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Energy & Environmental Performance

Annual Report 2011/12



NSCC Facilities
and Engineering

November 2012

EXECUTIVE SUMMARY

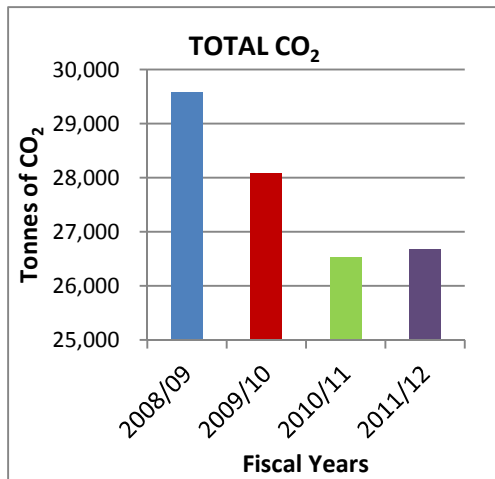
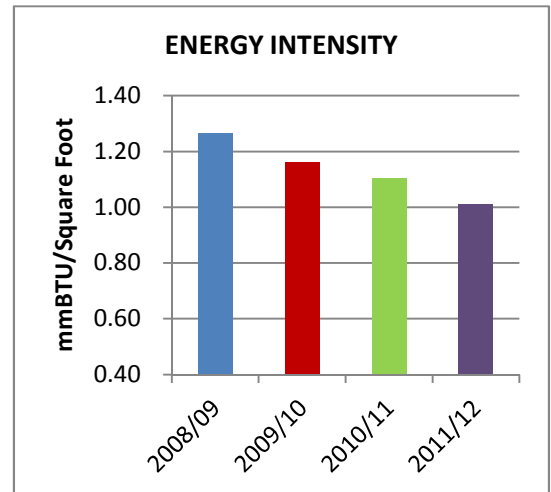
This 2011/12 annual report, as prepared by NSCC Facilities and Engineering, provides energy and environmental performance data for all NSCC campuses for the past four years, using 2008/2009 as the benchmark year. This report forms an integral component of NSCC environmental management strategy, and our commitment to the continual improvement of our environmental performance. Furthermore, this document is supportive of NSCC's values as presented in the new Strategic Plan.

SUMMARY OF NSCC'S ENVIRONMENTAL PERFORMANCE INDICATORS: 2008/2009 to 2011/12

	2008/2009	2009/2010	2010/2011	2011/2012	Change from last year			Change since 2008/2009		
Electricity (mmbtu)	87,760	84,043	81,379	82,916	1,537	2%	Increase	-4,844	6%	Decrease
Fuel Oil (mmbtu)	103,331	95,160	71,022	63,458	-7,565	11%	Decrease	39,873	39%	Decrease
Propane (mmbtu)	5,896	4,607	4,393	4,973	580	12%	Increase	- 923	16%	Decrease
Natural Gas (mmbtu)	1,409	1,303	12,646	19,344	6,698	35%	Increase	17,936	93%	Increase
Steam (mmbtu)	8,271	7,003	8,271	7,843	- 429	5%	Decrease	- 429	5%	Decrease
TOTAL Energy (mmbtu)	206,667	192,115	177,713	178,534	821	0%	No Change	28,133	14%	Decrease
Energy Intensity (BTU/SF)	1,266,484	1,163,425	1,103,811	1,022,681	- 81,130	7%	Decrease	243,803	19%	Decrease
Demand (kW)	73,753	73,716	71,829	65,406	-6,423	9%	Decrease	-8,347	11%	Decrease
CO ₂ (Metric Tonnes)	29,589	28,079	26,530	26,781	251	1%	Increase	-2,808	9%	Decrease
Water Use (m ³)	124,961	130,631	119,048	105,521	13,969	12%	Decrease	19,882	16%	Decrease
Waste Diversion	59%	-	-	68%	-		N/A	- 9%	9%	Decrease

Energy

During the past year, NSCC maintained TOTAL energy consumption levels from last year, despite the addition of a 27,000 square foot building (Marconi Trades Building) in 2010/2011. However, as shown in the graph to the right, the overall ENERGY INTENSITY has decreased 7% since last year. Since 2008/09, NSCC has saved **\$960,000** due to energy reductions.

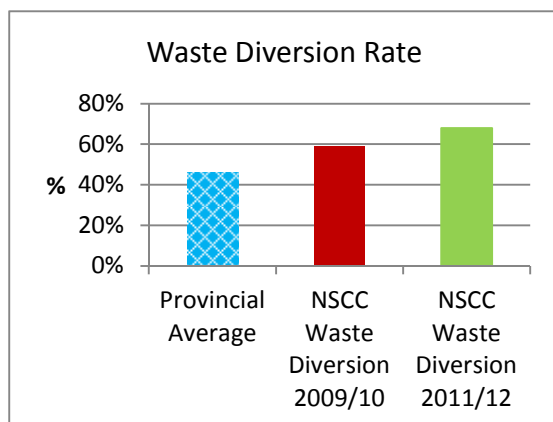
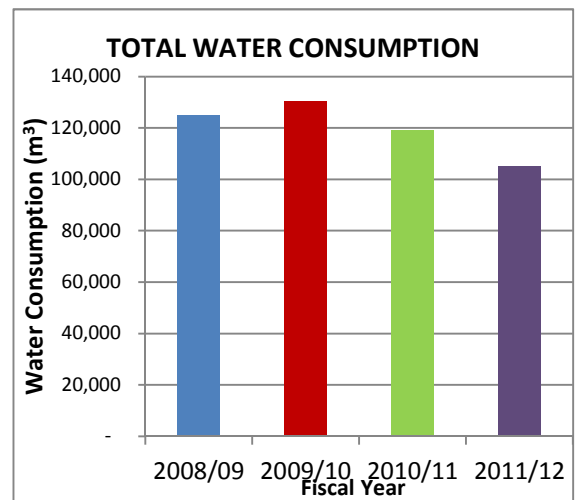


Greenhouse Gas Emissions (Carbon Dioxide (CO₂))

NSCC maintained CO₂ emissions (< 1% increase) since last year and has reduced by 9% since the 2008/2009 benchmark year.

Water

Through retrofits with water saving fixtures and the implementation of water saving initiatives, NSCC has reduced overall water consumption by 12% since last year, and an overall of 16% since the 2008/2009 benchmark year.



Waste

In 2012 NSCC diverted 68% of solid waste from Landfill. This is compared to a 2008/09 diversion rate of 59%, and the provincial waste diversion rate of 46%.

BOMA BEST

The BOMA BEST Environmental Certification Program is the platform that NSCC has been utilizing for the management of environmental performance of our buildings since 2008/2009. Buildings are scored based on performance indicators such as energy use, water consumption, and management of effluents and resources. The original score and recertification scores are provided in the table below:

CAMPUS	BENCHMARK SCORE (2008/09)	RECERTIFICATION SCORE (2011/12)	CHANGE SINCE 2008/09
AKERLEY	72	78	6% IMPROVEMENT
AVC COGS	65	81	16% IMPROVEMENT
AVC MIDDLETON	68	86	18% IMPROVEMENT
BURRIDGE	77	82	5% IMPROVEMENT
CUMBERLAND	80	82	2% IMPROVEMENT
INSTITUTE OF TECHNOLOGY	75	86	11% IMPROVEMENT
KINGSTEC	74	83	9% IMPROVEMENT
LUNENBURG	79	82	3% IMPROVEMENT
MARCONI	85	85	NO CHANGE
MARCONI TRADES BUILDING	N/A	91	NEW BUILDING
PICTOU	80	80	NO CHANGE
SCHOOL OF FISHERIES	65	76	11% IMPROVEMENT
SHELBURNE	68	83	15% IMPROVEMENT
STRAIT AREA	78	82	4% IMPROVEMENT
TRURO	73	75	2% IMPROVEMENT
WATERFRONT	93	93	NO CHANGE
AVERAGE	75	83	8% IMPROVEMENT

As shown above, all campuses score the same or improved from the original 2008/09 certification.

Sustainability Goals and Action Plan, 2012/13 and Beyond

	2012/13	2013/14	2014/15
Energy	Maintain 2011/12 levels.	2% reduction (from 2011/12 levels).	4% reduction (from 2011/12 levels).
Water	4% reduction (from 2011/12 levels)	6% reduction (from 2011/12 levels)	8% reduction (from 2011/12 levels)
Waste	Continue to maintain and improve waste management system.	Continue to maintain and improve waste management system.	Improve NSCC diversion rate to 75% (from 2011/12 rate of 68%)
Greenhouse Gas / Carbon Footprint	Expand GHG inventory to include all aspect of NSCC carbon emitting activities	5% reduction from 2012/13 levels.	10% reduction from 2012/13 levels.
Environmental Certifications	Engage in STARS Certification System. Commence LEED for Existing Building - Pilot Project (IT Campus)	NSCC certified STARS Silver	Renew STARS IT Campus LEED certified (BOMA recertification October 2015)
Policy	Review current Environmental Policy to ensure alignment with Strategic Plan.	Annual review of Policy.	Annual review of Policy.
Deferred Maintenance	Complete Facility Condition Assessments – All Campuses Reduce deferred maintenance by 3%	Reduce deferred maintenance by 3%	Reduce deferred maintenance by 3%
Communications / Engagement	Complete annual report. Present results to NSCC community. Promote sustainability activities through regular newsletters (3 newsletters/year). Facility Managers to actively engage campuses through environmental committee activities.		

Table of Contents

EXECUTIVE SUMMARY i

Table of Contents v

1. Introduction 1

2. What is BOMA BEST? 1

3. Summary of BOMA BEST Scores 2

4. NSCC – Overall Performance 3

 4.1. Energy Usage 3

 4.2. Carbon Dioxide (CO₂) Emissions 7

 4.3. Water Consumption 8

 4.4. Waste 10

5. NSCC Performance 2011/12 – Campus Specific 11

6. NSCC Goals and Sustainability Action Plan, 2012/13 and Beyond 71

1. Introduction

This report provides an overview of NSCC's Energy and Environmental Performance for the fiscal year. This is the third consecutive year that such a report has been developed.

Currently the primary tool that is being utilized for the monitoring the College's environmental performance is Building Environmental Standards (BOMA BEST). A key outcome of the BOMA BEST process for NSCC is to provide benchmark data, and to facilitate the ongoing measurement and monitoring of environmental performance as the College moves forward. With three years of data now available, as well as national averages, we can measure our performance against benchmark criteria on an annual basis. Environmental performance data for 2011/12 is presented throughout this report, and is compared to previous years as well as national averages.

NSCC will utilize the BOMA BEST program as a 'live system' to optimize opportunities to continually improve environmental performance and to support NSCC's value of Sustainability. As such, based on the findings of this report, the Goals and Action Plan to facilitate continual improvement are presented in Section 7.

2. What is BOMA BEST?

BOMA (Building Owners and Managers Association), is an international professional association that provides information and benchmarking relating to building operating costs, energy consumption patterns, local and national building codes, legislation, occupancy statistics and technological developments.

The BOMA BEST (BEST = Building Environmental Standards) was developed to facilitate a consistent approach to measuring and managing the environmental performance of commercial/institutional buildings. The performance of a building is assessed in terms of energy use, water use, waste management, environmental communications, and indoor environmental quality. Once all building data is compiled and the BOMA report is submitted, a third party BOMA auditor visits the site to verify the building's score. Buildings are certified based on the following ranking:

<u>Score</u>	<u>Certification Level</u>
90-100	BOMA BEST Level 4 (Highest)
80-89	BOMA BEST Level 3
70-79	BOMA BEST Level 2
	BOMA BEST Level 1 (Building meets core requirements)

As BOMA BEST is a nationally (and internationally) recognized program, and offers a 'common sense' approach to environmental management of existing buildings, this was selected as the best 'tool' available for NSCC's purposes.

A summary of NSCC’s certification and recertification outcomes is provided below:

3. Summary of BOMA BEST Scores

The results for all NSCC BOMA BEST submissions and recertifications are summarized in the Figures below. Figure 3.1 is a summary of the overall scores.

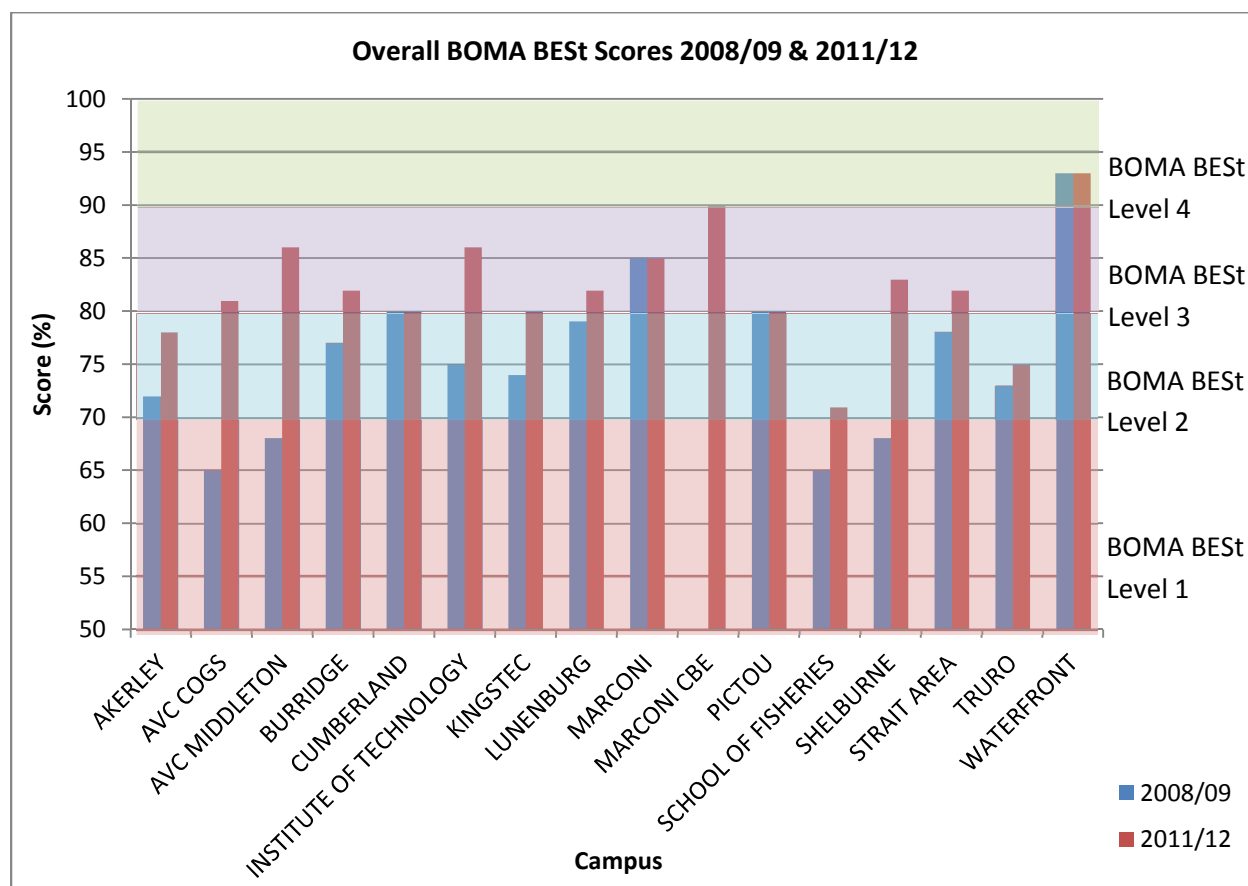


Figure 3.1: Summary of 2008/2009 & 2011/12 BOMA BEST results – Overall Score

NSCC’s average score in 2008/2009 was 75% and the average recertification score in 2011/12 is 83%. The graph on the next page illustrates a comparison between NSCC scores in the various BOMA categories to Atlantic Averages:

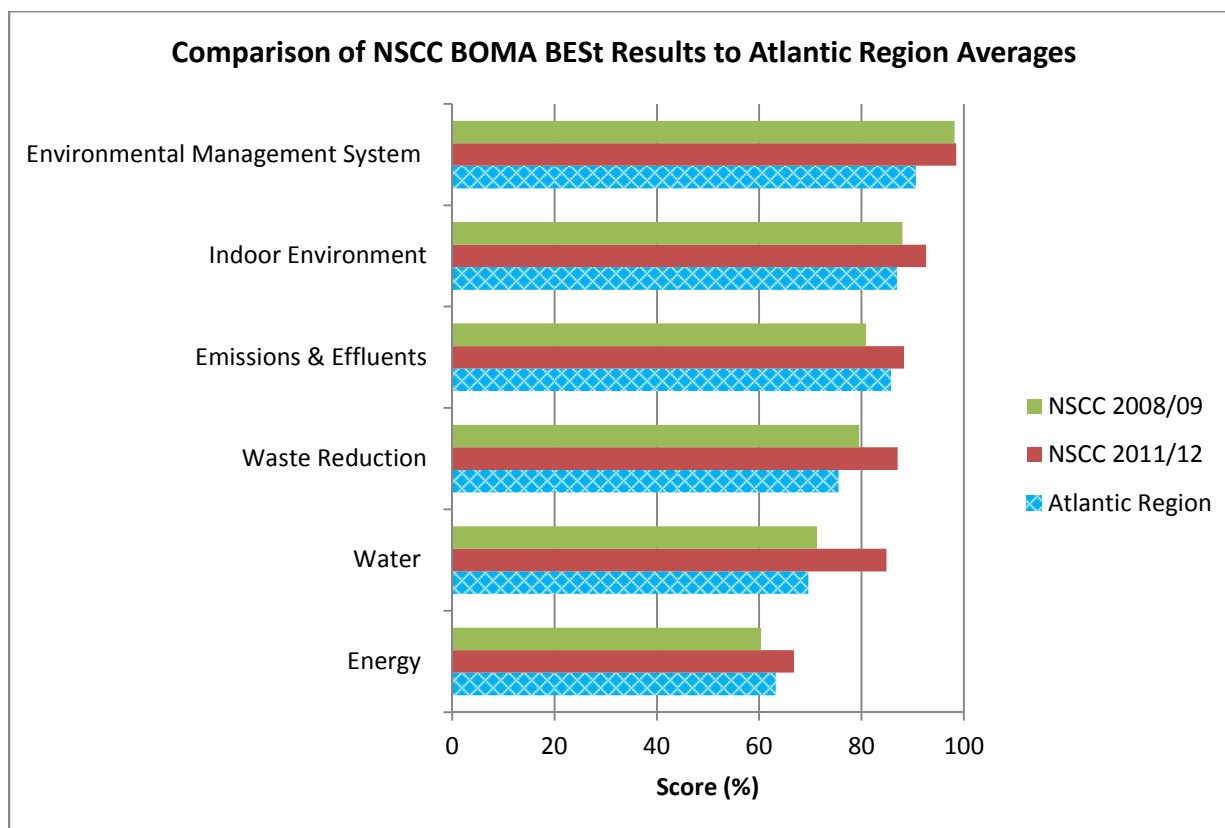


Figure 3.2 – Comparison of NSCC BOMA BEST Results for 2008/09 & 2011/12 to Atlantic Region Averages

As shown in the graph above, NSCC performs better in every BOMA BEST category as compared to the Atlantic Average. Additionally, since the original certification in 2008/2009, NSCC has improved in every category.

4. NSCC – Overall Performance

4.1. Energy Usage

An energy usage comparison across all campuses is presented in the Figure on the next page. The total of all sources of energy for each campus (e.g. fuel oil + electricity + propane, etc) were converted to British Thermal Units (BTUs) and divided by the building’s area. This facilitates a comparison between campuses regardless of source of energy or the size of the building.

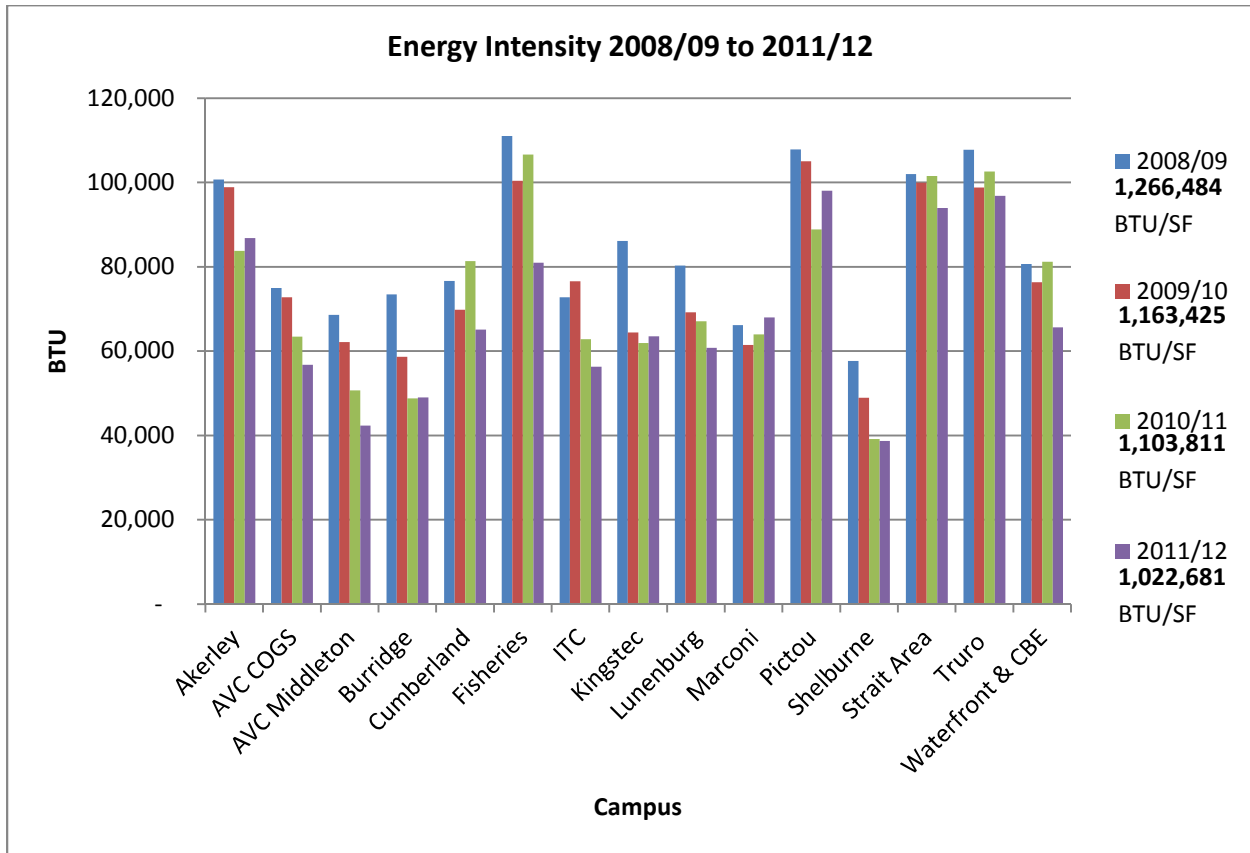


Figure 4.1: Illustrates the energy ‘Intensity’ for each building in 2008/2009 to 2011/12

Based on a comparison of 2008/2009 to 2011/12, the average energy intensity dropped by 16,253 BTU/square foot.

The new Centre for the Built Environment (CBE) building in Dartmouth, which opened its doors in September 2010, recently received confirmation from the Canada Green Building Council (CaGBC) that Leadership in Energy and Environmental Design (**LEED Gold**) has been achieved. LEED is a third-party certification program and an internationally-accepted benchmark for the design, construction and operation of high performance green buildings. Performance is measured based on parameters such as energy efficiency, water efficiency, building material selection and indoor environmental quality. The CBE has optimized energy performance through utilizing renewable energy sources such as wind power and solar heat. This state-of-the-art facility is a great demonstration of sustainable construction and building operations.

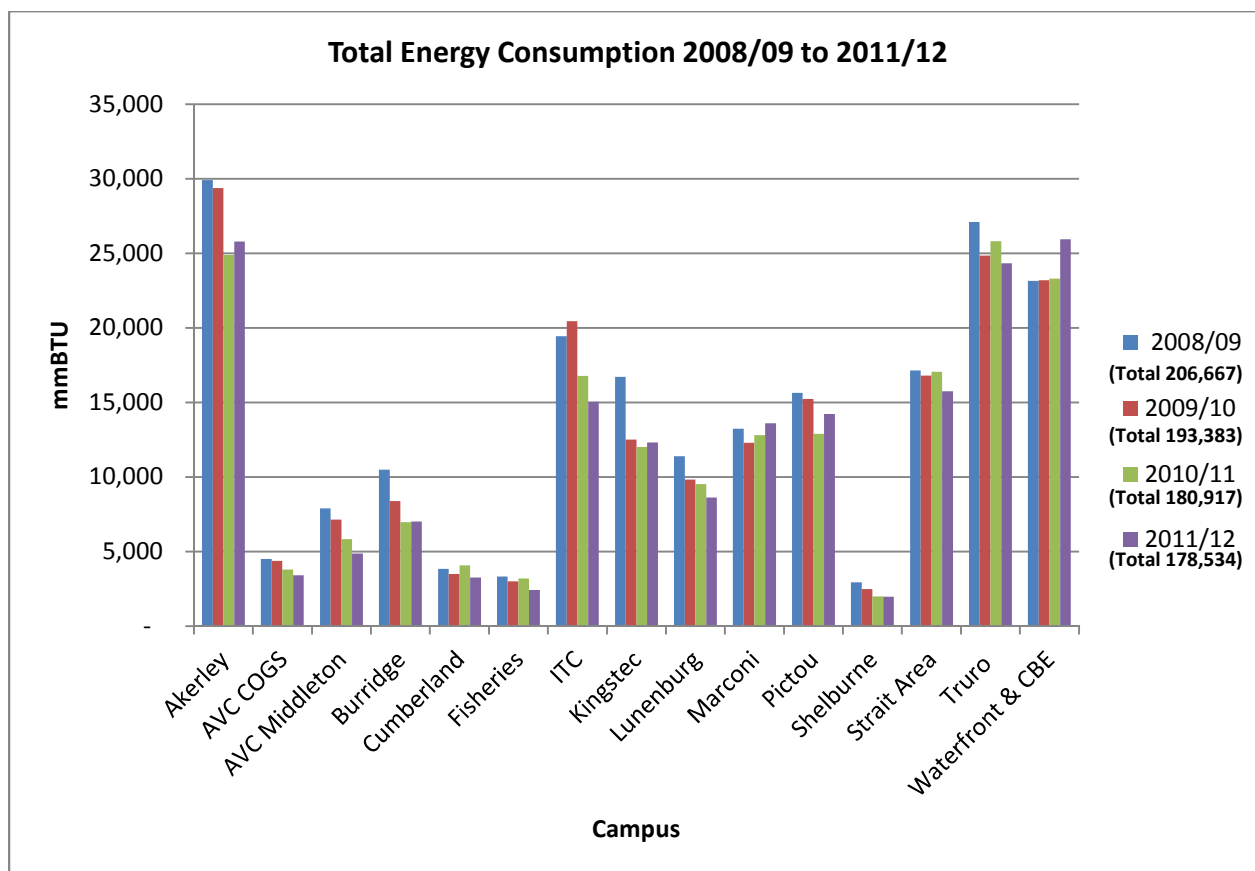


Figure 4.2: Illustrates Total Energy Usage 2008/2009 to 2011/12

Figure 4.2 illustrates the total energy usage per campus. As this figure is based on total energy usage, as expected the general trends relate to the size of the campus.

As shown in Figure 4.2 above, in 2011/12 NSCC consumed a total of 178,534 mmbtus, compared to 180,917 mmbtus from 2010/11. This is a reduction of 2,383 mmbtus from last year, and 28,133 mmbtus (or 14%) since 2008/2009. The energy reduction is equivalent to the amount of energy required to heat a large campus such as Akerley for a year!

Energy use reductions that were achieved in 2011/12 can be attributed to several factors. Some campuses have had significant infrastructure upgrades (such as new curtain walls and roofs, improved insulation, lighting retrofits, and conversion to alternative fuels such as natural gas). Also, there has been a noted trend of behavior changes at the campus level which would facilitate decreased energy consumption. This culture shift can be attributed to efforts by environmental committees, and a general increased environmental awareness at NSCC.

Energy Demand is a measure of the peak energy load during a given period of time. As peak loads place additional demand on electricity producing infrastructure, the end user (i.e., NSCC) pays a premium based on demand loads. Energy Demand Management aims to reduce these peak loads through operational controls.

Figure 4.3 below illustrates energy demand usage from 2008/2009 to 2011/12.

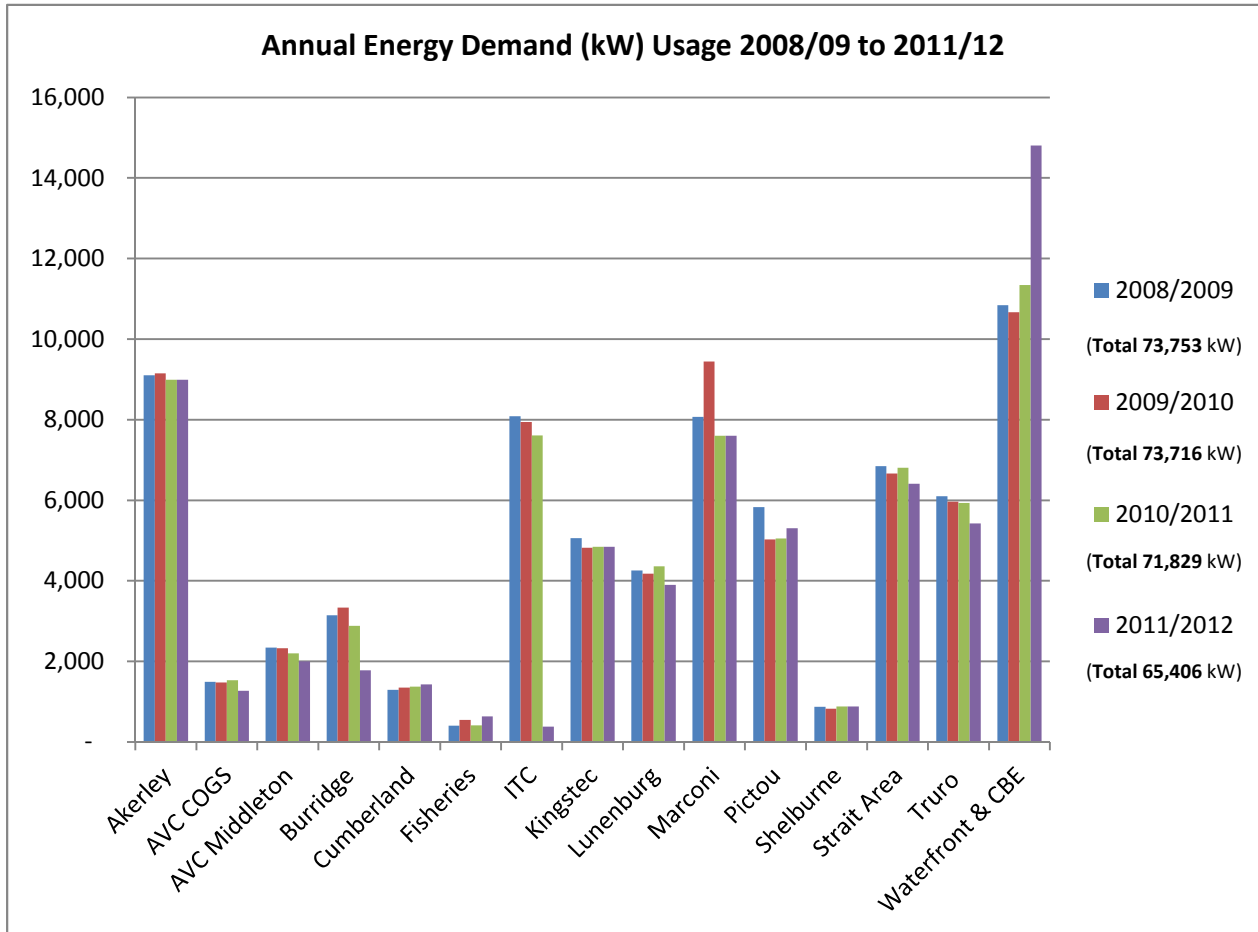


Figure 4.3: Illustrates 2008/2009 to 2011/12 Average Annual Demand Usage

As illustrated above, in total, demand consumption decreased by 6,423 kW (or 9%) from last year, and 8,347 kW (11%) since 2008/2009.

4.2. Carbon Dioxide (CO₂) Emissions

Based on the energy consumption of each campus, the total tonnes of the greenhouse gas Carbon Dioxide (CO₂) emitted to the atmosphere is presented in Figure 4.4.

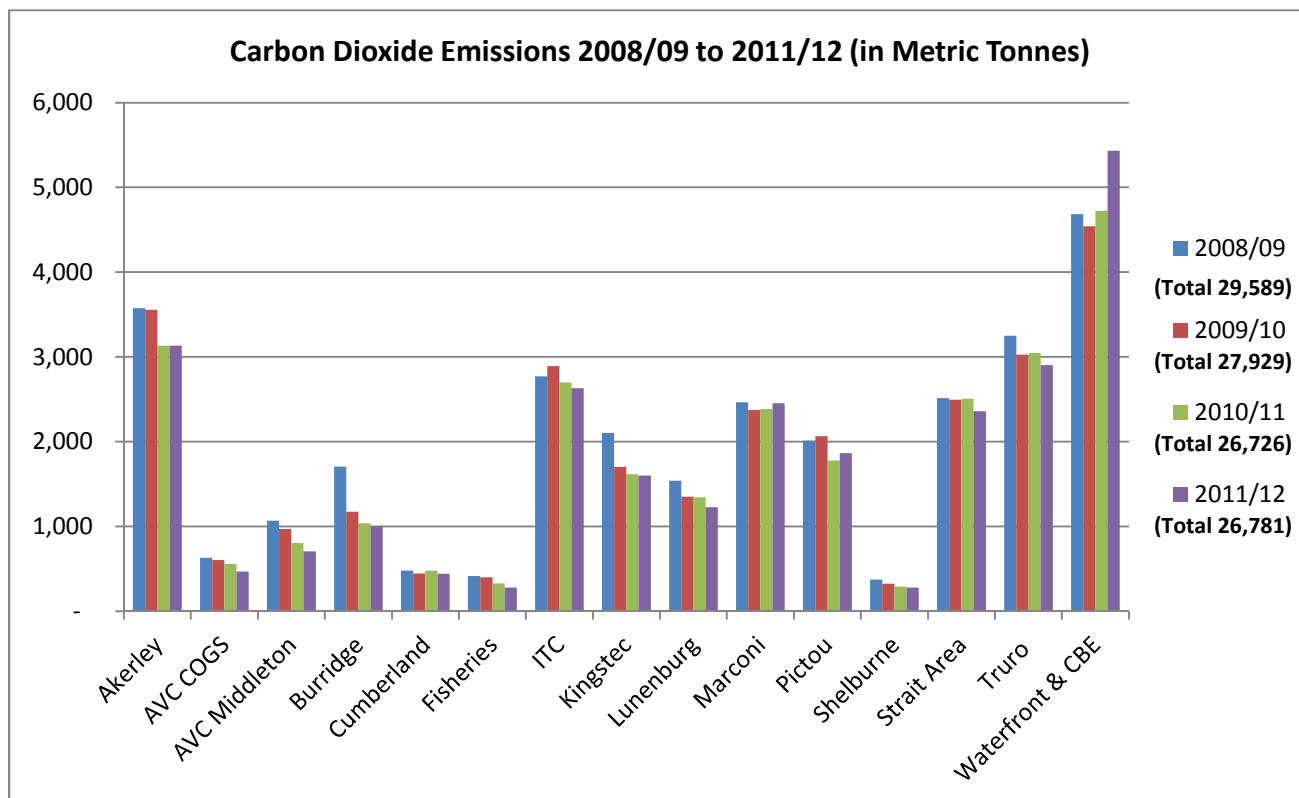


Figure 4.4: Carbon Emissions 2008/2009 to 2011/12

As presented in the above Figure, in 2008/2009 the total CO₂ emissions were 29,589 tonnes, in 2009/2010 emissions were 27,929 tonnes, in 2010/11 emissions were 26,726 tonnes, and 26,781 tonnes in 2011/12. This is an increase of 55 tonnes since last year, and a reduction of 2,808 tonnes (9%) since 2008/2009.

It should be noted that this CO₂ inventory only includes building heating and cooling. It does not include off-site NSCC activities such as transportation. A more comprehensive greenhouse gas emission inventory is planned for future studies.

4.3. Water Consumption

Figure 4.5 below illustrates the total water consumption for each campus in 2008/2009 to 2011/12.

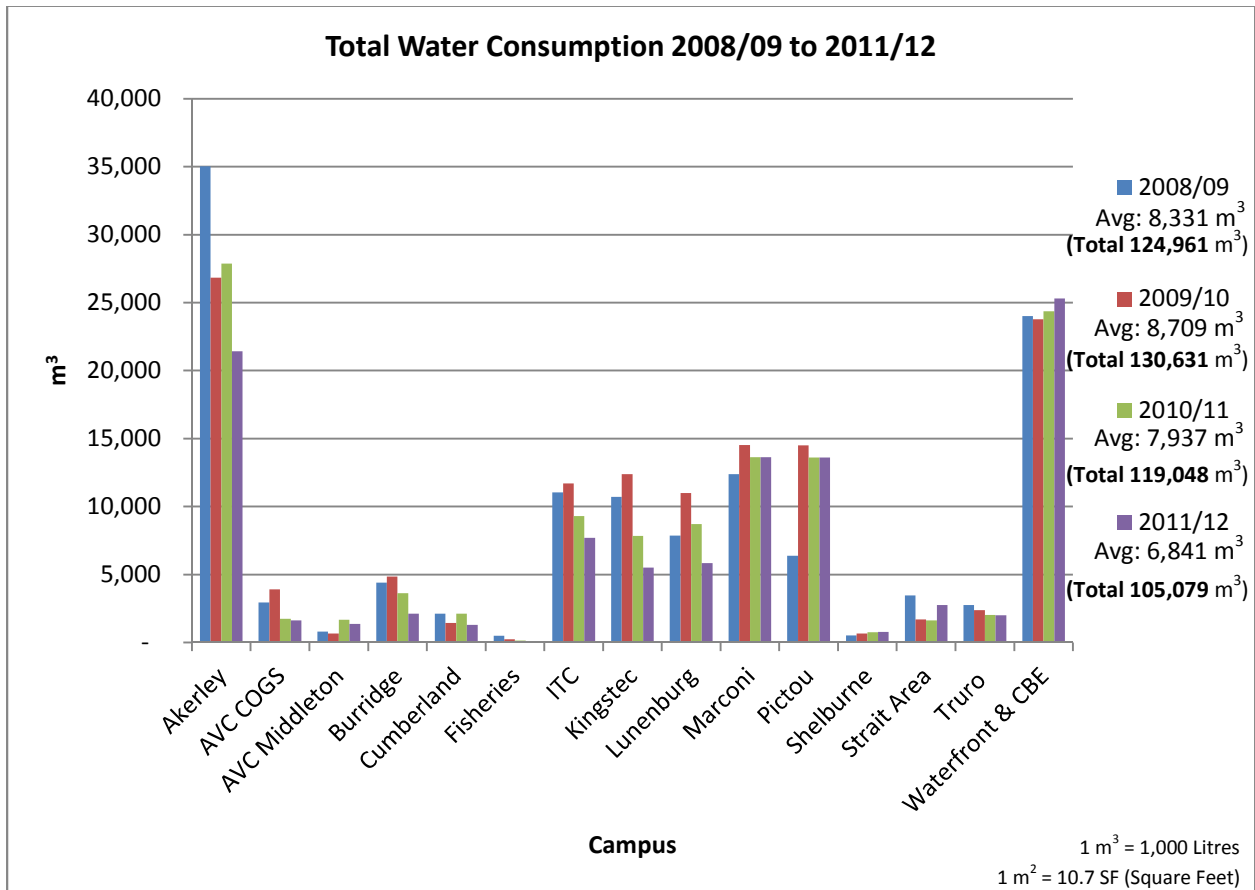


Figure 4.5: 2008/2009 to 2011/12 Water Consumption

As shown in Figure 4.5, in 2011/12, all 13 campuses combined used a total of 105,079 m³ of water.

Since last year, this is a water savings of 13,969 m³ (12%), and 19,882 m³ (16%) since 2008/2009.

