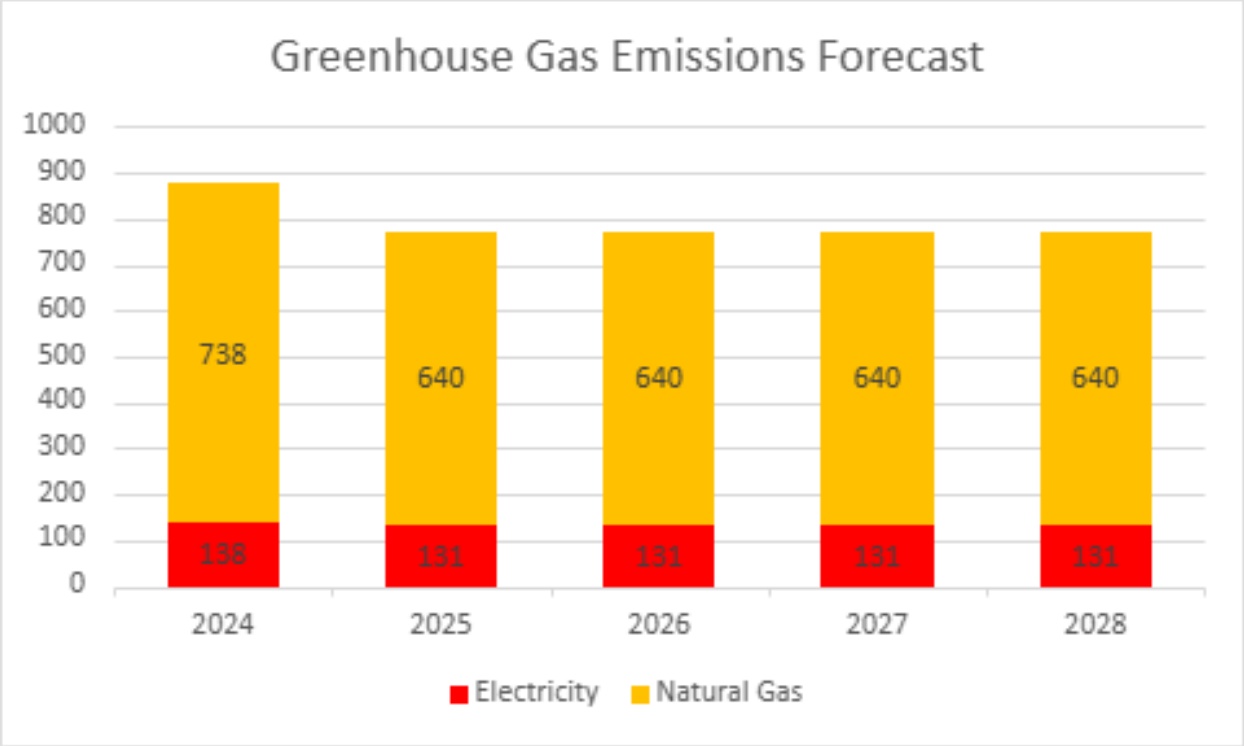

Figure 34: Southwest Centre for Forensic Mental Health Care 2024-2028 GHG Emissions Forecast

4.5 Mount Hope Centre for Long Term Care

Figure 35: Mount Hope Centre for Long-Term Care

Mount Hope provides short and long-term care for residents who are 18 years of age or older and who may be cognitively impaired, physically and/or mentally challenged, and/or suffer from chronic illness. A significant number of younger residents enjoy programs tailored to their needs.

Facility Information	
Facility Name	Mount Hope Centre for Long-Term Care
Type of Facility	Healthcare
Address	21 Grosvenor Street, London ON
Gross Area (m^2)	35381 m^2
Average Operational Hours	168 Hours
Number of Floors	7
Number of Beds	394

Table 29: Mount Hope Centre for Long-Term Care Facility Information

4.5.1 Past Utility Consumption Analysis

Mount Hope Centre for Long-Term Care utilizes electricity, natural gas, and steam as its primary utilities. Steam is provided through the St. Joseph's Hospital site and is not separately metered. As such, the steam consumption for Mount Hope is captured in the St. Joseph's Hospital totals. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 30, Figure 36, and Figure 37.

Utility	2019	2020	2021	2022	2023

Electricity (kWh)	5,600,000	5,655,237	5,707,122	5,603,074	5,218,485
Natural Gas (m^3)	4, 000	5, 330	5, 496	6, 411	5, 485

