Strategic Energy Management Plan

December 2025

North Vancouver School District
the natural place to learn®

In partnership with:

BC Hydro Power smart

Senior Management Support:

Emily Huner, Secretary Treasurer

Signature: Emily Huner

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EXECUTIVE SUMMARY

Purpose and Scope of this Plan

The Strategic Energy Management Plan (SEMP) aims to provide the North Vancouver School District (NVSD) with a structured approach to managing energy use. Its primary goal is to reduce energy consumption and minimize the associated environmental impact. Additionally, this plan serves as a key deliverable for the BC Hydro Energy Manager program.

The scope of this plan includes all sites owned and operated by the North Vancouver School District (NVSD), as well as the Cheakamus Centre. Excluded from the scope are sites fully leased to third parties and standalone licensed facilities, such as childcare facilities, located on NVSD properties.

Context for Strategic Energy Management

Our strategic energy management activities, guided by this SEMP, directly support the NVSD's organizational vision and strategic objectives.

Our organizational vision clearly articulates the role that facilities play – *we strive to provide welcoming, safe, and sustainable facilities that enhance the learning and teaching environment.* A robust energy management program is an integral part of our overall approach to sustainable facilities.

Environmental Stewardship is one of the six pillars of the NVSD's 2021 - 2031 Strategic Plan, which makes the firm commitment to *lead on sustainable practices and nature-based learning to address environmental challenges*, and specifically identifies several key actions that support our strategic energy management activities:

- Bring an environmental lens to our decisions and our teaching practices
- Support environmental initiatives that champion sustainability
- Implement building and organizational infrastructure that reflects the values of environmental stewardship

By continuing to support strategic energy management, the NVSD is demonstrating environmental leadership, reducing our exposure to energy cost escalations and addressing the climate emergency.

Climate Action – Mitigation and Adaptation

In September 2019 the Board of Education declared a climate emergency. With approximately 90% of NVSD's organizational greenhouse gas emissions coming from building energy use, this SEMP directly supports climate action.

In addition to reducing the emissions that contribute to climate change, the NVSD must also manage and adapt to climate-related risks that are already affecting our operations, such as wildfire smoke, rising temperatures, and extreme weather events. In many cases, adaptation actions have a potential energy impact, further underscoring the importance of energy management as we look to the future.

Completed Projects

The NVSD completed the following energy-related projects in the last fiscal year:

- Argyle Continuous Optimization Study
- EV charging Seycove and Windsor
- Sherwood Park heating plant upgrade
- Carson Graham heat pump replacement
- Program Enabled HVAC optimization
- ESC entrance + 5th floor LED upgrade
- Seycove heating plant upgrade
- Cheakamus site lighting controls
- Brooksbanks and Queensbury Lighting Upgrade

Annual Utility Costs

In the 2024/25 fiscal year, NVSD spent approximately $1.83 million on energy, with 57% of total costs attributed to electricity and 43% to fuel and district energy. Compared to the 2023/24 fiscal year, electricity costs were approximately 4% higher, while fuel and district energy costs were approximately 5% higher. Overall, total energy costs increased by approximately 4.4% in 2024/25.

Key Performance Indicators

Compared to 2023/24, energy use per student decreased by approximately 8.3% in 2024/25, while energy cost per student decreased by approximately 1.9%. Water use per student decreased by approximately 8.5% and is now more closely aligned with pre-pandemic levels.

Fiscal Year	2020/21	2021/22	2022/23	2023/24	2024/25
Energy use KPI - ekWh/FTE student	1,752	1,881	1,605	1,463	1342
Energy cost KPI - $/FTE student	$144	$149	$158	$157	$154
Water use KPI - m^3/FTE student	3.80	4.31	4.07	3.75	3.43

Energy Savings Relative to 2009/10

The NVSD previously had an organizational target to achieve 20% energy savings, relative to our 2009/10 baseline, by June 2020. Although this target is no longer a focus for the NVSD, we continue to track our annual energy savings relative to the baseline year as a useful performance indicator.

As of June 30, 2025 the measured annual energy savings for all facilities (excluding leased locations) was 11.7%. Annual electricity savings decreased from 24.1% to 21.9% and annual fuel & District energy savings decreased from 10.2% to 4.5%.

Energy Type	2020/21 Actual	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Actual
Electricity	26.9%	22.3%	25.1%	24.1%	21.9%
Fuel and District Energy	-8.0%	-6.8%	6.2%	10.2%	4.5%
Total (relative to 2009/10)	5.3%	4.4%	13.4%	15.6%	11.7%

Greenhouse Gas Emissions

Emissions figures are reported on a calendar year basis in line with the provincial methodology. The COVID-19 operational changes were no longer in in effect during the 2023 calendar year and had a dramatic impact on our emissions profile, with our building-related emissions now 24% below our 2007 baseline of 4,104 tCO_2e. This is largely due to the decreased in energy required for space heating and ventilation.

Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024
Emissions (tCO_2e)	3,843	3,189	3,825	3,998	3,990	4,184	3,428	3150
Reduction relative to 2007 (tCO_2e)	261	915	279	106	114	-80	676	975
Reduction relative to 2007 (%)	6%	22%	7%	3%	3%	-2%	16%	24%

Ongoing Initiatives and Projects

We are implementing the recommendations of our most recent BC Hydro Energy Management Assessment (EMA) that took place in March 2022. The Assessment utilized a "Plan, Do, Check, Act" framework and identified key focus areas and priority action items, along with a detailed task list.

We are working on a range of energy-related projects that support our strategic energy management goals:

- Addition of more fully electric fleet vehicles and level 2 charging stations
- Construction of the new fully electric Cloverley Elementary School
- Construction of the six classroom addition at Lynn Valley Elementary
- Construction of the four-classroom addition at Westview Elementary
- Westview boiler renewal
- Integrated Energy Lighting Audit – 5 sites
- Sutherland Lighting Audit

1.0 INTRODUCTION

1.1 Purpose of this Plan

The purpose of this Strategic Energy Management Plan (SEMP) is to guide the North Vancouver School District's (NVSD's) energy management activities by providing a framework for reducing energy consumption and its associated environmental impact. This Plan is also one of the key deliverables of the BC Hydro Energy Manager program.

By implementing the actions detailed in this SEMP, the NVSD is demonstrating leadership through innovation and accountability for the resources we use. Further, the NVSD is reducing our exposure to energy cost escalations, making our properties more resilient to climate change, and reducing our reliance on the province's energy infrastructure.

1.2 Scope of this Plan

The scope of this Plan includes sites owned and operated by the NVSD. Although a third-party management company operates it, Cheakamus Centre is also within the scope of the Plan. Sites owned by the NVSD and leased in their entirety to others are outside the scope of this Plan, as are licensed facilities in separate buildings on NVSD sites. The following table details specific inclusions and exclusions.

In-scope	Out-of-scope
• NVSD elementary schools • NVSD secondary schools • Education Services Centre / Artists for Kids • NVSD Maintenance Workshops • Cheakamus Centre • Closed NVSD sites (e.g. Leo Marshall Curriculum Centre) • Licensed facilities within school buildings (e.g. North Shore Neighborhood House Kids Club at Westview Elementary)	• Schools leased to others (e.g. Westover Elementary) • Licensed facilities in separate buildings (e.g. Learning Together daycare on Sutherland Secondary site) • Eslha7an Learning Centre

1.3 BC Hydro Energy Manager Program

The NVSD is proud to participate in the BC Hydro Energy Manager Program. With the support of BC Hydro, the NVSD employed a contract Energy Manager (Prism Engineering) from February 2011 to February 2017. In March 2017, the NVSD employed a full-time Manager of Sustainability, Energy, and Environmental Planning.

We currently have a three-year Energy Manager agreement with BC Hydro that is in effect from April 1, 2024, until March 31, 2027, and commits the organization to implementing a strategic approach to energy management. To receive financial support from BC Hydro, the NVSD must meet the following program deliverables:

- hire or designate a full-time Energy Manager
- develop an annual Strategic Energy Management Plan
- hold quarterly meetings with company stakeholders and BC Hydro representatives
- have the Energy Manager attend training events and Energy Manager Forums
- implement energy conservation projects that result in 330,000 kWh of electricity savings per year
- participate in an Energy Management Assessment (EMA) every two years
- plan for Greenhouse Gas reductions in line with CleanBC requirements
- work towards adopting the Energy Star Portfolio Manager benchmarking tool

1.4 Time Periods Referenced

Because our energy management program includes a range of short, medium, and long-term initiatives that are subject to both internal (NVSD) and external (BC Hydro, Provincial) funding and reporting requirements, this Plan includes references to multiple fiscal cycles. A summary of each cycle, and its relevance to our energy management activities, is provided below.