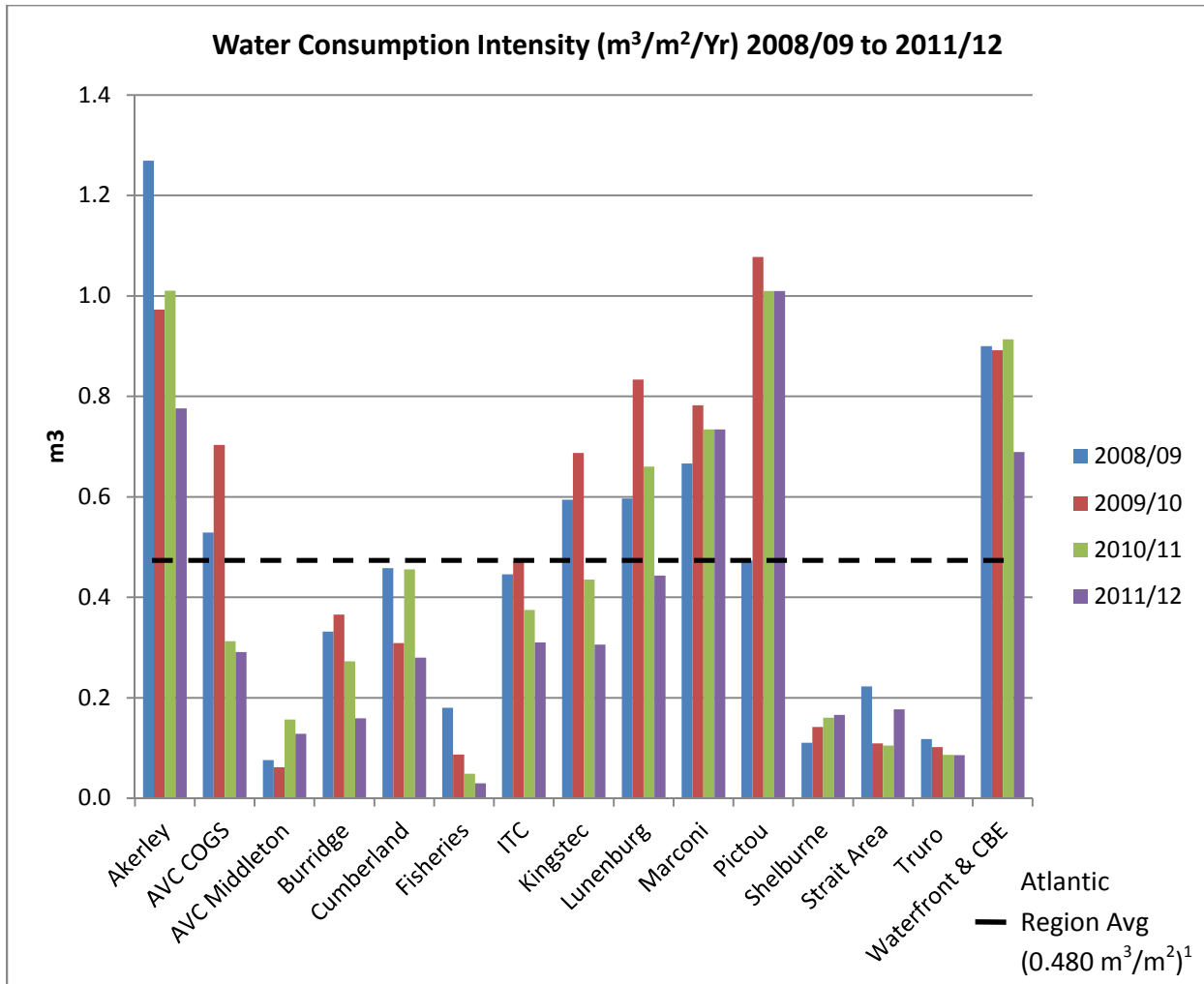


Figure 4.6: Illustrates Water Consumption (m³/m²) for 2008/2009 to 2011/12

Figure 4.6 presents the volume of water consumed per unit area of building. This calculation facilitates the comparison of water efficiency between the NSCC campuses.

As indicated in the above Figure, the average NSCC building consumed 0.373 m³/m², compared to the Atlantic Regional average of 0.480 m³/m².

Akerley, Marconi, Pictou, and the Waterfront Campuses are above the Regional Average.

Very low consumption at Lunenburg campus in 2009/2010 and Pictou campus in 2008/2009 are likely attributed to billing anomalies.

4.4. Waste

In 2011/12 waste audits were completed at all NSCC campuses. The objectives of the waste audits were to:

- determine composition and quantities of waste being generated;
- measure the effectiveness of existing waste management systems;
- identify areas for improving waste management systems;
- and collect baseline data for measuring the effectiveness of waste minimization strategies.

A Waste Diversion Rate (WDR) was calculated for each audited campus, which represents the portion of waste that is diverted away from the landfill, through recycling and composting. As shown in figure 4.7, the WDRs ranged from a low of 41% (Akerley Campus) to a maximum of 85% (Burridge and Kingstec). The average WDR for all NSCC Campuses is 68%. This is a significant improvement compared to the waste diversion rate for 2008/09 of 59%.

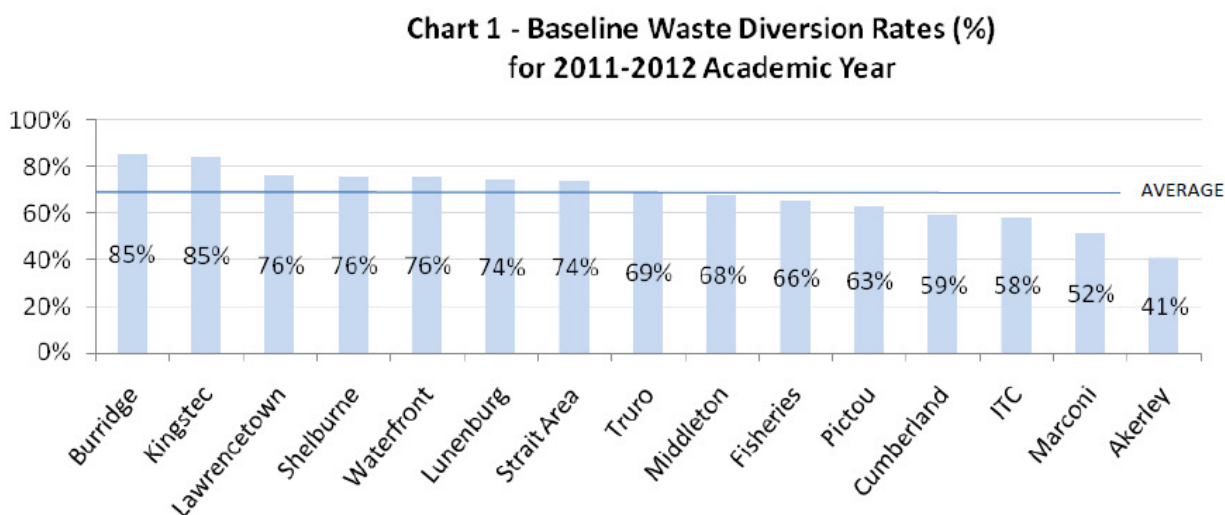


Figure 4.7: Baseline Waste Diversion Rates (%) for 2011/12

“Optimum” Waste Diversion Rates (oWDR) have been calculated for each campus, which represent targets that could be achieved based on 100% accurate sorting practices. The oWDRs range from 75% to 91% and are reflective of the types of waste generated at different campuses, as well as the diversion opportunities that exist in various geographical regions (e.g., some regional waste facilities accept paper towels as compost, whereas other regions do not).

5. NSCC Performance 2011/12 – Campus Specific

The following sections provide campus specific BOMA BEST data for 2011/12.

5.1. AKERLEY CAMPUS

ENERGY – AKERLEY CAMPUS

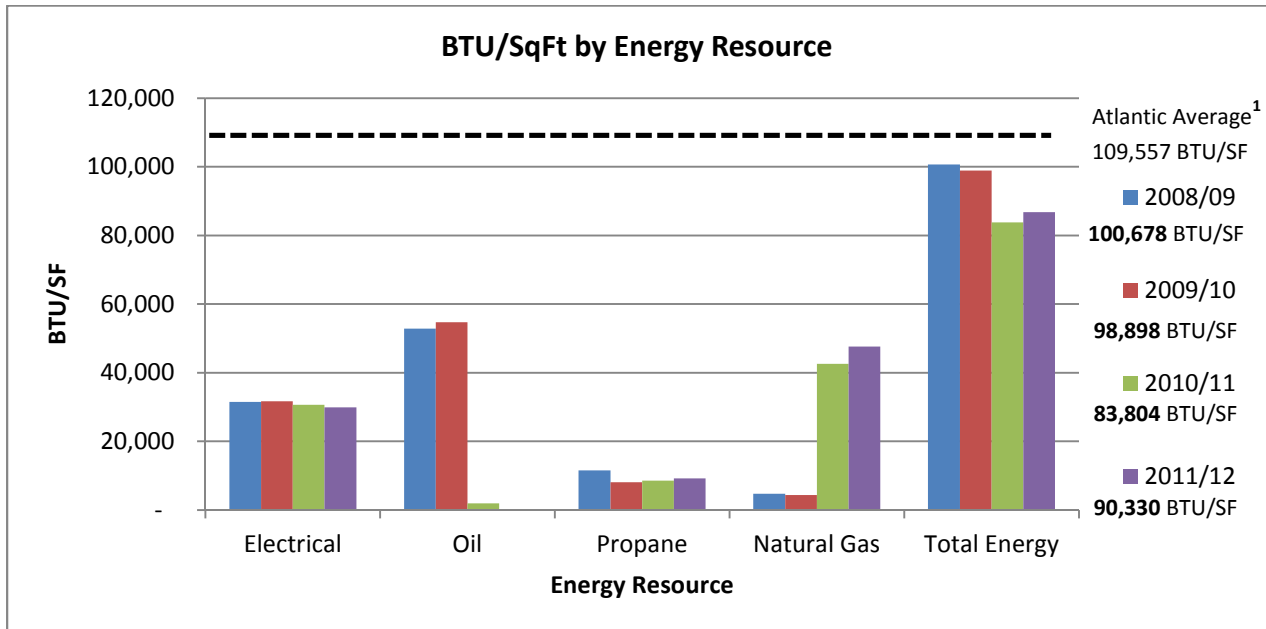


Figure 5.1.1: 2011/12 Energy Usage – Akerley Campus

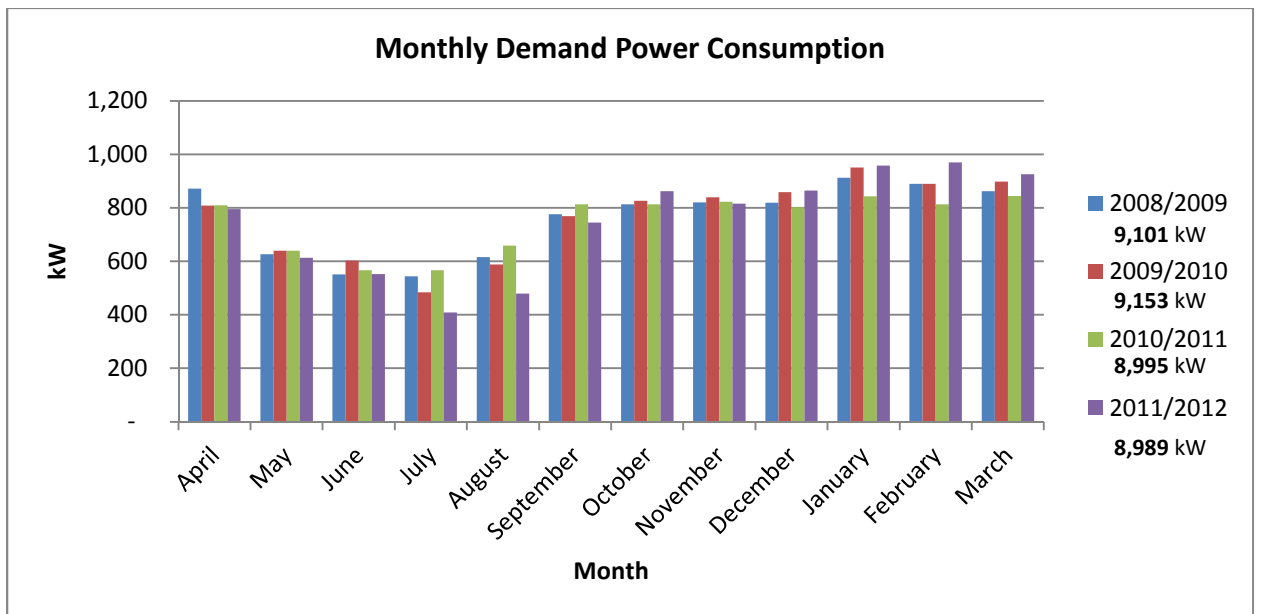


Figure 5.1.2: 2008/09 to 2011/12 Monthly Demand Power Consumption – Akerley Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - AKERLEY CAMPUS

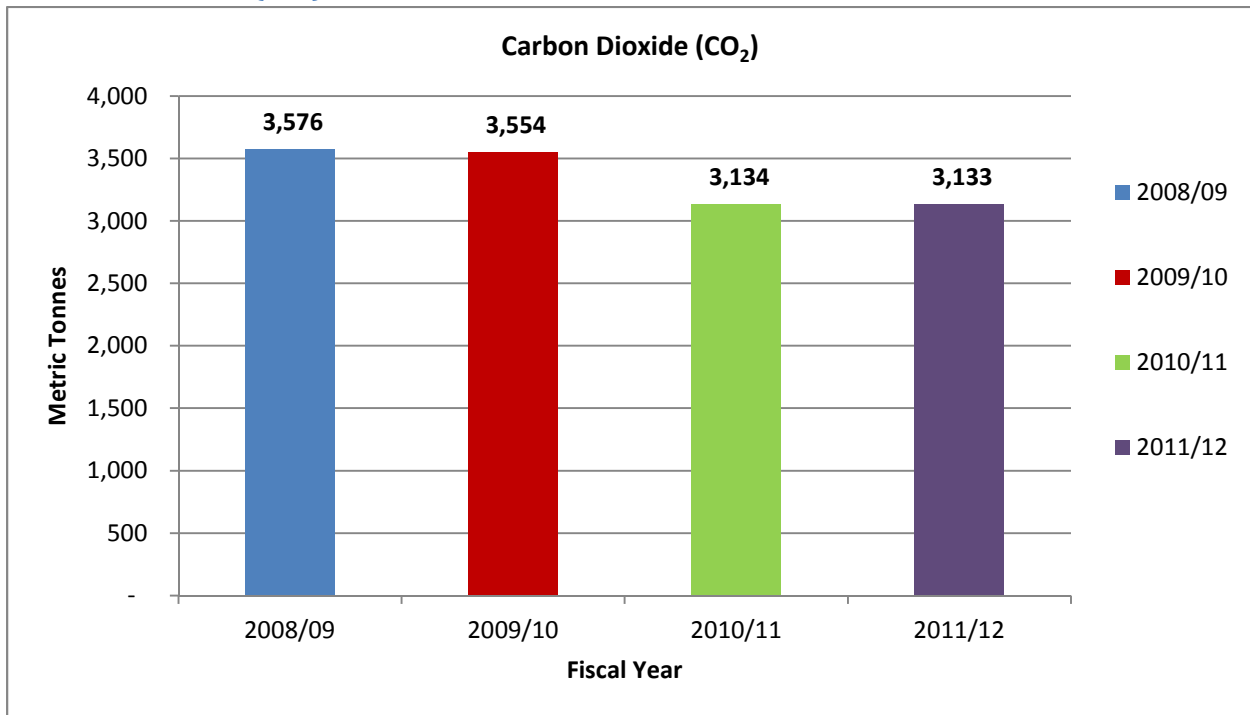


Figure 5.1.3: 2008/09 to 2011/12 Carbon Dioxide – Akerley Campus

WATER - AKERLEY CAMPUS

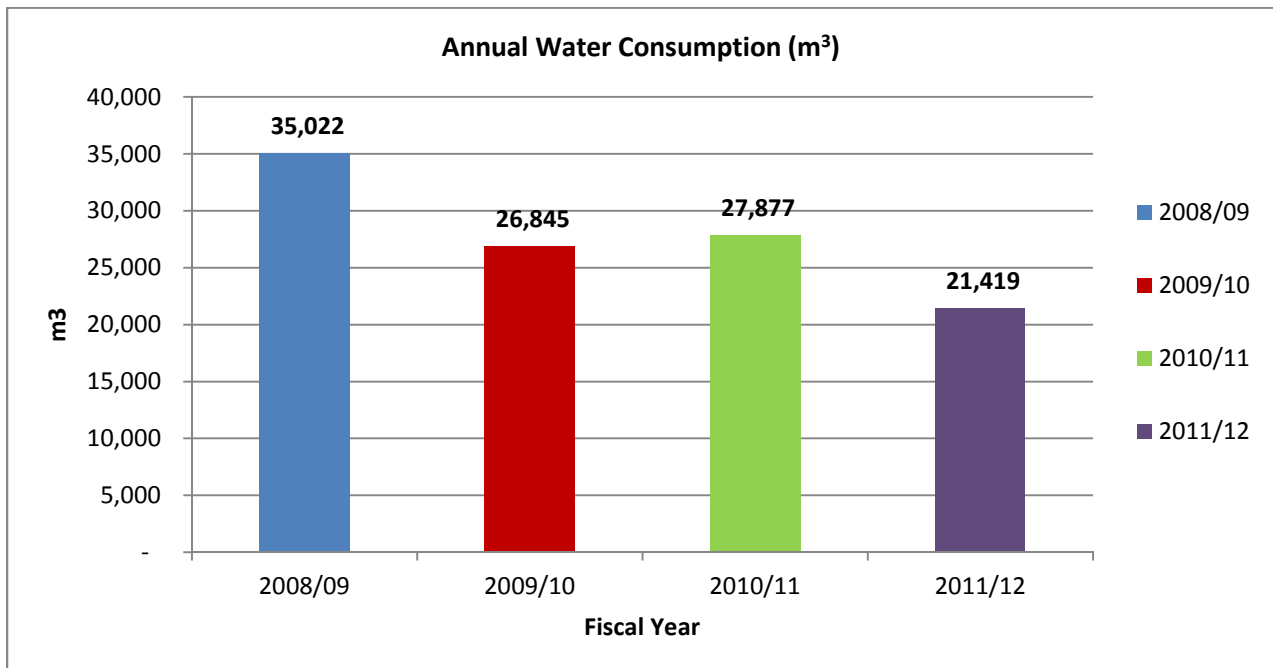


Figure 5.1.4: 2008/09 to 2011/12 Water Consumption – Akerley Campus

WASTE DIVERSION – AKERLEY CAMPUS

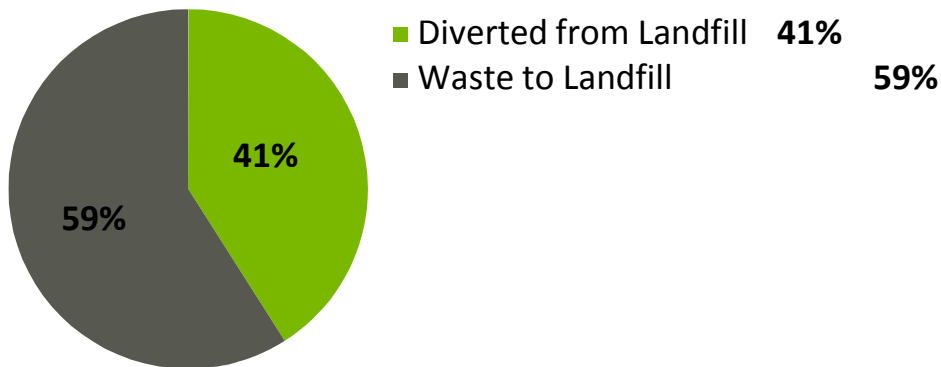


Figure 5.1.5: 2011/12 Waste Diversion Rate – Akerley Campus

BOMA BEST – AKERLEY CAMPUS

The table below illustrates the BOMA BEST scores by category, comparing the original (2008/2009) to the recertification score (2011/12). Additionally, the Atlantic Region averages are provided for comparison purposes.

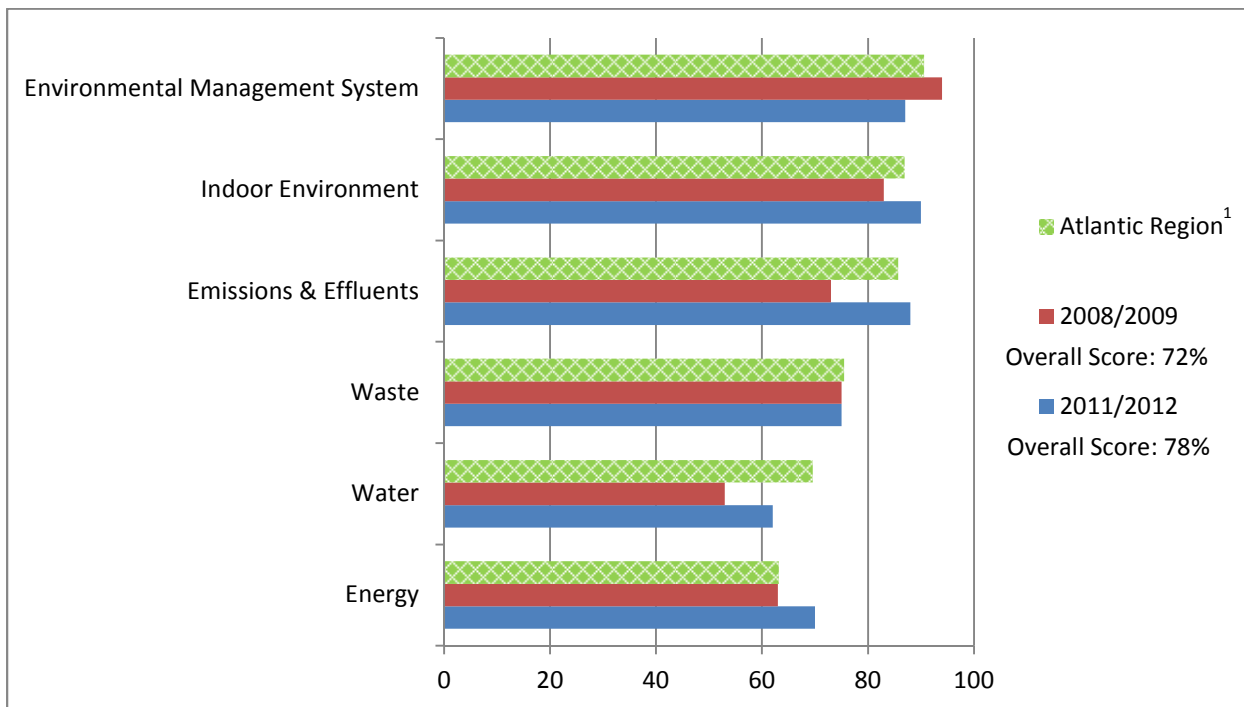


Figure 5.1.6: BOMA BEST Scores 2008/2009 & 2011/12 – Akerley Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – AKERLEY CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	31,541	31,704	30,698	29,930	-768	3%	Decrease	-1,611	5%	Decrease
Fuel Oil (BTU/sq ft)	52,841	54,730	1,972	-	1,972	100%	Decrease	52,841	100%	Decrease
Propane (BTU/sq ft)	11,552	8,078	8,553	9,222	669	7%	Increase	2,331	20%	Decrease
Natural Gas (BTU/sq ft)	4,743	4,386	42,581	47,656	5,075	11%	Increase	42,913	90%	Increase
TOTAL Energy (BTU/sq ft)	100,678	98,898	83,804	86,808	3,004	3%	Increase	13,870	14%	Decrease
Demand (kW)	9,101	9,153	8,995	8,989	5	0%	Decrease	112	1%	Decrease
CO ₂ (Metric Tonnes)	3,576	3,554	3,134	3,133	0	0%	Decrease	443	12%	Decrease
Water Use (m ³)	35,022	26,845	27,877	21,419	6,458	23%	Decrease	13,603	39%	Decrease
Waste	-	-	-	41%	-	-	N/A	-	-	N/A
BOMABES _t	72%	-	-	78%	-	-	N/A	-	6%	Improvement

Table 5.1 SUMMARY – Akerley Campus

5.2. AVC CENTRE OF GEOGRAPHIC SCIENCE

ENERGY – AVC COGS

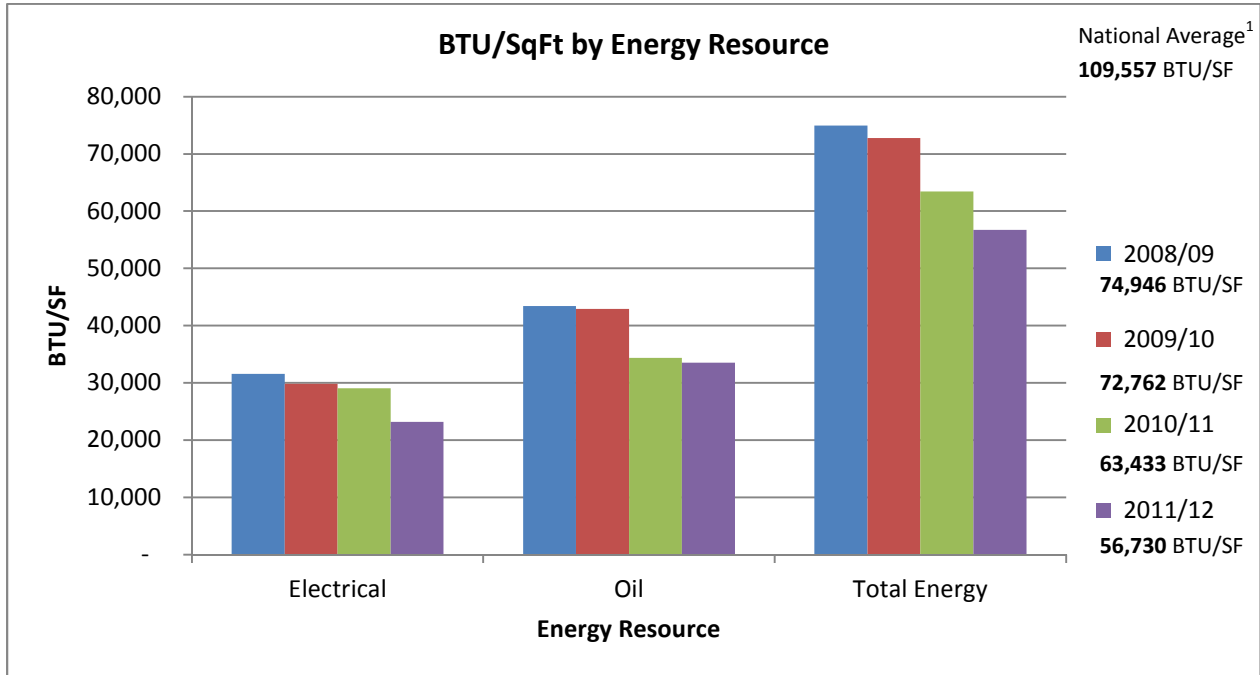


Figure 5.2.1: 2008/09 to 2011/12 Energy Usage – AVC Centre of Geographic Science

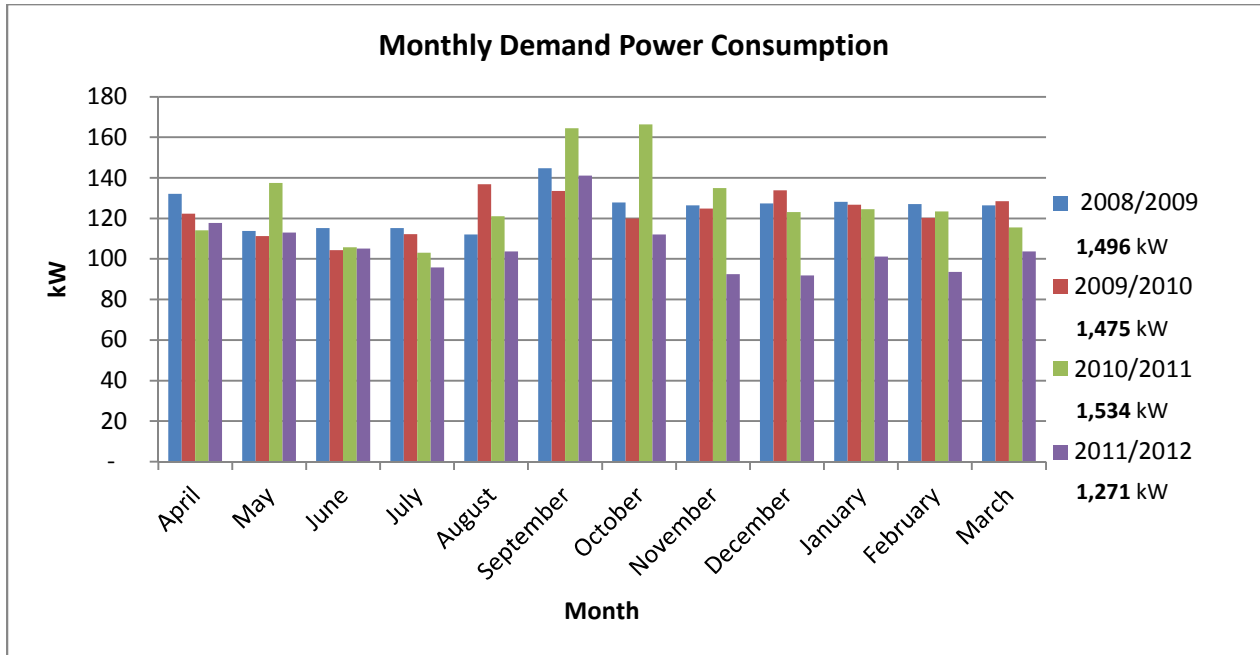


Figure 5.2.2: 2008/2009 to 2011/12 Demand Power Consumption – AVC Centre of Geographic Science

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - AVC COGS

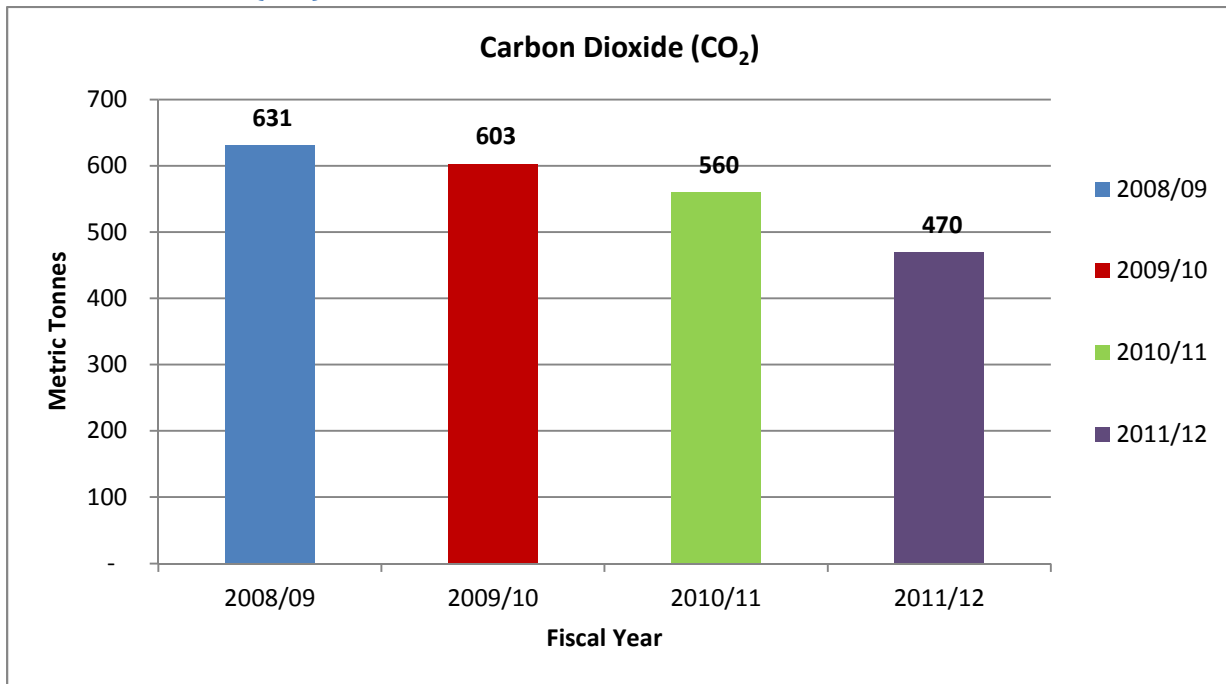


Figure 5.2.3: 2008/09 to 2011/12 Carbon Dioxide – AVC Centre of Geographic Science

WATER - AVC COGS

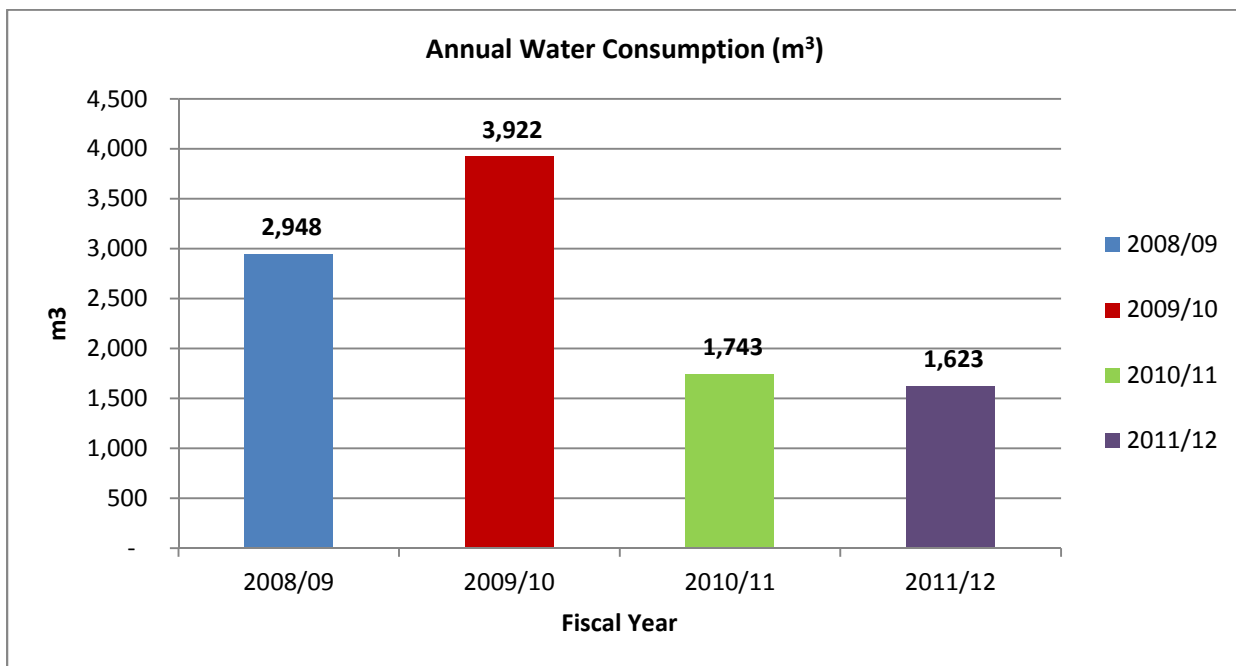


Figure 5.2.4: 2008/09 to 2011/12 Water Consumption – AVC Centre of Geographic Science

WASTE DIVERSION - AVC COGS

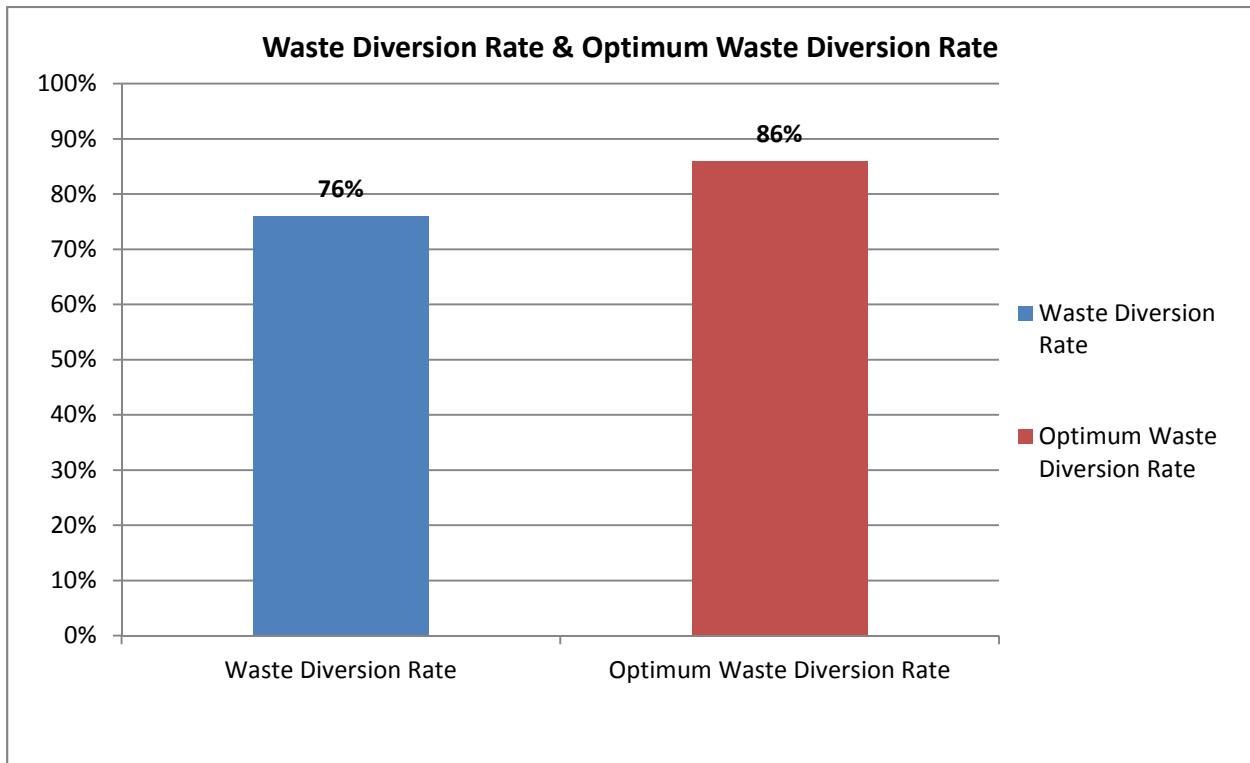


Figure 5.2.5: 2011/12 Waste Diversion Rate – AVC Centre of Geographic Science

BOMA BEST – AVC COGS

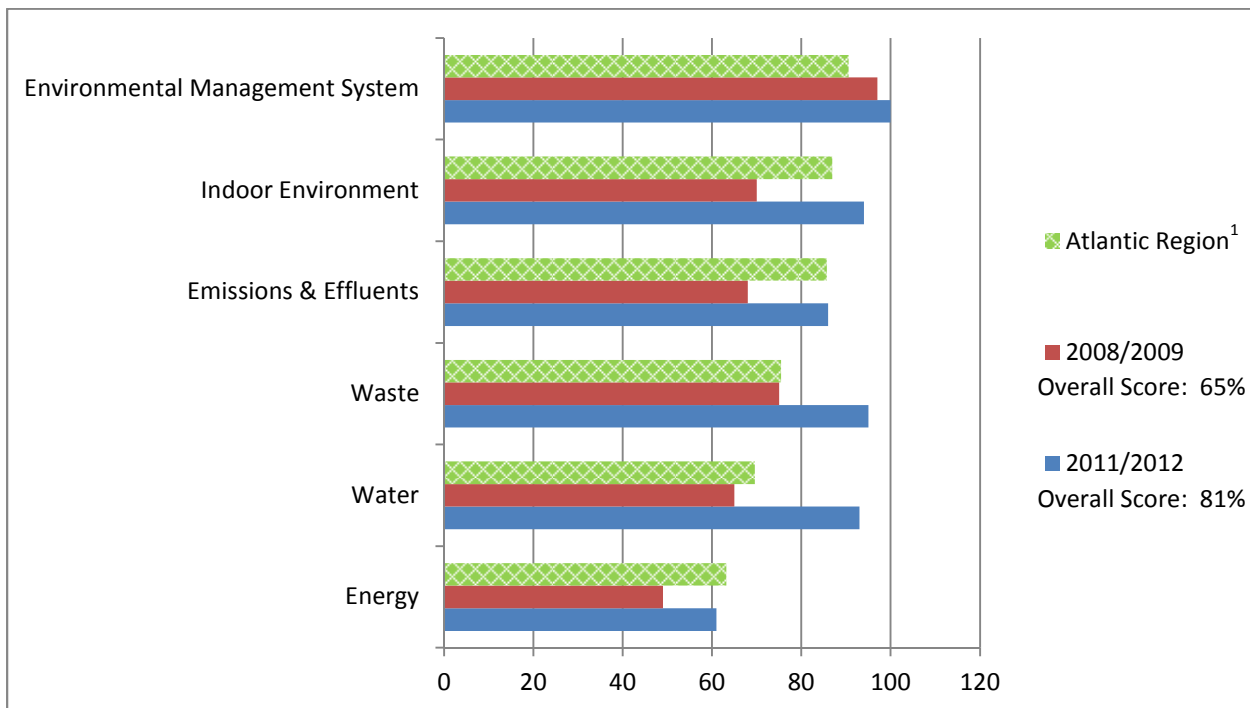


Figure 5.2.6: BOMA BEST Scores 2008/09 & 2011/12 – AVC Centre of Geographic Science

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – AVC COGS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	31,550	29,823	29,050	23,184	- 5,866	20%	Decrease	-8,367	27%	Decrease
Fuel Oil (BTU/sq ft)	43,396	42,939	34,383	33,546	- 837	2%	Decrease	-9,849	23%	Decrease
TOTAL Energy (BTU/sq ft)	74,946	72,762	63,433	56,730	- 6,703	11%	Decrease	18,216	24%	Decrease
Demand (kW)	1,496	1,475	1,534	1,271	- 263	17%	Decrease	- 225	15%	Decrease
CO ₂ (Metric Tonnes)	631	603	560	470	- 91	16%	Decrease	- 161	26%	Decrease
Water Use (m ³)	2,948	3,922	1,743	1,623	- 120	7%	Decrease	-1,325	45%	Decrease
Waste	-	-	-	76%	-	-	N/A	-	-	N/A
BOMABEst	65%	-	-	81%	-	-	N/A	-	16%	Improvement