Table 30: Mount Hope Centre for Long-Term Care 2019-2023 Utility Consumption

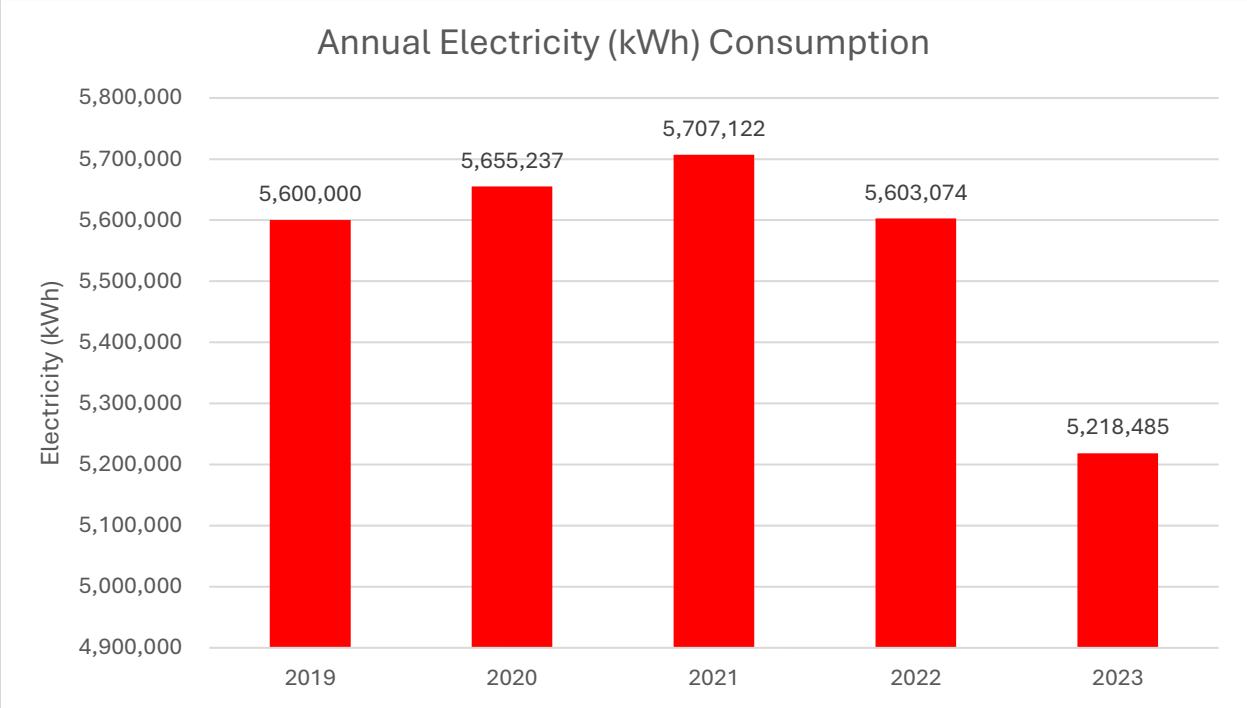

Figure 36: Mount Hope Centre for Long-Term Care 2019-2023 Electricity Consumption

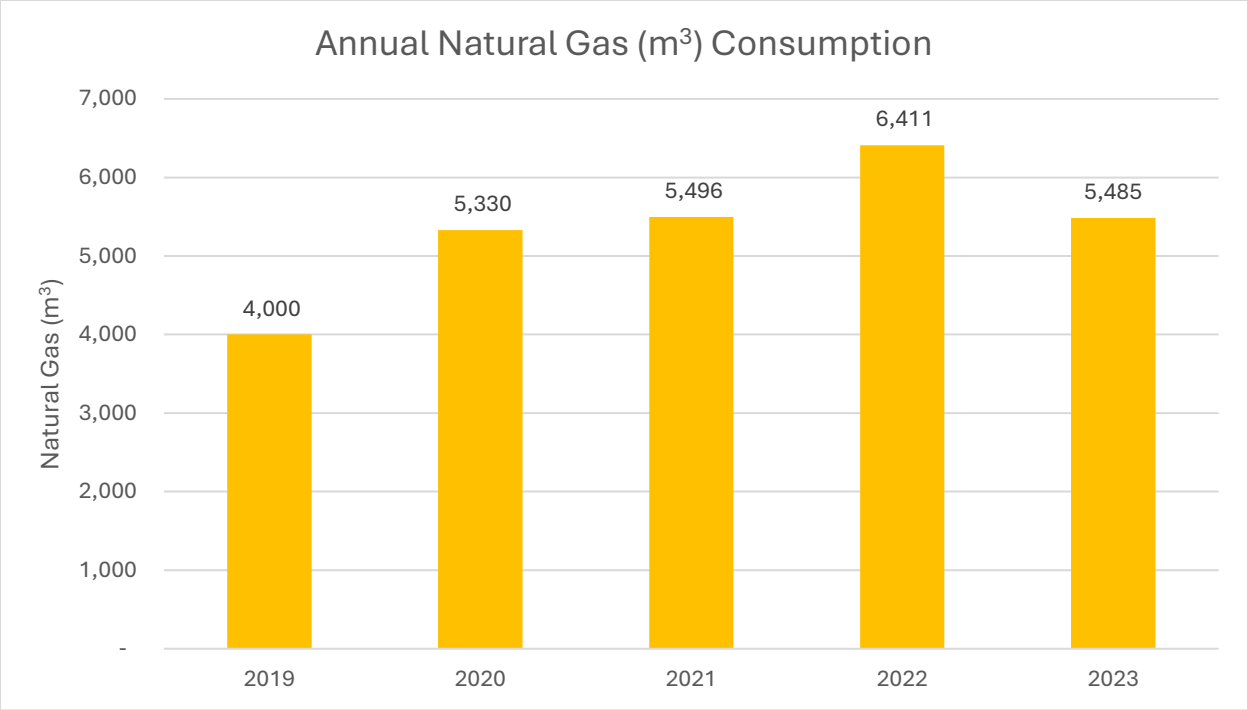

Figure 37: Mount Hope Centre for Long-Term Care 2019-2023 Natural Gas Consumption

4.5.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 31 and Figure 38. These emissions have been calculated based on the corresponding energy consumption data provided in Table 30.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	162	164	164	196	183
Natural Gas	8	10	11	12	11
Total	170	174	175	208	194

Table 31: Mount Hope Centre for Long-Term Care 2019-2023 Greenhouse Gas Emissions