July 1st – June 30th	April 1st – March 31st
NVSD Fiscal Year - Organizational energy reduction target reporting - Energy performance benchmarking - Budget information - Key performance indicators	BC Hydro Fiscal Year - Energy conservation project lists Ministry of Education Project Funding - Annual Facilities Grant (AFG) - School Enhancement Program (SEP) - Carbon Neutral Capital Program (CNCP) - Building Envelope Program (BEP)

Organizational greenhouse gas emissions figures are reported on a calendar year basis in line with the provincial methodology.

2.0 OUR ORGANIZATION

The North Vancouver School District provides kindergarten, elementary and secondary education to approximately 17,967 students throughout the City and District of North Vancouver and employs almost 3,000 staff. The current (2025/26) annual operating budget is approximately $208 million with additional capital project and grant funding provided by the Ministry of Education and Child Care for new construction, renovations and improvements.

The scope of our energy management program does not include energy use directly billed to others at the NVSD's leased locations (see Appendix B for a list of locations).

2.1 Organizational Profile

The NVSD at a Glance						
PEOPLE	Sector	K-12 Education (School District)				
	Number of Students	2015/16	15,082	2020/21	15,822	
		2016/17	15,980	2021/22	15,942	
		2017/18	15,705	2022/23	16,185	
		2018/19	15,777	2023/24	16,434	
		2019/20	15,758	2024/25	17,967	
	Number of Staff	2990 employees (full-time and part-time): 140 administrators and management, 1276 teachers, and 1574 other staff				
OPERATIONS	Number of Sites Owned (details in Appendix B)	- 25 elementary schools - 7 secondary schools - 3 support facilities (Education Services Centre, Cheakamus Centre, Lucas Centre) - 1 closed site (Leo Marshall Curriculum Centre) - 1 site under construction (Cloverley Elementary) - 4 leased elementary schools (excluded from the scope of this Plan) - 1 leased daycare site				
	Energy Management Issues / Obstacles	Aging buildings and mechanical systems Ministry grants insufficient to address lifecycle issues Limited facilities operations staffing resources Emerging reactive/unscheduled maintenance issues More stringent ventilation requirements				
	Core Business Metrics	Total energy cost Energy use per square meter Energy use per student				
	Fiscal Year	July 1st to June 30th				
	Budget Cycle	Budget requests are required by March				

2.2 Operating Budget Summary

The following table presents a breakdown of the NVSD's Facilities and Operations budgets for the current fiscal year and the two prior.

Budget Item	2023/24	2024/25	2025/26
Facilities Operations Budget (Labour, Supplies, Contracts, and Utilities)	$19,507,510 out of $195,507,510 total NVSD operating (≈10.0%)	$20,663,875 out of $203,022,405 total NVSD operating (≈10.2%)	$20,705,329 out of $208,332,587 total NVSD operating (≈10%)
Utilities Budget	$2,580,650 (≈13.4% of facilities)	$2,774,500 (≈13.4% of facilities)	$2,652,500 (≈13% of facilities)
Electricity	$1,050,000	$1,038,000	$1,080,000
Natural Gas	$800,750	$925,000	$730,000
District Energy	$121,500	$150,000	$155,000
Propane	$17,500	$17,500	$17,500
Carbon Offsets	$135,000	$135,000	$100,000
Water	$118,000	$132,000	$145,000
Sewage	$162,400	$201,500	$250,000
Garbage and Recycling	$175,000	$175,000	$175,000

2.3 Other Funding Sources

In addition to its annual operating budget, the NVSD is eligible to receive funding for specific types of projects, including the Annual Facility Grant (AFG), School Enhancement Program (SEP), Carbon Neutral Capital Program (CNCP), and Building Envelope Program (BEP).

Energy efficiency and conservation projects are generally funded using the AFG, which has been in the order of $3.8 million in recent years and has not increased with the pace of construction escalation. This presents a challenge as the limited AFG must address lifecycle renewal of building systems and components, meaning energy projects may be deferred when higher priority issues, such as life safety issues or water leakage, arise.

As a point of reference, the Ministry of Education and Child Care's asset management tool indicates that over $90 million in investment is needed to address all of the NVSD's asset renewal requirements.

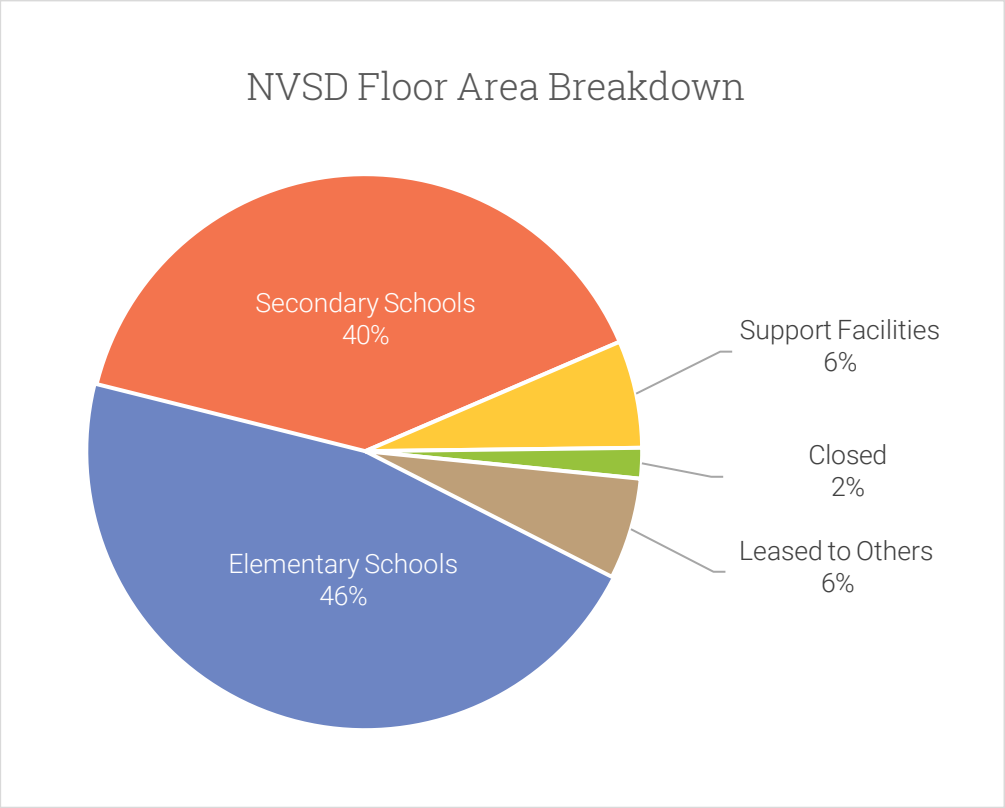
In 2022/23 the NVSD established a Climate Action Fund of approximately $70,000 per year to support energy- and emissions-related initiatives across the school district. This fund can be used to support school-based efforts, educational initiatives, and minor capital projects that advance our strategic energy management goals.

2.4 Facility Profiles

As of December 1, 2025, the NVSD owns 41 sites consisting of 25 elementary schools, 7 secondary schools, and 3 support facilities. One closed school, Cloverley Elementary, was demolished in spring 2024 and is currently being redeveloped. Additionally, one site is currently closed, and five sites are leased to others. Appendix B provides details of NVSD's sites as of December 1, 2025.

Properties leased to others in their entirety are outside the scope of this SEMP, as are licensed buildings (typically child care facilities) on NVSD property. Appendix C provides details on the annual energy consumption, cost and intensity for each of NVSD's operated facilities.

The following graph shows an approximate breakdown of total floor space by building type.



3.0 OUR COMMITMENT

The North Vancouver School District's vision is to *provide world-class instruction and a rich diversity of engaging programs to inspire success for every student and bring communities together to learn, share and grow*. The NVSD's Ten-Year Strategic Plan, Two-Year Operating Plan, Sustainability Policy and Senior Executive's commitment to energy management underlines the importance of providing leadership in environmental education and sustainability.