Table 5.2 SUMMARY – AVC Centre of Geographic Science

***Note: Due to malfunctioning water meter at COGS, water volume readings for 2011/12 are inaccurate.**

5.3. AVC MIDDLETON

ENERGY – AVC MIDDLETON

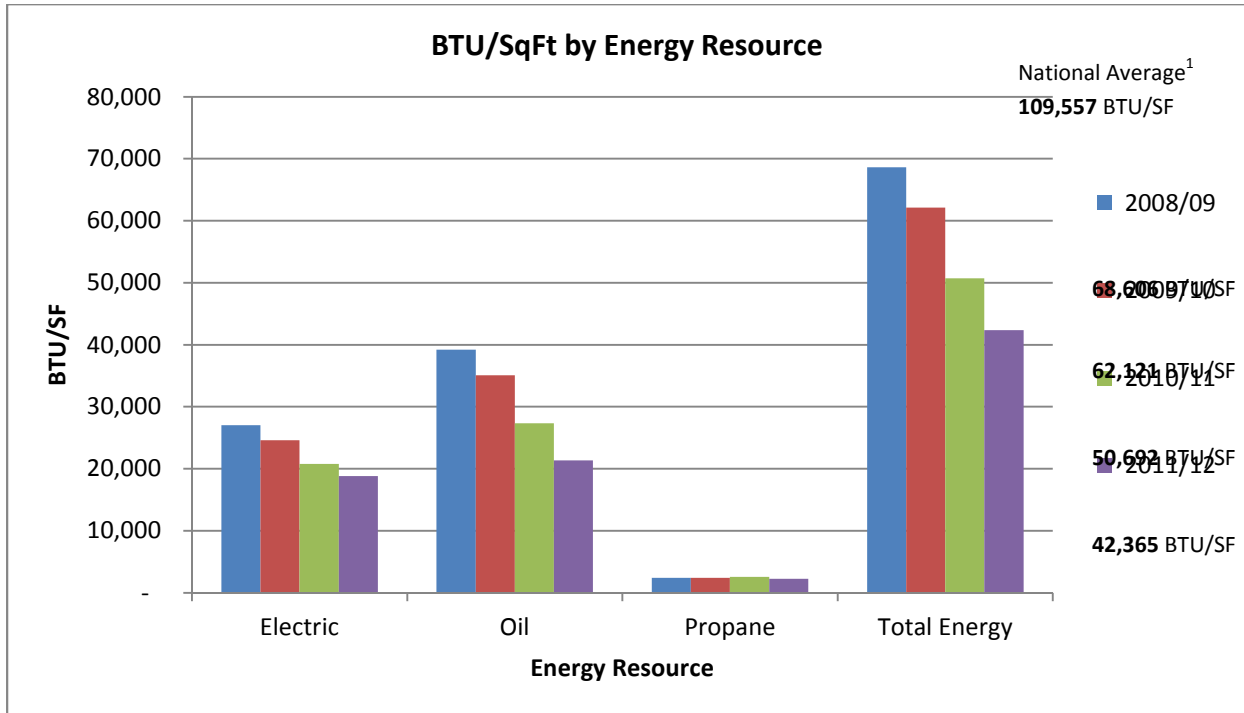


Figure 5.3.1: 2008/09 to 2011/12 Energy Usage – AVC Middleton

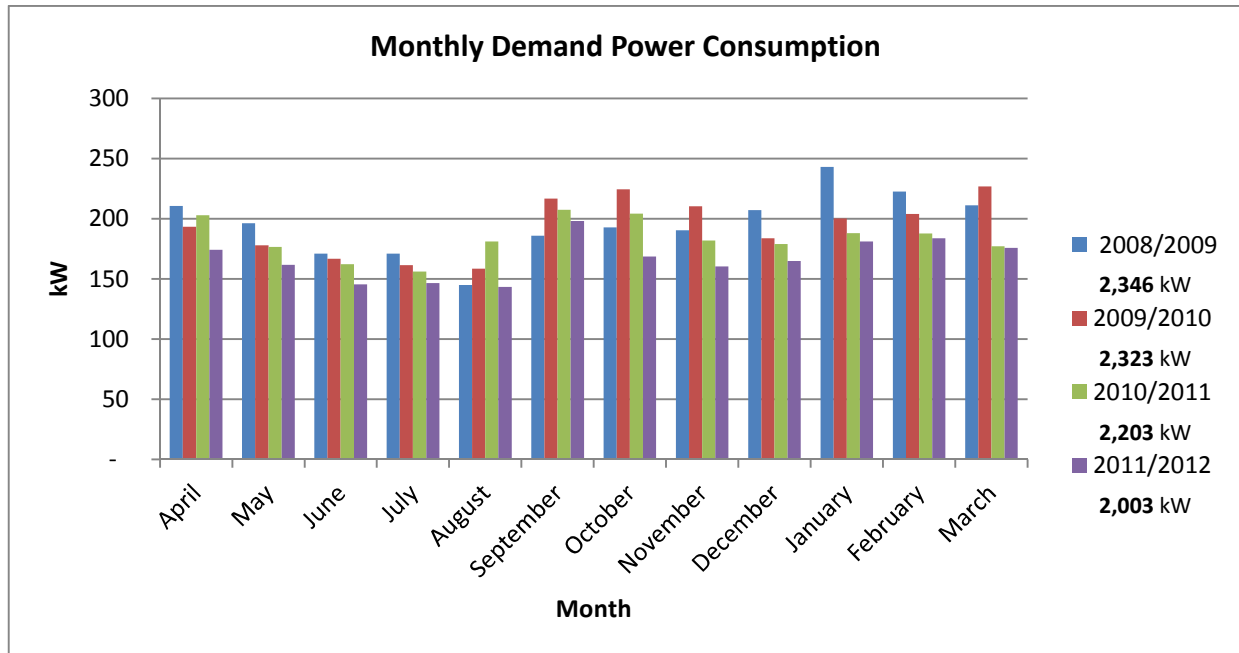


Figure 5.3.2: 2008/09 to 2011/12 Demand Power Consumption – AVC Middleton

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - AVC MIDDLETON

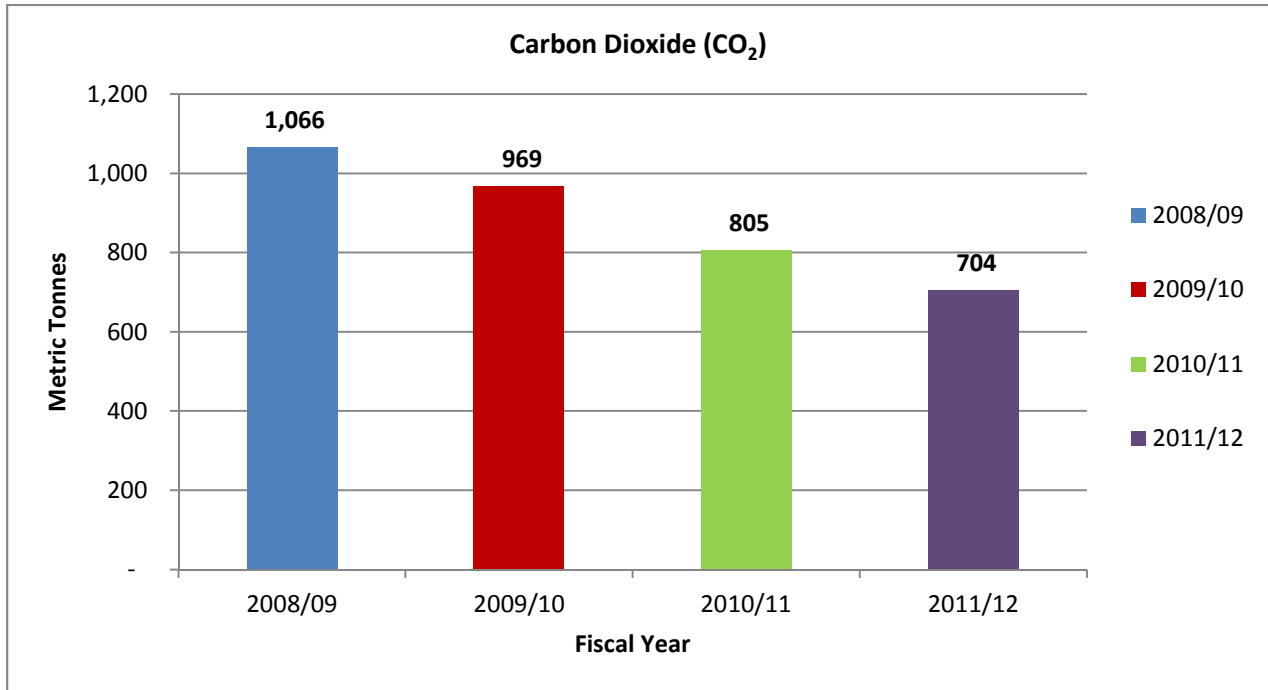


Figure 5.3.3: 2008/09 to 2011/12 Carbon Dioxide – AVC Middleton

WATER – AVC MIDDLETON

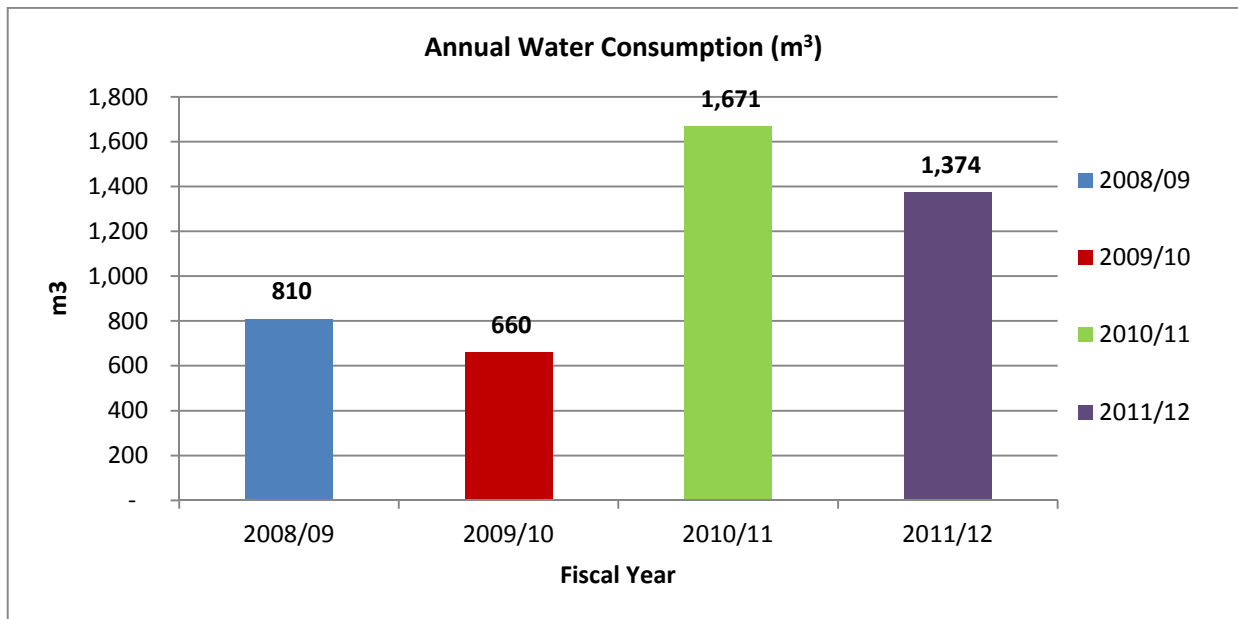


Figure 5.3.4: 2008/09 to 2011/12 Water Consumption – AVC Middleton

See *Note at bottom of page

*Note: Due to malfunctioning water meter at Middleton, water volume readings for 2008/2009 and 2009/2010 are inaccurate. The meter has been repaired, and readings from 2011/12 are reliable.

WASTE DIVERSION - AVC MIDDLETON

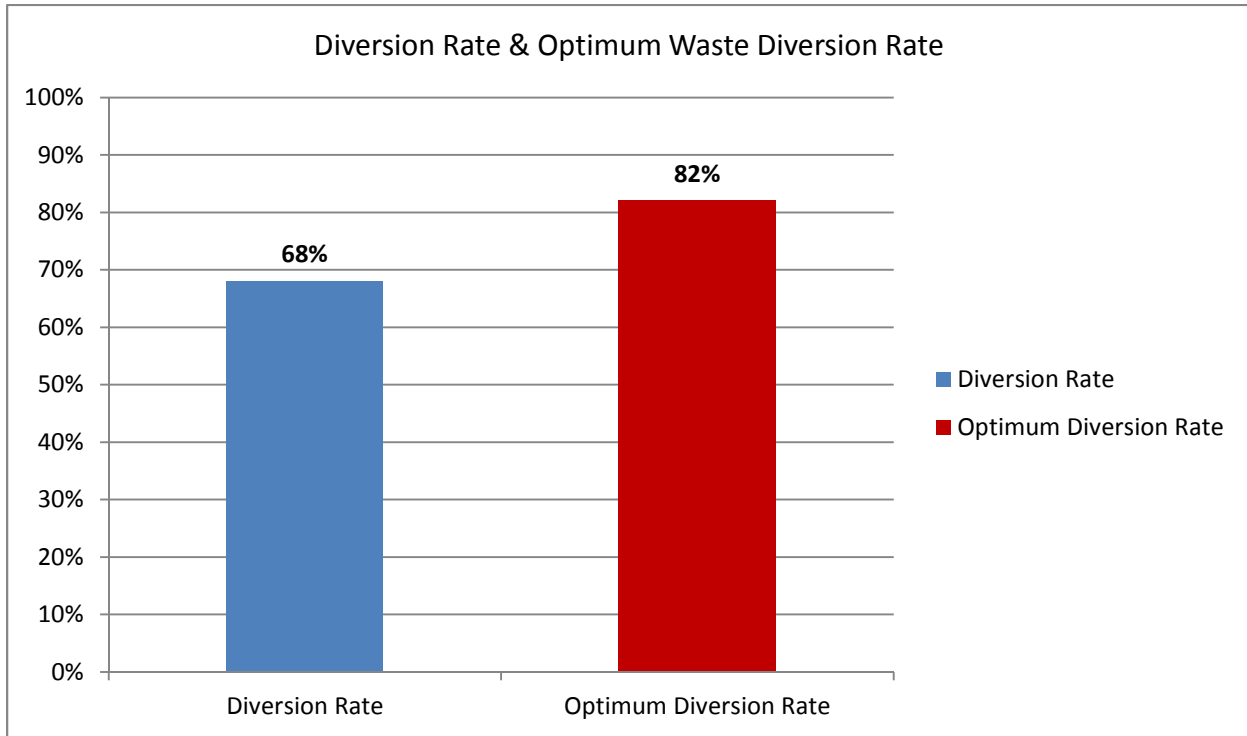


Figure 5.3.5: 2011/12 Waste Diversion Rate - AVC Middleton

BOMA BEST – AVC MIDDLETON

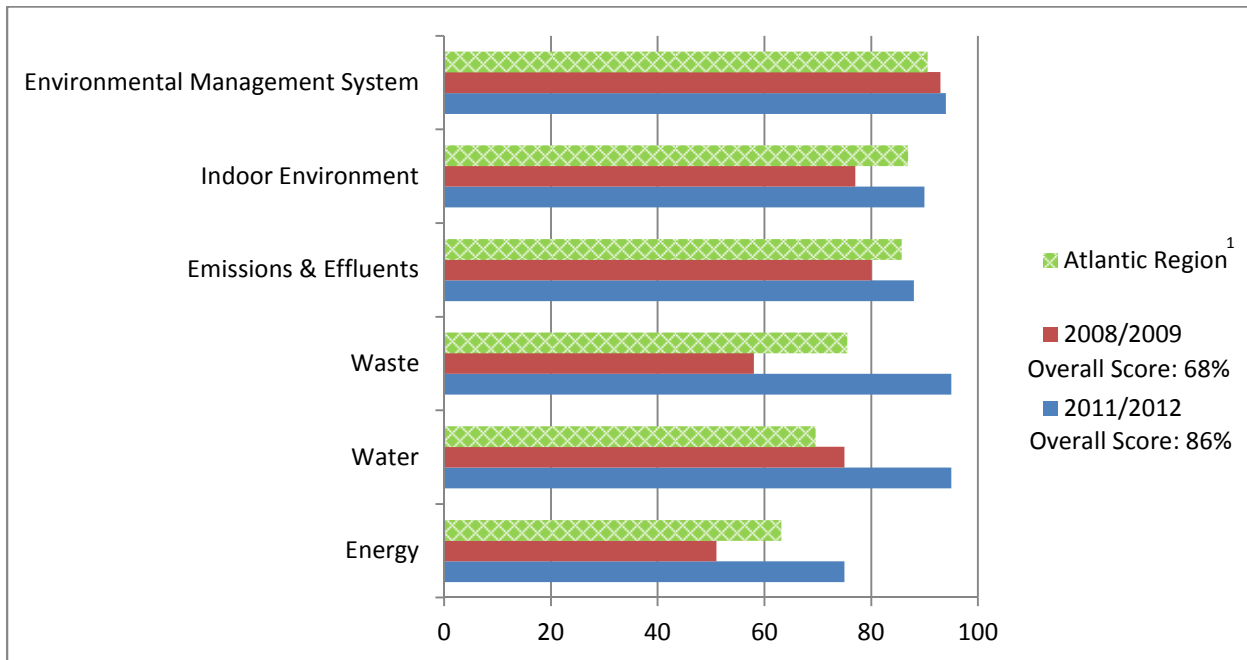


Figure 5.3.6: BOMA BEST Scores 2008/2009 & 2011/12 – AVC Middleton

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – AVC MIDDLETON

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	27,031	24,616	20,778	18,798	- 1,980	10%	Decrease	-8,233	30%	Decrease
Fuel Oil (BTU/sq ft)	39,197	35,080	27,356	21,329	- 6,027	22%	Decrease	17,868	46%	Decrease
Propane (BTU/sq ft)	2,379	2,425	2,558	2,238	- 320	12%	Decrease	- 140	6%	Decrease
TOTAL Energy (BTU/sq ft)	68,606	62,121	50,692	42,365	- 8,327	16%	Decrease	26,242	38%	Decrease
Demand (kW)	2,346	2,323	2,203	2,003	- 200	9%	Decrease	- 343	15%	Decrease
CO ₂ (Metric Tonnes)	1,066	969	805	704	- 101	13%	Decrease	- 362	34%	Decrease
Water Use (m ³)	810	660	1,671	1,374	- 297	18%	Decrease	564	41%	Increase
Waste	-	-	-	68%	-	-	N/A	-	-	N/A
BOMABEst	68%			86%			N/A		18%	Improvement

Table 5.3 SUMMARY – AVC Middleton

5.4. BURRIDGE CAMPUS

ENERGY – BURRIDGE CAMPUS

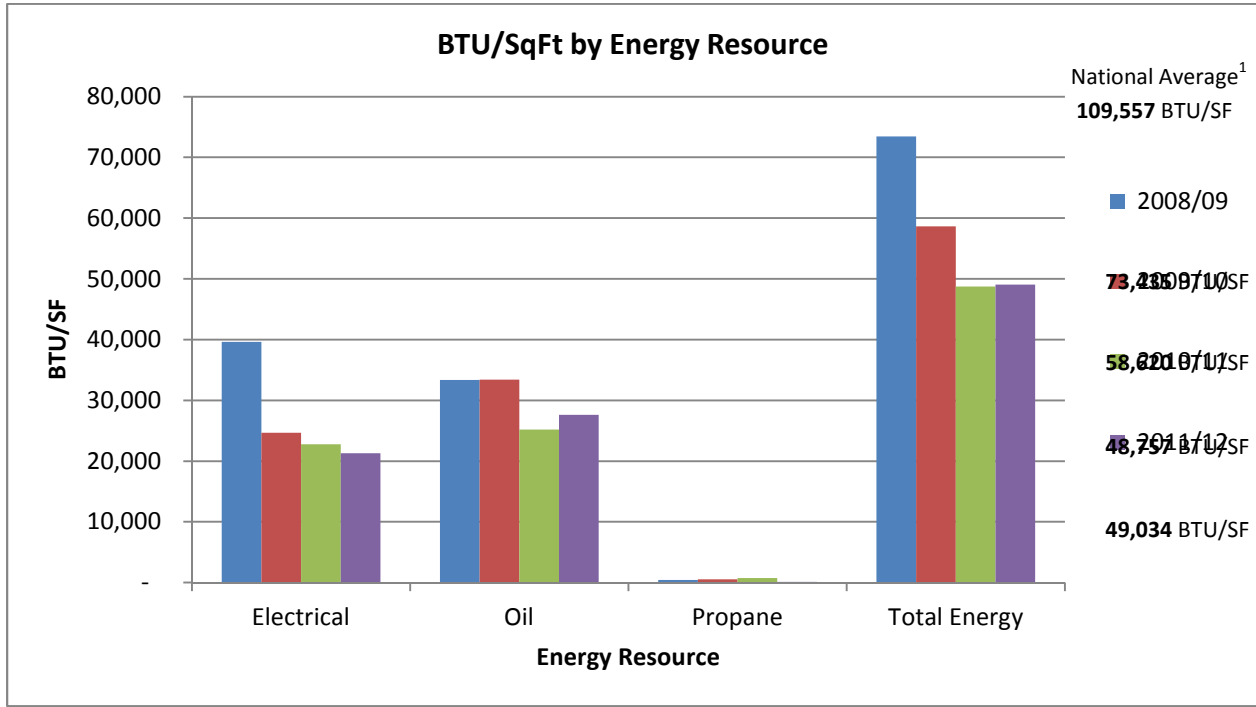


Figure 5.4.1: 2008/09 to 2011/12 Energy Usage – Burridge Campus

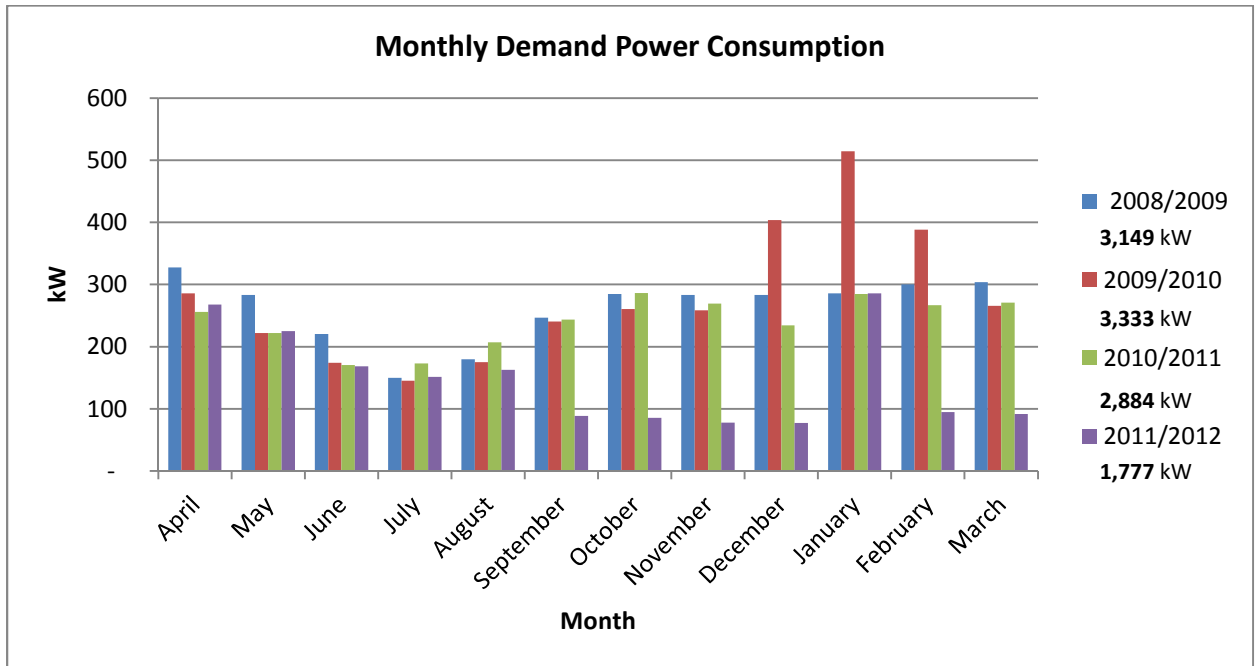


Figure 5.4.2: 2008/09 to 2011/12 Demand Power Consumption – Burridge Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - BURRIDGE CAMPUS

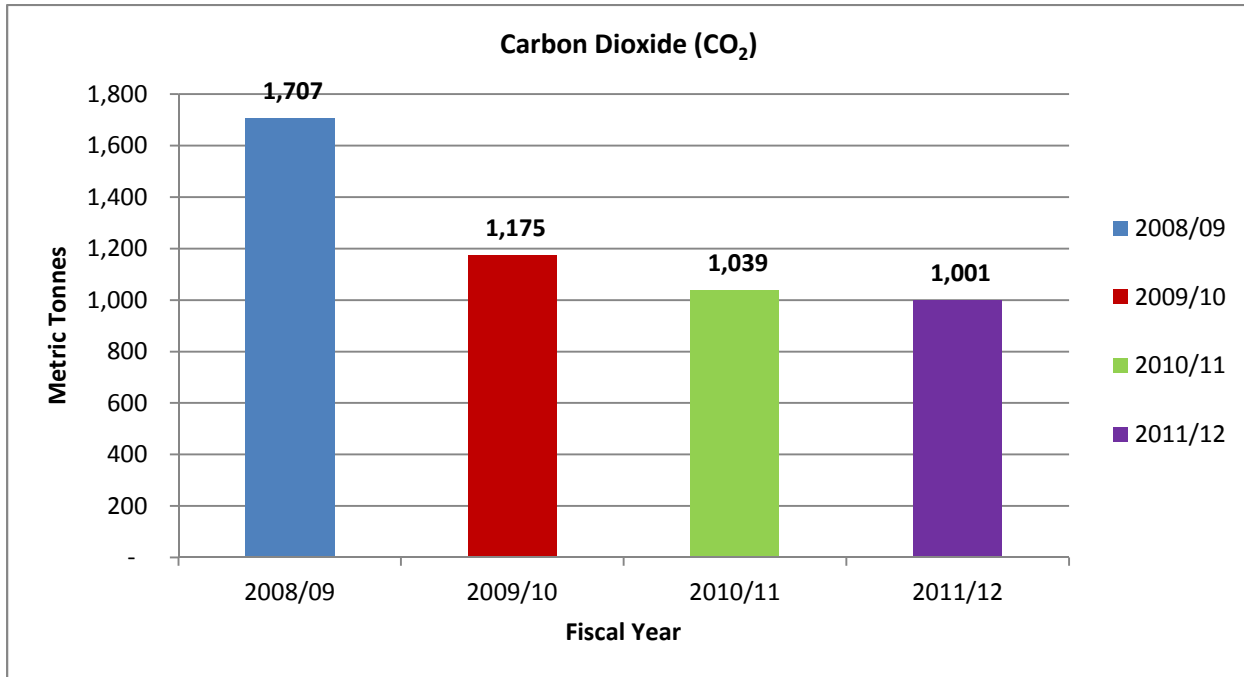


Figure 5.4.3: 2008/09 to 2011/12 Carbon Dioxide – Burridge Campus

WATER - BURRIDGE CAMPUS

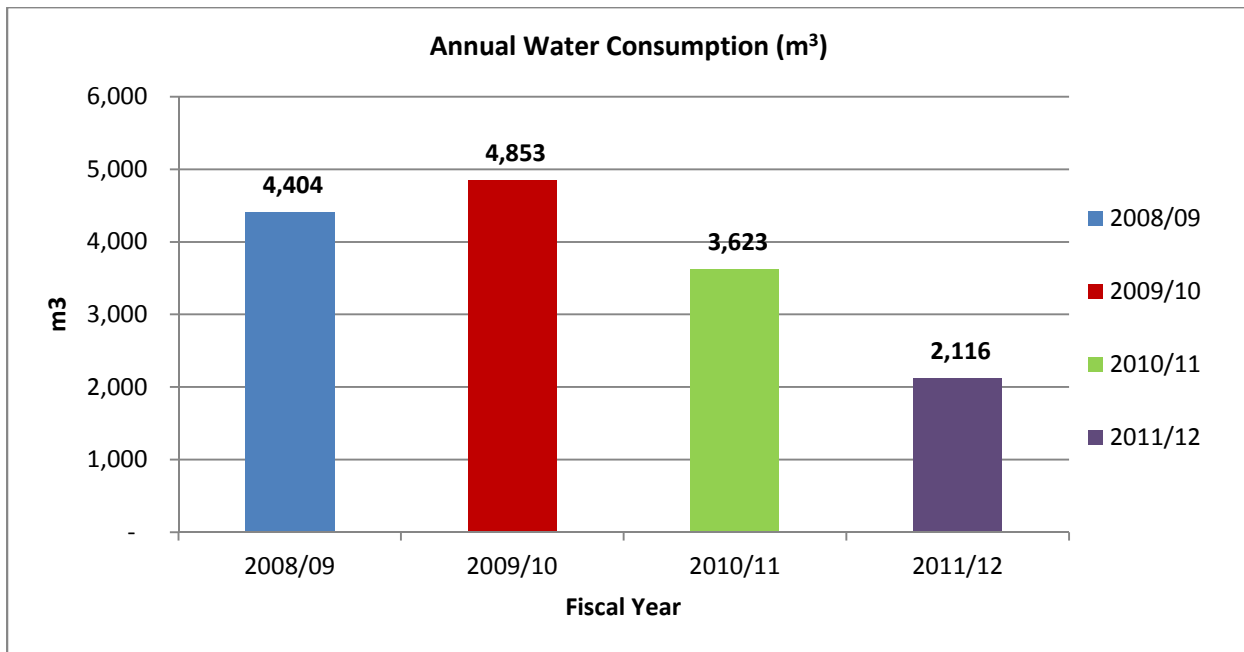


Figure 5.4.4: 2008/09 to 2011/12 Water Consumption – Burridge Campus

WASTE DIVERSION - BURRIDGE CAMPUS

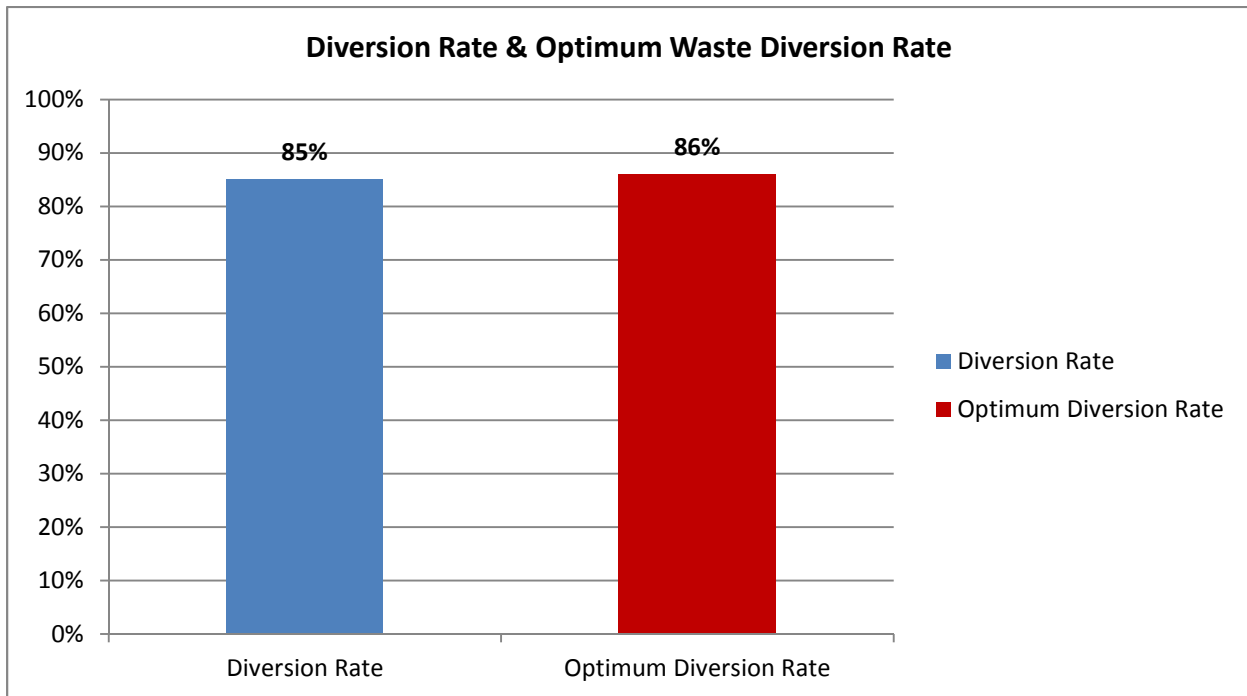


Figure 5.4.5: 2011/12 Waste Diversion Rate – Burridge Campus

BOMA BEST – BURRIDGE CAMPUS

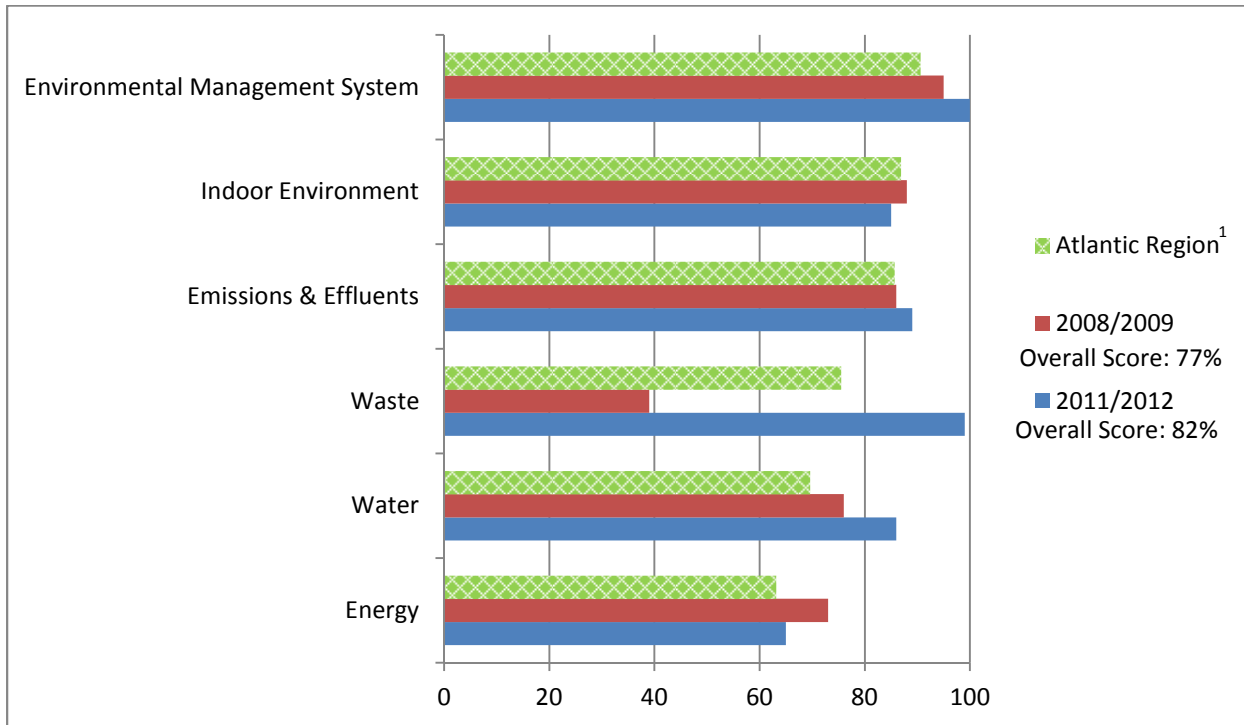


Figure 5.4.6: BOMA BEST Scores 2008/09 & 2011/12 – Burridge Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – BURRIDGE CAMPUS

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	Change from last year			Change since 2008/2009		
Electricity (BTU/sq ft)	39,624	24,660	22,795	21,291	- 1,504	7%	Decrease	-	46%	Decrease
Fuel Oil (BTU/sq ft)	33,354	33,404	25,208	27,606	2,398	9%	Increase	-5,748	17%	Decrease
Propane (BTU/sq ft)	457	557	754	137	- 617	82%	Decrease	- 320	70%	Decrease
TOTAL Energy (BTU/sq ft)	73,435	58,620	48,757	49,034	277	1%	Increase	-	33%	Decrease
Demand (kW)	3,149	3,333	2,884	1,777	- 1,108	38%	Decrease	-1,372	44%	Decrease
CO2 (Metric Tonnes)	1,707	1,175	1,039	1,001	- 38	4%	Decrease	- 706	41%	Decrease
Water Use (m3)	4,404	4,853	3,623	2,116	- 1,507	42%	Decrease	-2,288	52%	Decrease
Waste	-	-	-	85%	-	-	N/A	-	-	N/A
BOMABEST	77%	-	-	82%	-	-	N/A	-	5%	Improvement

Table 5.4 SUMMARY – Burridge Campus

5.5. CUMBERLAND CAMPUS

ENERGY - CUMBERLAND CAMPUS

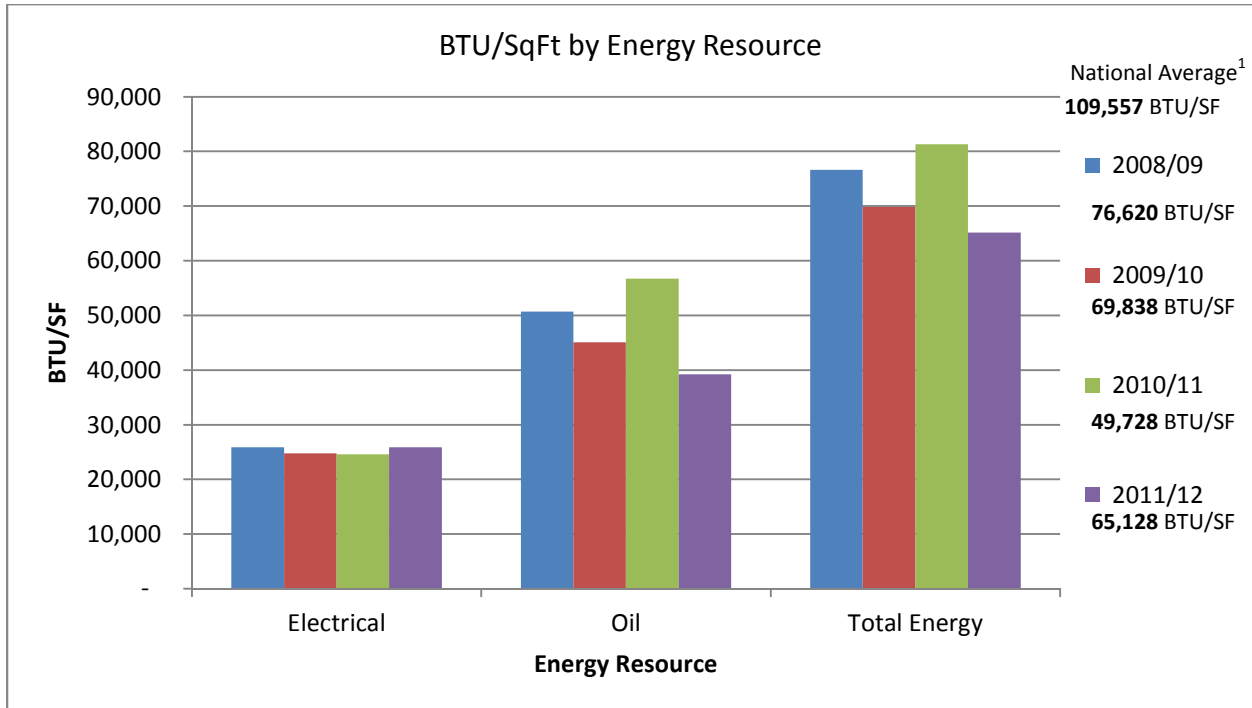


Figure 5.5.1: 2008/09 to 2011/12 Energy Usage – Cumberland Campus

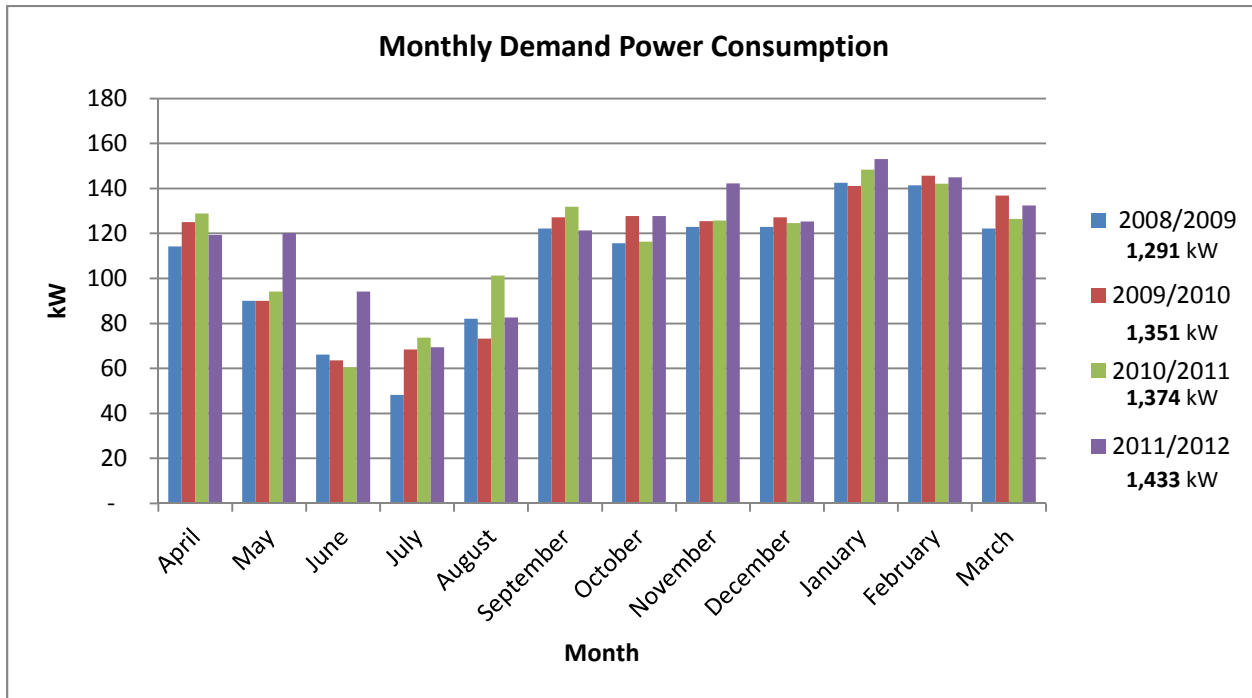


Figure 5.5.2: 2008/09 to 2011/12 Demand Power Consumption – Cumberland Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - CUMBERLAND CAMPUS