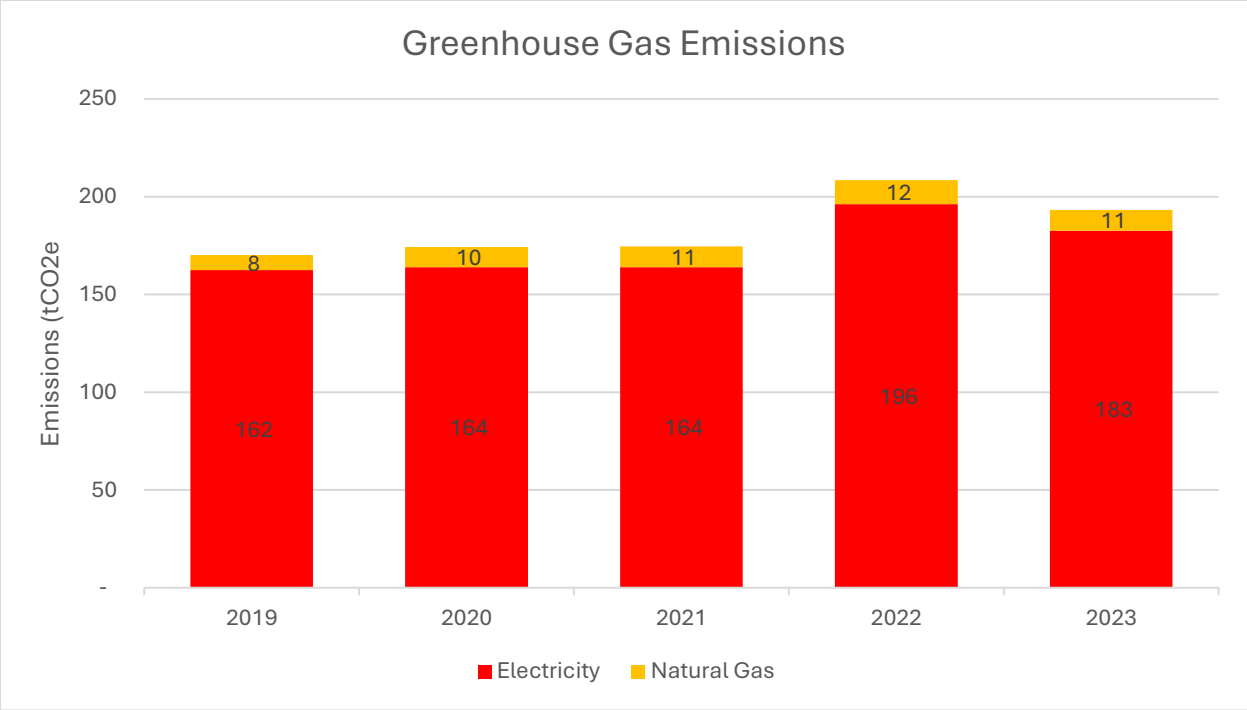

Figure 38: Mount Hope Centre for Long-Term Care 2019-2023 GHG Emissions

4.5.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for Mount Hope Centre for Long-Term Care, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table 32, which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings			Project Cost	Simple Payback (Years)	Year
	Electricity (kWh)	Natural Gas (m^3)	Cost ($)			
AHU Run Time Optimization	10, 000	-	1, 000	-	-	2025
LED Lighting Retrofit	48, 000	-	6, 000	50, 000	8	-

Table 32: Mount Hope for Long-Term Care Proposed Conservation Measures

4.5.4 Utility Consumption Forecast

Forecasted electricity, and natural gas consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 33, Figure 39, and Figure 40, with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	6,175,858	+ 18	5,061,930	- 3	5,061,930	- 3	5,061,930	- 3	5,061,930	- 3
Natural Gas (m^3)	6, 255	+ 14	5, 485	0	5, 250	- 4	5, 250	- 4	5, 250	- 4

Table 33: Mount Hope Centre for Long-Term Care 2024-2028 Utility Consumption

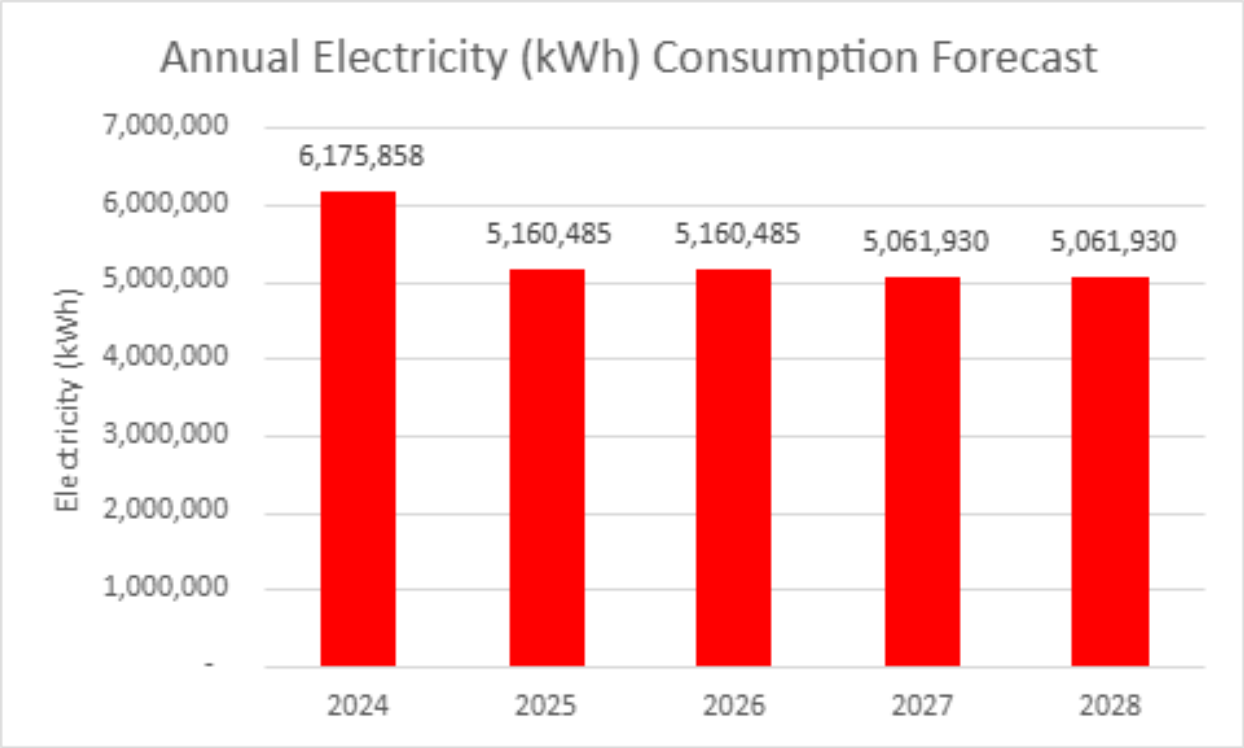

Figure 39: Mount Hope Centre for Long-Term Care 2024-2028 Electricity Consumption Forecast