3.1 Strategic and Operational Plans

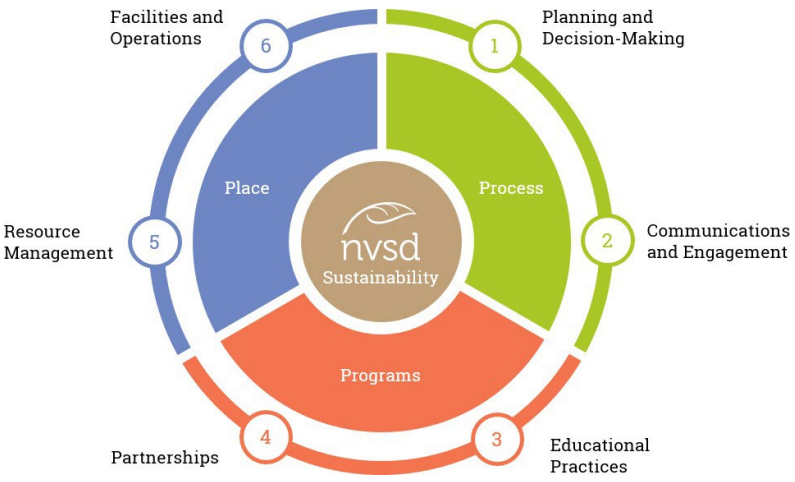
Environmental Stewardship is one of the six pillars of the NVSD's 2021 - 2031 Strategic Plan, which makes the firm commitment to *lead on sustainable practices and nature-based learning to address environmental challenges*, and specifically identifies several key actions that support our strategic energy management activities:

- Bring an environmental lens to our decisions and our teaching practices
- Support environmental initiatives that champion sustainability
- Implement building and organizational infrastructure that reflects the values of environmental stewardship

3.2 Organizational Sustainability

In 2024 the NVSD updated its Sustainability Policy (see Appendix D) that commits the organization to environmental impact reduction and operating its facilities in a sustainable manner. In 2017 the NVSD launched its district-wide Sustainability Strategy, which includes strategic priorities within three broad areas of the NVSD community:

Process: The structures that guide how we plan, act, share, and celebrate.
Programs: Educational practices and partnerships that support a sustainable school district.
Place: The natural and built environments that support the NVSD community.



3.3 Energy Management Team

The NVSD embraces a team approach to energy management that brings together a variety of stakeholders. The table below lists key members of the NVSD's energy management team.

Name	Position	Role
Emily Huner	Secretary Treasurer	Executive sponsor of program
Mike Chapman	Director of Facilities and Planning	Facilities and Planning lead
Sunny Savaliya	Manager of Sustainability, Energy and Environmental Planning	Energy management program lead
Jeff Jackson	Maintenance Manager	Operations and maintenance lead
Eileen Chin	Director of Financial Services	Budget management
Teodora Dotzeva	Director of Information and Communications Technology (ICT)	ICT program lead

3.4 Energy Management Partners

Our utility partners, BC Hydro and FortisBC, support the NVSD's energy management program through training, program funding, and project incentives.

Name	Position	Organization	Role
Aron Garrecht	Key Account Manager	BC Hydro	Primary contact at BC Hydro
Vladimir Kostka	Key Account Manager	FortisBC	Primary contact at FortisBC

3.5 Broader Stakeholder Engagement

The NVSD's energy management program includes a range of activities aimed at engaging and supporting a broad range of stakeholders in our learning community. Examples include:

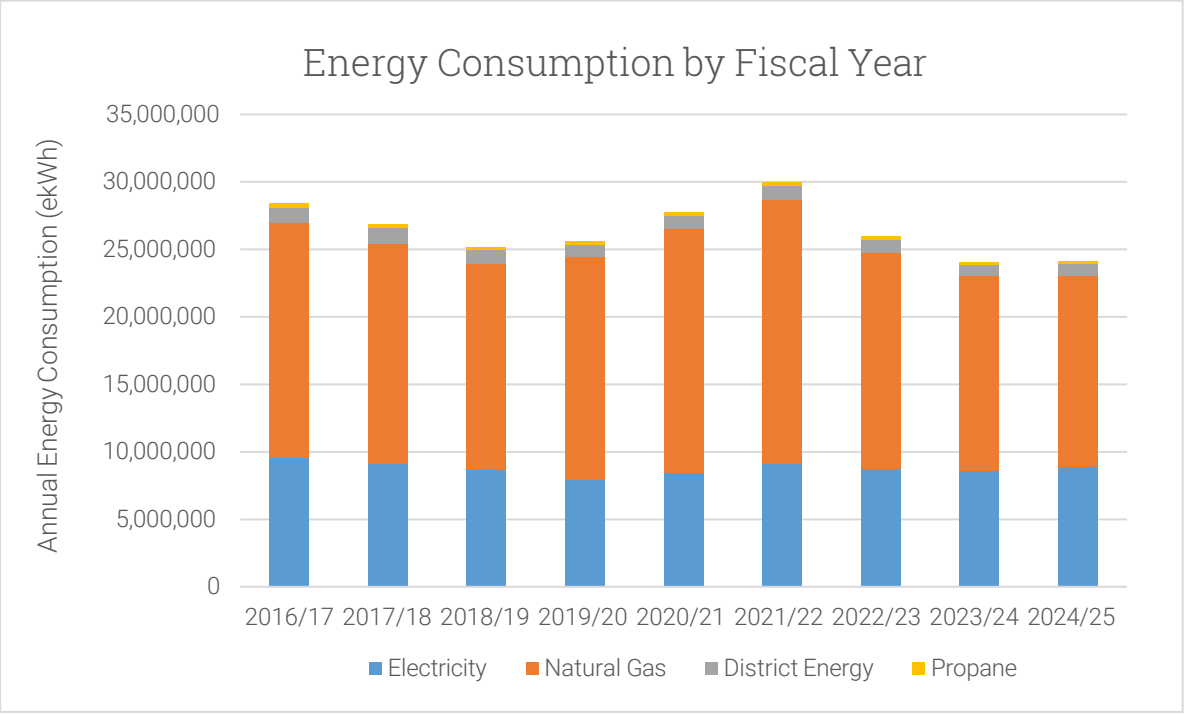
- Supporting individual staff and students with class projects related to energy.
- Supporting Green Team and Environment Club with initiatives such as "lights out lunch" and "cozy clothes day".
- The NVSD Sustainability Committee that includes stakeholders from The North Vancouver Teacher's Association (NVTA) that represents teachers, The Canadian Union of Public Employees (CUPE) that represents custodial staff, trades, and education assistants, the North Vancouver Administrators' Association (NoVA) that represents school Principals and Vice Principals, North Vancouver Parent Advisory Council (NVPAC) that represents parents.

4.0 UNDERSTANDING OUR SITUATION

4.1 Energy Consumption and Costs

The total electricity, fuel (natural gas and propane), and district energy (Lonsdale Energy) consumption and costs for the last two years are summarized below. Equivalent kilowatt-hours (ekWh) have been used to combine the electrical (kWh), district energy (kWh), natural gas (GJ) and propane fuel (litres) energy in a comparable unit[1].

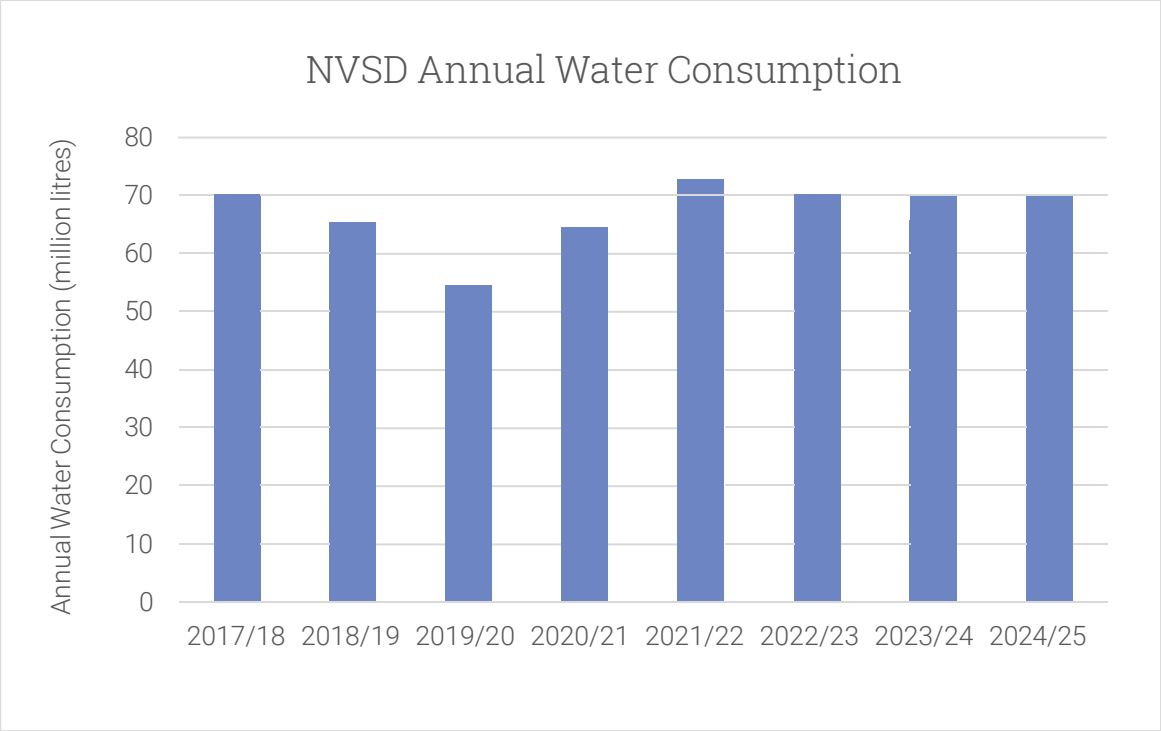
Utility	2023/24		2024/25	
	Consumption	Cost	Consumption	Cost
Electricity	8,594,259 kWh	$990,634	8,884,334 kWh	$1,028,387
Natural Gas	14,441,944 ekWh	$605,915	14,204,167 ekWh	$638,836
District Energy	809,734 ekWh	$129,504	822,491 ekWh	$140,431
Propane	189,096 ekWh	$16,797	203,844 ekWh	$11,473
Total	24,035,034 ekWh	$1,742,850	24,114,836 ekWh	$1,819,127