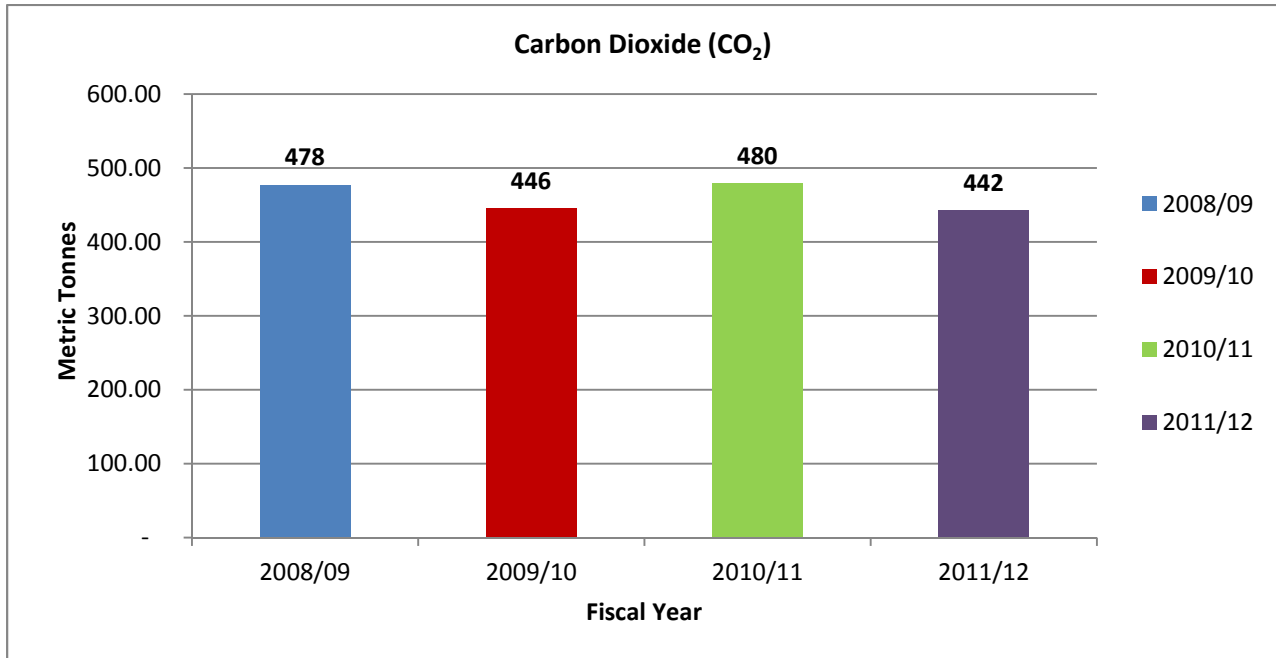


Figure 5.5.3: 2008/09 to 2011/12 Carbon Dioxide – Cumberland Campus

WATER – CUMBERLAND CAMPUS

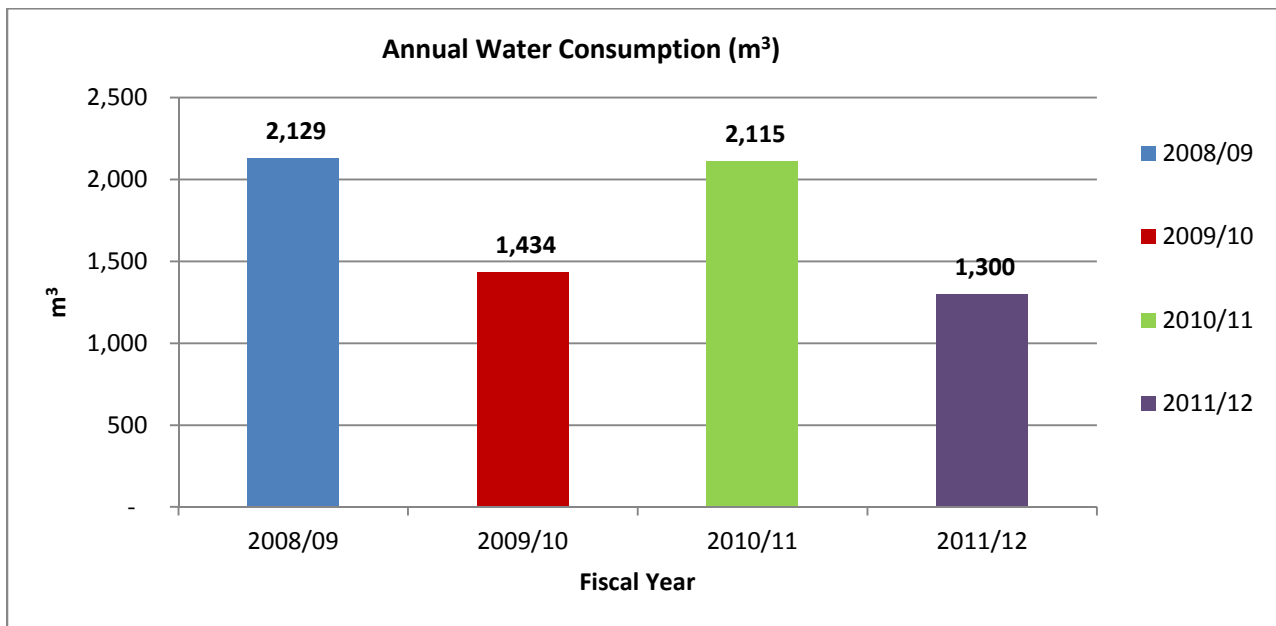


Figure 5.5.4: 2008/09 to 2011/12 Water Consumption – Cumberland Campus

WASTE DIVERSION - CUMBERLAND CAMPUS

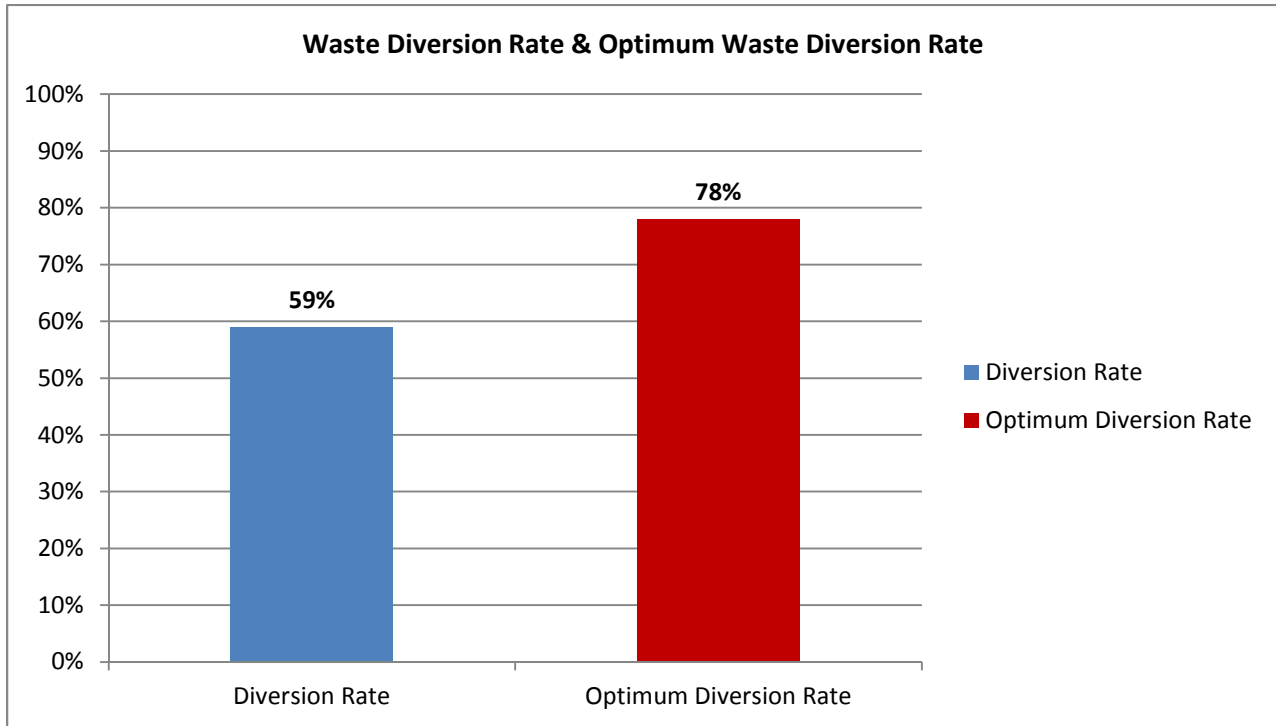


Figure 5.5.5: 2011/12 Waste Diversion Rate – Cumberland Campus

BOMA BEST – CUMBERLAND CAMPUS

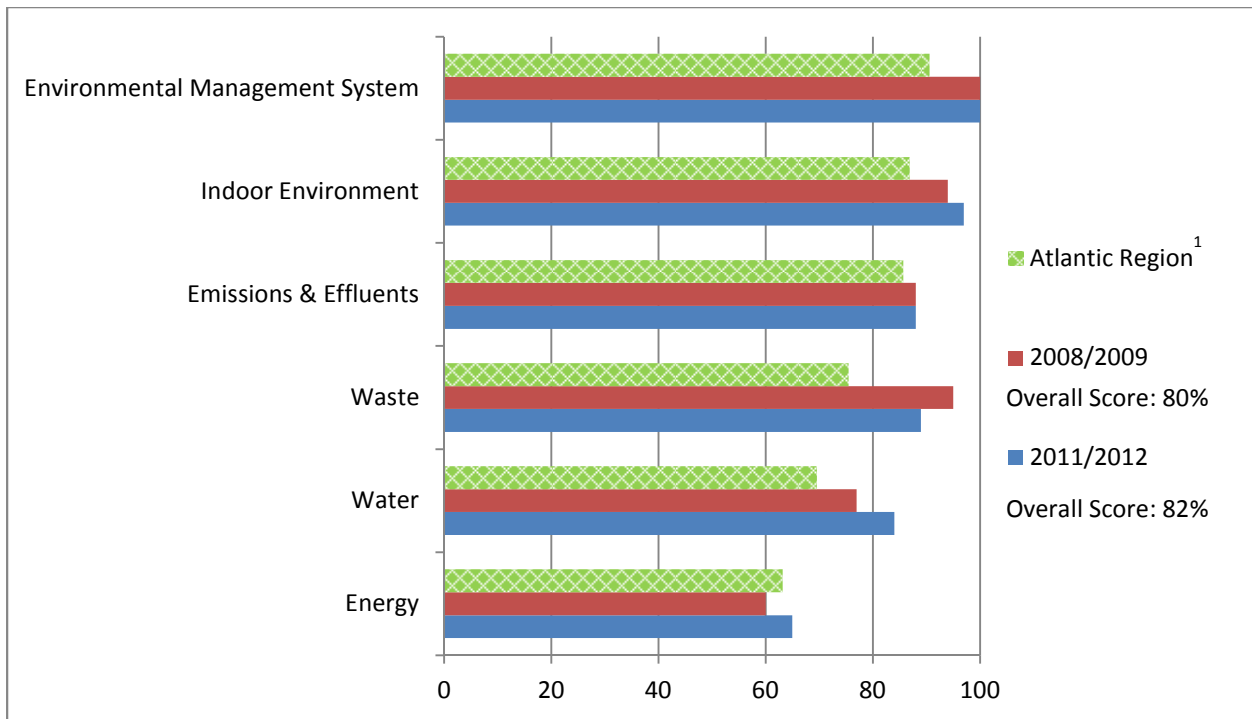


Figure 5.5.6: 2011/12 BOMA BEST Scores 2008/09 & 2011/12 – Cumberland Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – CUMBERLAND CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	25,901	24,754	24,611	25,901	1,290	5%	Increase	0	0%	Increase
Fuel Oil (BTU/sq ft)	50,719	45,085	56,720	39,228	-17,493	31%	Decrease	11,492	23%	Decrease
TOTAL Energy (BTU/sq ft)	76,620	69,838	81,331	65,128	-16,202	20%	Decrease	11,491	15%	Decrease
Demand (kW)	1,291	1,351	1,374	1,433	59	4%	Increase	142	10%	Increase
CO ₂ (Metric Tonnes)	478	446	383	442	59	13%	Increase	35	7%	Decrease
Water Use (m ³)	2,129	1,434	2,115	1,300	-815	39%	Decrease	829	39%	Decrease
Waste	-	-	-	78%	-	-	N/A	-	-	N/A
BOMABEST	80%	-	-				N/A			Improvement

Table 5.5 SUMMARY – Cumberland Campus

5.6. INSTITUTE OF TECHNOLOGY

ENERGY – INSTITUTE OF TECHNOLOGY

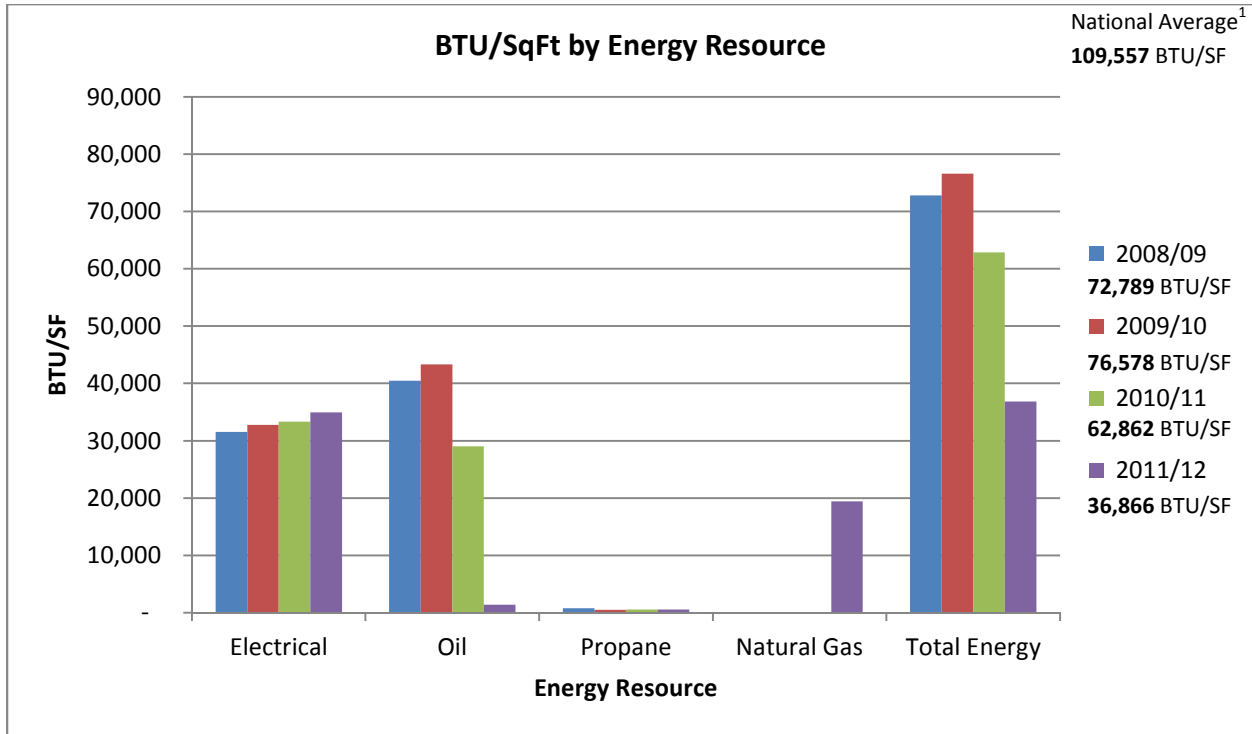


Figure 5.6.1: 2008/09 to 2011/12 Energy Usage – Institute of Technology

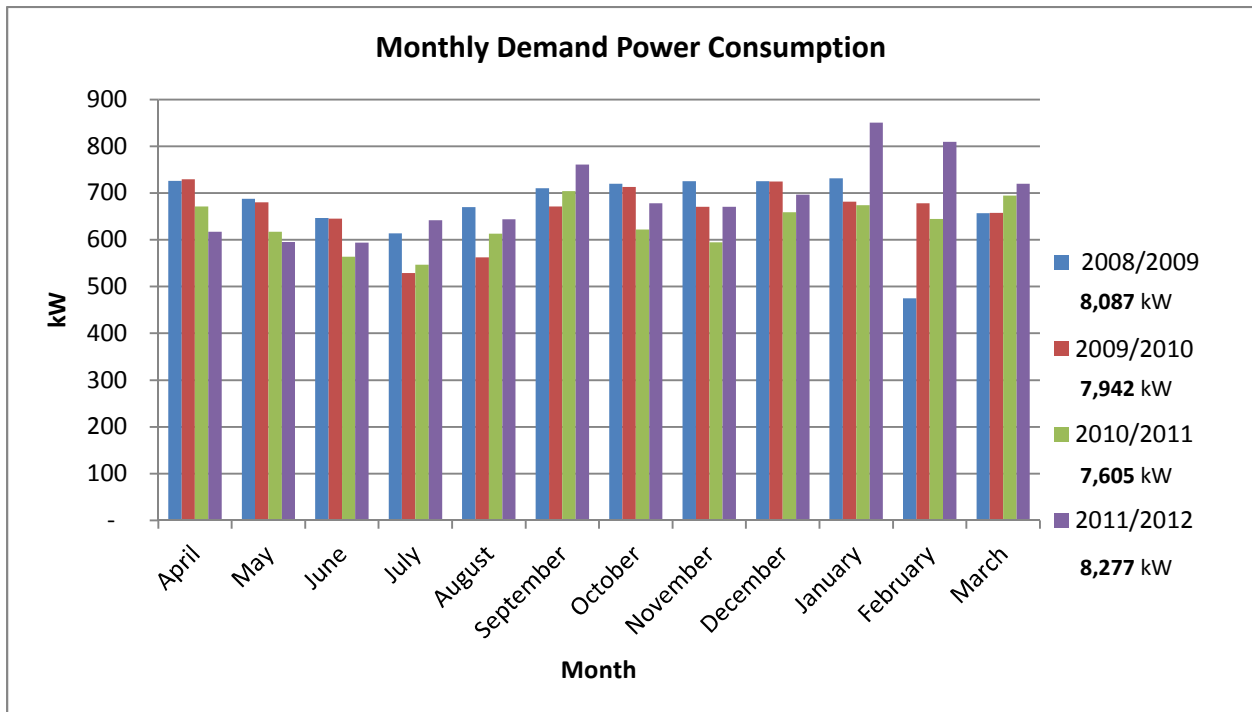


Figure 5.6.2: 2008/09 to 2011/12 Demand Power Consumption – Institute of Technology

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - INSTITUTE OF TECHNOLOGY

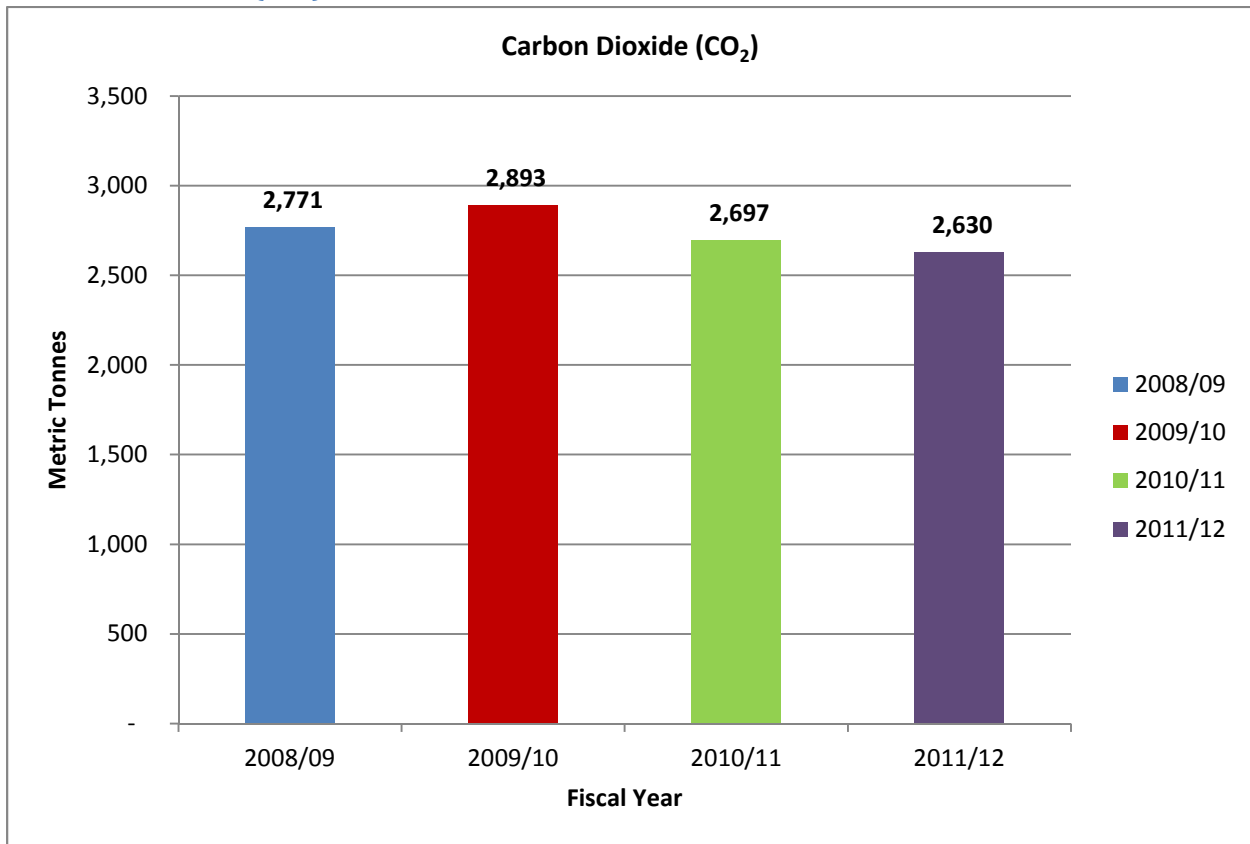


Figure 5.6.3: 2008/09 to 2011/12 Carbon Dioxide – Institute of Technology Campus

WATER - INSTITUTE OF TECHNOLOGY

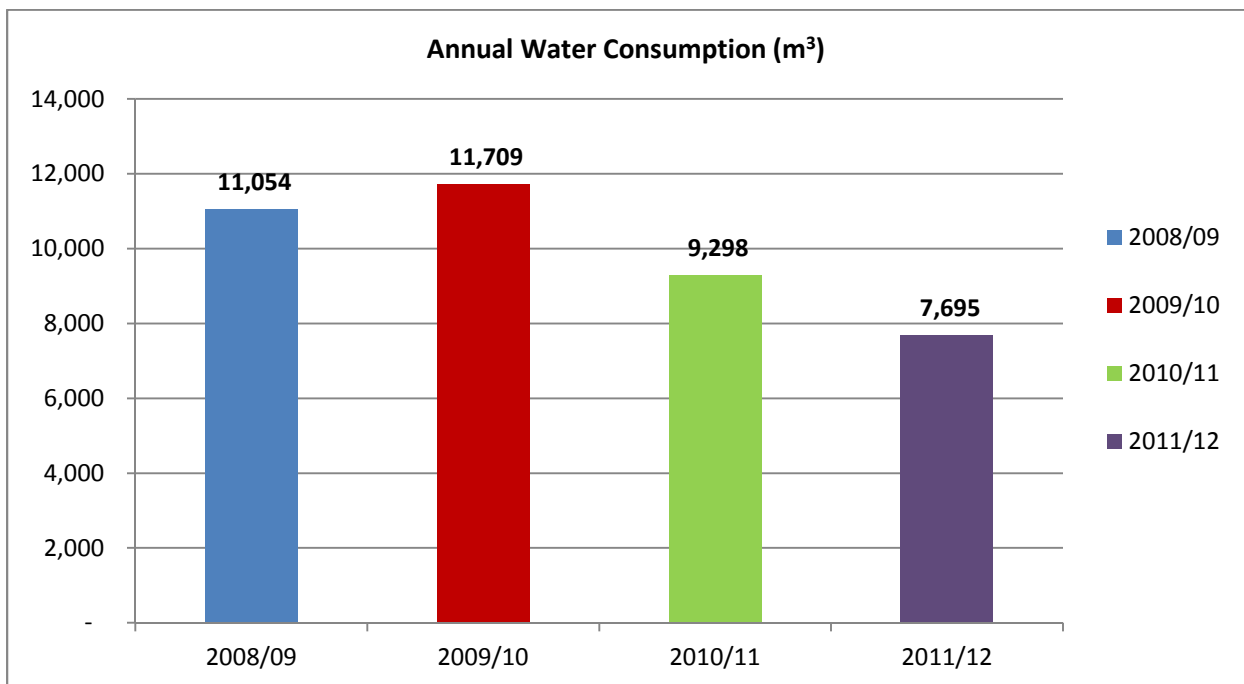


Figure 5.6.4: 2008/09 to 2011/12 Water Consumption – Institute of Technology

WASTE DIVERSION – INSTITUTE OF TECHNOLOGY

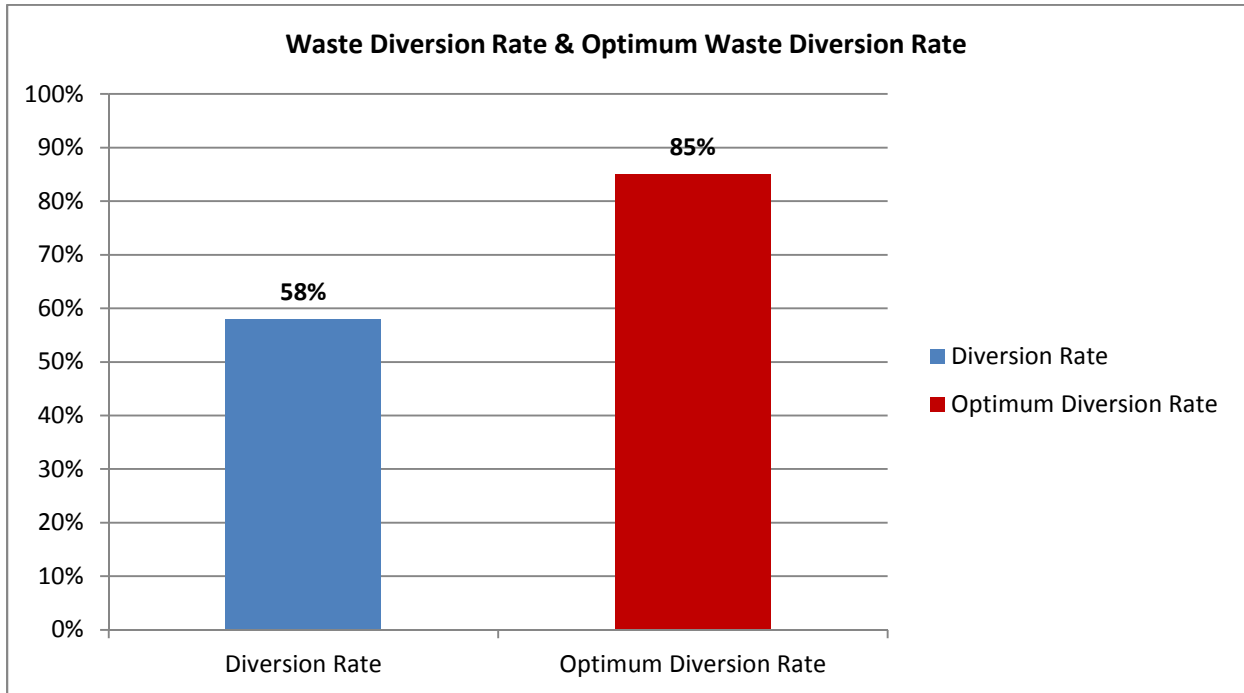


Figure 6.6.5: 2011/12 Waste Diversion Rate – Institute of Technology

BOMA BEST – INSTITUTE OF TECHNOLOGY

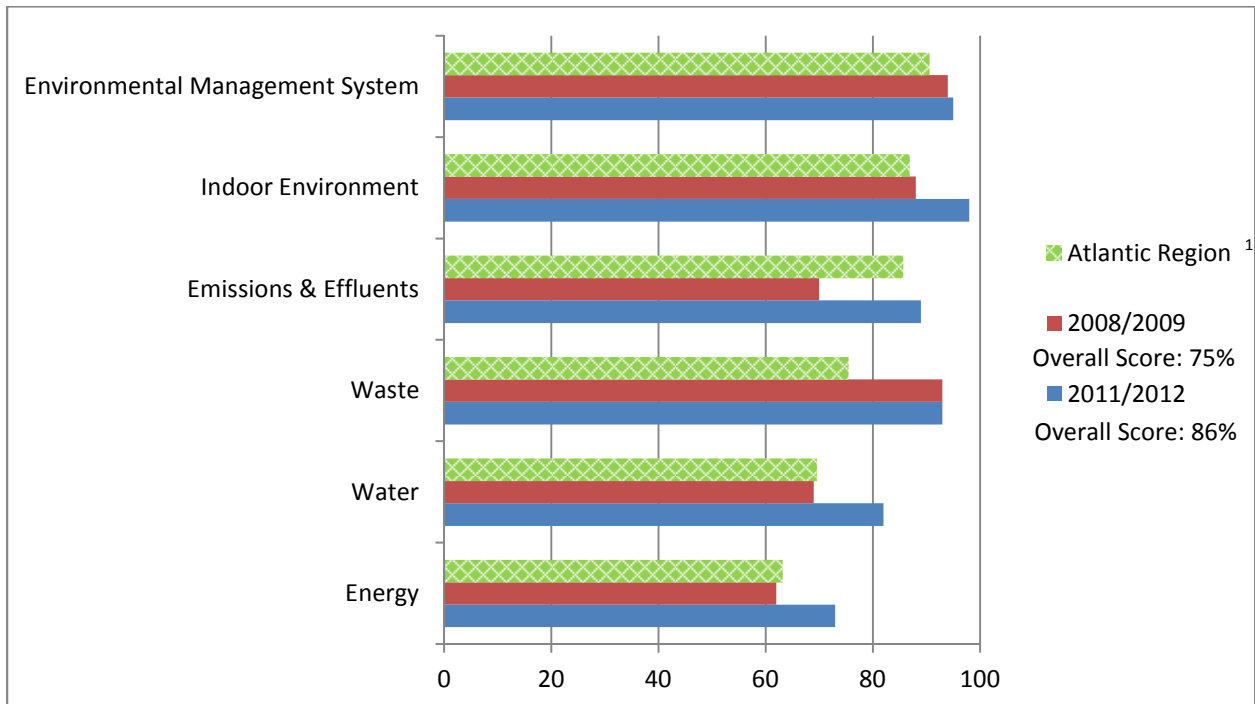


Figure 5.6.6: BOMA BEST Scores 2008/09 & 2011/12 – Institute of Technology

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – INSTITUTE OF TECHNOLOGY

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	Change from last year			Change since 2008/2009		
Electricity (BTU/sq ft)	31,549	32,752	33,311	34,926	1,615	5%	Increase	3,377	10%	Increase
Fuel Oil (BTU/sq ft)	40,449	43,317	29,004	1,400	- 27,604	95%	Decrease	- 39,049	97%	Decrease
Propane (BTU/sq ft)	791	509	547	540	- 7	1%	Decrease	- 252	32%	Decrease
TOTAL Energy (BTU/sq ft)	72,789	76,578	62,862	36,866	- 25,996	41%	Decrease	- 35,923	49%	Decrease
Demand (kW)	8,087	7,942	7,605	380	- 7,225	95%	Decrease	- 7,708	95%	Decrease
CO ₂ (Metric Tonnes)	2,771	2,893	2,697	2,630	- 67	2%	Decrease	- 141	5%	Decrease
Water Use (m ³)	11,054	11,709	9,298	7,695	- 1,603	17%	Decrease	- 3,359	30%	Decrease
Waste	-	-	-	58%	-	-	N/A	-	-	N/A
BOMABEST	75%	-	-	86%	-	-	N/A	-	11%	Improvement

Table 5.6 SUMMARY – Institute of Technology

5.7. KINGSTEC CAMPUS

ENERGY - KINGSTEC CAMPUS

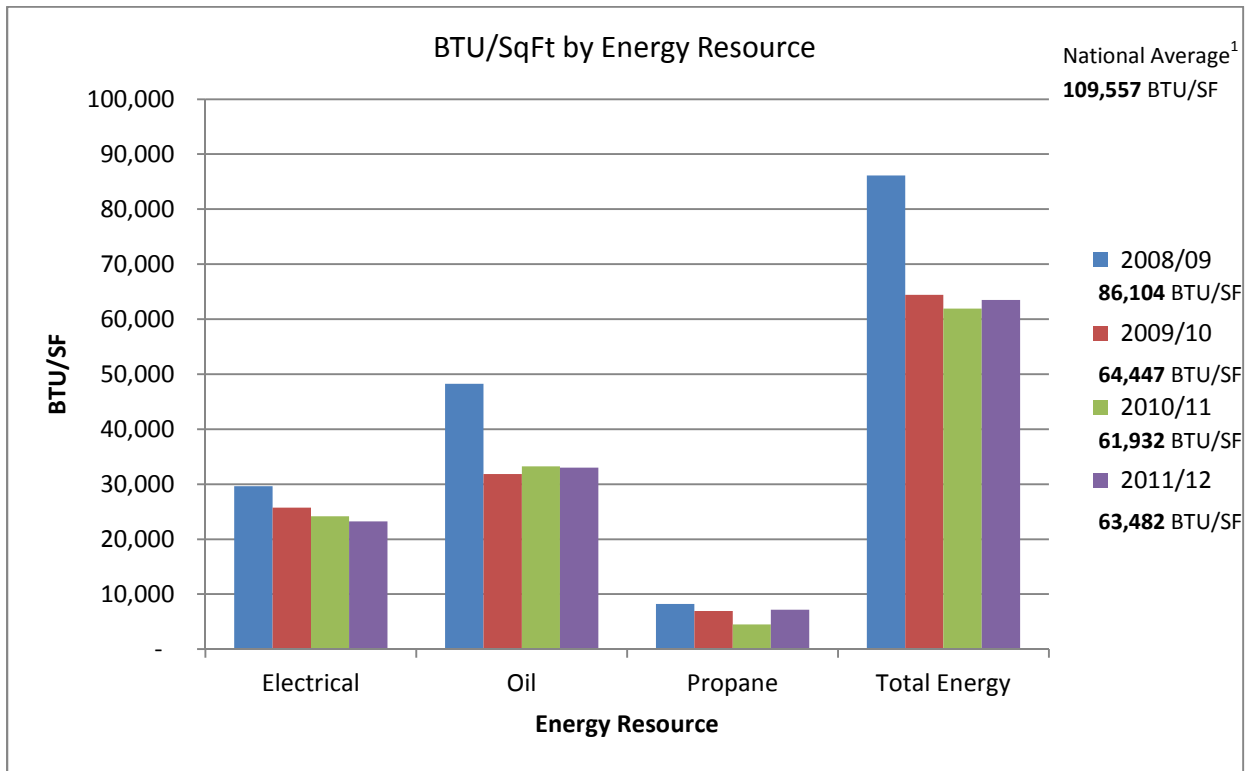


Figure 5.7.1: 2008/09 to 2011/12 Energy Usage – Kingstec Campus

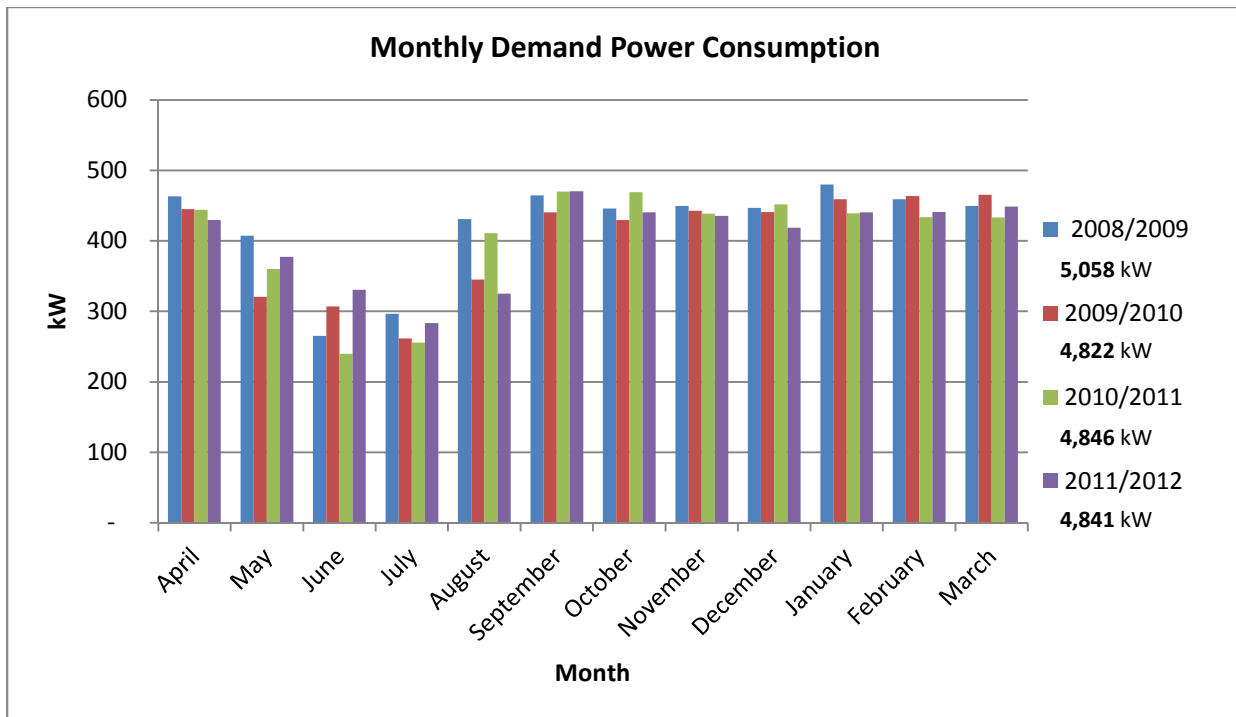


Figure 5.7.2: 2008/09 to 2011/12 Demand Power Consumption – Kingstec Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - KINGSTEC CAMPUS