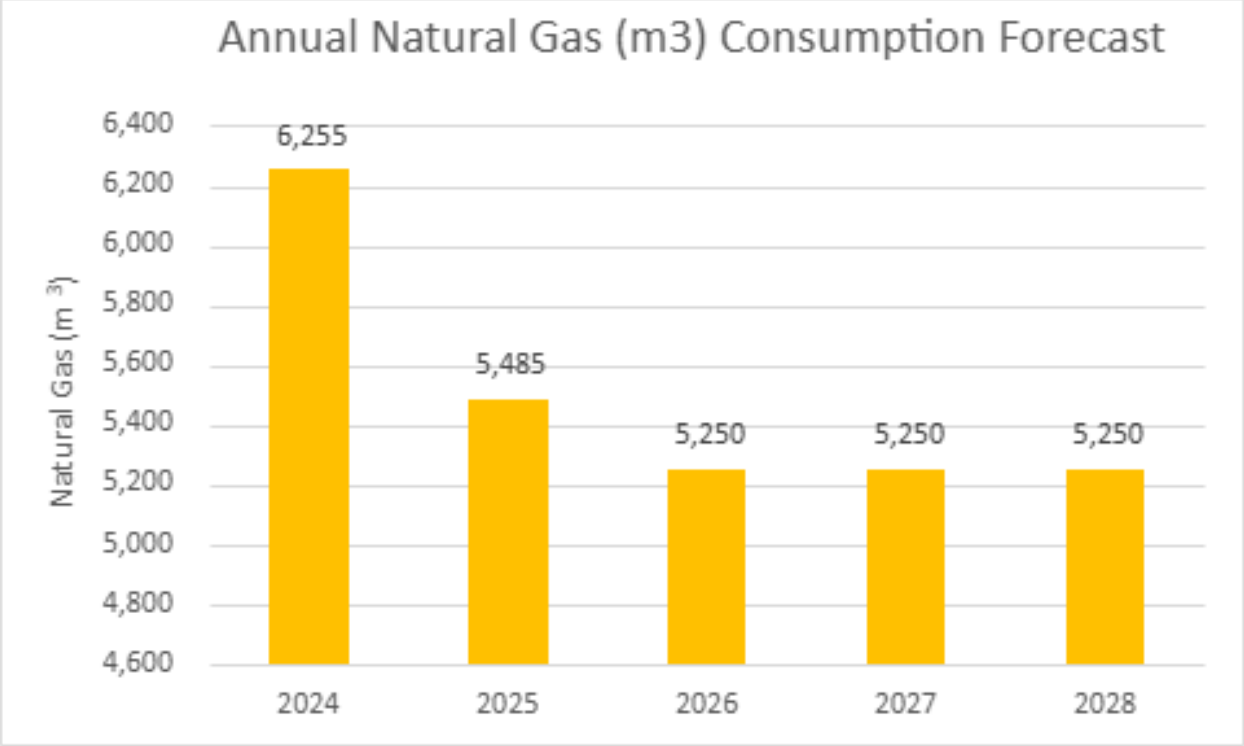

Figure 40: Mount Hope Centre for Long-Term Care 2024-2028 Natural Gas Consumption Forecast

4.5.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 34 and Figure 41, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	216	177	177	177	177
Natural Gas	12	11	10	10	10
Total	228	188	187	187	187
Reduction from Baseline Year	0%	2.5%	3.1%	3.1%	3.1%

Table 34: Mount Hope Centre for Long-Term Care 2024-2028 Greenhouse Gas Emissions Forecast