[1] This SEMP uses equivalent kilowatt-hours, or ekWh, to represent the electrical, fuel, and district energy use in equivalent units. Electricity and district energy are billed in kWh, natural gas billed in gigajoules (one GJ of natural gas is equivalent to 277.78 kWh), and propane billed in litres (one L of propane is equivalent to 7.38 kWh).

4.2 Water Consumption

The total water consumption for school district facilities (enrolling schools, Education Services Centre, and Lucas Centre) is shown below. Water consumption was trending downwards from 2017/18 to 2019/20 and then increased in 2020/21 and 2021/22 due to the increased handwashing and cleaning in schools in response to the COVID-19 pandemic. Water consumption increased slightly in 2024/25 compared to 2023/24 but remains within the broader range of pre-pandemic usage levels.

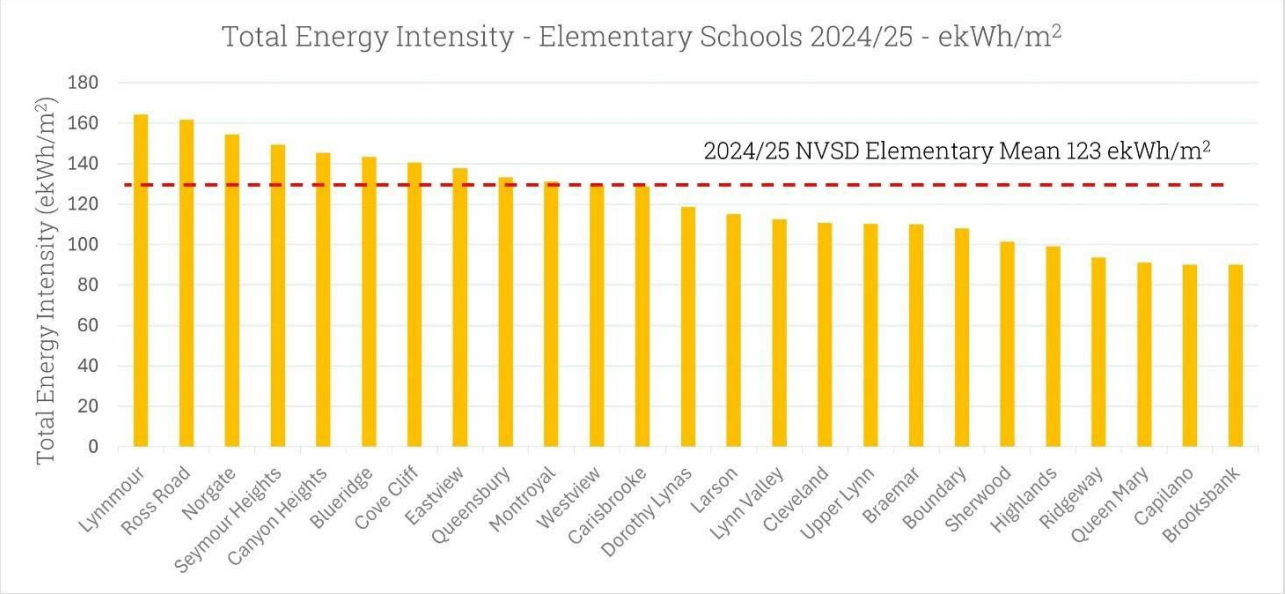


4.3 Key Performance Indicators

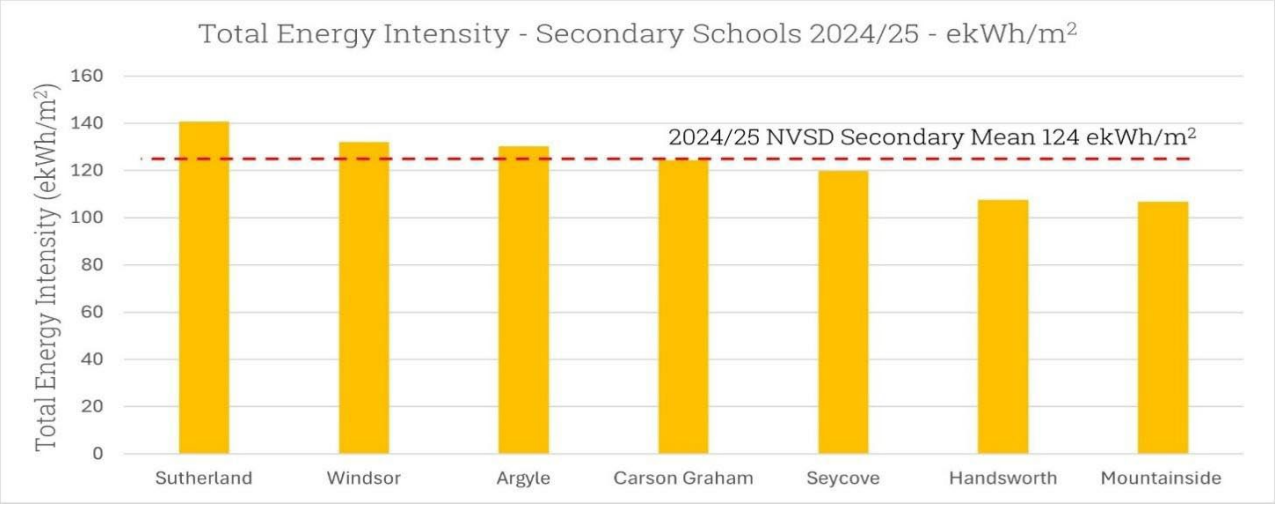
Energy

The following graphs summarize the Building Energy Performance Intensities (BEPIs) for several building types to compare energy performance. Graphs present combined energy use (electricity, natural gas, propane, and district energy) normalized by building area.

In 2024/25, the BEPIs for the NVSD's elementary schools ranged from 90 to 165 ekWh/m^2, with a mean of 123 ekWh/m^2 (shown by the dashed red line on the chart). This represents a reduction in average annual BEPI of approximately 2%, compared to the average in 2023/24.



The NVSD's secondary schools have more consistent BEPIs compared to the elementary schools, ranging from 109 to 145 ekWh/m^2, with a mean of 124 ekWh/m^2 (shown by the dashed red line on the chart). This represents a reduction in average annual BEPI of approximately 0.5%, compared to the average in 2023/24.



Two common key performance indicators (KPIs) used by BC school districts are the energy use per full-time equivalent (FTE) student and energy cost per FTE student per year. The following table compares these KPIs from the 2019/20 fiscal year through to 2024/25.