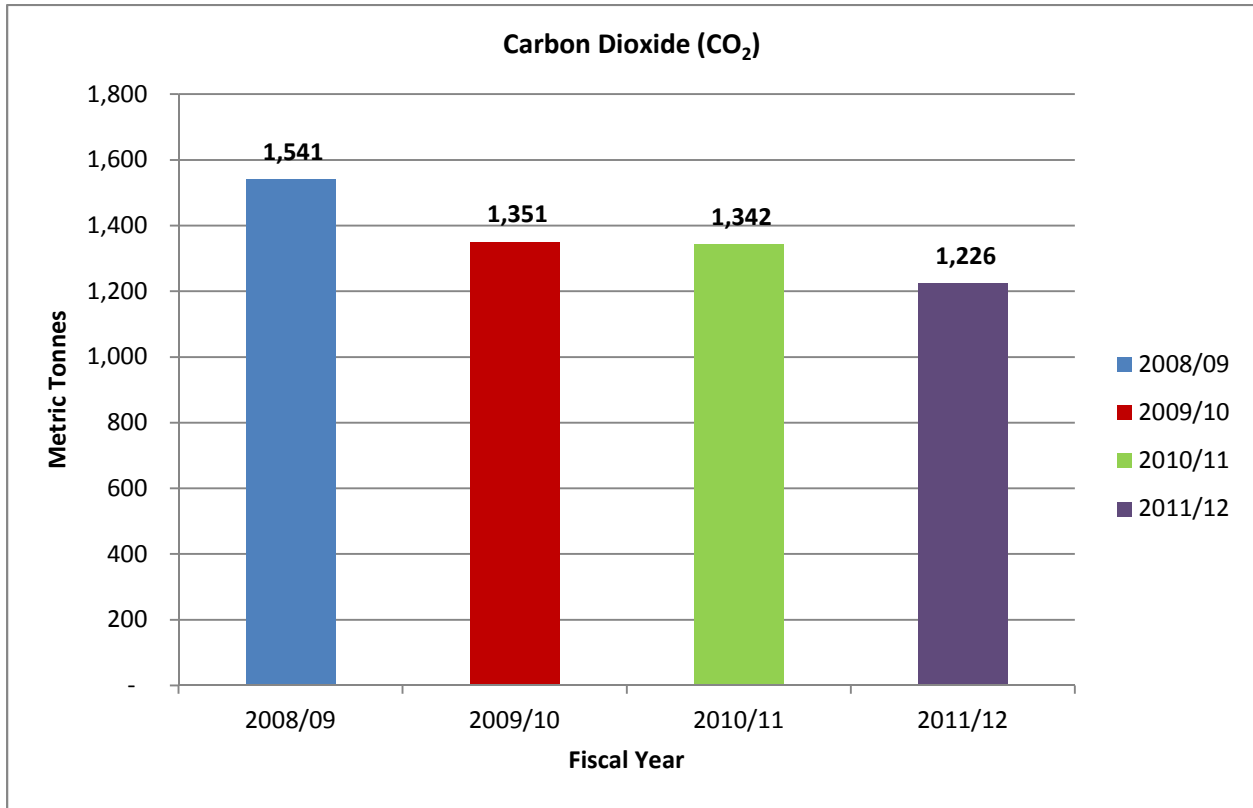


Figure 5.7.3: 2008/09 to 2011/12 Carbon Dioxide – Kingstec Campus

WATER - KINGSTEC CAMPUS

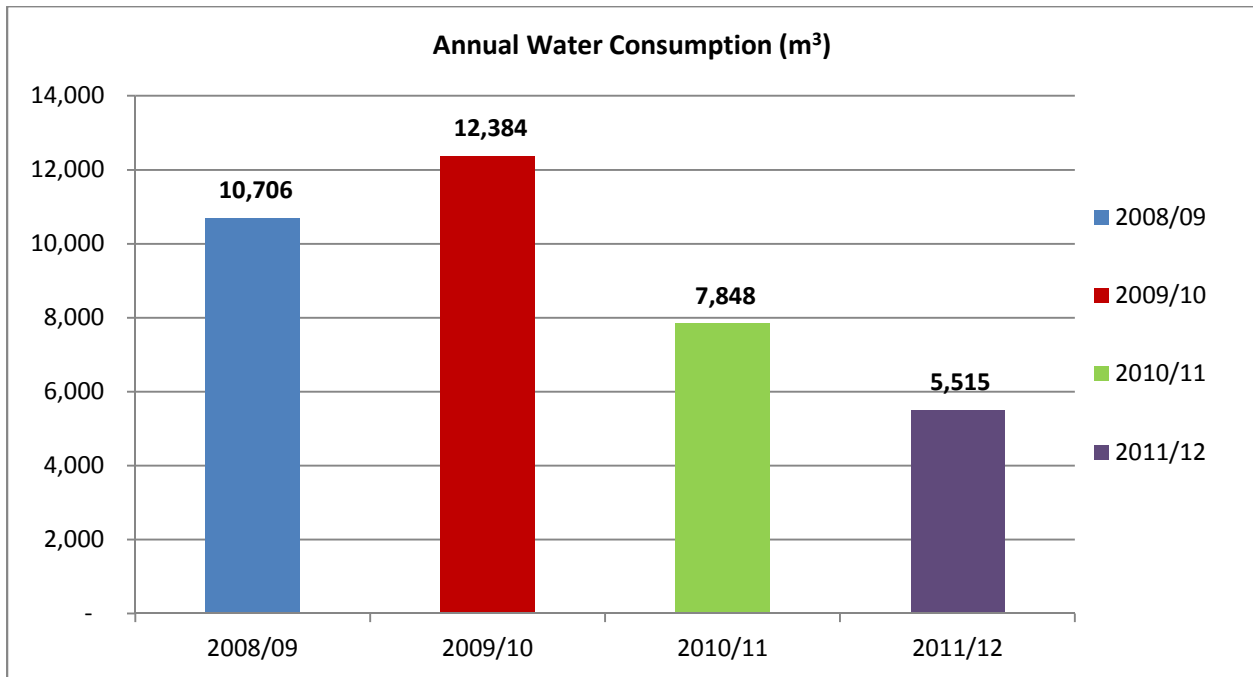


Figure 5.7.4: 2008/09 to 2011/12 Water Consumption – Kingstec Campus

WASTE DIVERSION - KINGSTEC CAMPUS

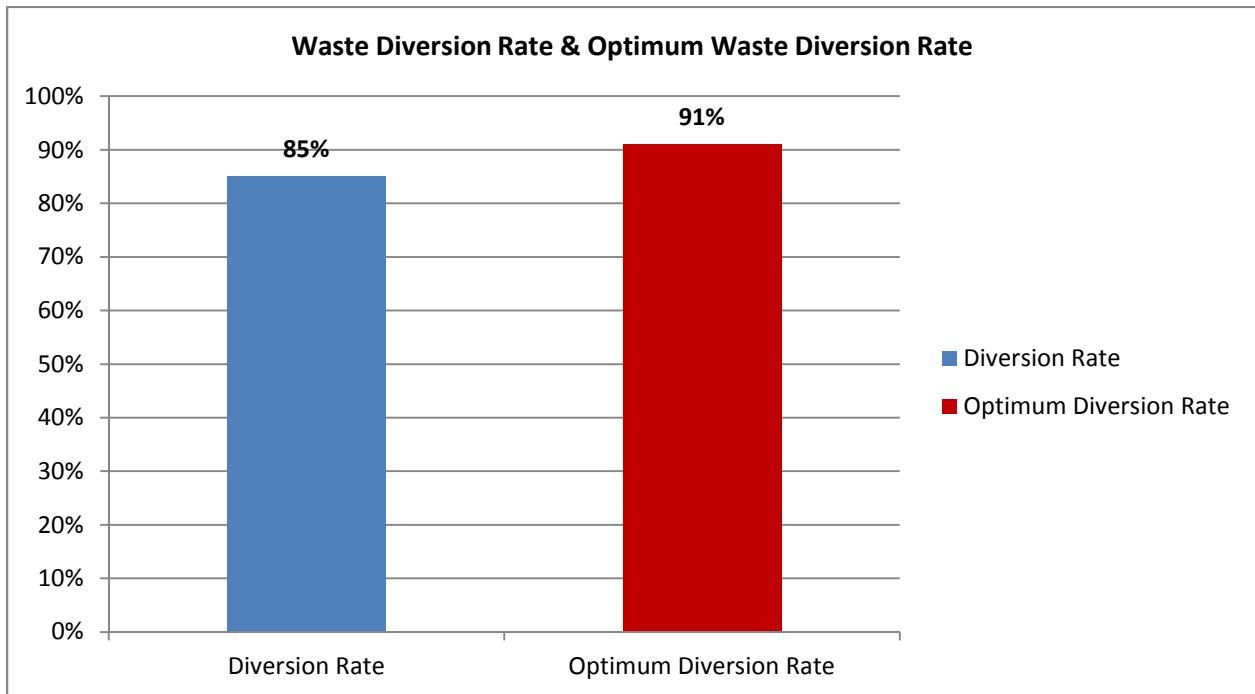


Figure 5.7.5: 2011/12 Waste Diversion Rate – Kingstec Campus

BOMA BEST – KINGSTEC CAMPUS

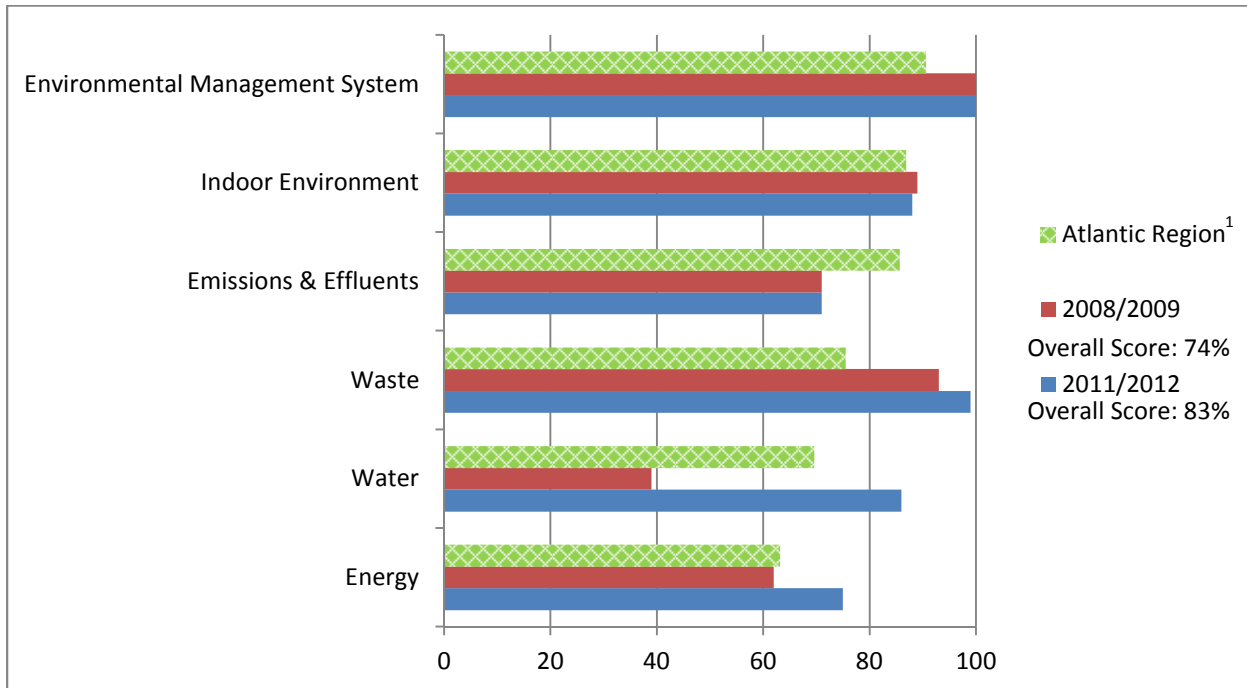


Figure 5.7.6: BOMA BEST 2008/09 & 2011/12 – Kingstec Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – KINGSTEC CAMPUS

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	Change from last year			Change since 2008/2009		
Electricity (BTU/sq ft)	29,651	25,714	24,162	23,253	- 909	4%	Decrease	-6,398	22%	Decrease
Fuel Oil (BTU/sq ft)	48,240	31,821	24,896	33,033	8,137	25%	Increase	15,207	32%	Decrease
Propane (BTU/sq ft)	8,214	6,912	4,503	7,196	2,693	37%	Increase	1,018	12%	Decrease
TOTAL Energy (BTU/sq ft)	86,104	64,447	53,561	63,482	9,921	16%	Increase	22,622	26%	Decrease
Demand (kW)	5,058	4,822	4,846	4,841	- 5	0%	Decrease	217	4%	Decrease
CO ₂ (Metric Tonnes)	2,102	1,701	1,516	1,600	84	5%	Increase	502	24%	Decrease
Water Use (m ³)	10,706	12,384	7,848	5,515	- 2,333	30%	Decrease	5,190	48%	Decrease
Waste	-	-	-	-	-	-	N/A	-	-	N/A
BOMABEst	74%			80%			N/A		6%	Improvement

Table 5.7 SUMMARY – Kingstec Campus

5.8. LUNENBURG CAMPUS

ENERGY – LUNENBURG CAMPUS

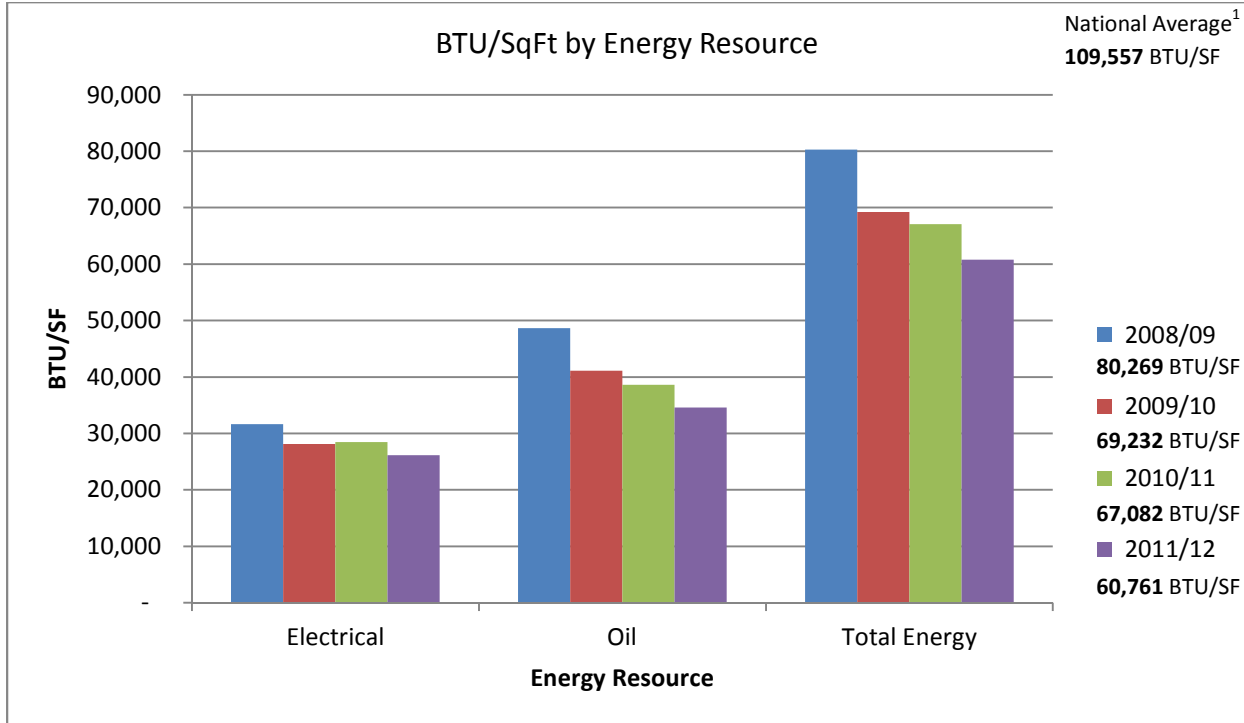


Figure 5.8.1: 2008/09 to 2011/12 Energy Usage – Lunenburg Campus

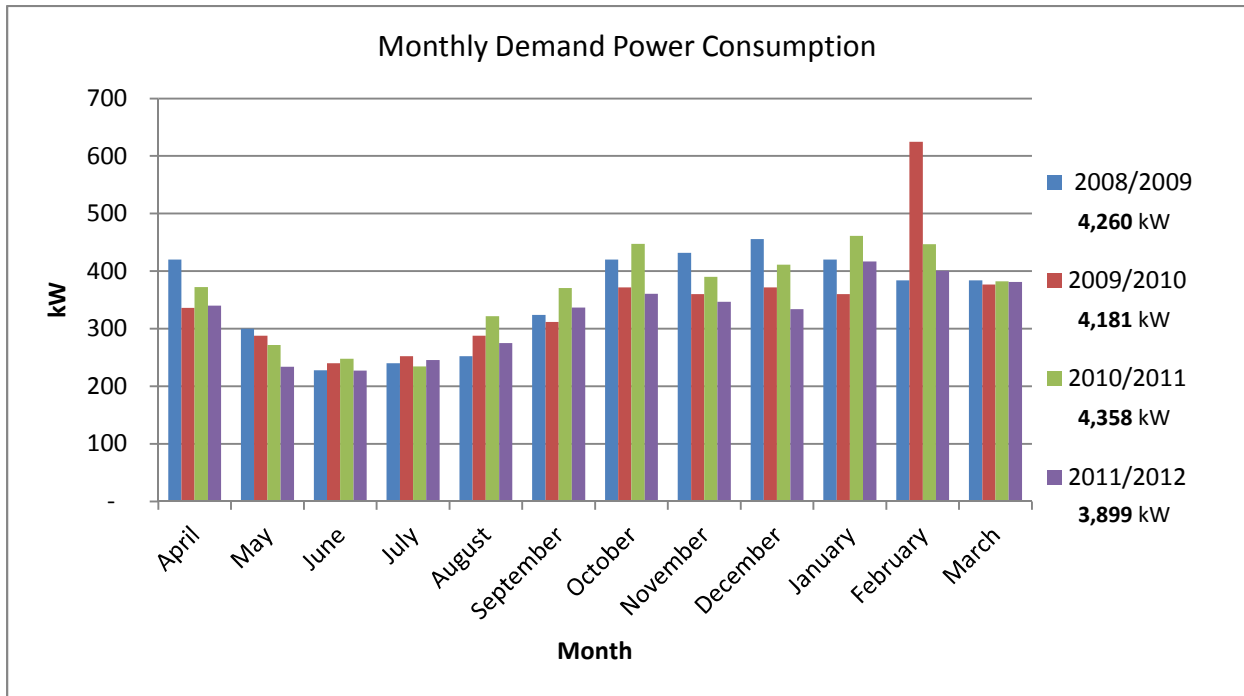


Figure 5.8.2: 2008/09 to 2011/12 Demand Power Consumption – Lunenburg Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - LUNENBURG CAMPUS

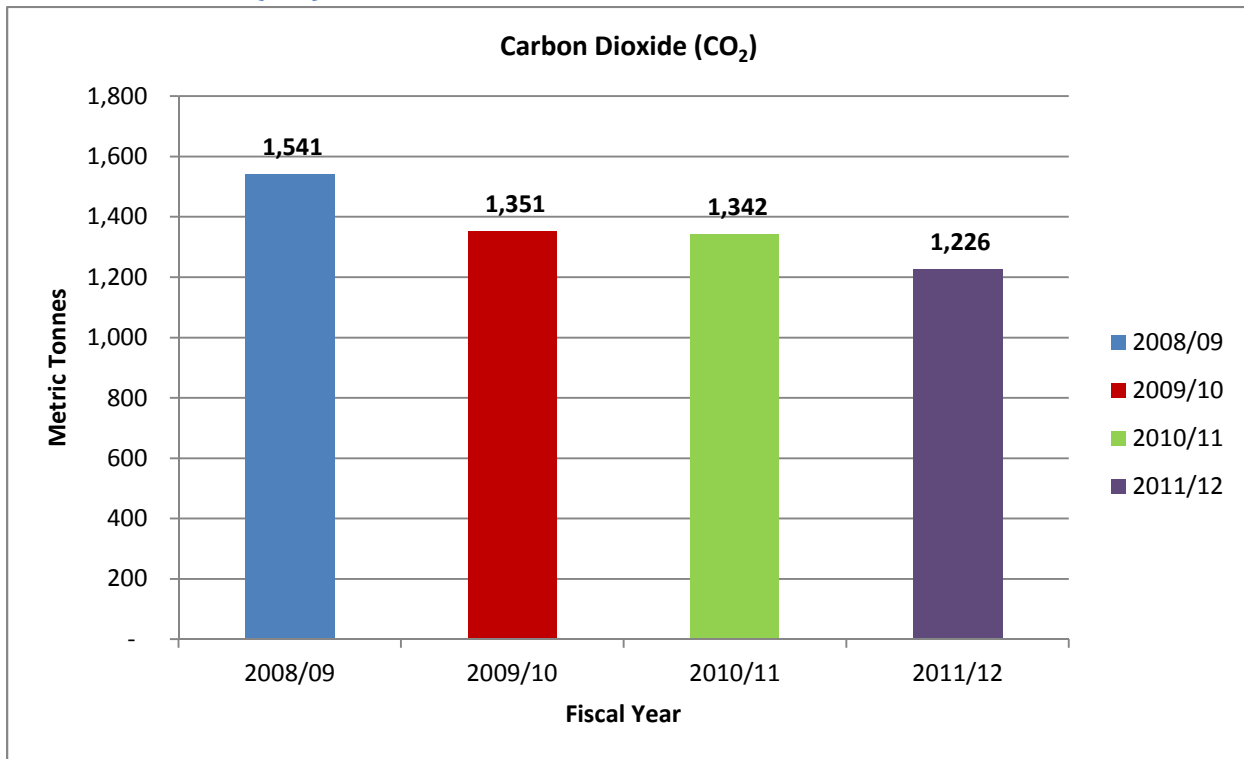


Figure 5.8.3: 2008/09 to 2011/12 Carbon Dioxide – Lunenburg Campus

WATER - LUNENBURG CAMPUS

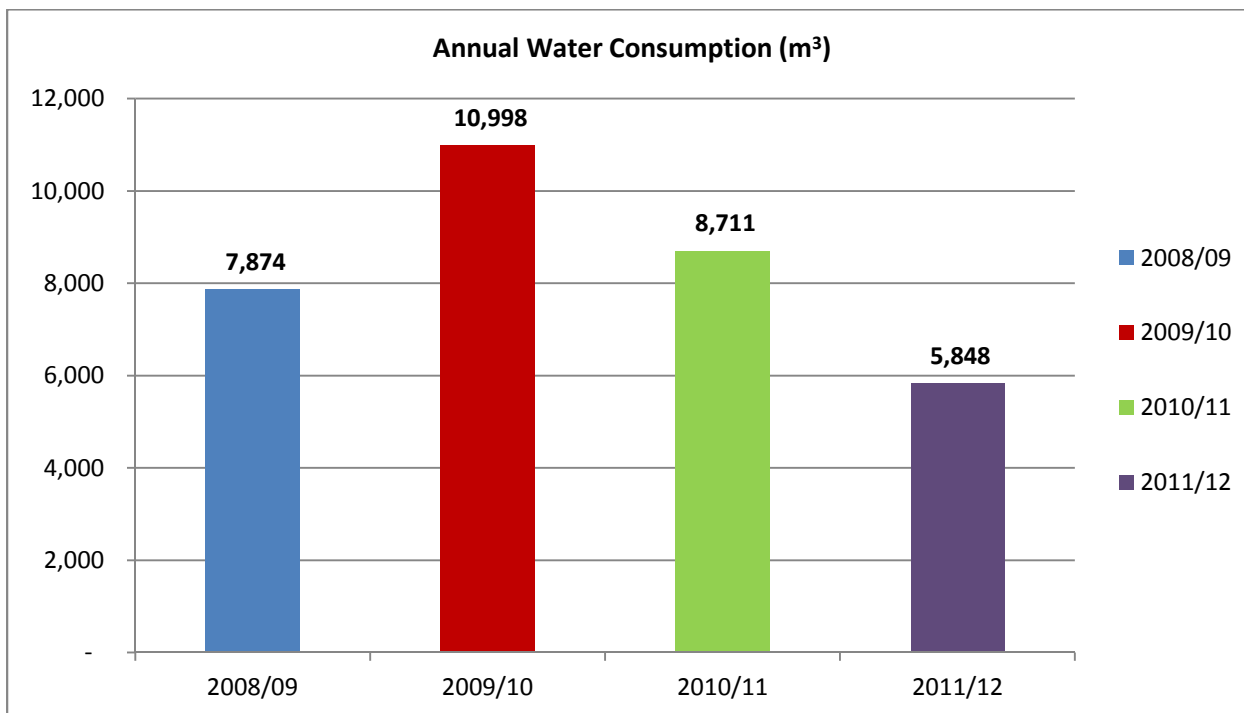


Figure 5.8.4: 2008/09 to 2011/12 Water Consumption – Lunenburg Campus

WASTE DIVERSION – LUNENBURG CAMPUS

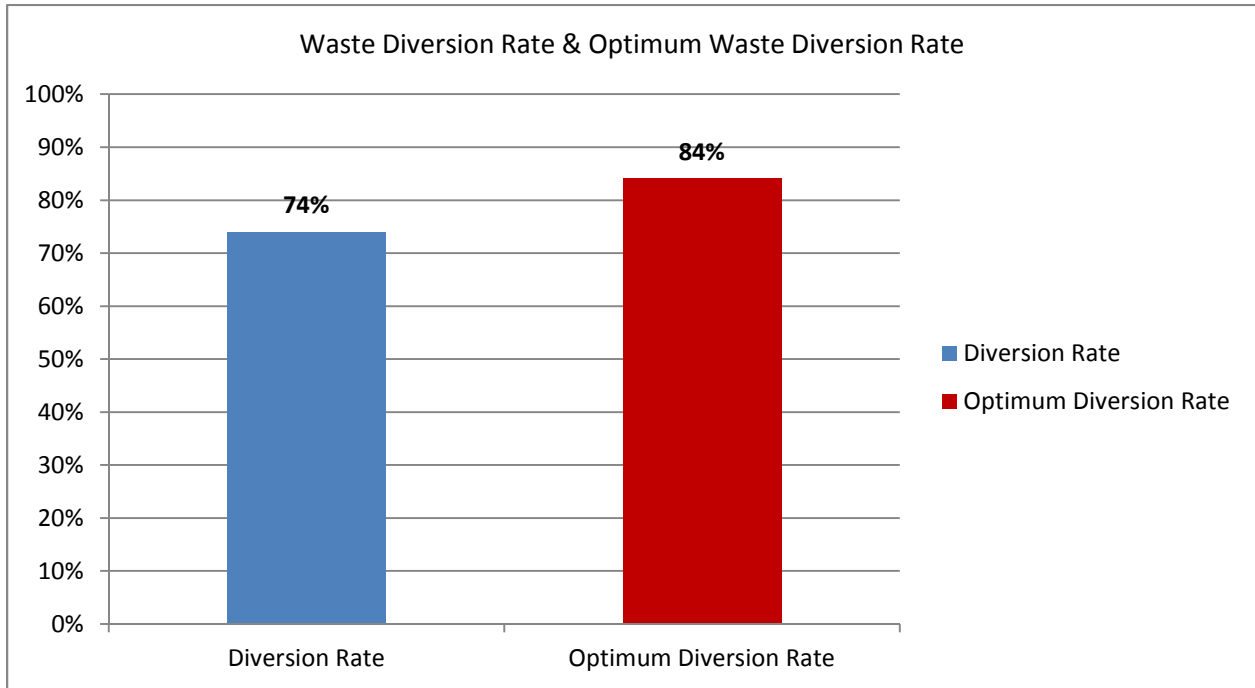


Figure 5.8.5: 2011/12 Waste Diversion Rate – Lunenburg Campus

BOMA BEST – LUNENBURG CAMPUS

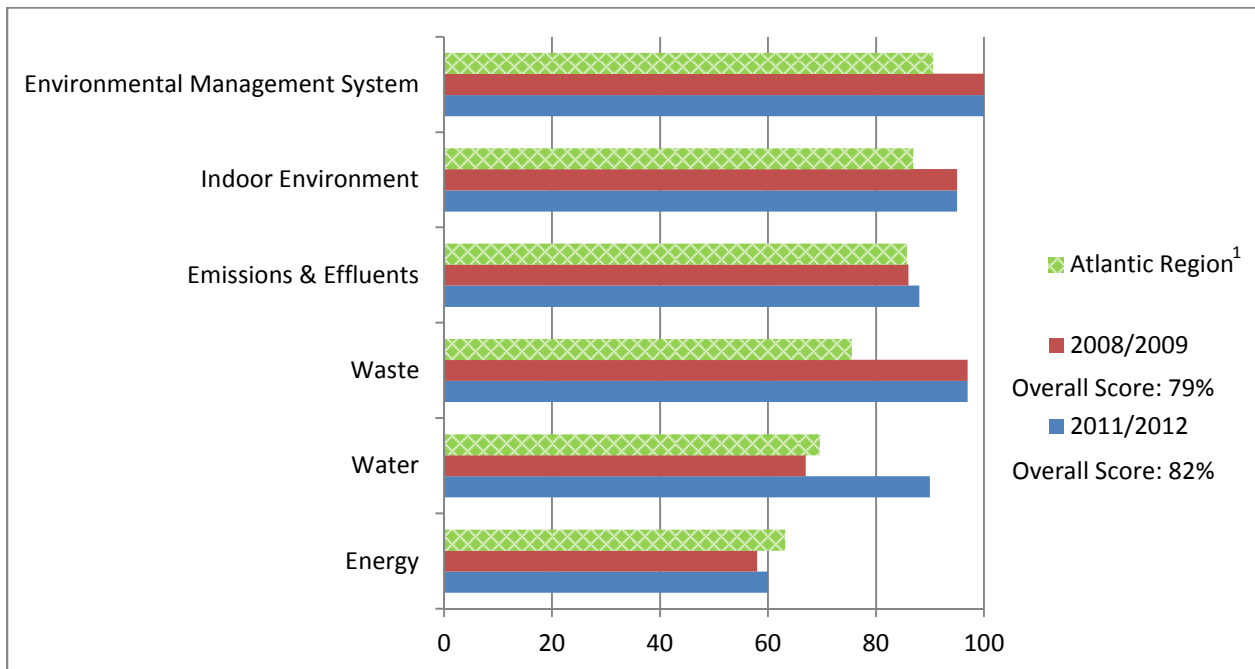


Figure 5.8.6: BOMA BEST 2008/09 & 2011/12 – Lunenburg Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY - LUNENBURG CAMPUS

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	Change from last year			Change since 2008/2009		
Electricity (BTU/sq ft)	31,640	28,121	28,476	26,158	- 2,317	8%	Decrease	- 5,481	17%	Decrease
Fuel Oil (BTU/sq ft)	48,629	41,111	38,606	34,602	- 4,004	10%	Decrease	- 14,027	29%	Decrease
TOTAL Energy (BTU/sq ft)	80,269	69,232	67,082	60,761	- 6,322	9%	Decrease	- 19,508	24%	Decrease
Demand (kW)	4,260	4,181	4,358	3,899	- 460	11%	Decrease	- 361	8%	Decrease
CO ₂ (Metric Tonnes)	1,541	1,351	1,342	1,226	- 117	9%	Decrease	- 316	20%	Decrease
Water Use (m ³)	7,874	10,998	8,711	5,848	- 2,863	33%	Decrease	- 2,026	26%	Decrease
Waste	-	-	-	74%	-	-	N/A	-	-	N/A
BOMABEST	79%	-	-	82%	-	-	N/A	-	3%	Improvement

Table 5.8 SUMMARY – Lunenburg Campus

5.9 MARCONI CAMPUS

ENERGY – MARCONI CAMPUS

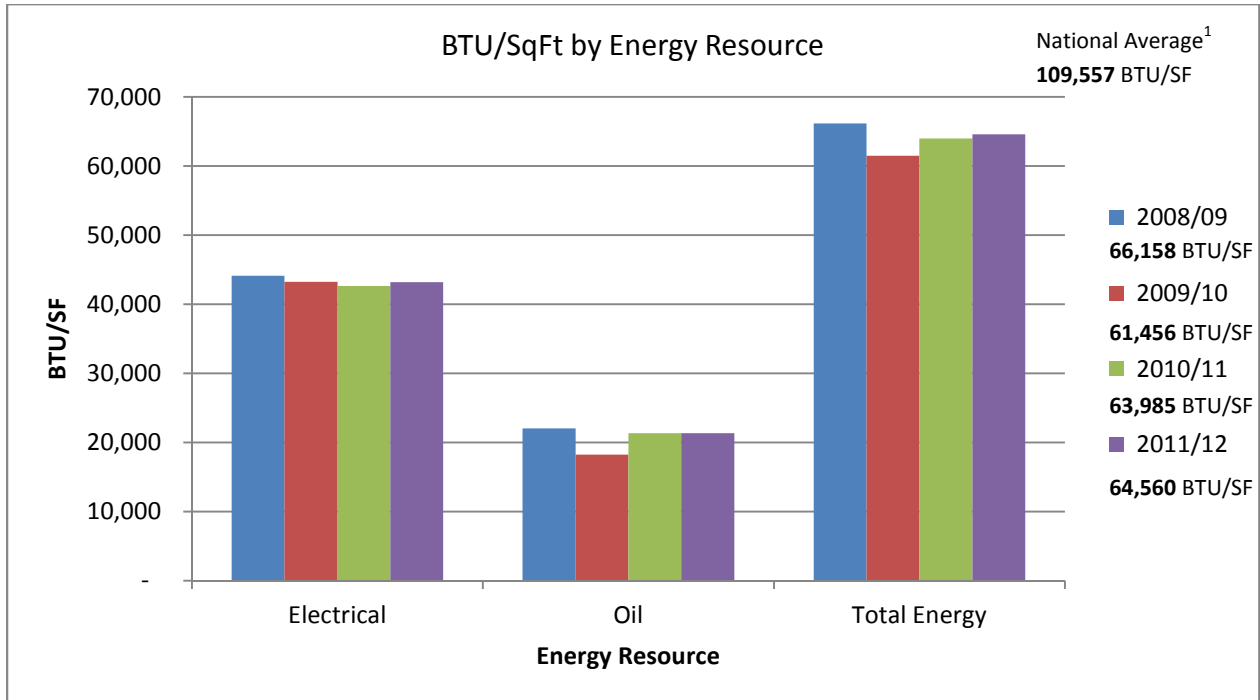


Figure 5.9.1: 2008/09 to 2011/12 Energy Usage – Marconi Campus

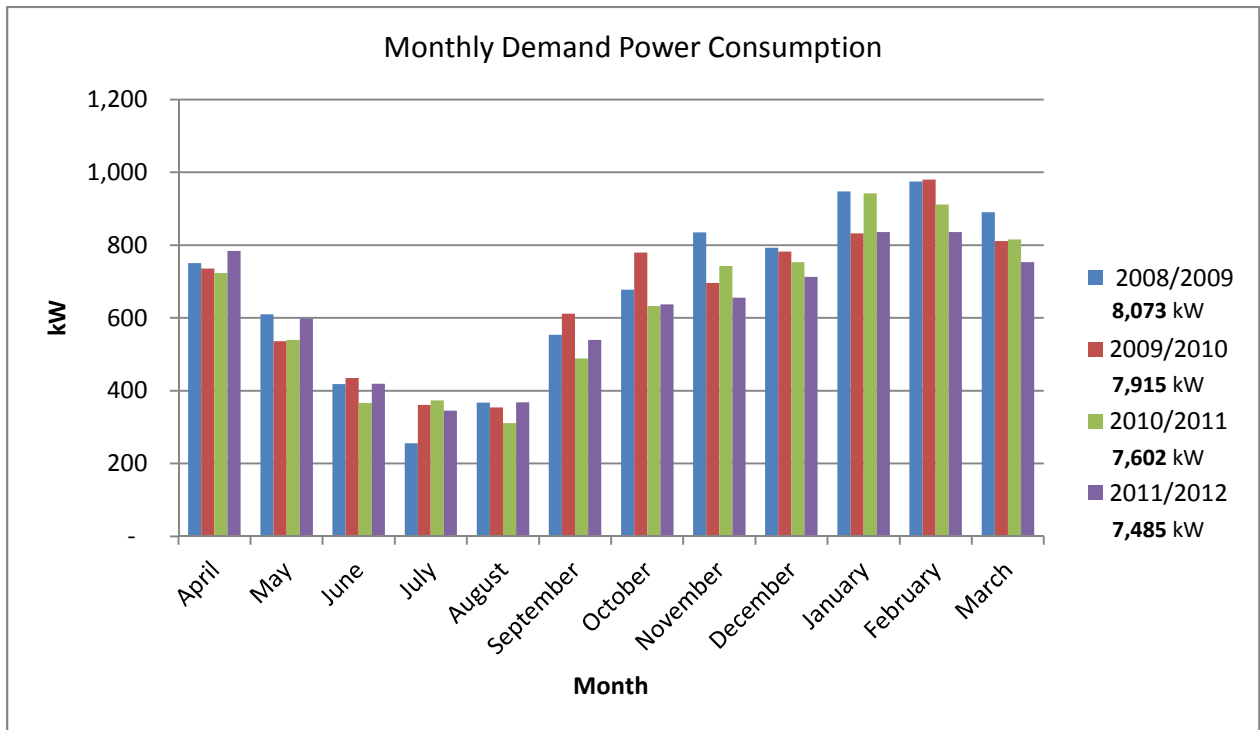


Figure 5.9.2: 2008/09 to 2011/12 Demand Power Consumption – Marconi Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - MARCONI CAMPUS