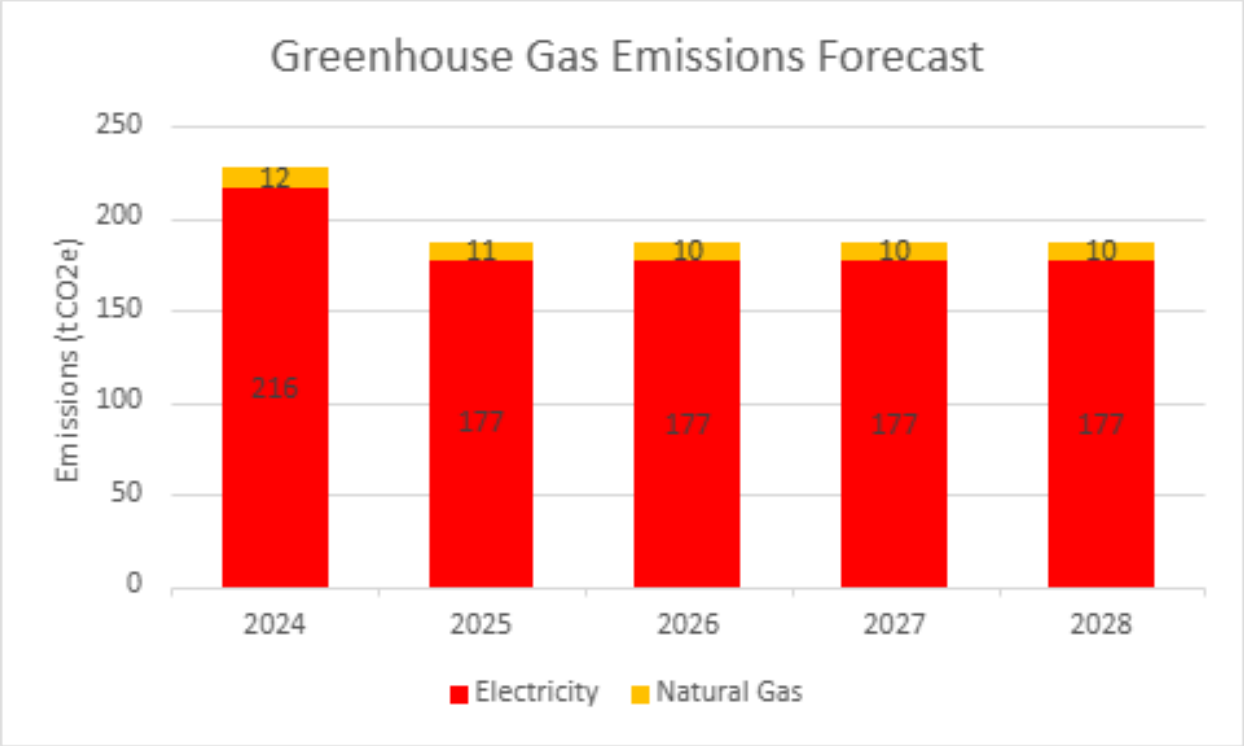

Figure 41: Mount Hope Centre for Long-Term Care 2024-2028 GHG Emissions Forecast

4.6 St. Joseph's Family Medical and Dental Centre

Figure 42: St. Joseph's Family Medical and Dental Centre

The St. Joseph's Family Medical and Dental Centre provides comprehensive health care with a patient-centered focus. The center partners with the Western University's Schulich School of Medicine and Dentistry to support a quality undergraduate and post-graduate education program, advancing medical knowledge through clinical research.

Facility Information	
Facility Name	St. Joseph's Family Medical and Dental Centre
Type of Facility	Healthcare
Address	346 Platt's Lane, London ON
Gross Area (m^2)	1,337 m^2
Average Operational Hours	40
Number of floors	1

Table 35: St. Joseph's Family Medical and Dental Centre Facility Information

4.6.1 Past Utility Consumption Analysis

St. Joseph's Family Medical and Dental Centre utilizes electricity and natural gas as its primary utilities. Consumption data for each utility has been normalized to the calendar years 2019–2023 and is presented in Table 36, Figure 43, and Figure 44.

Utility	2019	2020	2021	2022	2023
Electricity (kWh)	202, 302	181, 055	190, 503	204, 083	181, 031
Natural Gas (m^3)	25, 434	20, 040	16, 079	18, 019	19, 617

Table 36: St. Joseph's Family Medical and Dental Centre 2019-2023 Utility Consumption

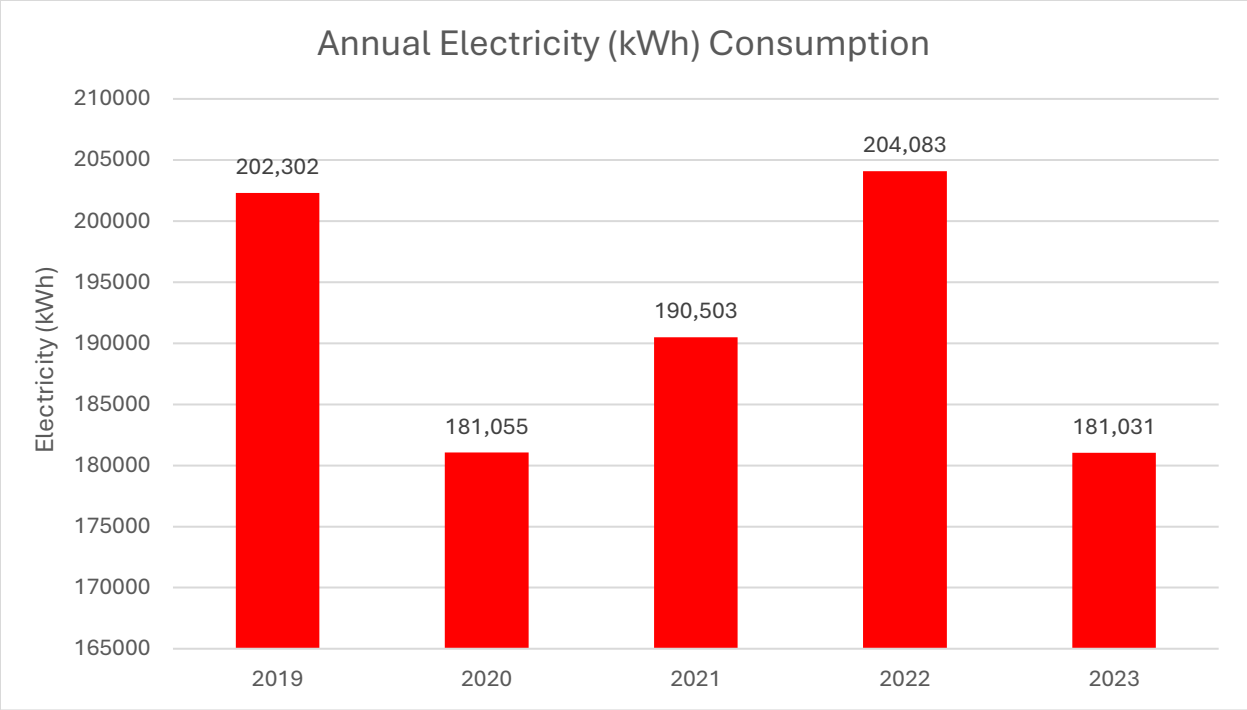

Figure 43: St. Joseph's Family Medical and Dental Centre 2019-2023 Electricity Consumption