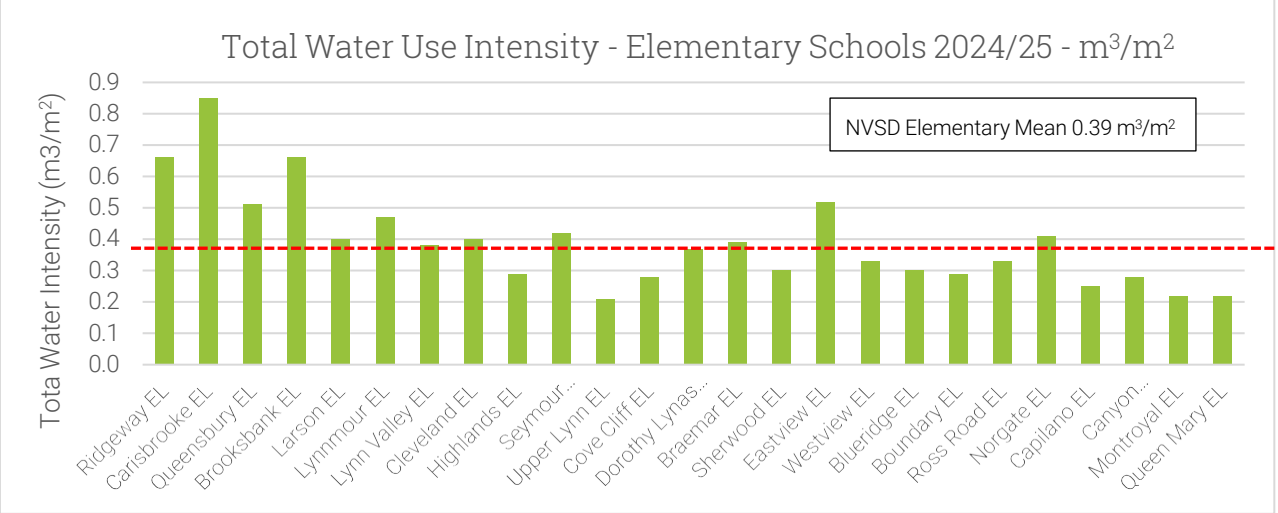
Fiscal Year	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
FTE Students	15,758	15,822	15,942	16,185	16,434	17,967
Total Energy (ekWh)	25,586,368	27,726,714	29,983,482	25,977,869	24,035,034	24,114,836
KPI: ekWh/student	1,624	1,752	1,881	1,605	1,463	1,342
Total Energy Cost	$1,561,096	$1,787,367	$2,103,505	$2,001,687	$1,742,850	$1,819,127
KPI: $/student	$138	$144	$149	$158	$157	$154

Compared to 2023/24, energy use per student and energy cost per student decreased in 2024/25 by 8% and 2% respectively.

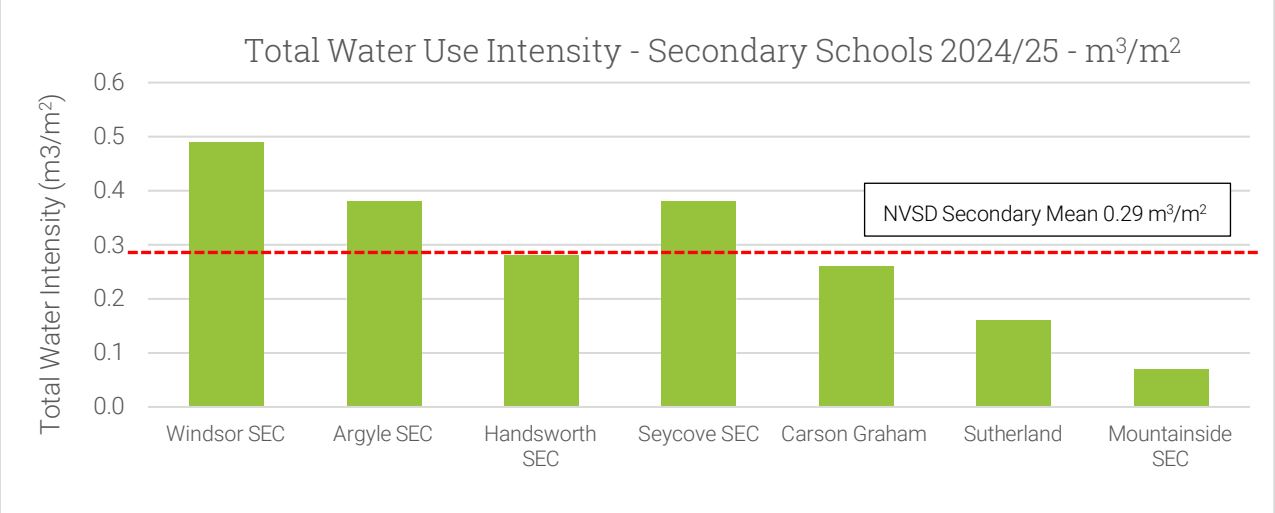
Water

The total water use intensity for NVSD elementary schools is shown below, with the units of cubic meters of water consumed per square meter of building floor area.

In 2024/25, the water use intensities of NVSD's elementary schools ranged from 0.23 to 0.88 m^3/m^2, with a mean of 0.39 m^3/m^2 (shown by the dashed red line on the chart).



The NVSD's secondary schools have water use intensities ranging from 0.07 to 0.49 m^3/m^2, with a mean of 0.29 m^3/m^2 (shown by the dashed red line on the chart).



A newer KPI used by the NVSD is water use per full-time equivalent (FTE) student. The following table compares this KPI from the 2019/20 fiscal year through to 2024/25.

Fiscal Year	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
FTE Students	15,758	15,822	15,942	16,185	16,434	17,967
Total Water Use (m^3)	54,611	64,683	72,930	70,700	65,762	68,970
KPI: m^3/student	3.11	3.80	4.31	4.07	3.75	3.43

Compared to 2023/24, water use per student decreased by approximately 8.5% in 2024/25, reflecting higher student enrolment despite a modest increase in total water consumption.

4.4 Organizational Targets

BC Hydro Energy Targets

The BC Hydro Energy Manager Program conservation target for the current year is 330,000 kWh of electricity. There are currently no BC Hydro targets for electrification.

Sites in Portfolio Manager

As part of the BC Carbon Neutral Government program, all NVSD sites are in Energy Star Portfolio Manager.

Greenhouse Gas Emissions

The NVSD is using the *CleanBC* targets, 40% by 2030 and 80% by 2050, to guide our emissions reduction efforts.

4.5 Prioritizing Opportunities

With so many projects competing for funding, the NVSD has adopted a comprehensive integrated approach to prioritizing opportunities.

All projects requiring funding from either the Annual Facility Grant (AFG), School Enhancement Program (SEP), Carbon Neutral Capital Program (CNCP), and/or Building Envelope Program (BEP) are entered into the NVSD Computerized Maintenance Management System to create a dynamic register of requirements.

Members of the NVSD Facilities and Planning team meet several times per year to review the register and prioritize projects for implementation by balancing a range of considerations, including:

- Lifecycle renewal requirements (e.g. imminent equipment failure)
- Inclusion and accessibility
- Improvements in occupant comfort and/or experience (e.g. better system controls)
- Emissions reductions
- Functional requirements (e.g. reconfiguration of teaching space or replacement of gymnasium floors)
- Energy cost reductions
- Emergent code-related issues (e.g. fire alarm or public address system upgrades)

5.0 INITIATIVES AND PROJECTS

This section summarizes energy management initiatives and projects. Past projects, those completed prior to the 2023/24 Annual Facilities Grant cycle, are summarized in Appendix E.

5.1 Strategic Initiatives

The NVSD's seventh and most recent Energy Management Assessment (EMA) took place in March 2022 and provided key focus areas and priority action items, along with a detailed task list. A summary of progress on recommended actions is provided below.

Focus Area	Action Item	Status
Executive Involvement	Have executive sponsors promote success stories and work towards engaging employees on energy efficiency and sustainability.	Ongoing – Energy Manager is regularly engaging with senior staff in the organization.
	Increase transparency of energy use by publicly disclosing performance through Building Benchmark BC.	Complete – NVSD is participating in Benchmark BC program on ongoing basis.
Policy/Charter & Goals	Update existing sustainability policy document with energy and GHG reduction goals. Consider including ongoing training for sustainability in policy.	Complete – New Sustainability Policy adopted in June 2024.
	With the help of HR, develop an online training module for new employees and add to existing training system. It will act to update their knowledge and to make them aware of the district's sustainability policy and goals. It can also be used to reinforce the knowledge of existing employees in their annual training.	In progress – NVSD *Sustainability 101* training materials under development.
Planning & Budgeting	Develop a comprehensive register of projects. This would include small and large projects across departments to ensure all energy saving measures can be prioritized, tracked, and quantified.	Ongoing – Projects are identified and managed in the computerized maintenance management system IMPAK.
	Work with Key Account Manager on advocacy to the Ministry of Education and Child Care for the financial support for electrification efforts.	Ongoing – NVSD is collaborating with BC Hydro and other school districts on advocacy efforts.
Energy Team	Create a formal and cross functional climate action team. This team can include people from the custodial team, HR,	Ongoing – NVSD Sustainability Committee meeting quarterly,