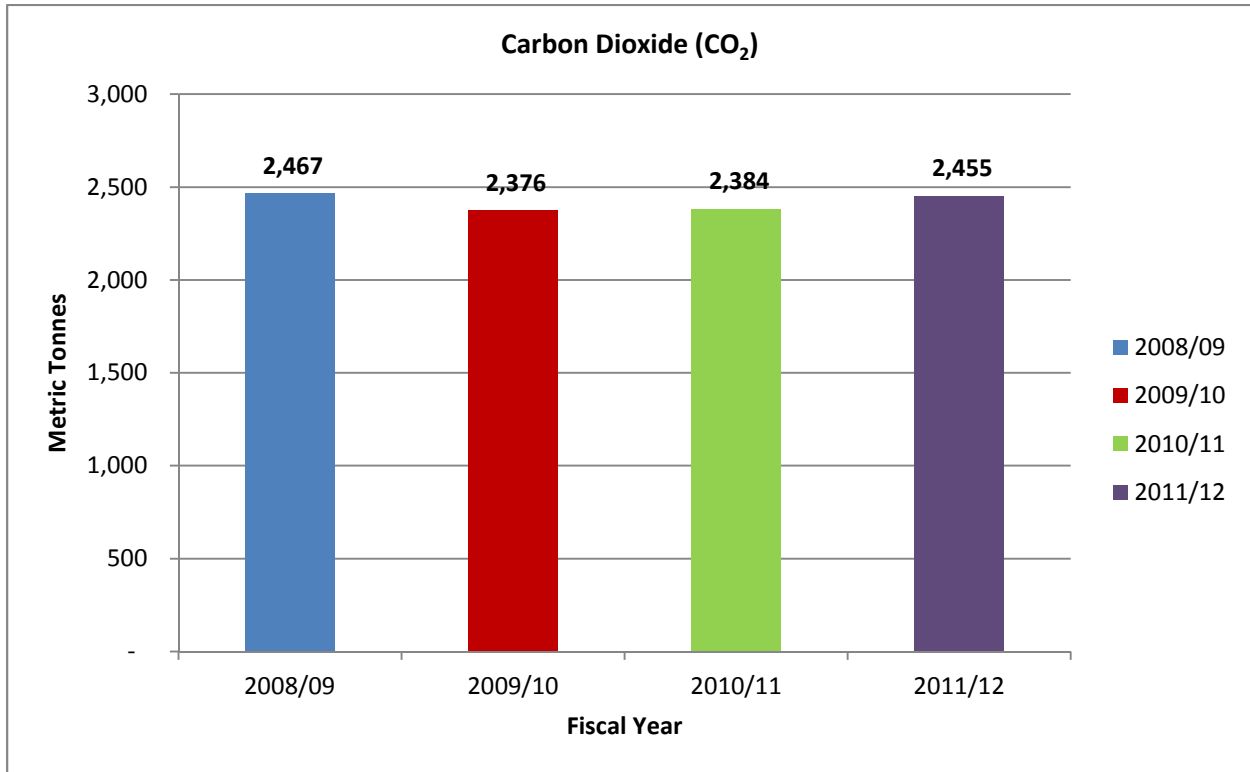


Figure 5.9.3: 2008/09 to 2011/12 Carbon Dioxide – Marconi Campus

WATER - MARCONI CAMPUS

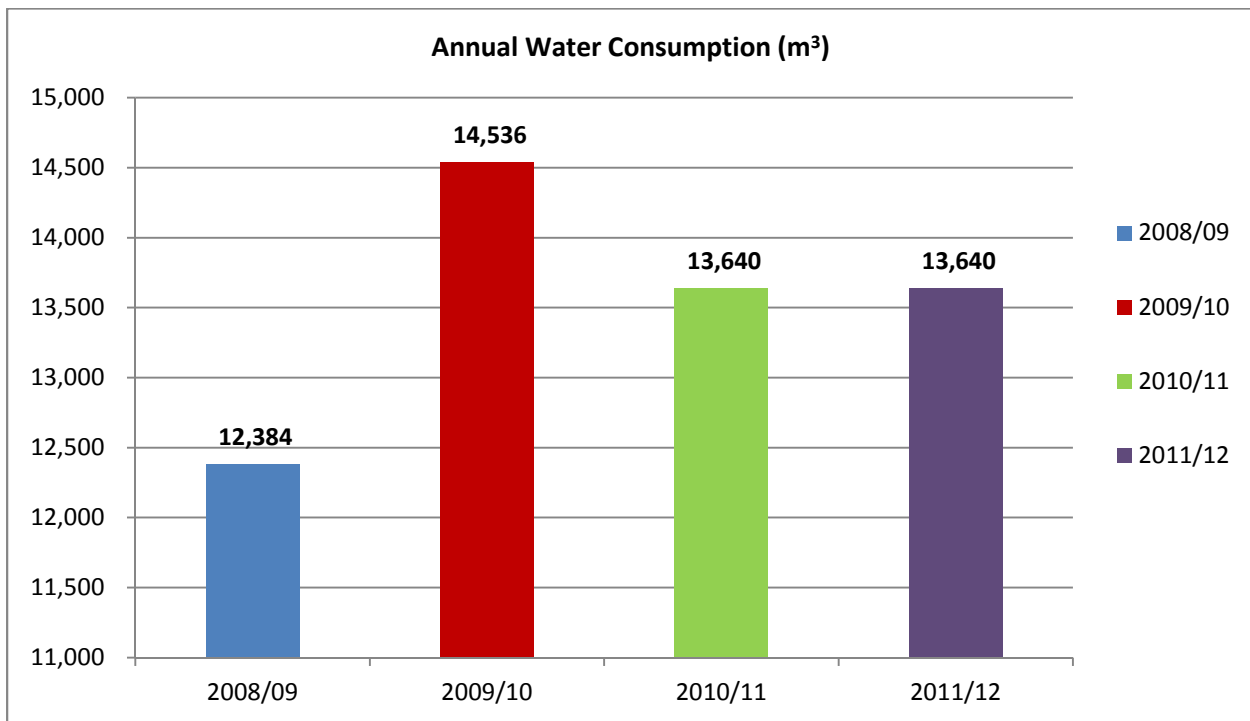


Figure 5.9.4: 2008/09 to 2011/12 Water Consumption – Marconi Campus

WASTE DIVERSION - MARCONI CAMPUS

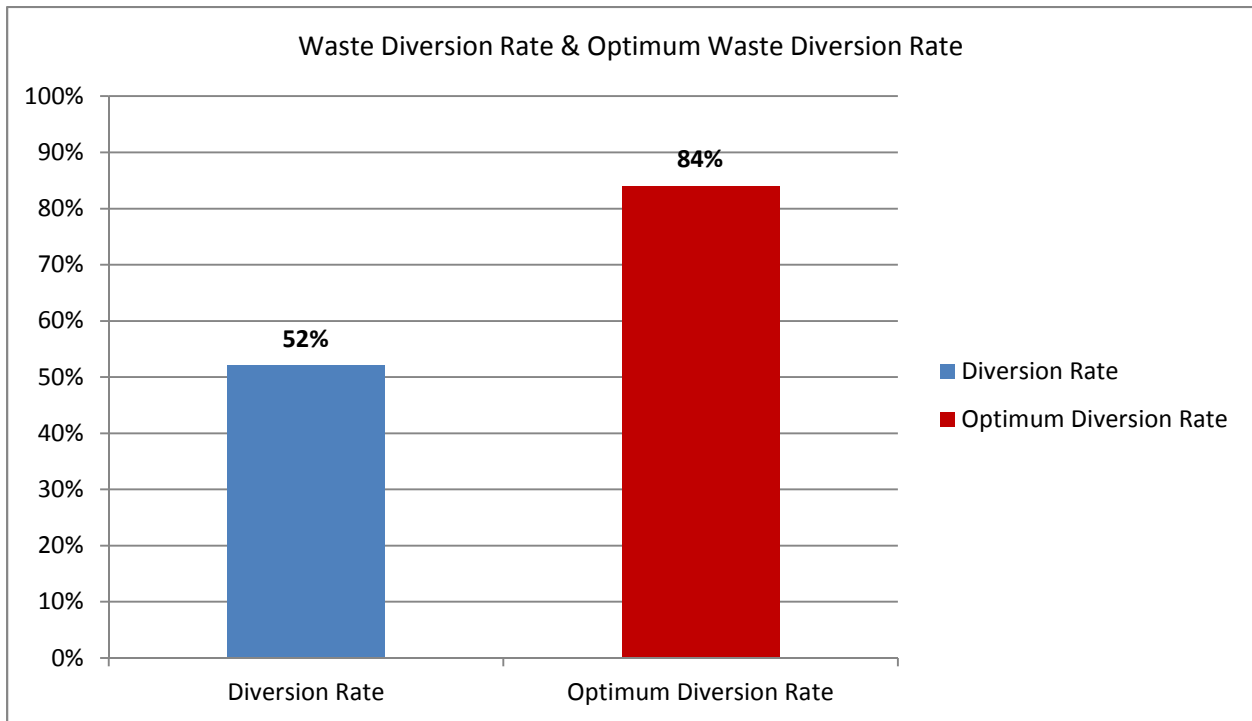


Figure 5.9.5: Waster Diversion Rate 2011/12 – Marconi Campus

BOMA BEST – MARCONI CAMPUS

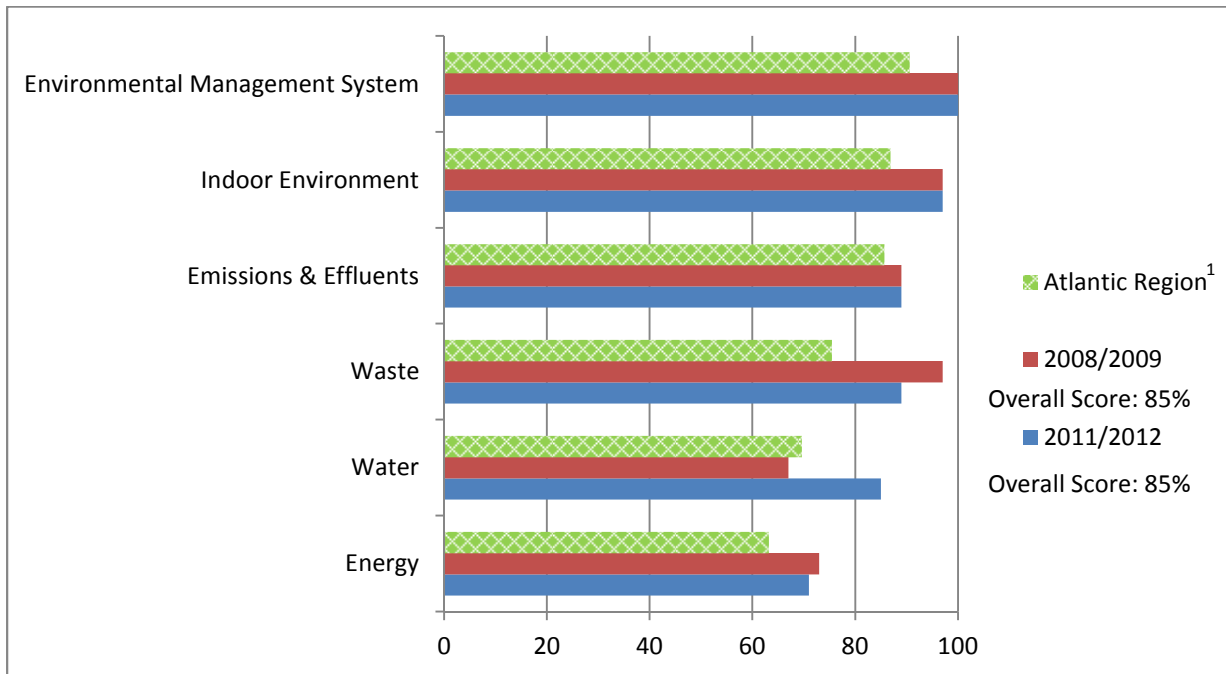


Figure 5.9.6: BOMA BEST 2008/09 & 2011/12 – Marconi Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – MARCONI CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	44,107	43,226	42,625	43,199	575	1%	Increase	- 907	2%	Decrease
Fuel Oil (BTU/sq ft)	22,051	18,230	21,361	24,777	3,416	14%	Increase	2,726	11%	Increase
TOTAL Energy (BTU/sq ft)	66,158	61,456	63,985	67,976	3,991	6%	Increase	1,819	3%	Increase
Demand (kW)	8,073	7,915	7,602	7,602	0	0%	N/A	- 471	6%	Decrease
CO ₂ (Metric Tonnes)	2,467	2,376	2,384	2,455	70	3%	Increase	- 12	0%	Decrease
Water Use (m ³)	12,384	14,536	13,640	13,640	-	0%	Increase	1,256	9%	Increase
Waste	-	-	-	-	-	-	N/A	-	-	N/A
BOMABEST	85%	-	-	85%			No Change			No Change
BOMABEST CBE	-			90%			N/A			N/A

Table 5.9 SUMMARY – Marconi

Note: Due to erroneous water readings, the consumption from 2010/11 will be used for 2011/12.

In 2011/12 the Marconi Trades Building – Centre for the Built Environment opened its doors to students. This building was designed and constructed to LEED standards. The addition of this building to the Marconi Campus has resulted in an increase of TOTAL energy consumption.



5.10 PICTOU CAMPUS

ENERGY - PICTOU CAMPUS

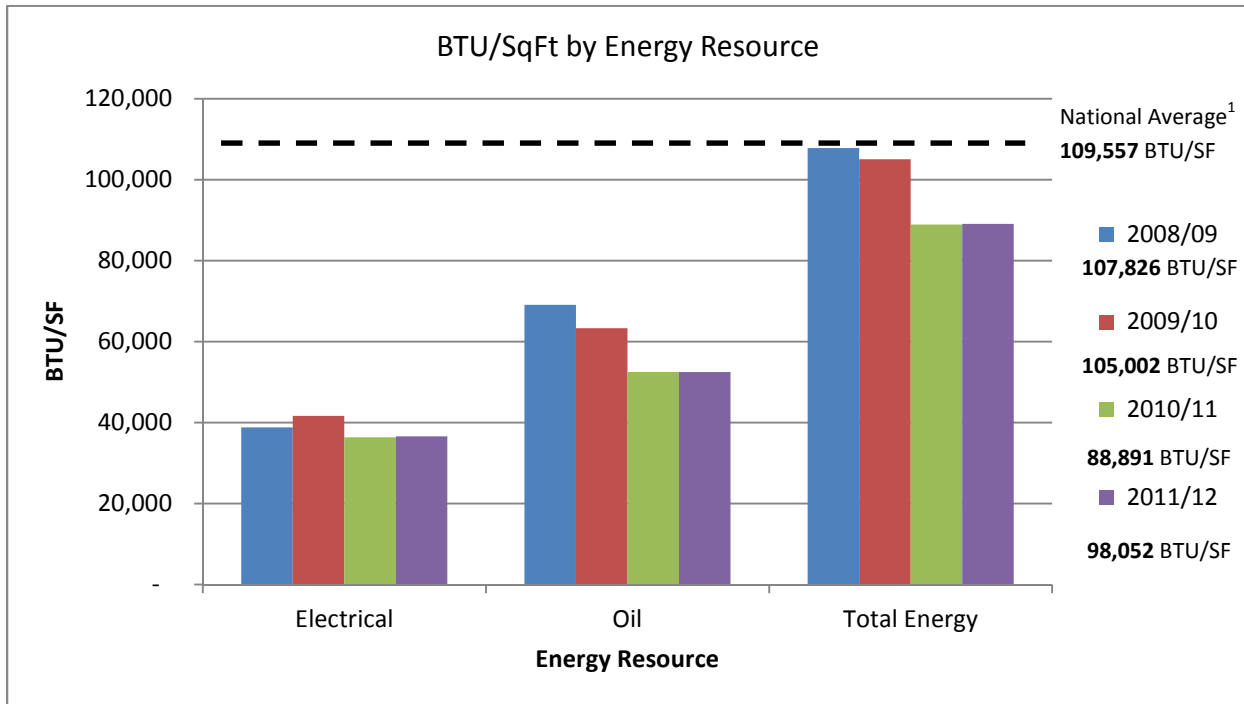


Figure 5.10.1: 2008/09 to 2011/12 Energy Usage – Pictou Campus

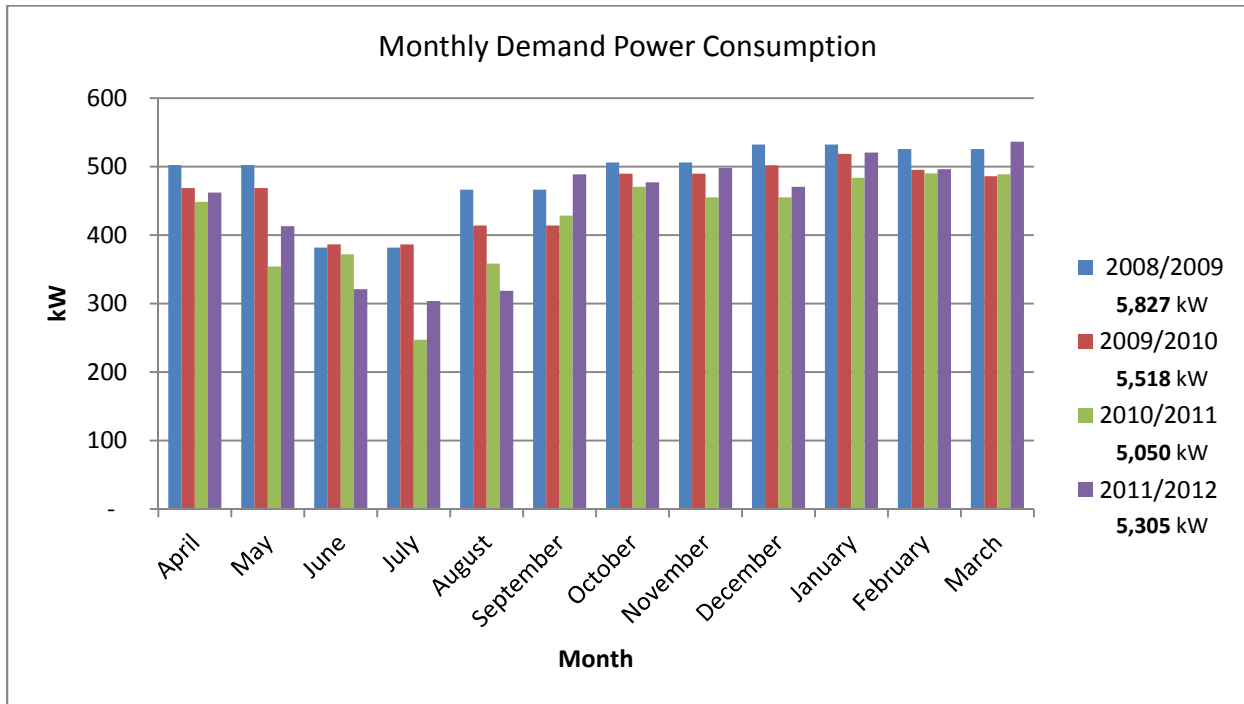


Figure 5.10.2: 2008/09 to 2011/12 Demand Power Consumption – Pictou Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - PICTOU CAMPUS

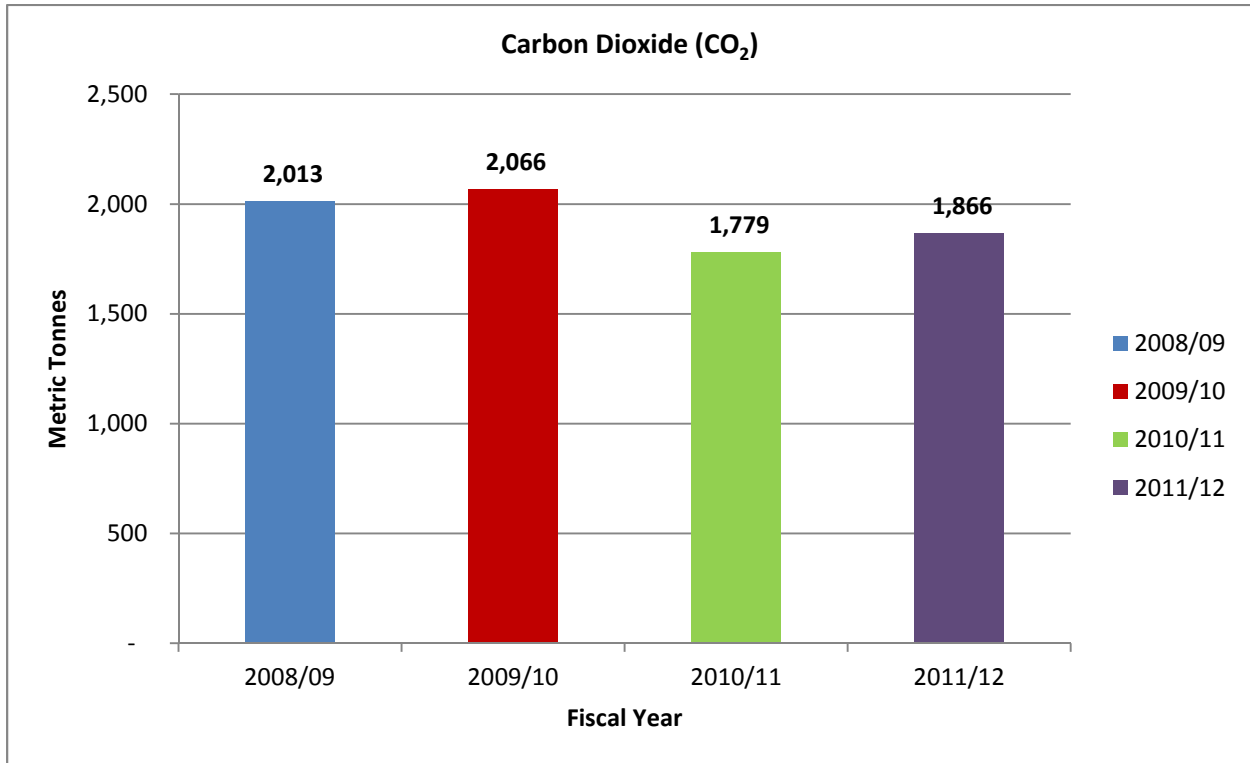


Figure 5.10.3: 2008/09 to 2011/12 Carbon Dioxide – Pictou Campus

WATER - PICTOU CAMPUS

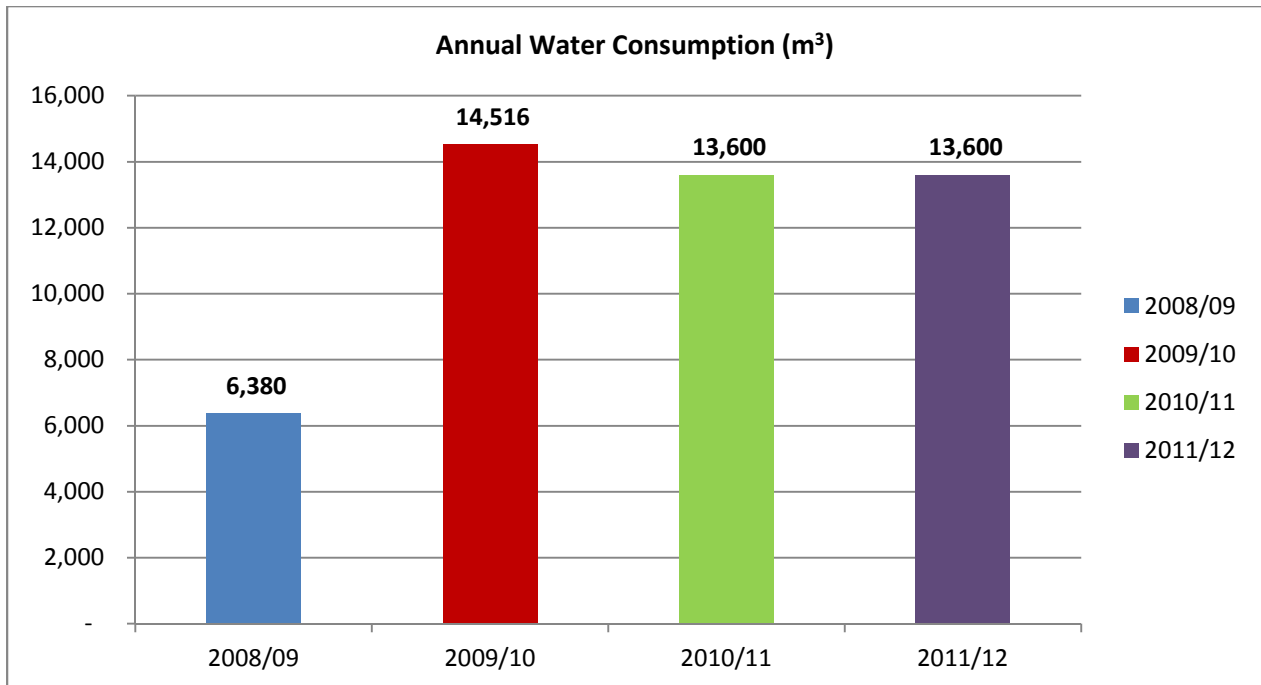


Figure 5.10.4: 2008/09 to 2011/12 Water Consumption – Pictou Campus

WASTE DIVERSION - PICTOU CAMPUS

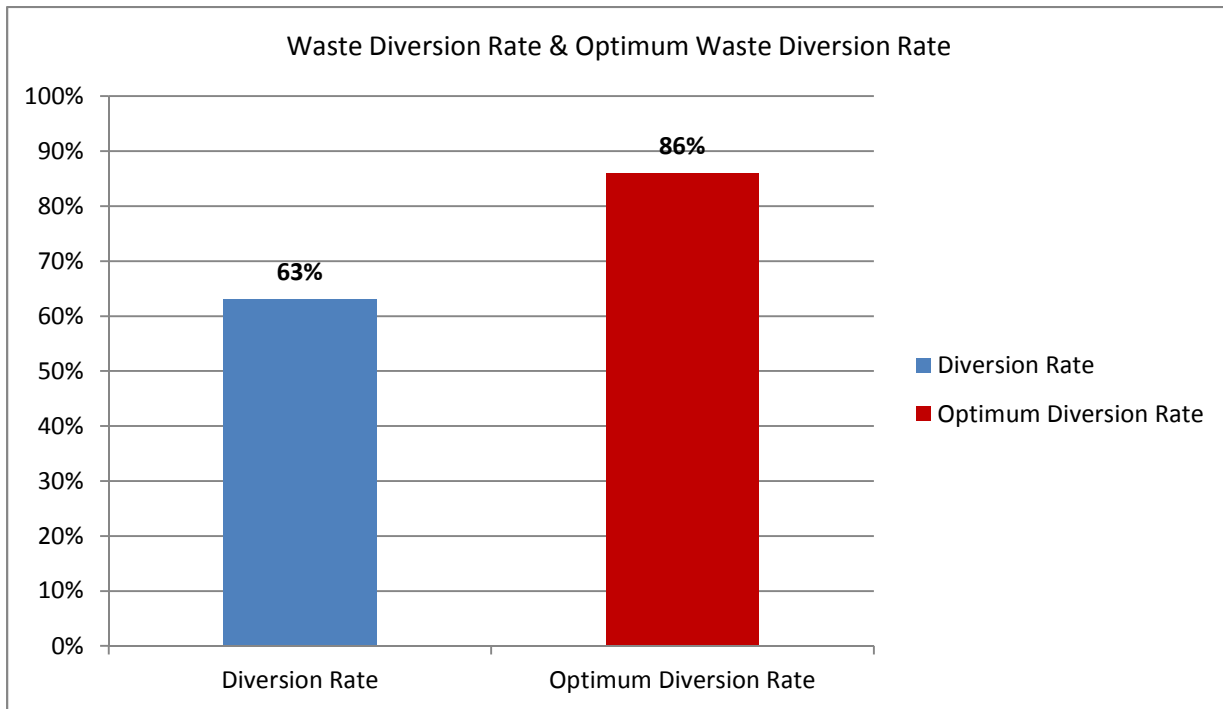


Figure 5.10.5: 2011/12 Waste Diversion Rate – Pictou Campus

BOMA BEST – PICTOU CAMPUS

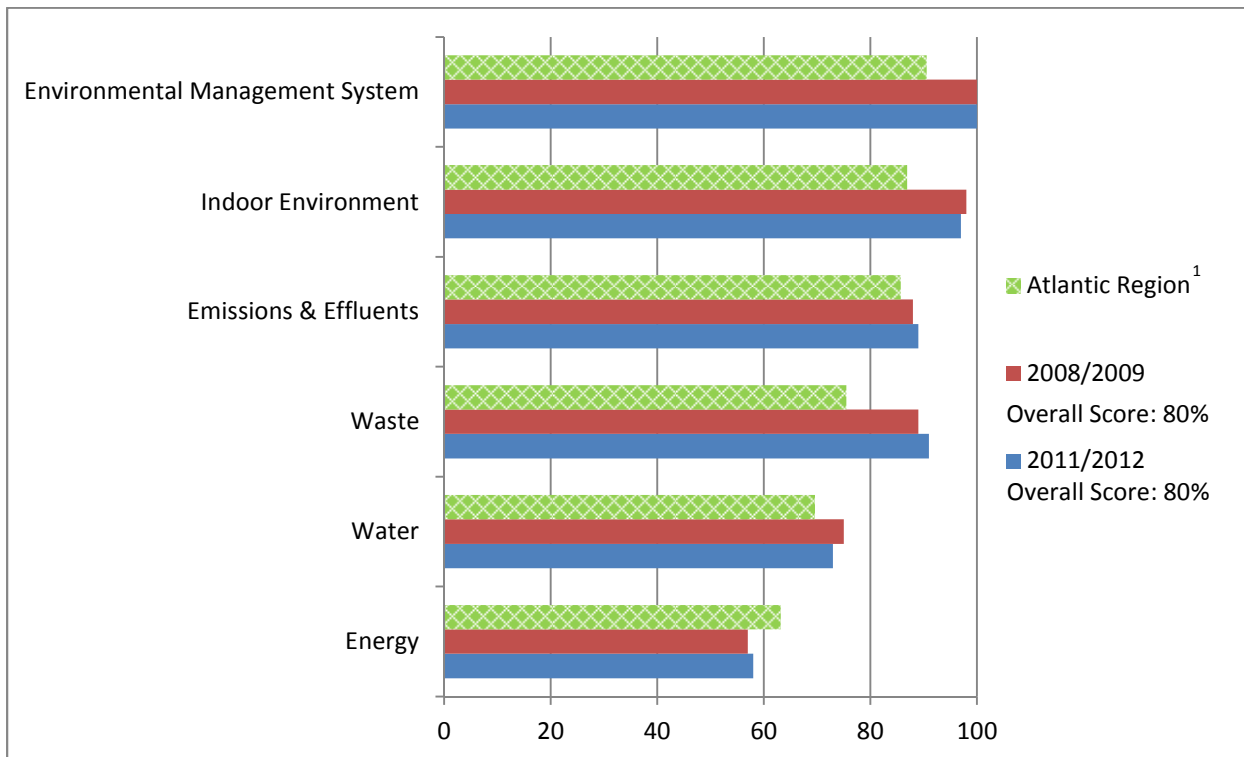


Figure 5.10.6: BOMA BEST 2008/09 & 2011/12 – Pictou Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY - PICTOU CAMPUS

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	Change from last year			Change since 2008/2009		
Electricity (BTU/sq ft)	38,781	41,662	36,371	36,591	220	1%	Increase	- 2,190	6%	Decrease
Fuel Oil (BTU/sq ft)	69,045	63,340	52,519	61,460	8,941	15%	Increase	- 7,584	11%	Decrease
TOTAL Energy (BTU/sq ft)	107,826	105,002	88,891	98,052	9,161	9%	Increase	- 9,774	9%	Decrease
Demand (kW)	5,827	5,518	5,050	5,305	254	5%	Increase	- 523	9%	Decrease
CO ₂ (Metric Tonnes)	2,013	2,066	1,779	1,866	87	5%	Increase	- 146	7%	Decrease
Water Use (m ³)	6,380	14,516	13,600	9,044	- 4,556	34%	Decrease	2,664	29%	Increase
Waste	-	-	-	63%	-	-	N/A	-	-	N/A
BOMABEST	75%			80%			N/A			

Table 5.10 SUMMARY – Pictou Campus

5.11 SCHOOL OF FISHERIES¹

ENERGY – SCHOOL OF FISHERIES

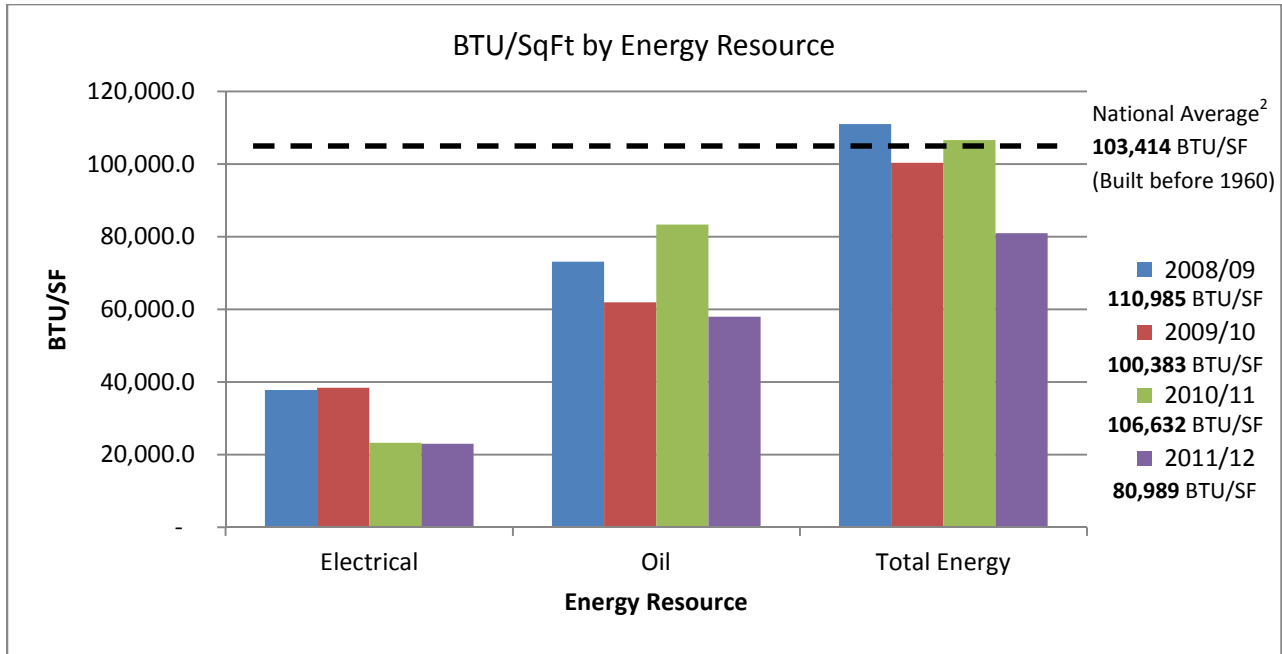


Figure 5.11.1: 2008/09 to 2011/12 Energy Usage – School of Fisheries

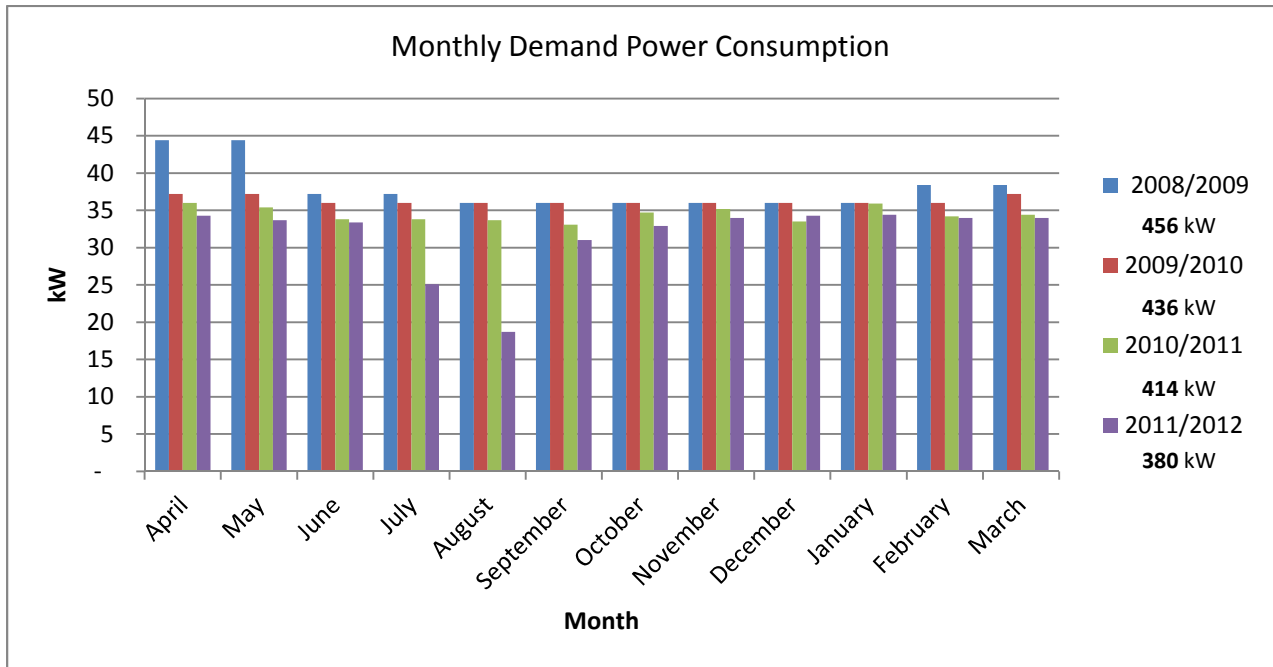


Figure 5.11.2: 2008/09 to 2011/12 Demand Power Consumption – School of Fisheries

¹ The School of Fisheries Pool is not included in this report.

Note 2 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - SCHOOL OF FISHERIES

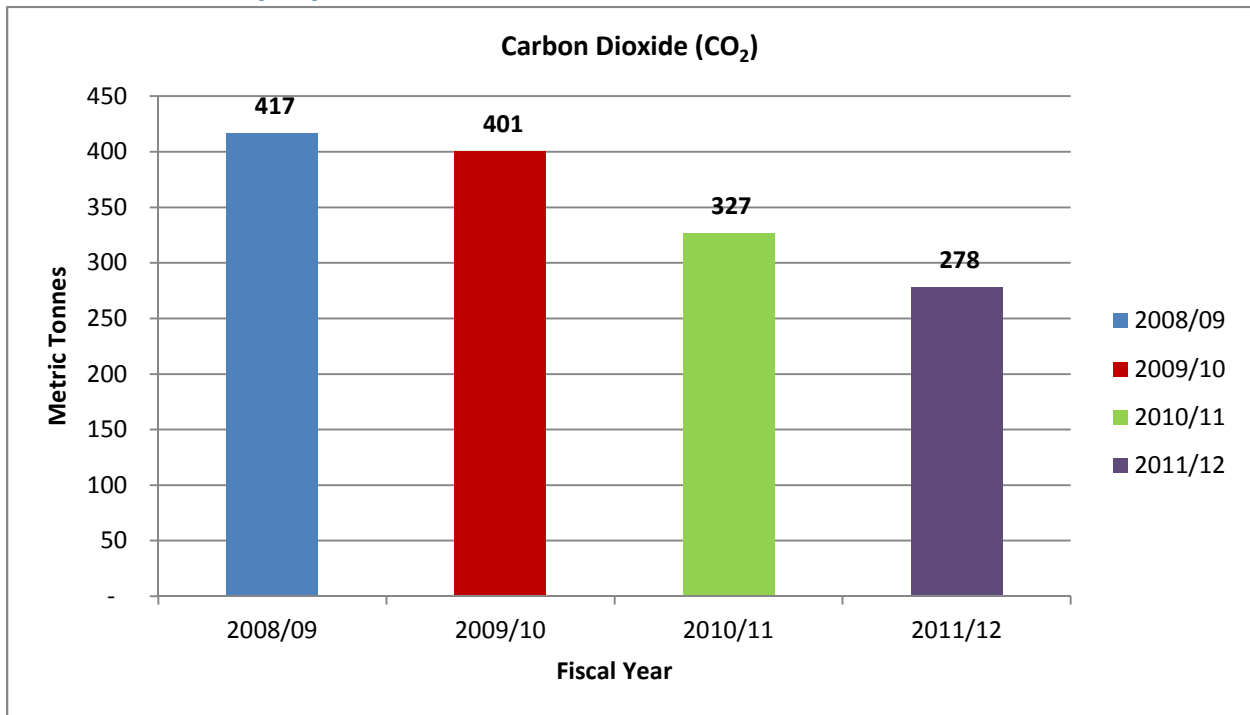


Figure 5.10.3: 2008/09 to 2011/12 Carbon Dioxide – School of Fisheries

WATER - SCHOOL OF FISHERIES

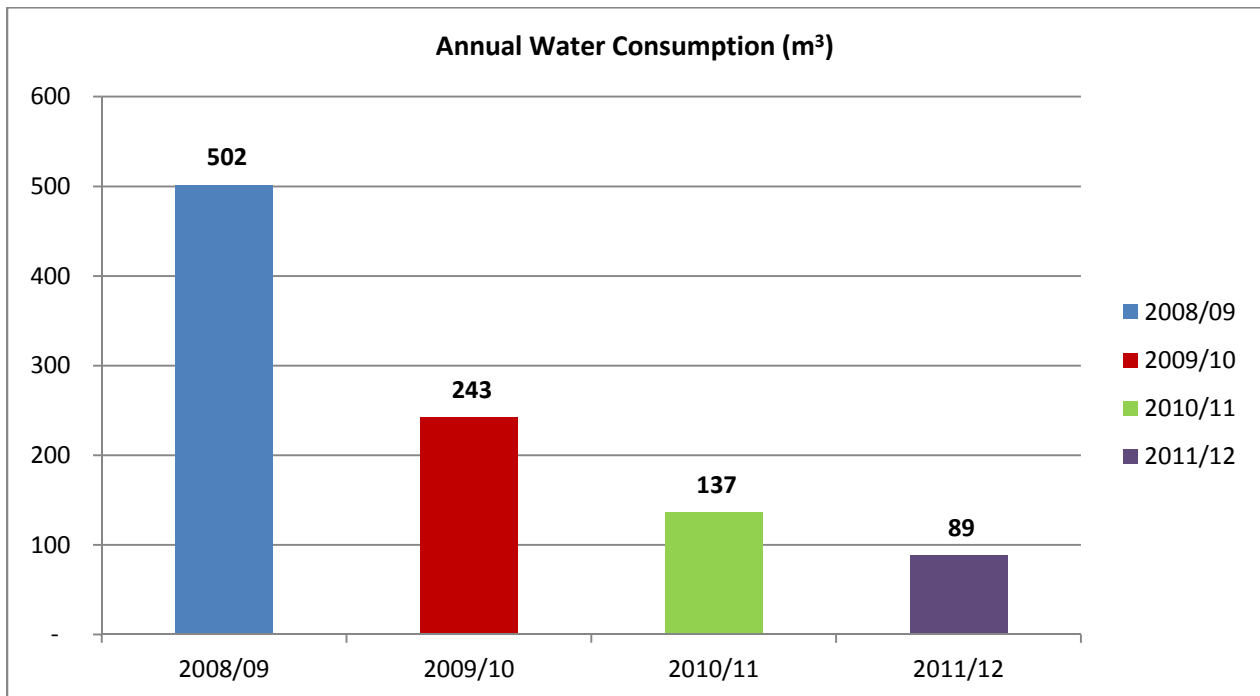


Figure 5.11.4: 2008/09 to 2011/12 Water Consumption – School of Fisheries

WASTE DIVERSION - SCHOOL OF FISHERIES

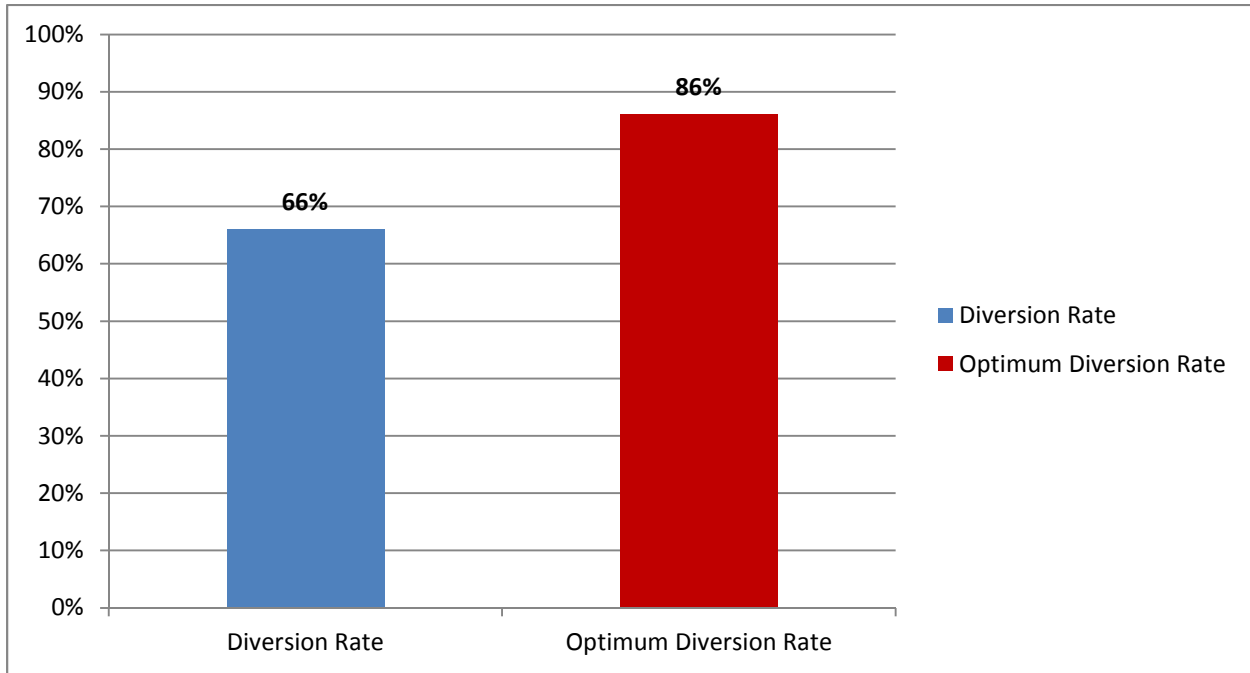


Figure 5.11.5: 2011/12 Waste Diversion Rate – School of Fisheries

BOMA BEST – SCHOOL OF FISHERIES

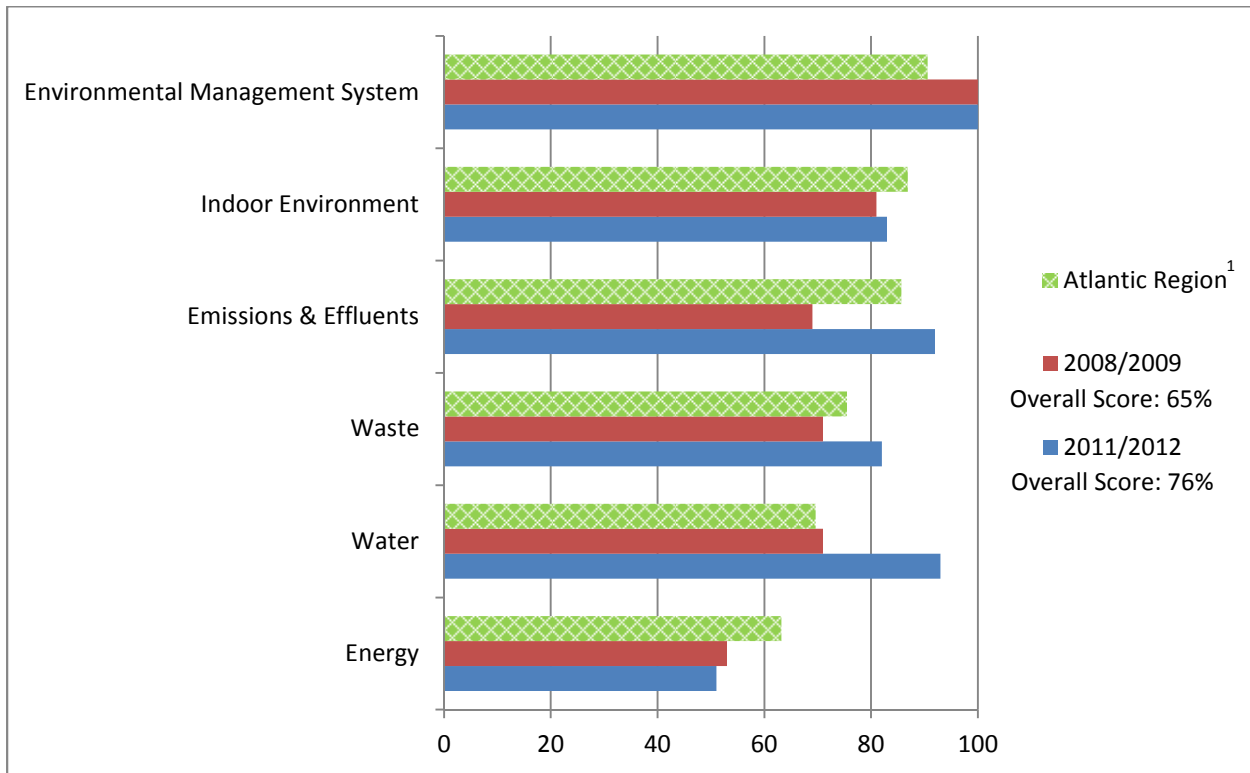


Figure 5.11.6: 2011/12 BOMA BEST 2008/09 & 2011/12 – School of Fisheries

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – SCHOOL OF FISHERIES

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	37,827	38,410	23,288	23,005	-283	1%	Decrease	-14,823	39%	Decrease
Fuel Oil (BTU/sq ft)	73,158	61,973	83,344	57,984	-25,360	30%	Decrease	-15,173	21%	Decrease
TOTAL Energy (BTU/sq ft)	110,985	100,383	106,632	80,989	-25,643	24%	Decrease	-29,996	27%	Decrease
Demand (kW)	456	436	414	380	-34	8%	Decrease	-76	17%	Decrease
CO ₂ (Metric Tonnes)	417	401	327	278	-49	15%	Decrease	-139	33%	Decrease
Water Use (m ³)	502	243	137	89	-48	35%	Decrease	-413	82%	Decrease
Waste	-	-	-	-	-	-	N/A	-	-	N/A
BOMABEST							N/A			