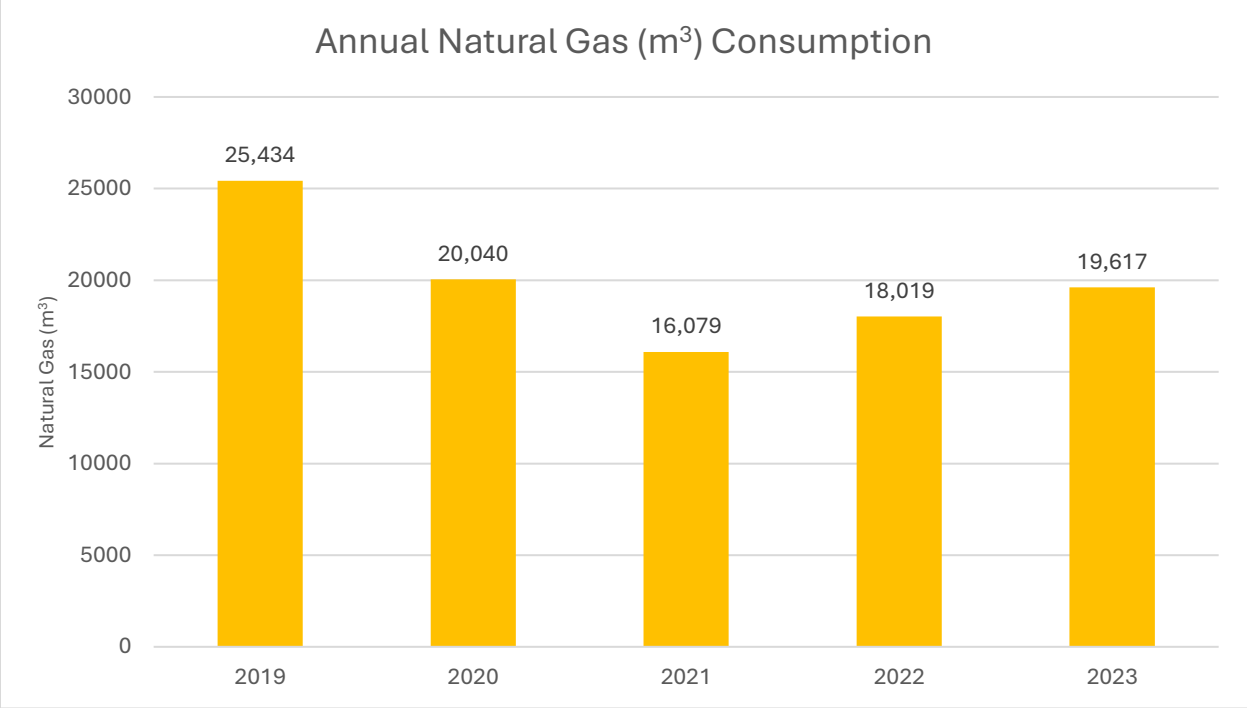

Figure 44: St. Joseph's Family Medical and Dental Centre 2019-2023 Natural Gas Consumption

4.6.2 Past GHG Emissions Analysis

Greenhouse gas (GHG) emissions for the years 2019–2023 are presented in Table 37 and Figure 45. These emissions have been calculated based on the corresponding energy consumption data provided in Table 36.

Utility (tCO_2e)	2019	2020	2021	2022	2023
Electricity	6	5	6	7	6
Natural Gas	49	38	31	35	38
Total	55	43	37	42	44

Table 37: St. Joseph's Family Medical and Dental Centre 2019-2023 Greenhouse Gas Emissions

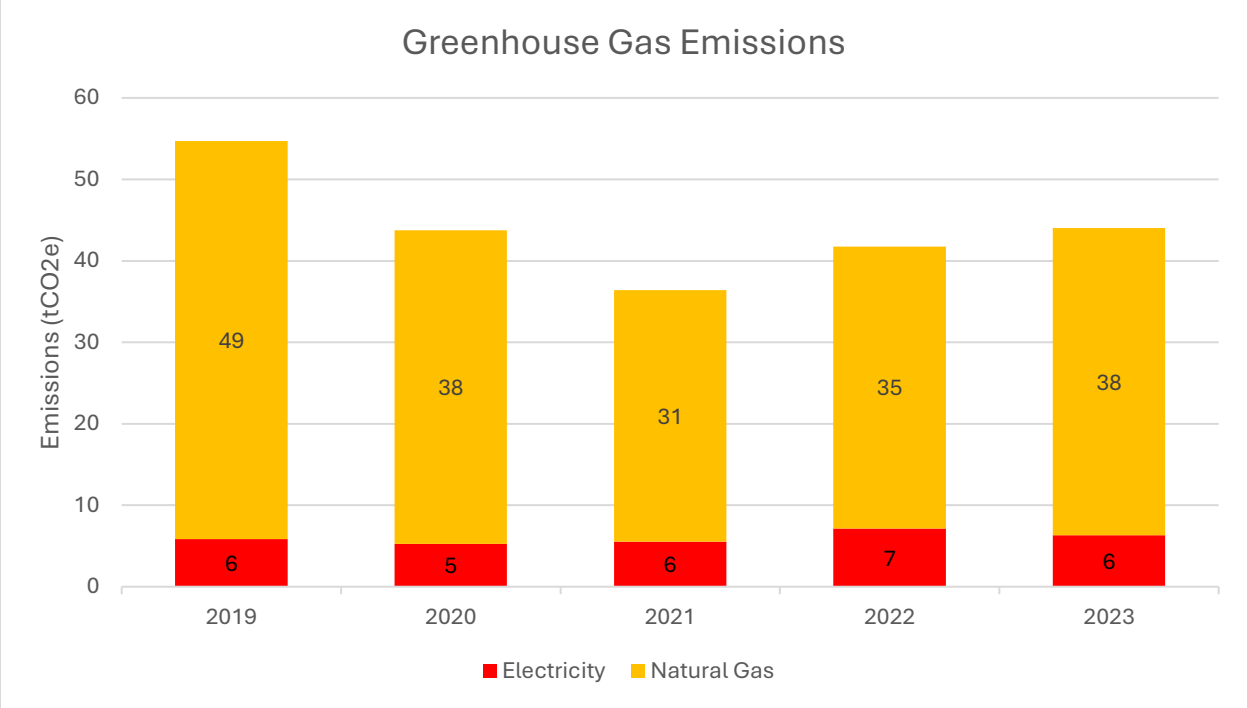

Figure 45: St. Joseph's Family Medical and Dental Centre 2019-2023 GHG Emissions

4.6.3 Proposed Conservation Measures

In collaboration with the facility management team, a list of proposed conservation measures has been developed for St. Joseph's Family Medical and Dental Centre, along with anticipated project timelines. The proposed energy-saving initiatives are summarized in Table 38, which outlines the estimated annual savings, project cost, and simple payback in years. These measures will remain in effect until more efficient and cost-effective technologies become available.