Focus Area	Action Item	Status
	communications, or other departments who may support energy savings/climate action initiatives.	Sustainability Leadership Workshop held in January 2023
	Hold regular energy team meetings in which projects are assigned to specific team members and team members are updated on program progress.	Ongoing – Regular collaboration between facilities staff.
Employee Engagement	Engage custodial staff in efficient projects and behavioral campaigns like "turn-off". This could be supported by delivering an engagement training workshop to custodial staff.	Ongoing
	Increase engagement of staff and students through climate action campaigns. This could include activities like paper conservation week, sweater days, and energy treasure hunts.	Ongoing
Training & Development	Integrate external energy training opportunities with annual staff education plans for staff closely engaged in conservation. When training is complete, ask employees to briefly report back to staff on what they learned to spread the knowledge.	Ongoing – Professional Development session held for CUPE staff in October 2024.
	Integrate periodic "energy moments" in staff meetings to upskill and/or increase awareness.	Ongoing
Procurement & Partnering	Formalize the criteria for procurement as it relates to areas like equity, GHG emissions, cost, sustainability, or other areas important to the district.	Ongoing - All RFPs now include sustainability requirements.
	Consider implementing process where the Energy Manager is consulted on procurement of equipment with high energy requirements.	Complete - Energy Manager is part of the procurement process for major purchases.
Audit, Review & Control	Increase employee awareness on the abundance of information stored on the OneDrive and Maintenance Management System.	Ongoing
Overall Effectiveness	Prioritize low-cost/no-cost measures. Given the size of the district, small changes to set points, schedules, etc., can lead to a significant level of energy savings while avoiding capital investment.	Ongoing

5.2 Projects Completed in AFG 2024/25

The following table summarizes the projects completed in the last Annual Facilities Grant cycle (AFG 2024/25).

Project Location / Description	Approximate Completion	Estimated Elec. Savings (kWh)	Added Elec. Load (kWh)	Estimated Fuel Savings (GJ)	Projected Total Cost
Argyle Continuous Optimization (C-Op)	30-Nov-24	75,000	-	800	$20,000
EV charging station - Seycove and Windsor	31-May-25	-	15,000	-	$55,000
Program Enabled HVAC optimization	31-Mar-25	150,000	-	-	$0
ESC entrance + 5th floor LED upgrade	30-Nov-24	8,000	-	-	$6000
Cheakamus site lighting controls	30-Sept-24	2,000	-	-	$6,000
Brooksbank and Queensbury Lighting Upgrade	30-June-25	40,000			$160,000
Total		275,000 kWh	15,000 kWh	800 GJ	$247,000

5.3 Projects in Progress for AFG 2025/26

The following table summarizes the projects in progress for the current Annual Facilities Grant cycle (AFG 2025/26).

Project Location / Description	Projected Completion	Potential Elec. Savings (kWh)	Added Elec. Load (kWh)	Potential Fuel Savings (GJ)	Projected Total Cost
Westview boiler renewal	1-Aug-25	25,000	-	-	$95,957
Sherwood Park heating plant upgrade	31-Jan-26	-	20,000	520	$350,000
Integrated Energy Lighting Audit Study – 5 sites	16-Jan-26	274,916	-	-	$29,500
Blueridge HVAC Upgrade	31-Jan-26	-	-	-	$700,000
Windsor envelope upgrade	31-Jan-26	-	-	150	$100,000
Carson Graham Heat Pump	31-May-25	-	180,000	-	$616,000
Larson LED lighting and controls	30-June-26	-	-	-	$42,729
Seycove heating plant upgrade	28-Feb-26	-	-	250	$300,000
	Total	299,916 kWh	200,000 kWh	920 GJ	$2,234,186

5.4 Potential Projects for AFG 2026/27

Project Location / Description	Projected Completion	Potential Elec. Savings (kWh)	Added Elec. Load (kWh)	Potential Fuel Savings (GJ)	Projected Total Cost
Integrated Energy Audit – Cheakamus Centre	1-Sept-26	-	-	-	$15,943
ESC Continuous Optimization Study	1-Sept-26	-	-	-	$17,680
Lighting upgrade 5 sites	31-Aug-26	274,916	-	-	$373,529
Blueridge LED lighting and controls	31-Aug-26	20,000	-	-	$80,000

Project Location / Description	Projected Completion	Potential Elec. Savings (kWh)	Added Elec. Load (kWh)	Potential Fuel Savings (GJ)	Projected Total Cost
Sutherland LED lighting and controls	30-Sept-26	146,944	-	-	$225,000
Program Enabled HVAC optimization	31-Mar-26	-	-	-	-
Handsworth C-Op	31-March-27	75,000	-	-	$20,000
Carson Graham C-Op	31-March-27	75,000	-	-	$20,000
Canyon Heights heating Plant upgrade	31-March-27	-	-	-	$500,000
Windsor heating Plant upgrade	31-March-27	-	-	-	$1,000,000
	Total	591,860 kWh	-	-	$2,252,152

5.5 Potential Projects for AFG 2027/28 and Beyond

Project Location / Description	Projected Completion	Potential Elec. Savings (kWh)	Added Elec. Load (kWh)	Potential Fuel Savings (GJ)	Projected Total Cost
Mountainside air source heat pump	TBD	-	TBD	454	$150,000
Carisbrooke Heating Plant Upgrade	TBD	-	TBD	625	$350,000
Seymour Heights heating plant upgrade	TBD	-	-	417	$350,000
Lynnmour LED lighting and controls	TBD	20,000	-	-	$80,000
Windsor Continuous Optimization	TBD	75,000	-	-	$20,000
Sutherland Continuous Optimization	TBD	75,000	-	-	$20,000
Blueridge LED lighting and controls	TBD	20,000	-	-	$50,000
	Total	190,000 kWh	-	1,496 GJ	$1,020,000

5.6 Energy Management Engagement

Educators, staff and students play an important role in energy conservation efforts at the NVSD. They have direct control over much of the equipment that consumes energy in a school or classroom, including lights, computers and plug loads.

Engagement efforts in the 2024/25 school year include a focus on printing and copying as well as efforts to reduce after-hours electricity consumption through behavioural change.

6.0 MONITORING AND REPORTING

6.1 Energy Savings Progress

As of June 30, 2025, measured annual energy savings for all facilities, excluding leased locations, were 11.7% relative to the 2009/10 baseline. Annual electricity savings declined from 24.1% to 21.9%, while savings from fuel and district energy declined from 10.2% to 4.5%. As a result, total measured savings were lower than in 2023/24.

Energy Type	2021/22 Actual	2022/23 Actual	2023/24 Actual	2024/25 Actual
Electricity	22.3%	25.1%	24.1%	21.9%
Fuel and District Energy	-6.8%	6.2%	10.2%	4.5%
Total	4.4%	13.4%	15.6%	11.7%

6.2 Greenhouse Gas Emissions

Emissions figures are reported on a calendar-year basis in line with provincial methodology. Based on the current data, NVSD's building-related greenhouse gas emissions in 2024 were approximately 24% below the 2007 baseline of 4,104 tCO2e. This reflects continued progress in reducing emissions from building operations, although year-to-year results remain sensitive to weather, ventilation requirements, and the pace of capital renewal and electrification projects.

Calendar Year	2017	2018	2019	2020	2021	2022	2023	2024
Emissions (tCO_2e)	3,843	3,189	3,825	3,998	3,990	4,184	3,428	3150
Reduction relative to 2007 (tCO_2e)	261	915	279	106	114	-80	676	954
Reduction relative to 2007 (%)	6%	22%	7%	3%	3%	-2%	16%	24%

The NVSD is using the *CleanBC* targets, 40% by 2030 and 80% by 2050, to guide our emissions reduction efforts. The NVSD's ability to achieve these targets depends largely on the funding provided by the Ministry of Education, so we must continue to advocate for the building and systems upgrade projects required to reduce our emissions.