Table 5.11 SUMMARY – School of Fisheries

5.12 SHELBURNE CAMPUS

ENERGY – SHELBURNE CAMPUS

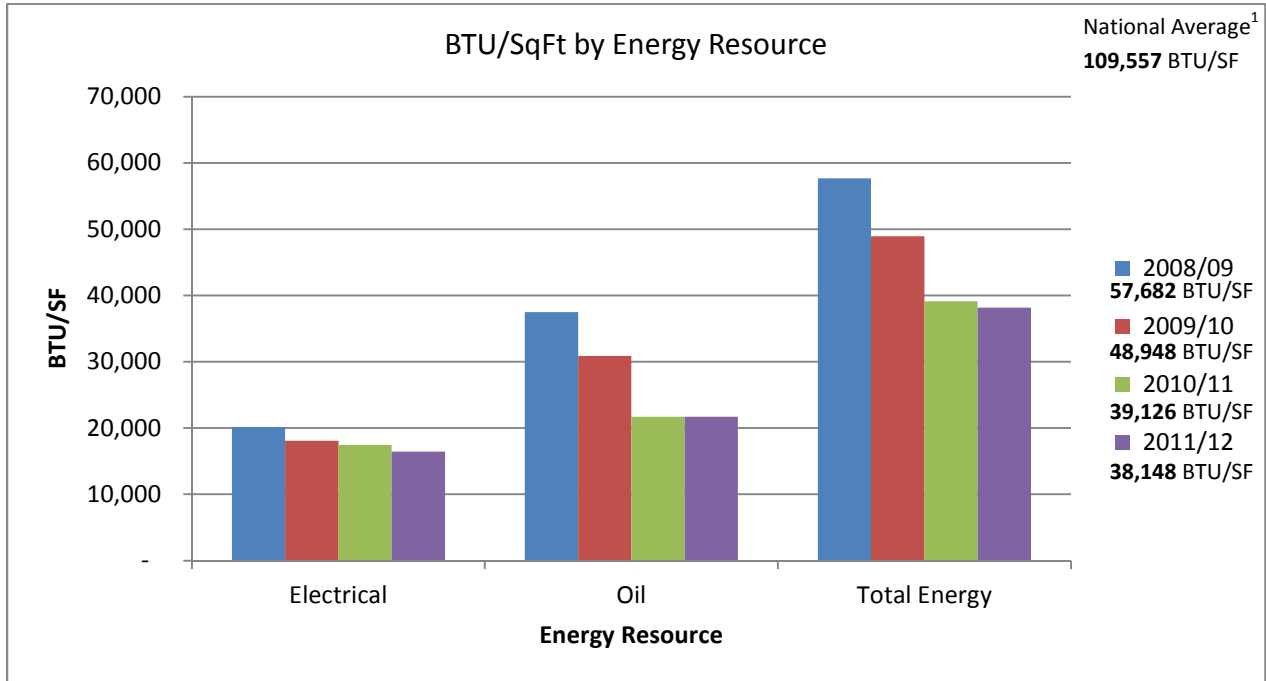


Figure 5.12.1: 2008/09 to 2011/12 Energy Usage – Shelburne Campus

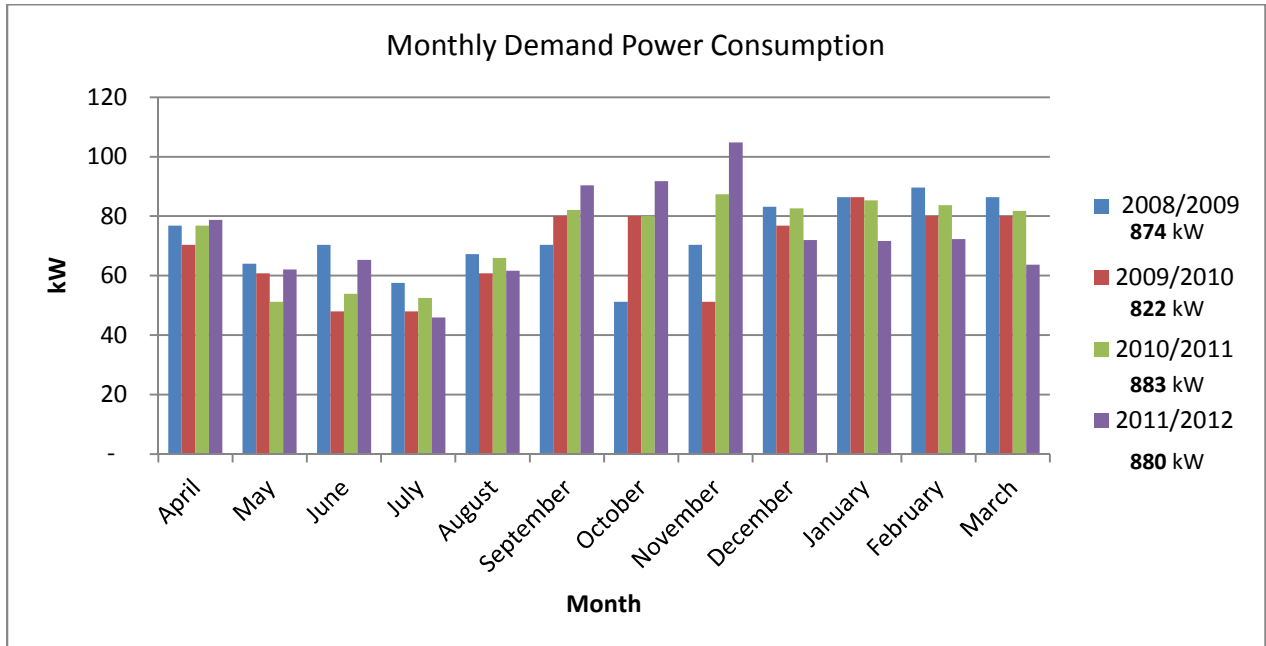


Figure 5.12.2: 2008/09 to 2011/12 Demand Power Consumption – Shelburne Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - SHELBURNE CAMPUS

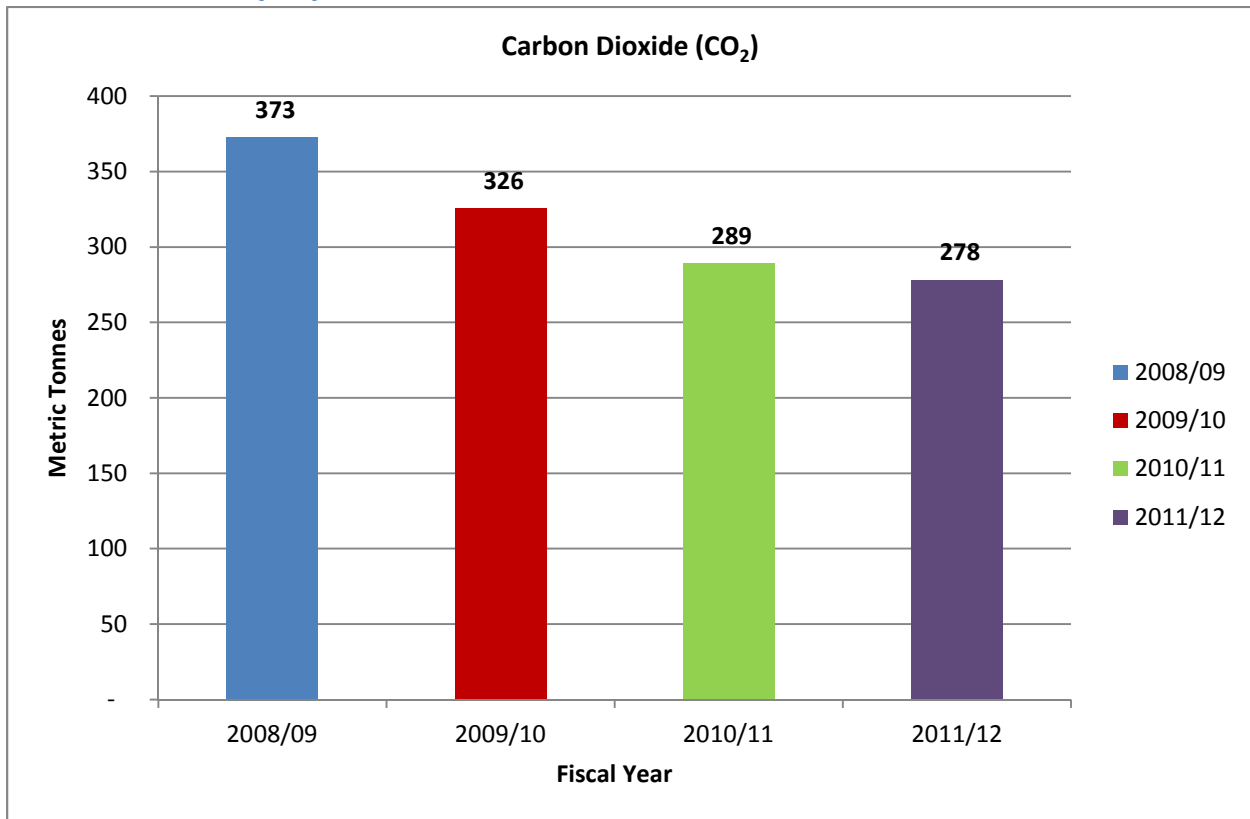


Figure 5.12.3: 2008/09 to 2011/12 Carbon Dioxide – Shelburne Campus

WATER - SHELBURNE CAMPUS

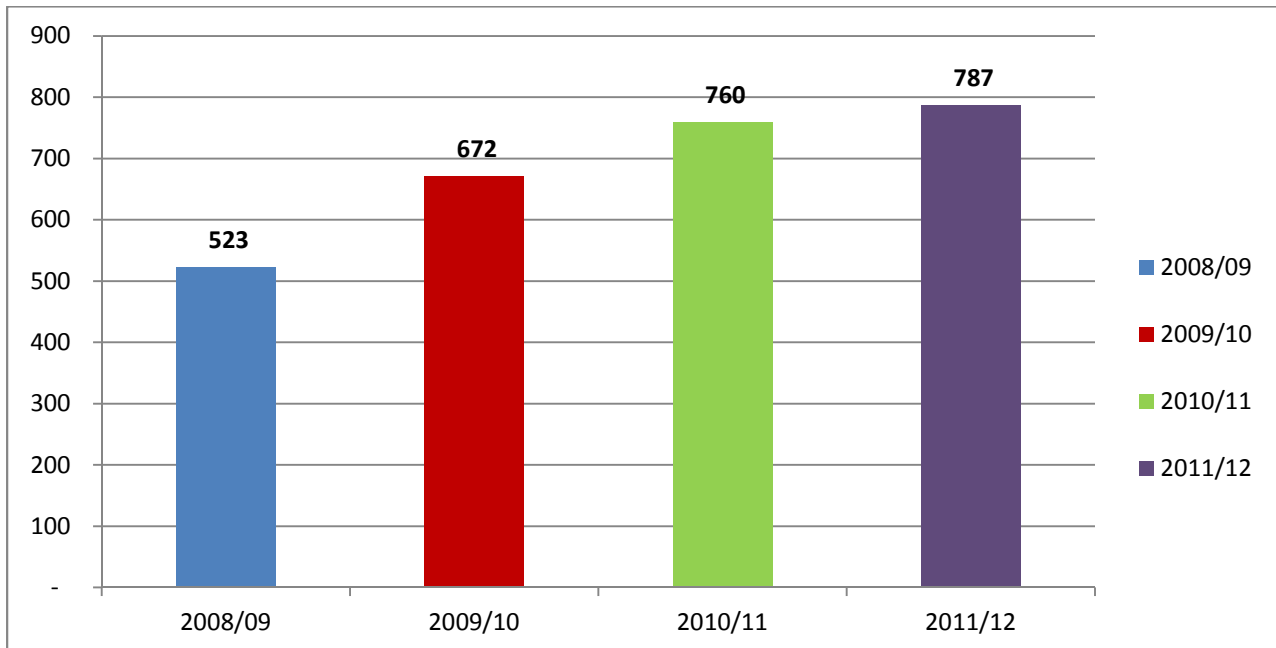


Figure 5.12.4: 2008/09 to 2011/12 Water Consumption – Shelburne Campus

WASTE DIVERSION - SHELBURNE CAMPUS

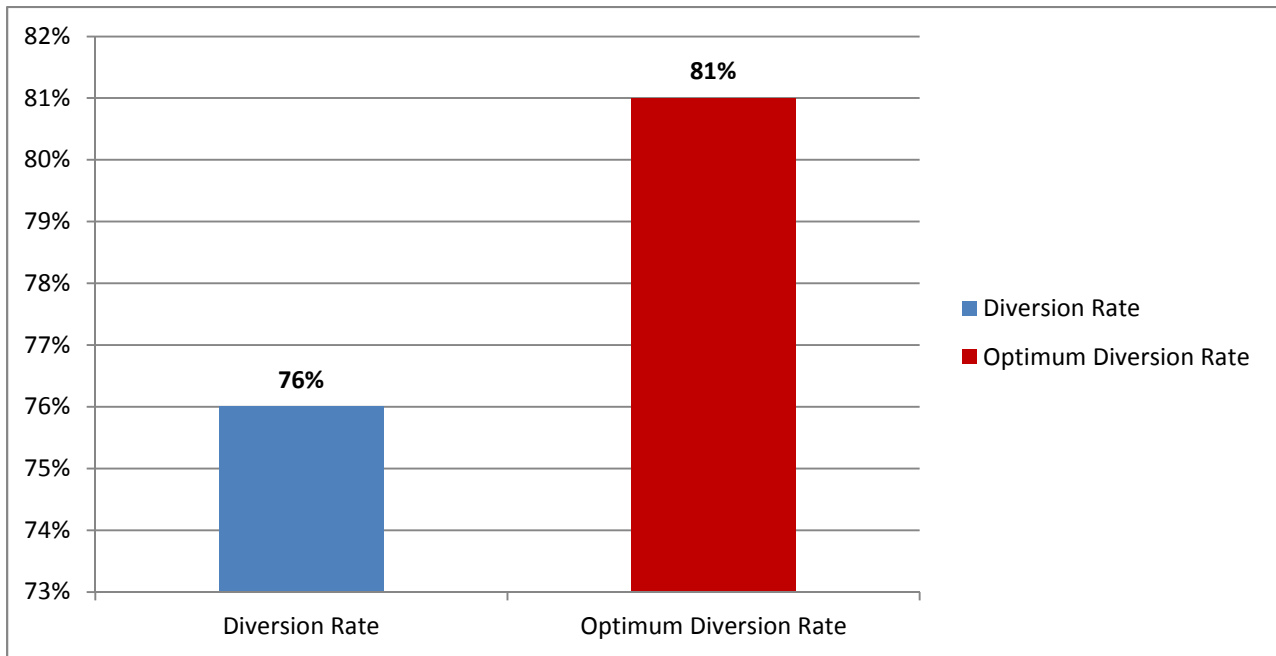


Figure 5.12.5: 2011/12 Waste Diversion Rate – Shelburne Campus

BOMA BEST – SHELBURNE CAMPUS

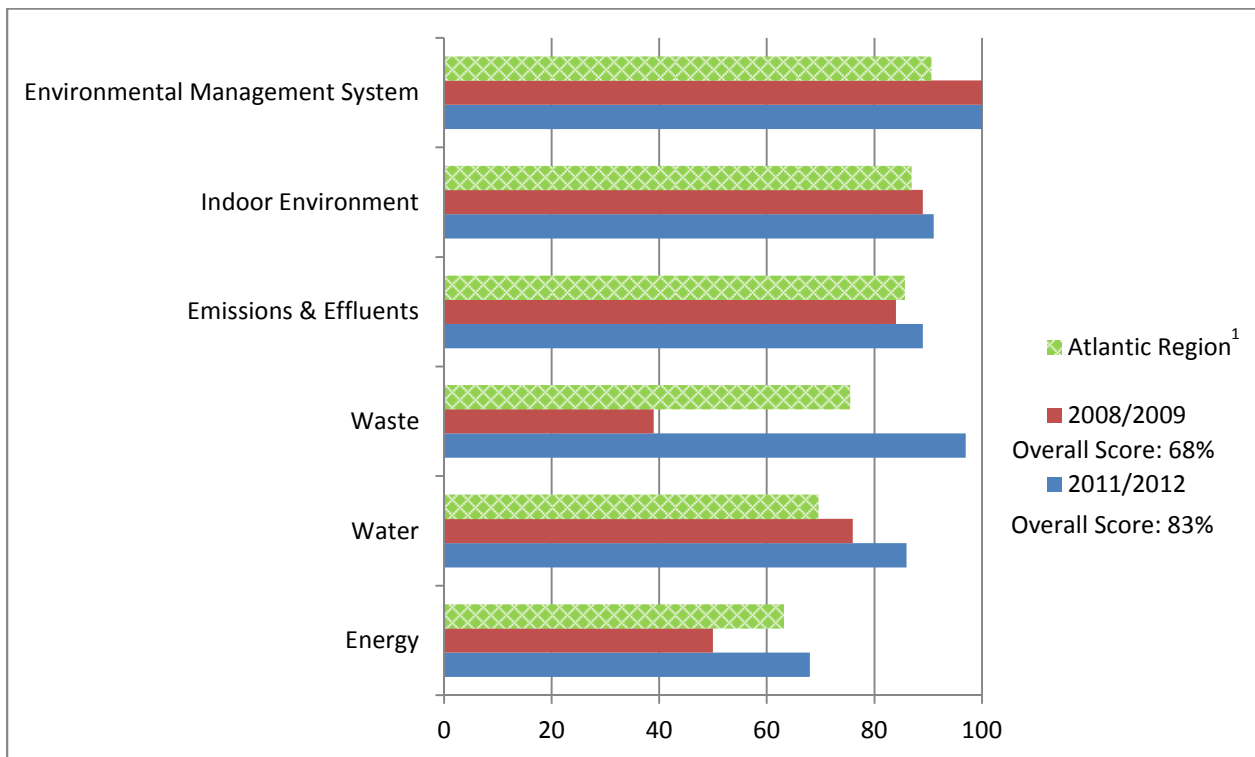


Figure 5.12.6: 2011/12 BOMA BEST 2008/09 & 2011/12 – Shelburne Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – SHELBURNE CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	20,172	18,087	17,436	16,458	- 978	6%	Decrease	- 3,714	18%	Decrease
Fuel Oil (BTU/sq ft)	37,511	30,861	21,690	22,237	547	2%	Increase	15,274	41%	Decrease
TOTAL Energy (BTU/sq ft)	57,682	48,948	39,126	38,695	- 431	1%	Decrease	18,987	33%	Decrease
Demand (kW)	874	822	883	880	- 3	0%	Decrease	7	1%	Increase
CO ₂ (Metric Tonnes)	373	326	289	278	- 11	4%	Decrease	- 95	25%	Decrease
Water Use (m ³)	523	672	760	787	27	3%	Increase	264	34%	Increase
Waste	-	-	-	76%	-	-	N/A	-	-	N/A
BOMABEST	68%	-	-	83%	-	-	N/A	15%	-	Improvement

Table 5.12 SUMMARY – Shelburne Campus

5.13 STRAIT AREA CAMPUS

ENERGY – STRAIT AREA CAMPUS

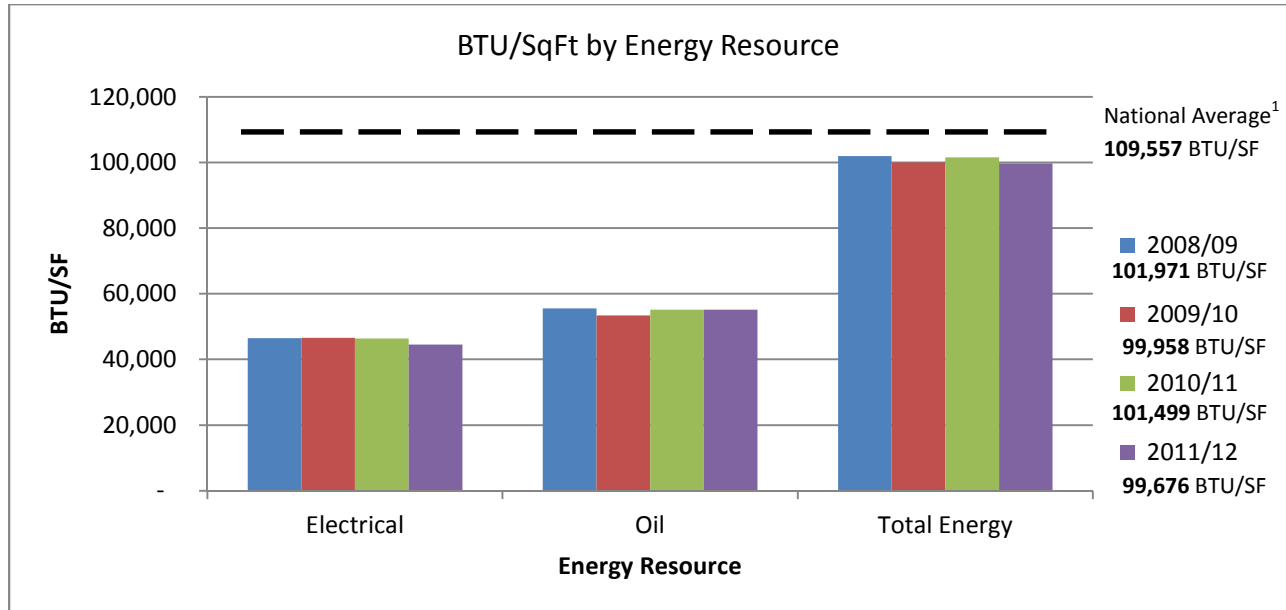


Figure 5.13.1: 2008/09 to 2011/12 Energy Usage – Strait Area Campus

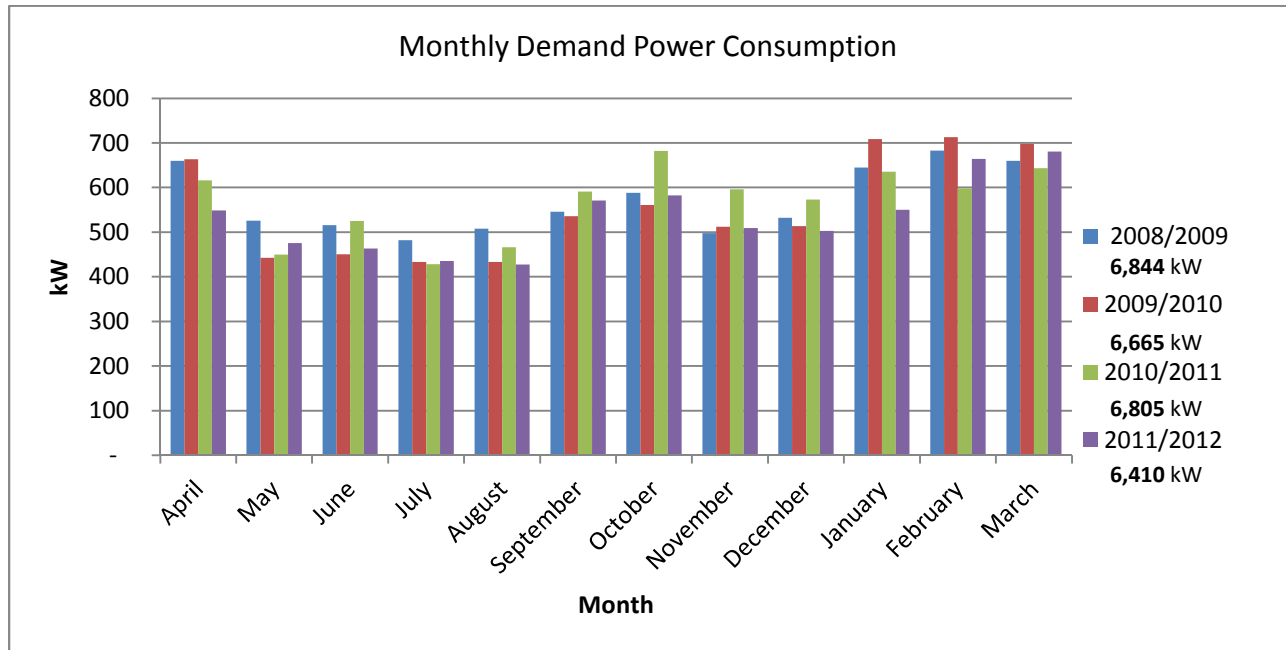


Figure 5.13.2: 2008/09 to 2011/12 Demand Power Consumption – Strait Area Campus

Note 1 Atlantic Average from BOMA BESt Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) – STRAIT AREA CAMPUS

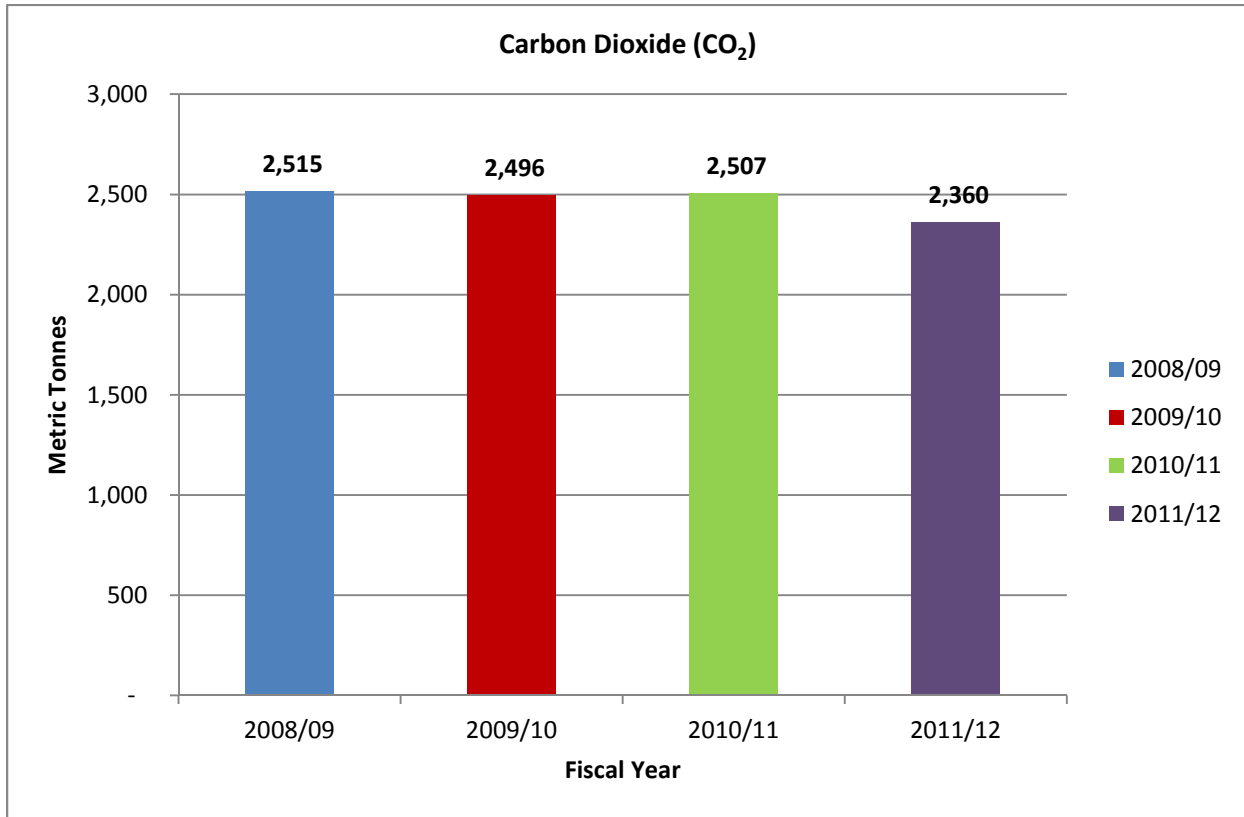


Figure 5.13.3: 2008/09 to 2011/12 Carbon Dioxide – Strait Area Campus

WATER – STRAIT AREA CAMPUS

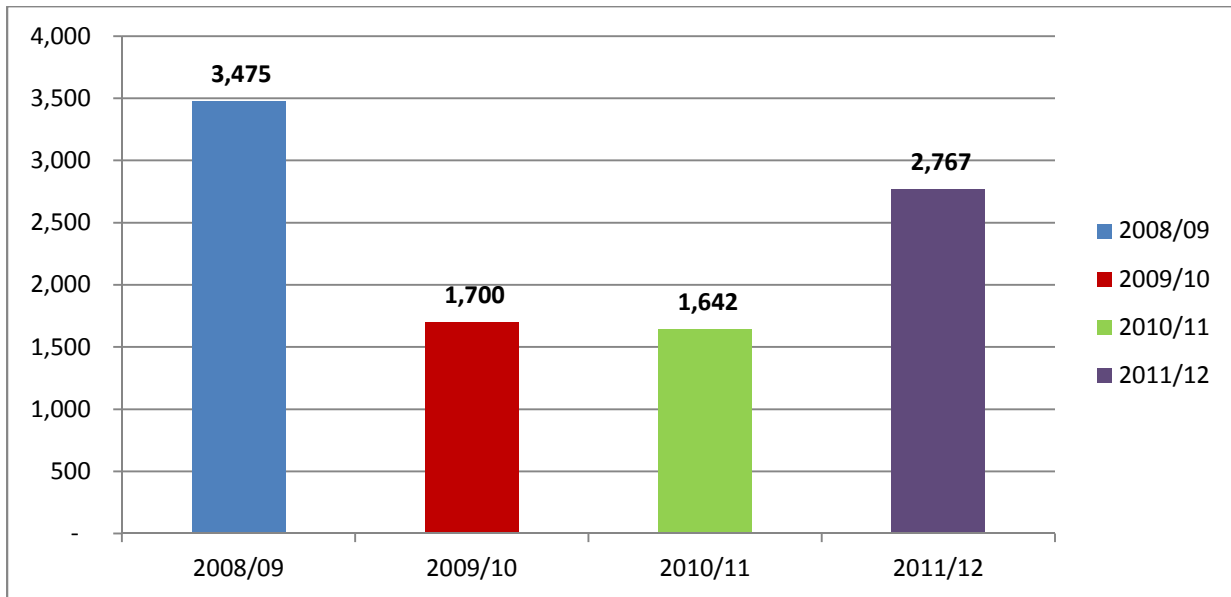


Figure 5.13.4: 2008/09 to 2011/12 Water Consumption – Strait Area Campus

WASTE DIVERSION – STRAIT AREA CAMPUS

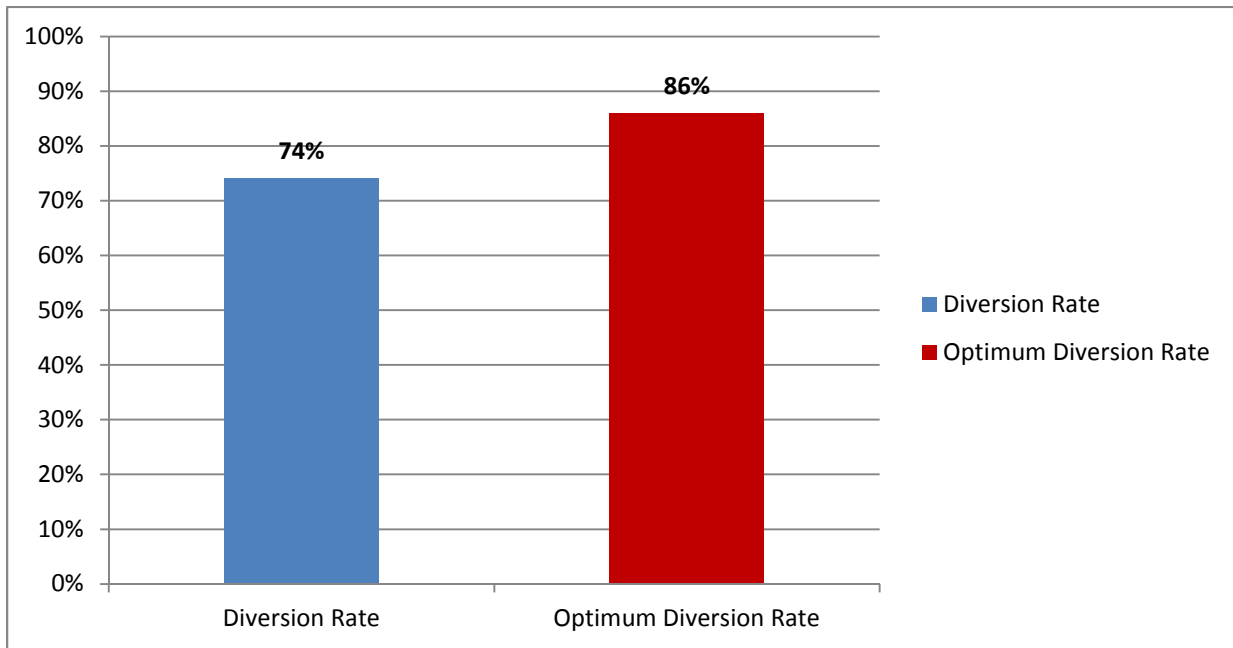


Figure 5.13.5: 2011/12 Waste Diversion Rate – Strait Area Campus

BOMA BEST – STRAIT AREA CAMPUS

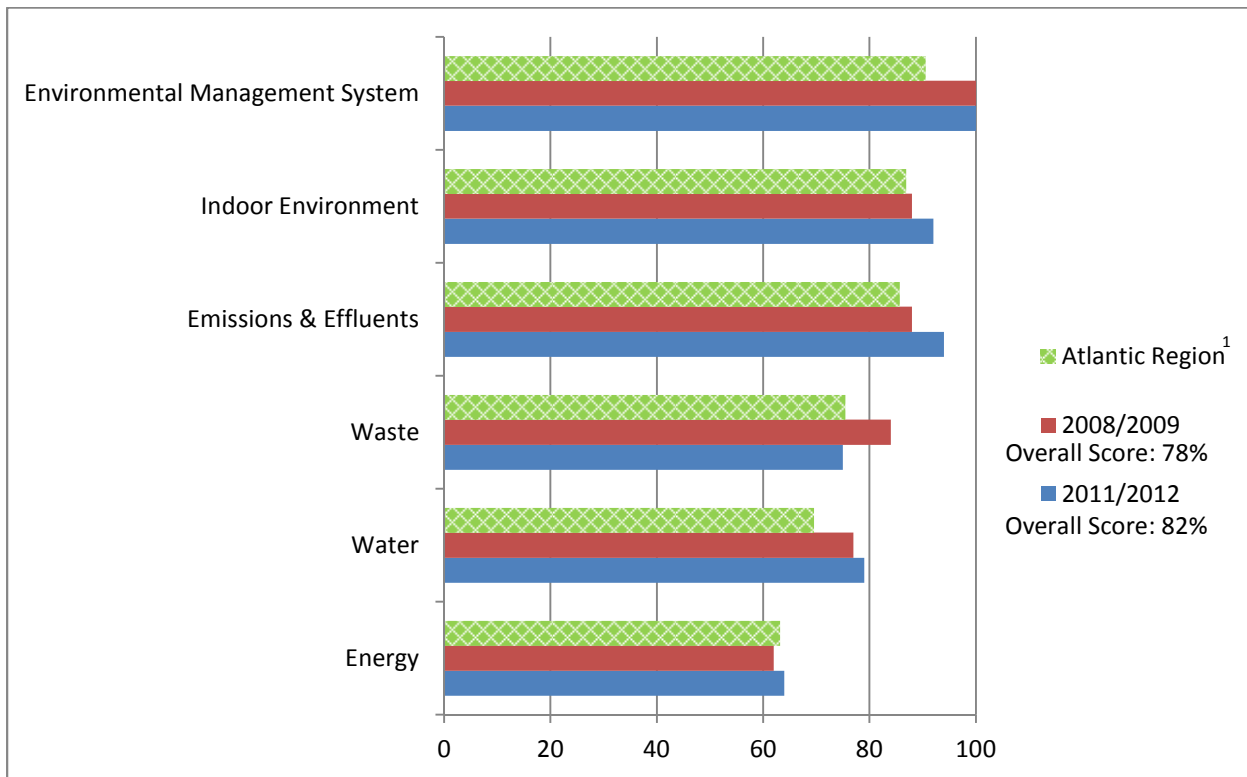


Figure 5.13.6: 2011/12 BOMA BEST 2008/09 & 2011/12 – Strait Area Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – STRAIT AREA CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	46,481	46,547	46,391	44,567	- 1,824	4%	Decrease	- 1,914	4%	Decrease
Fuel Oil (BTU/sq ft)	55,490	53,411	55,109	48,218	- 6,891	13%	Decrease	- 7,272	13%	Decrease
TOTAL Energy (BTU/sq ft)	101,971	99,958	101,499	92,785	- 8,715	9%	Decrease	- 9,186	9%	Decrease
Demand (kW)	6,844	6,665	6,805	6,410	- 395	6%	Decrease	- 434	6%	Decrease
CO ₂ (Metric Tonnes)	2,515	2,496	2,507	2,360	- 147	6%	Decrease	- 155	6%	Decrease
Water Use (m ³)	3,475	1,700	1,642	2,767	1,125	41%	Increase	708	20%	Decrease
Waste	-	-	-	74%	-	-	N/A	-	-	N/A
BOMABEst	78%	-	-	82%	-	-	N/A	-	4%	Improvement