Measure	Estimated Annual Savings			Project Cost	Simple Payback (Years)	Year
	Electricity (kWh)	Natural Gas (m^3)	Cost ($)			
AHU Run Time Optimization	8, 000	-	500	0	-	2025
LED Lighting Retrofit	9, 000	-	750	3, 000	4	2025

Table 38: St. Joseph's Family Medical and Dental Centre Proposed Conservation Measures

4.6.4 Utility Consumption Forecast

Forecasted electricity, and natural gas consumption have been calculated based on the proposed energy conservation measures. Data is presented in Table 39, Figure 46, and Figure 47, with percentage changes shown relative to the baseline year (2023).

	2024		2025		2026		2027		2028	
	Units	% Change	Units	% Change	Units	% Change	Units	% Change	Units	% Change
Electricity (kWh)	202, 732	+ 12	164, 031	- 9	164, 031	- 9	162, 928	- 10	162, 928	- 10
Natural Gas (m^3)	17, 828	- 9	18, 636	- 5	18, 636	- 5	18, 636	- 5	18, 636	- 5

Table 39: St. Joseph's Family Medical and Dental Centre 2024-2028 Utility Consumption Forecast

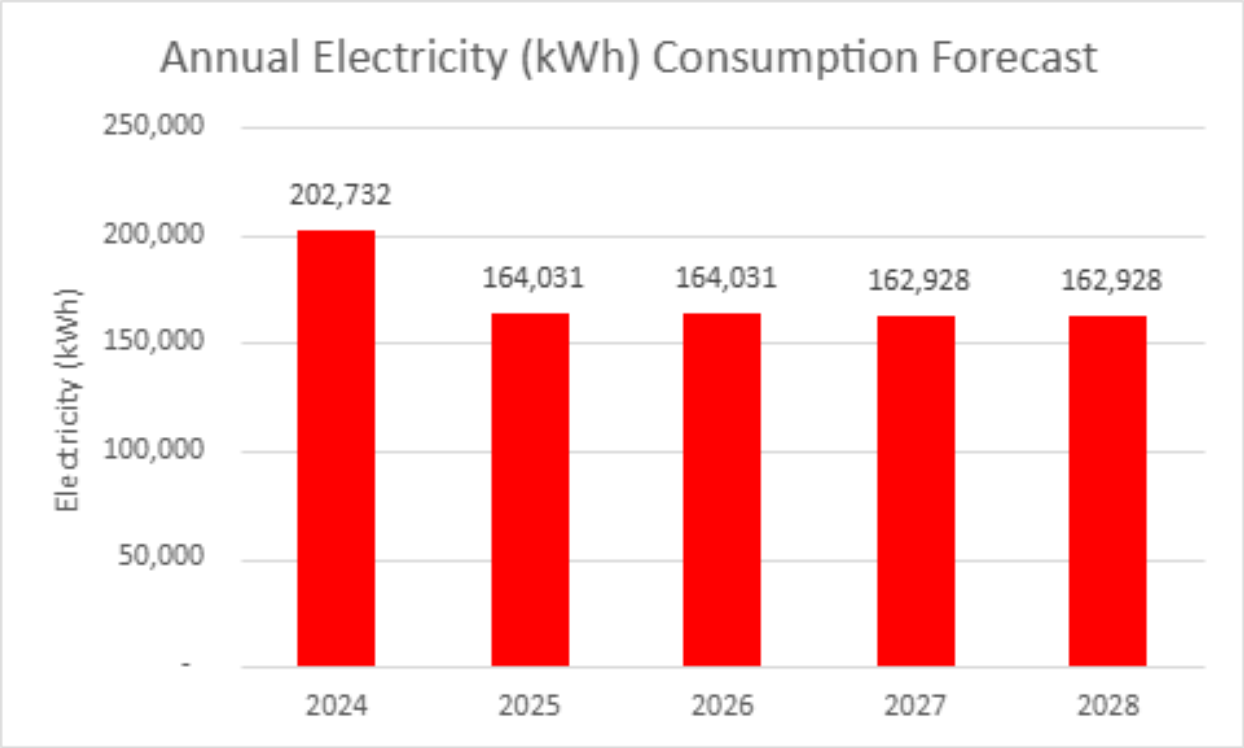

Figure 46: St. Joseph's Family Medical and Dental Centre 2024-2028 Electricity Consumption Forecast