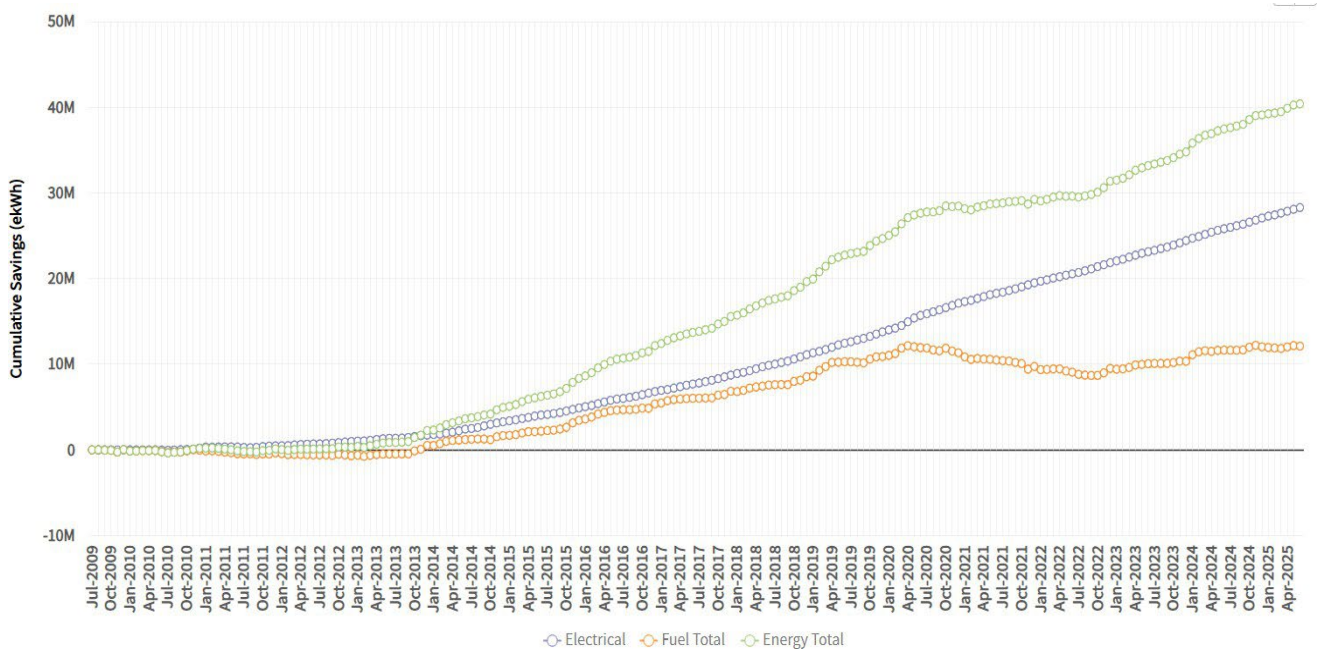
6.3 Cumulative Savings

The next figures illustrate trends in savings from where we stand as of fiscal year 2024/25 in terms of energy savings, avoided costs, and greenhouse gas emissions reduction.

Energy Savings

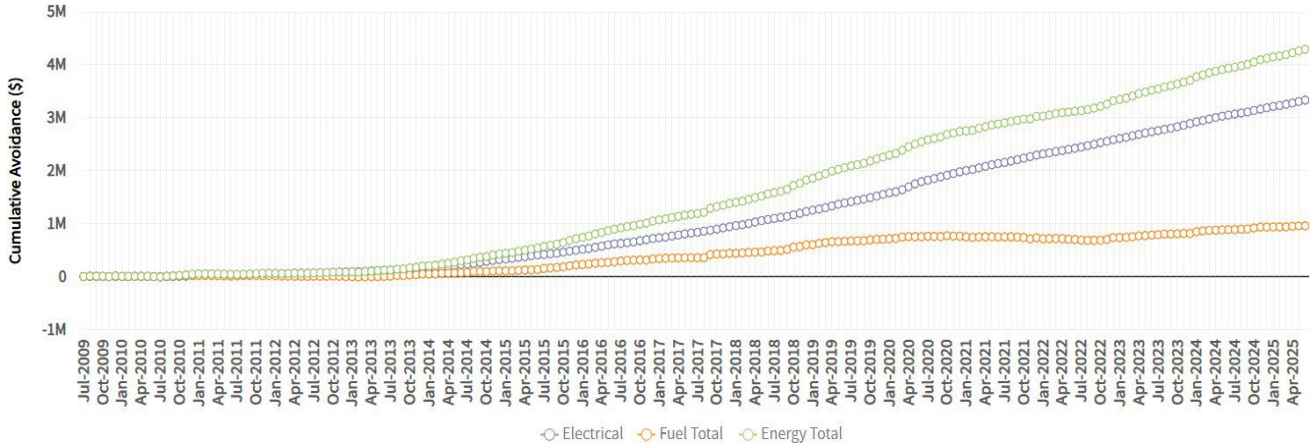
The cumulative savings shown in the figures and tables below are represented by equivalent kWh (ekWh) and are normalized for fluctuations in weather. Negative savings (below zero) on the graph represent an increase in consumption. These savings are calculated from the end of the baseline year (2009/10).

There has been steady electrical savings since the implementation of the Energy Management program with fuel trends improving since late 2013. The cumulative energy savings since 2009/10 are 40,451,000 ekWh.



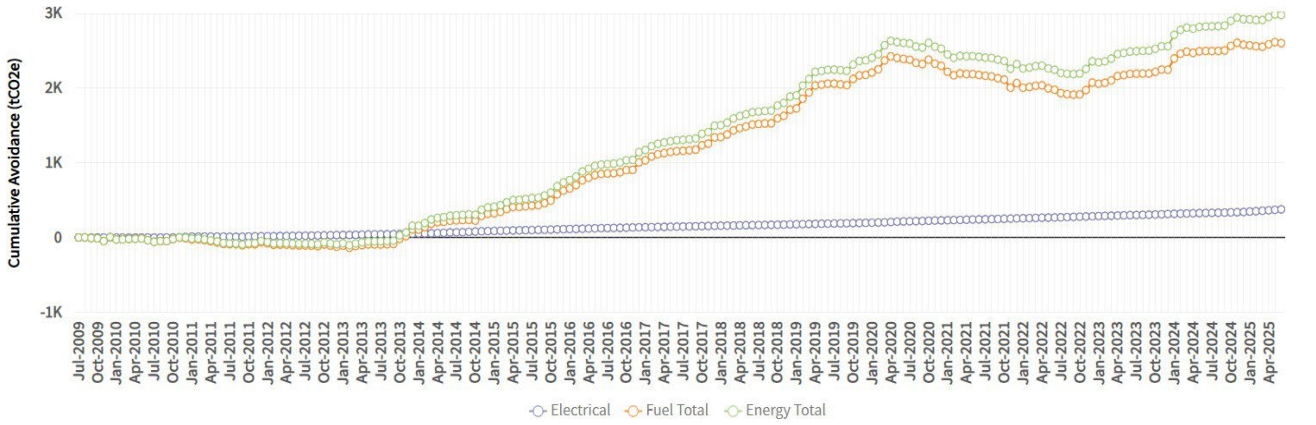
Avoided Costs

The cumulative avoided costs since the end of 2009/10 are more than $3,980,000 (based on average costs of energy each month).



Avoided Emissions

The cumulative avoided emissions since the end of 2009/10 are more than 2,630 equivalent tons of carbon dioxide.



7.0 APPENDIX A – EMA RESULTS

BC Hydro Power Smart sponsors participation in the Energy Management Assessment (EMA) Workshop with the end goal of each commercial customer developing and implementing a long-term Strategic Energy Management Plan (SEMP).

7.1 Eighth EMA

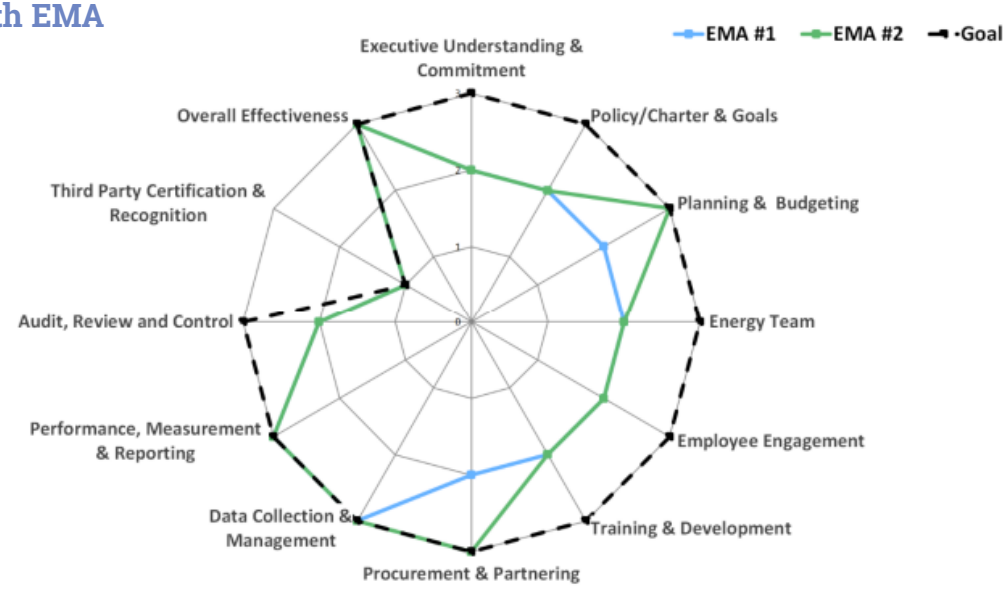


Figure 1: Energy Management Assessment analysis for SD44

	Management Area	EMA #1	EMA #2	Goal
Plan	Executive Understanding & Commitment	2	2	3
	Policy/Charter & Goals	2	2	3
	Planning & Budgeting	2	3	3
Do	Energy Team	2	2	3
	Employee Engagement	2	2	3
	Training & Development	2	2	3
	Procurement & Partnering	2	3	3
Check	Data Collection & Management	3	3	3
	Performance, Measurement & Reporting	3	3	3
Act	Audit, Review and Control	2	2	3
	Third Party Certification & Recognition	1	1	1
	Overall Effectiveness	3	3	3
	TOTALS	**26**	**28**	**34**
	% Actual versus Goal	**76%**	**82%**	