Table 5.13 SUMMARY – Strait Area Campus

5.14 TRURO CAMPUS

ENERGY – TRURO CAMPUS

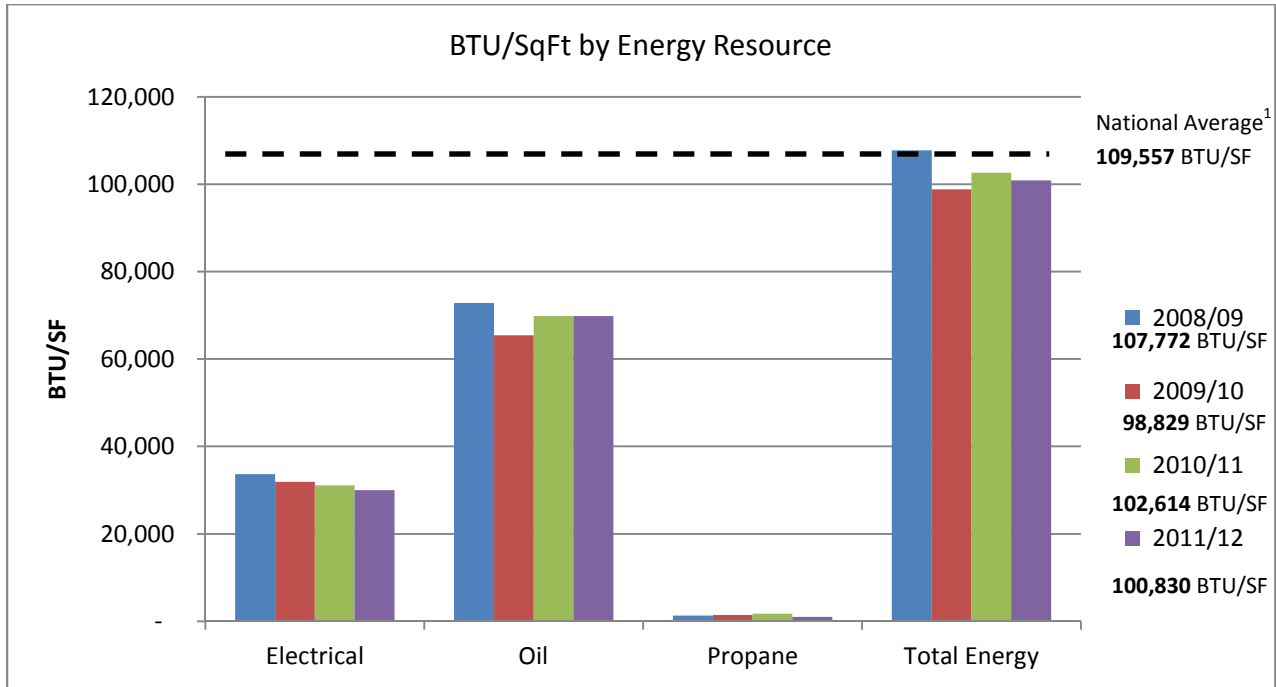


Figure 5.14.1: 2008/09 to 2011/12 Energy Usage – Truro Campus

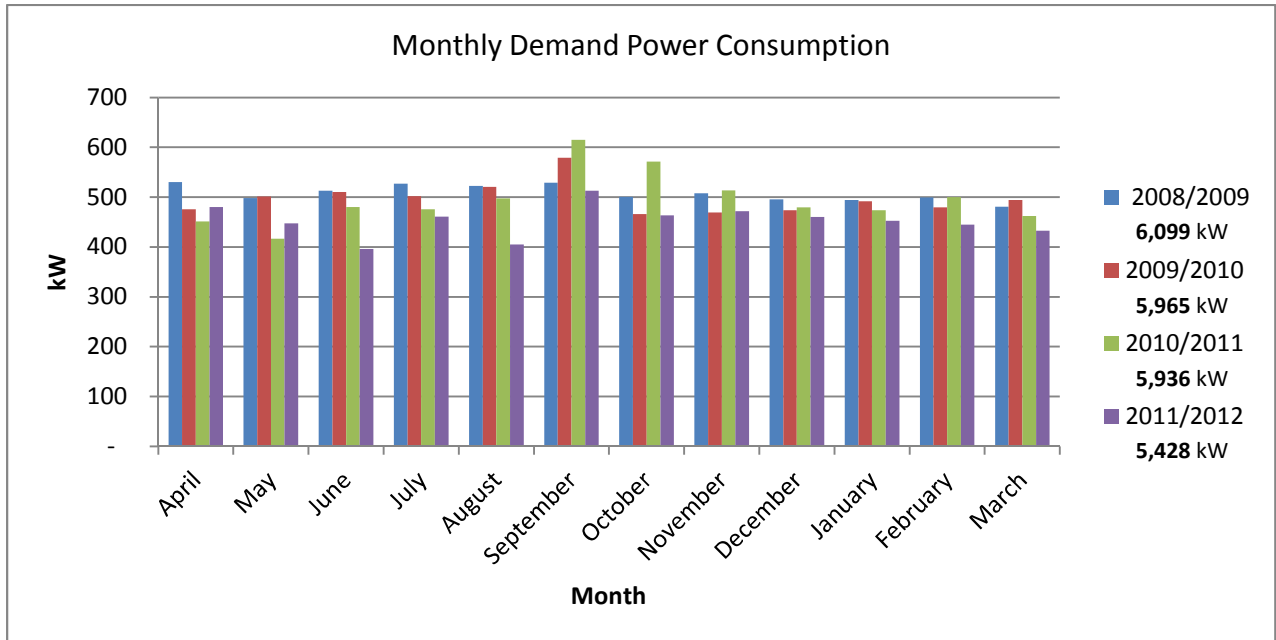


Figure 5.14.2: 2008/09 to 2011/12 Demand Power Consumption – Truro Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - TRURO CAMPUS

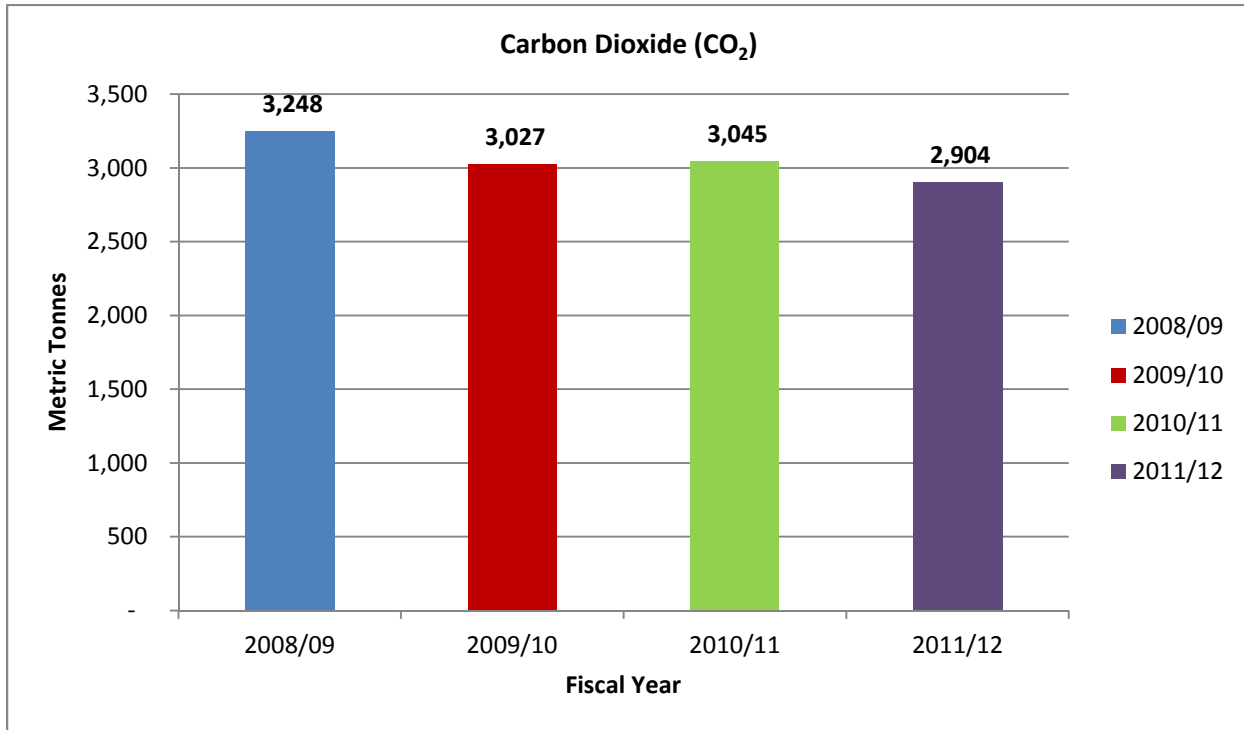


Figure 5.14.3: 2008/09 to 2011/12 Carbon Dioxide– Truro Campus

WATER - TRURO CAMPUS

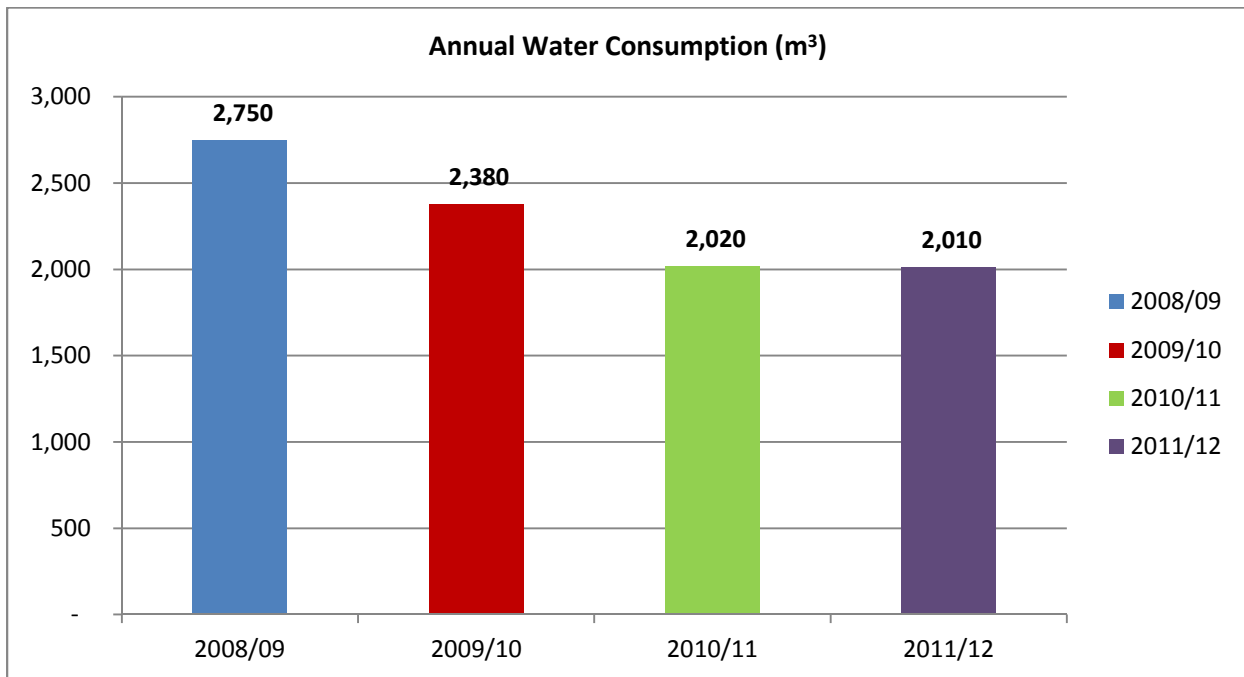


Figure 5.14.4: 2008/09 to 2011/12 Water Consumption – Truro Campus

WASTE DIVERSION - TRURO CAMPUS

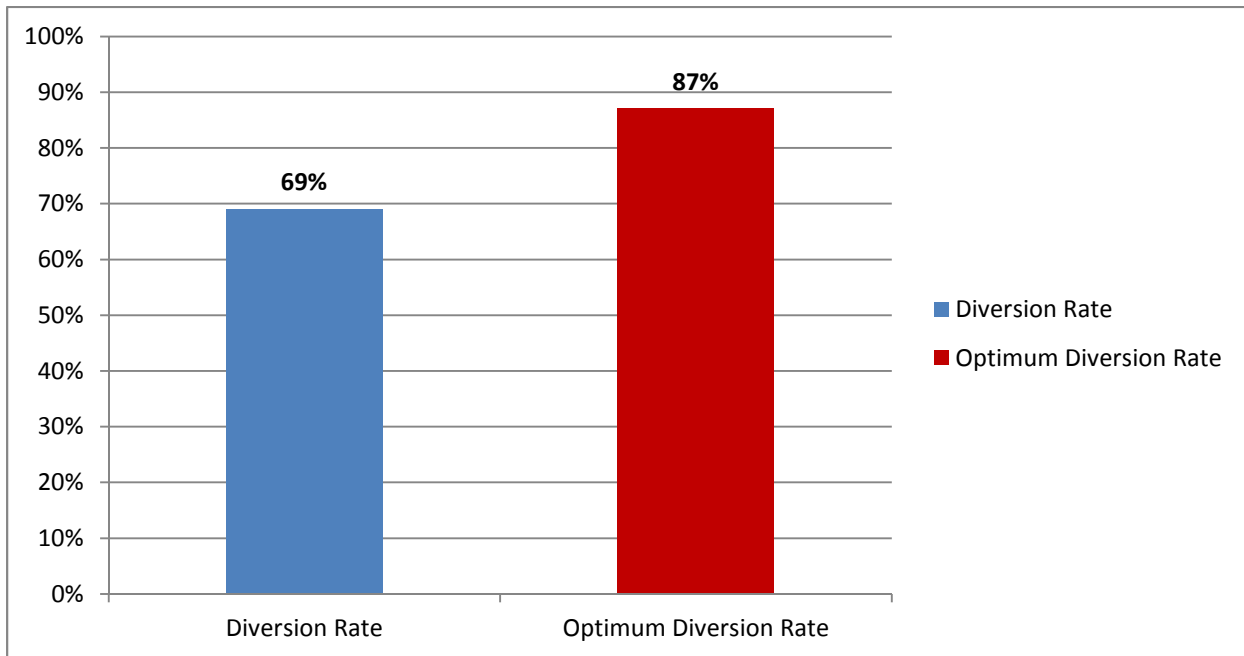


Figure 5.14.5: 2011/12 Waste Diversion – Truro Campus

BOMA BEST – TRURO CAMPUS

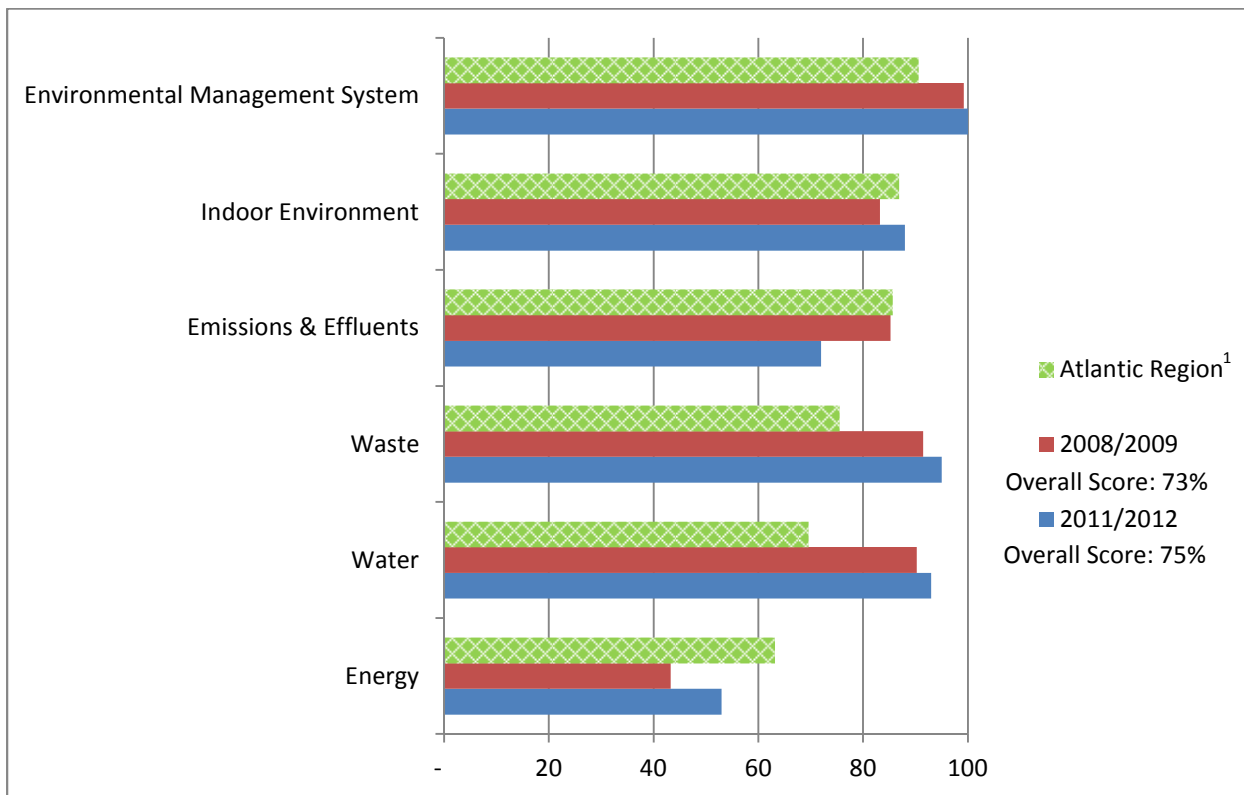


Figure 5.14.6: 2011/12 BOMA BEST 2008/09 & 2011/12 – Truro Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – TRURO CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	33,690	31,919	31,060	29,975	- 1,085	3%	Decrease	- 3,715	11%	Decrease
Fuel Oil (BTU/sq ft)	72,804	65,430	69,839	65,810	- 4,028	6%	Decrease	- 6,994	10%	Decrease
Propane (BTU/sq ft)	1,278	1,480	1,716	1,016	- 700	41%	Decrease	- 262	20%	Decrease
TOTAL Energy (BTU/sq ft)	107,772	98,829	102,614	96,801	- 5,813	6%	Decrease	- 10,971	10%	Decrease
Demand (kW)	6,099	5,965	5,936	5,428	- 508	9%	Decrease	- 670	11%	Decrease
CO ₂ (Metric Tonnes)	3,248	3,027	3,045	2,904	- 141	5%	Decrease	- 344	11%	Decrease
Water Use (m ³)	2,750	2,380	2,020	2,010	- 10	0%	Decrease	- 740	27%	Decrease
Waste	-	-	-	0.690	-	-	N/A	-	-	N/A
BOMABEst	73%	-	-				N/A			

Table 5.14 SUMMARY – Truro Campus

5.15 WATERFRONT CAMPUS

ENERGY - WATERFRONT CAMPUS

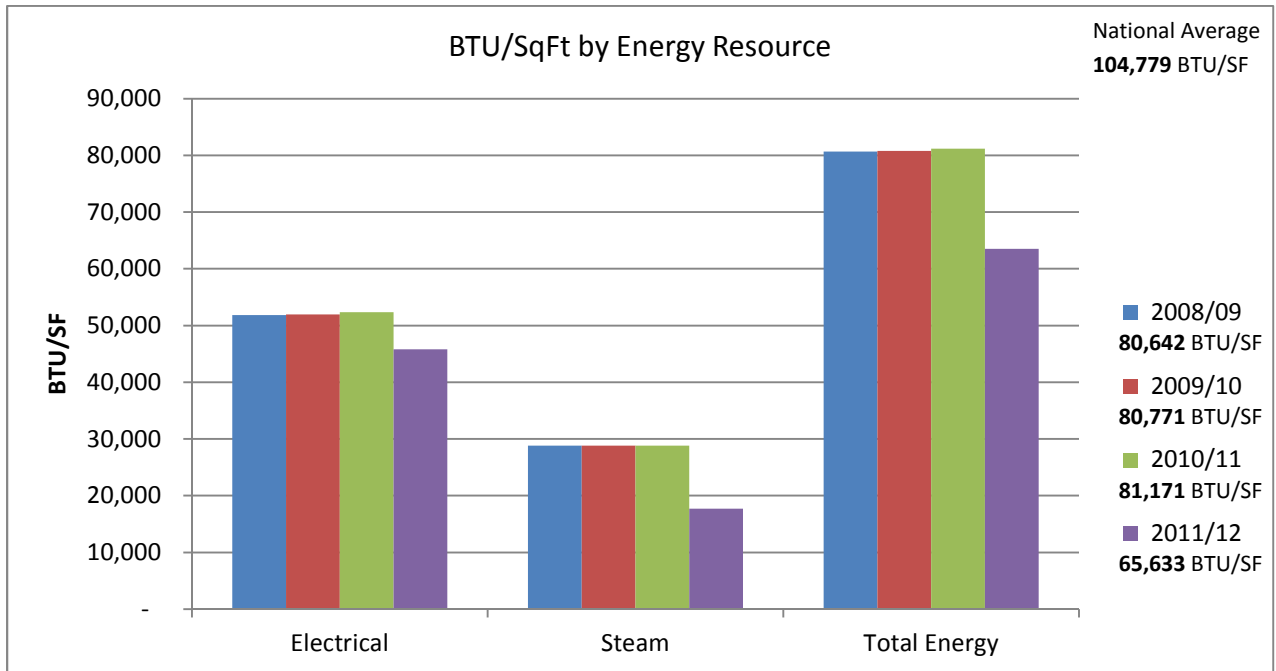


Figure 5.15.1: 2008/09 to 2011/12 Energy Usage – Waterfront Campus

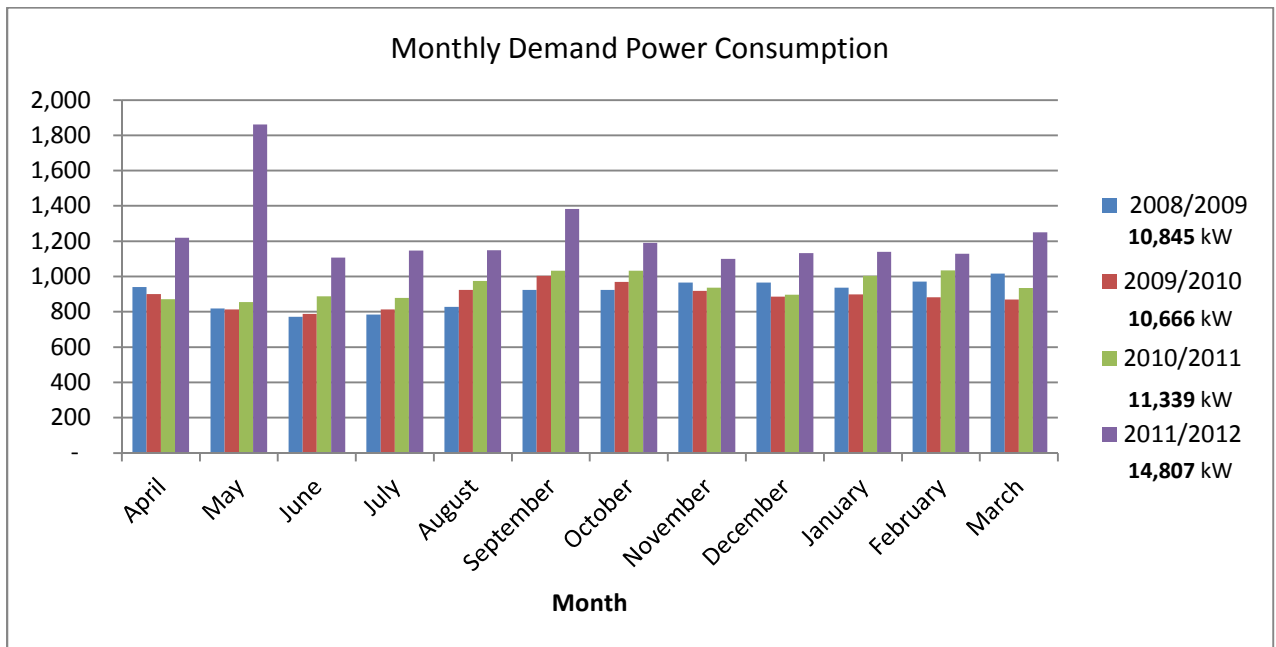


Figure 5.15.2: 2008/09 to 2011/12 Demand Power Consumption – Waterfront Campus

Note 1 Atlantic Average from BOMA BESt Energy and Environmental Report 2011

CARBON DIOXIDE (CO₂) - WATERFRONT CAMPUS

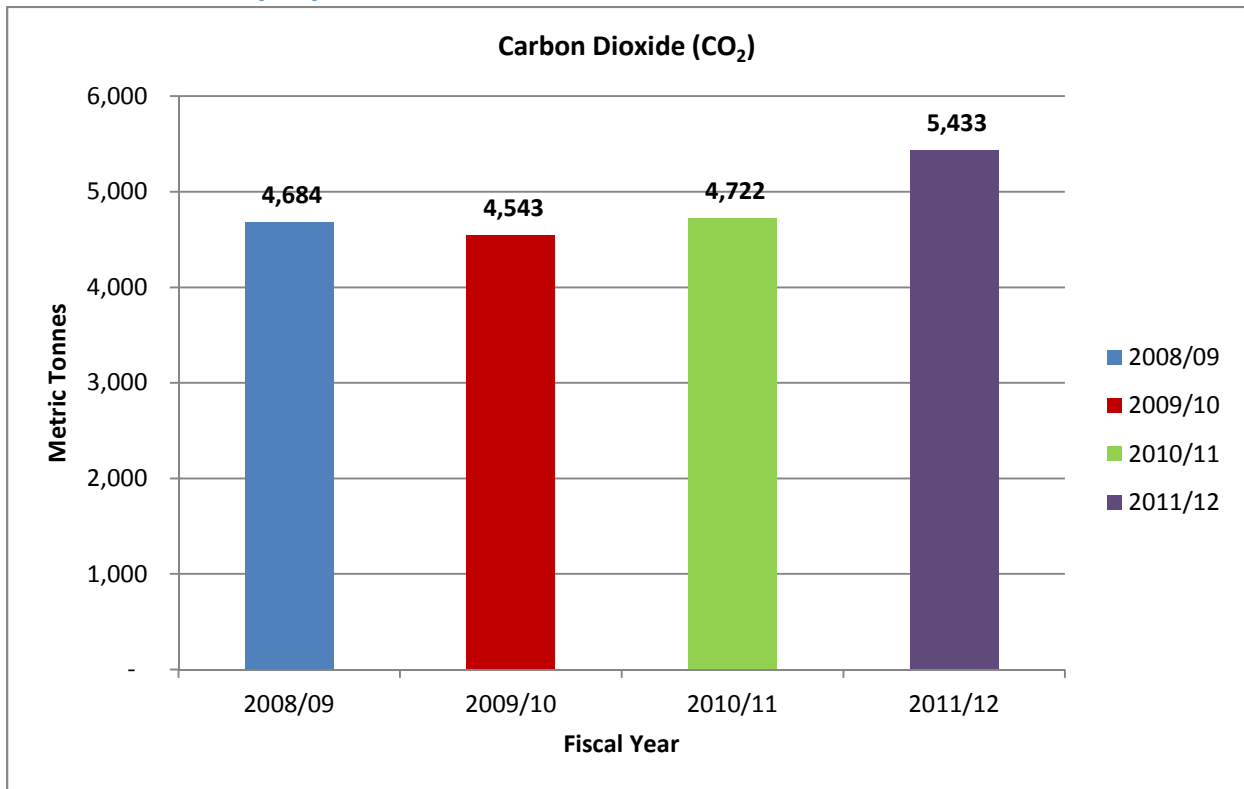


Figure 5.15.3: 2008/09 to 2011/12 Carbon Dioxide – Waterfront Campus

WATER - WATERFRONT CAMPUS

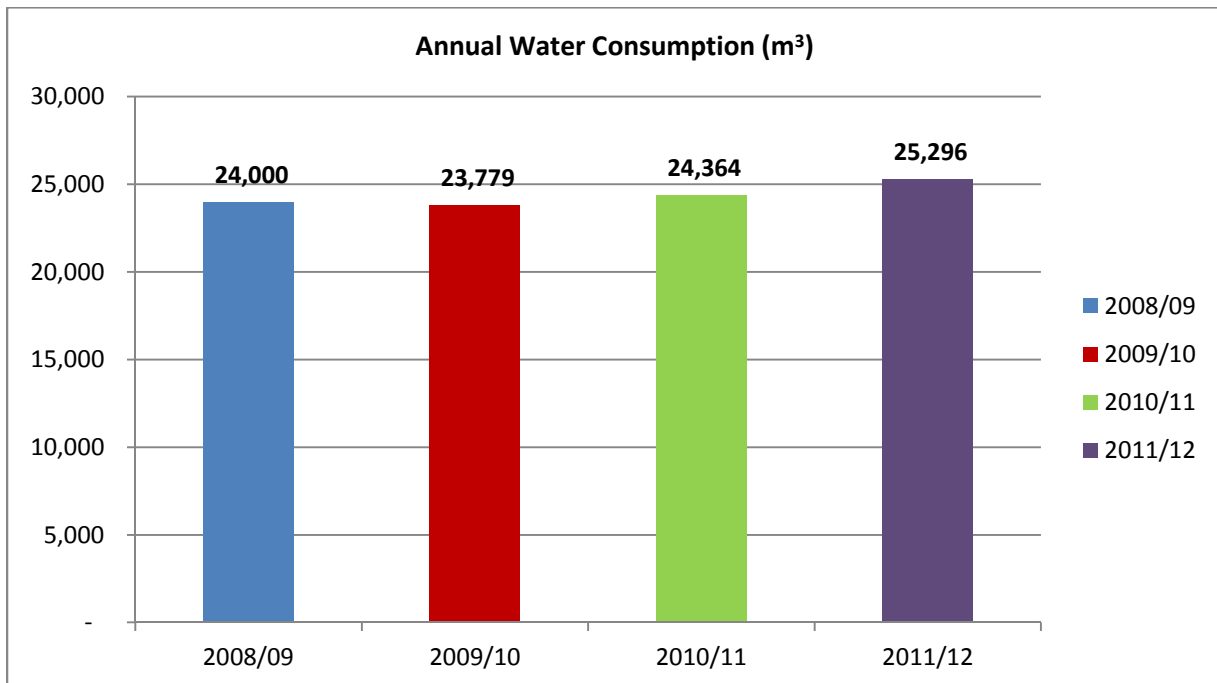


Figure 5.15.4: 2008/09 to 2011/12 Water Consumption – Waterfront Campus

WASTE DIVERSION - WATERFRONT CAMPUS

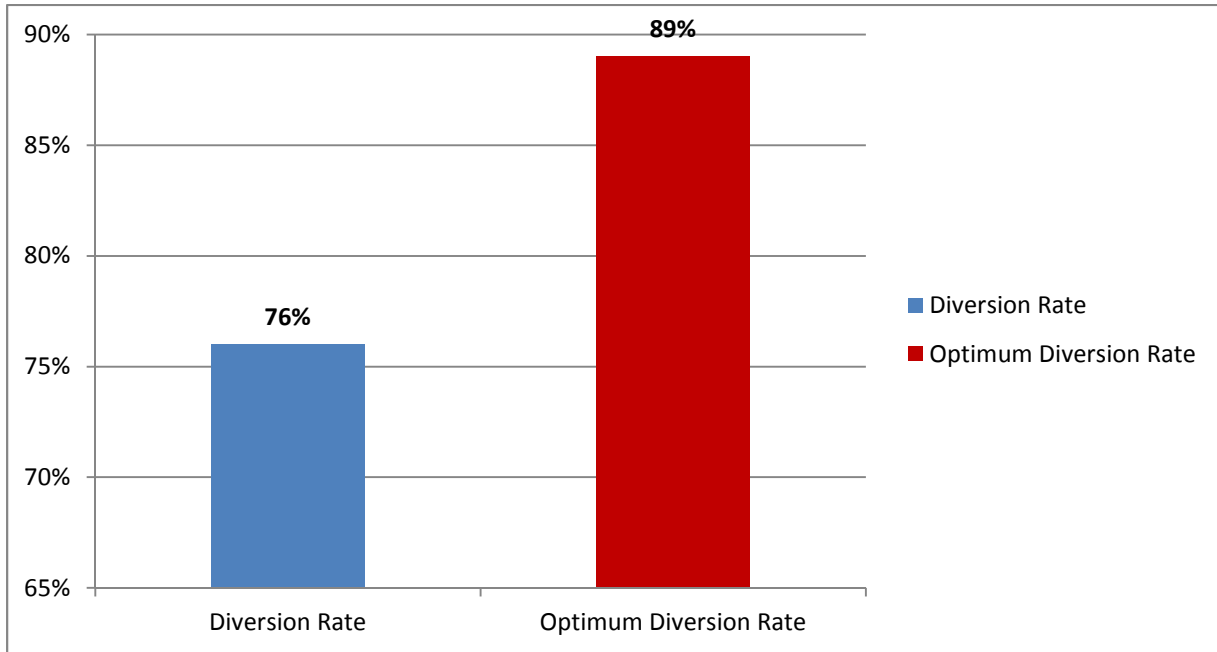


Figure 5.15.5: 2011/12 Waste Diversion Rate – Waterfront Campus

BOMA BEST – WATERFRONT CAMPUS

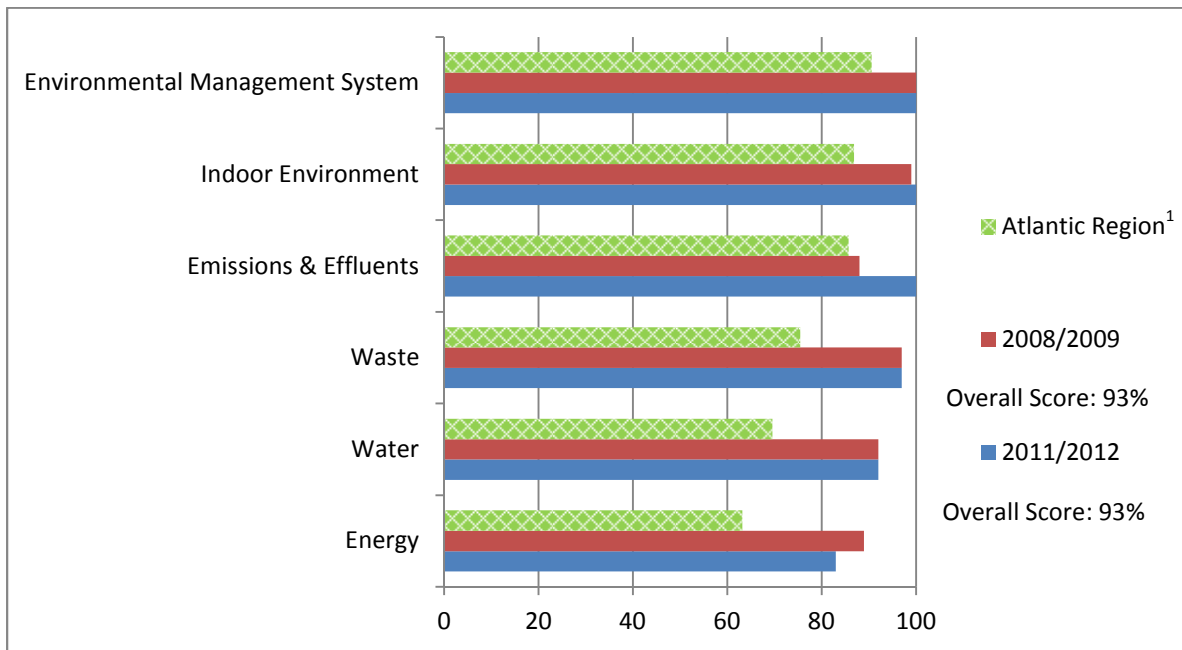


Figure 5.15.6: BOMA BEST 2008/09 & 2011/12 – Waterfront Campus

Note 1 Atlantic Average from BOMA BEST Energy and Environmental Report 2011

SUMMARY – WATERFRONT CAMPUS

	2008/09	2009/10	2010/11	2011/12	Change from last year			Change since 2008/09		
Electricity (BTU/sq ft)	51,823	51,952	52,352	45,780	-6,572	13%	Decrease	-6,043	12%	Decrease
Steam (BTU/sq ft)	28,819	28,819	28,819	19,852	-8,967	31%	Decrease	-8,967	31%	Decrease
TOTAL Energy (BTU/sq ft)	80,642	80,771	81,171	65,633	-15,538	19%	Decrease	-15,009	19%	Decrease
Demand (kW)	10,845	10,666	11,339	14,807	3,468	23%	Increase	3,962	27%	Increase
CO ₂ (Metric Tonnes)	4,684	4,693	4,722	5,433	711	13%	Increase	749	14%	Increase
Water Use (m ³)	24,000	23,779	24,364	25,296	932	4%	Increase	1,296	5%	Increase
Waste	-	-	-	76%	-	-	N/A	-	-	N/A
BOMABEST	93%	-	-	93%	-	-	N/A	-	-	No Change

Table 5.15 SUMMARY – Waterfront Campus

6. NSCC Goals and Sustainability Action Plan, 2012/13 and Beyond

Facilities and Engineering is committed to making environmental sustainability a core aspect of how we do business. The environmental performance of the College and associated infrastructure will be measured on an on-going basis, and goals will be set and reviewed annually to facilitate a culture of continual environmental improvement.

The process of ongoing measurement assists Facilities and Engineering in recognizing opportunities to run buildings more efficiently. Additionally, this process helps identify requirements for infrastructure upgrades and provides information in assessing the associated business cases and payback periods.

A significant component to optimize the energy and environmental performance of our buildings is behavioral change. Facilities and Engineering will endeavor to manage this aspect through communications and encouraging engagement from the NSCC community.

The following sections outline goals and action plans with the various aspects of our environmental performance.

Energy

Given the College's 222,721 m² (2,297,350 sq ft) of building space across 13 campuses, our energy consumption has a significant environmental impact. Through infrastructure upgrades, implementation of innovative technologies, education and behavioral changes we are able to have significant influences on this aspect of our environmental performance.

2010/11 Goals in review: Facilities and Engineering set a goal in 2010/11 to reduce energy consumption by 3% from the previous year. Although 27,000 sq feet was added to the College's portfolio, total energy consumption remained the same, and energy intensity was **reduced by 7%** from 2009/10 levels - thus this goal was met and exceeded.

Goal 2012/13: Maintain 2011/2012 levels

Goal 2013/14: 2% Reduction (from 2011/2012 levels)

Goal 2014/15: 4% Reduction (from 2011/2012 levels)

Water

NSCC has developed and implemented a water management plan at each campus. These plans were designed to facilitate a common sense approach to water use reduction. The plans include the phase out of inefficient water fixtures and appliances, installation of separate water meters to monitor the usage of individual areas or tenants, and protocols for increasing awareness.

2010/11 Goals in review: Facilities and Engineering set a goal in 2010/11 to reduce water consumption by 5% from the previous year. Although 27,000 sq feet was added to the College's portfolio, total water consumption was **reduced by 11%** from 2009/10 levels, thus this goal was met and exceeded.

Goal 2012/13: 4% Reduction (from 2011/12 levels)

Goal 2013/14: 6% Reduction (from 2011/12 levels)

Goal 2014/15: 8% Reduction (from 2011/12 levels)

Waste

Waste diversion is a key component of effective and sustainable waste management.

Currently, the average waste diversion rate in Nova Scotia is 46%. In 2008/2009 NSCC completed a comprehensive waste audit of all campuses, and established an overall diversion rate of 59%. In 2012 a College wide third party waste audit was completed, and based on this audit the average diversion rate for all campuses has improved to 68%.

Goal 2014/15: Increase overall waste diversion rate to 75%

Greenhouse Gas (GHG)/Carbon Footprint

The emissions of the greenhouse gas Carbon Dioxide (CO₂) from the College have been measured since 2008/09. Since the 2008/09 benchmark year, NSCC has reduced Carbon Dioxide emissions (stationary sources) by 9%. To date the Greenhouse Gas Inventory has included only CO₂, and has been from stationary emissions only (e.g. burning of fuel and use of electricity to run our buildings). Going forward, it is recommended that a more comprehensive inventory be completed, which should include all greenhouse gases.

Goal 2012/13: Complete a more comprehensive Greenhouse Gas Emission Inventory to include all greenhouse gases. Additionally, expand the boundaries of the inventory to include additional sources such as waste and business travel (both of which are significant sources of GHG for the College).

Goal 2013/14: 5% of Reduction of GHG emissions (from 20012/2013 levels)

Goal 2014/15: 10% Reduction of GHG emissions (from 20013/14 levels)

Environmental Certification

BOMA BEST - BOMA BEST is currently the platform used for the management of our environmental performance, and providing a measurement benchmark.

All campuses were BOMA BEST certified in 2008/09, and then were recertified in 2011/12. In 2008/09 the average BOMA BEST score was 75%. Through recertification in 2012, the average score was improved to 83%.

2010/11 Goals in Review: Facilities and Engineering set a goal to have all buildings recertified in 2012, and to improve or maintain all BOMA BEST scores from 2008/09.

Goal 2015: Maintain or improve all BOMABEST scores in the next recertification cycle (2015)

STARS – The Sustainability Tracking and Reporting System (STARS), as administered through AASHE, is a logical step for NSCC to take sustainability to the next level. STARS is a tool utilized by institutions across North America for the measurement and management of campus sustainability. It takes a ‘holistic’ approach to sustainability, to include operations and maintenance, research and education, and planning / administration. It is recommended that the STARS certification process for NSCC commence in 2012/13, with a goal of being STARS Silver certified by November 2013.

Goal 2012/13: NSCC achieve STARS Silver by November 2013

Policy

The existing NSCC Environmental Policy was originally drafted in 2004, and has not changed significantly since. It is recommended that in 2012/13 the Policy be reviewed and updated to ensure alignment with the current strategic direction of the college.

Goal 2012/13: Review the existing Environmental Policy. Draft a new Environmental Policy, and present to the Board for review / approval.

Communications/Engagement

In order to optimise the environmental performance of our buildings, it is essential that the NSCC Community participate in supporting our initiatives. For that reason, Facilities and Engineering will ensure that environmental initiatives are communicated to the campuses. Regular communication will allow all those who use our buildings the opportunity to be engaged in the Sustainability Action Plan, and help us achieve our goals.

Goal 2012/13:

- Make the 2011/12 Annual Energy and Environmental Performance Report available to the NSCC Community. Facilities and Engineering will take opportunities to present the findings to various business areas of the College.
- Complete regular Facilities and Engineering Newsletters for distribution to All Staff.
- Facilities and Engineering to provide support to Campus Environmental Committees.

Goal 2013/14: Complete 2012/13 Annual Energy and Environmental Performance Report

Facility Condition Assessments

In order to provide the College community with a safe and healthy work environment, and to operate our buildings in an efficient and sustainable manner, it is important that deferred maintenance be closely monitored and managed. Dealing with deferred maintenance items in a timely fashion will facilitate a reduction in long term costs, and efficient building operations.

Goal 2012/13: Complete Facility Condition Assessments at all campuses.

Reduce deferred maintenance by 3% (from 2011/12 levels)

Goal 2013/14: Reduce deferred maintenance by 6% (from 2011/12 levels)

Goal 2014/15: Reduce deferred maintenance by 9% (from 2011/12 levels)

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