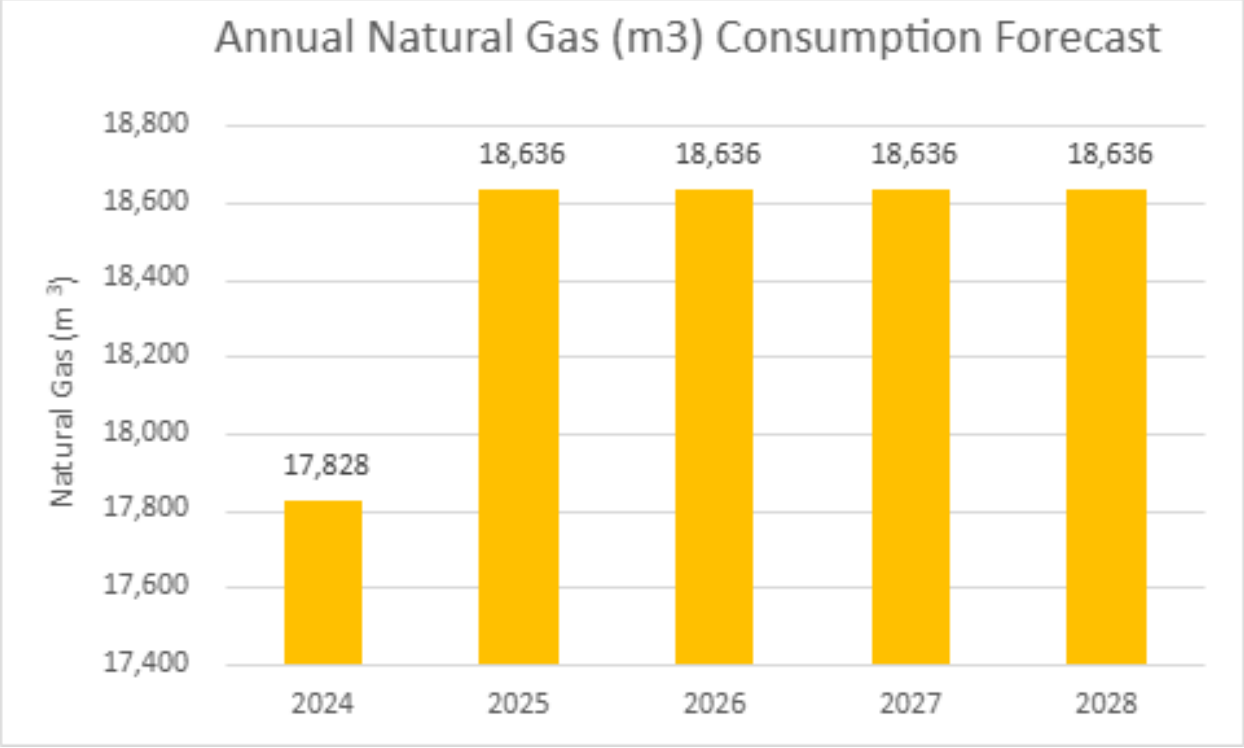

Figure 47: St. Joseph's Family Medical and Dental Centre 2024-2028 Natural Gas Consumption Forecast

4.6.5 GHG Emissions Forecast

Forecasted greenhouse gas (GHG) emissions have been calculated based on the projected energy consumption presented in the previous section. Data is shown in Table 40 and Figure 48, with percentage reductions relative to the 2023 baseline year.

Utility (tCO_2e)	2024	2025	2026	2027	2028
Electricity	7	6	6	6	6
Natural Gas	34	36	36	36	36
Total	41	42	42	42	42
Reduction from Baseline Year	6.8%	4.5%	4.5%	4.5%	4.5%

Table 40: St. Joseph's Family Medical and Dental Centre 2024-2028 Greenhouse Gas Emissions Forecast

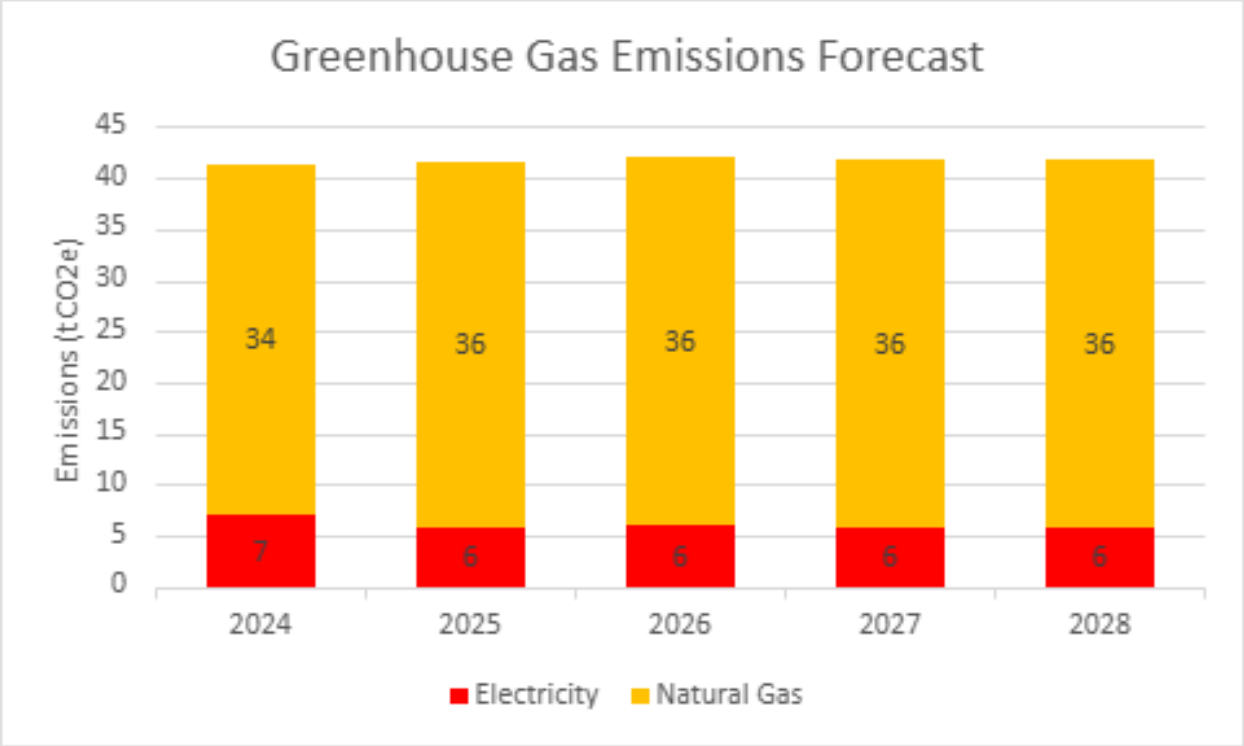

Figure 48: St. Joseph's Family Medical and Dental Centre 2024-2028 GHG Emissions Forecast

5. Closing Comments

We extend our sincere gratitude to all contributors of St. Joseph's Health Care London's Energy Reporting and Conservation & Demand Management (CDM) Plan. As a primary source of care, we recognize our vital role within the local community. The foundation of this relationship lies in our commitment to utilizing our facilities efficiently and effectively, which enhances our capacity to deliver the highest quality healthcare services while embracing environmental stewardship across all operational aspects.

On behalf of the Facilities Management team at St. Joseph's Health Care London, we formally endorse this Energy Reporting and Conservation & Demand Management Plan.

original signed

Glenn Kernaghan, P. Eng
Director, Facilities Planning & Engineering

original signed

Jodi Younger
Vice-President Patient Care, Quality, Facilities & Capital Planning

6. Appendix

6.1 List of Figures & Tables

6.1.1 List of Tables

6.1.2 List of Figures