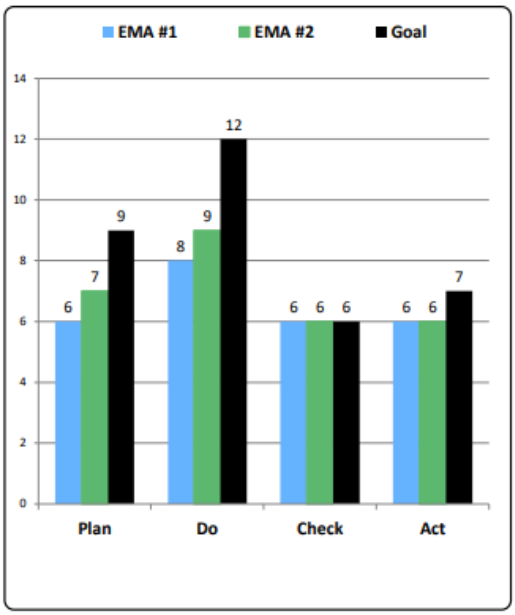
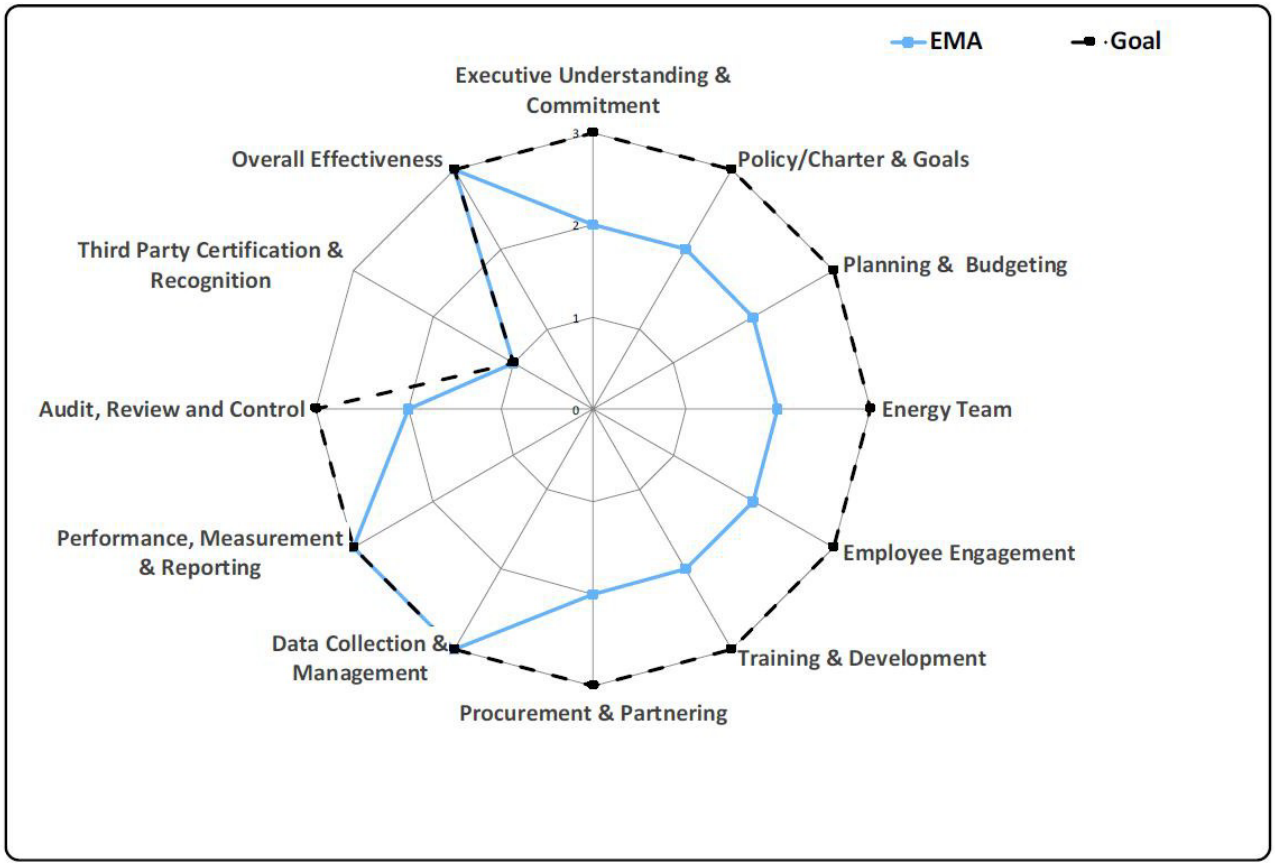


Figure 2: Survey scoring and PDCA versus goal chart for SD44

7.2 Seventh EMA

The NVSD's seventh and most recent EMA took place in March 2022 and followed a new format. The assessment identified the following five key focus areas and supporting priority action items.



7.3 Sixth EMA

The NVSD's sixth EMA took place in January 2020 and followed a new format. The assessment identified the following five key focus areas and supporting priority action items.

Focus Area 1: Vision and Policy - Align energy management program efforts with the most current organizational objectives.

Focus Area 2: Scope and Charter - Establish an energy management program charter that can be supported by senior management.

Focus Area 3: Accountability Structure - Establish an accountability structure for energy performance improvement targets.

Focus Area 4: Financial Decision Making - Engage capital planning decision-makers to establish preferred project valuation approaches and formats for business case submittals.

Focus Area 5: Operational Integration - Update standard operating procedures to include energy-efficient operating instructions for all significant energy-using equipment.

7.4 Fifth EMA

The fifth EMA took place in June 2017 using the SEGEMA tool, which prompted NVSD staff with a series of structured questions to evaluate, identify and prioritize the critical energy-related business practices to target for improvement. The NVSD scored:

SEGEMA Scoring Summary			
Components	**Level of Rigor (LR)**	**Balance Rating (TBR/CBR)**	**Definition**
Overall	**1.58**	**0.59**	Strategic approach to EM with progress towards Operationally Integrated approach. Current EM business practices are somewhat unbalanced.
Strategic	*1.92*	*0.57*	
Enabling	*1.78*	*0.51*	
Functional	*1.20*	*0.45*	

7.5 Fourth EMA

The fourth EMA took place in July 2015, using the SEGEMA tool, and the NVSD scored:

SEGEMA Scoring Summary			
Components	Level of Rigor (LR)	Balance Rating (TBR/CBR)	Definition
Overall	1.55	0.60	Strategic approach to EM with progress towards Operationally Integrated approach. Current EM business practices are somewhat unbalanced.
Strategic	*1.98*	*0.51*	
Enabling	*1.75*	*0.50*	
Functional	*1.12*	*0.43*	

7.6 Third EMA

The third EMA took place in November 2013, using the SEGEMA tool, and the NVSD scored:

SEGEMA Scoring Summary			
Components	Level of Rigor (LR)	Balance Rating (TBR/CBR)	Definition
Overall	1.50	0.70	Strategic approach to EM with progress towards Operationally Integrated approach. Current EM business practices are somewhat unbalanced.
Strategic	*2.20*	*0.56*	
Enabling	*1.65*	*0.53*	
Functional	*0.97*	*0.48*	

7.7 Second EMA

The second EMA took place in November 2012, using the SEGEMA tool, and the NVSD scored:

SEGEMA Scoring Summary			
Components	Level of Rigor (LR)	Balance Rating (TBR/CBR)	Definition
Overall	1.31	0.59	Strategic approach to EM with initial progress towards Operationally Integrated approach. Current EM business practices are somewhat unbalanced.
Strategic	*1.70*	*0.11*	
Enabling	*1.54*	*0.56*	
Functional	*0.87*	*0.48*	

7.8 First EMA

The first EMA took place in May 2010, using the Star Rating from www.one-2-five.com. The key areas of focus for the Energy Manager were: Secure Leadership Commitment, Understand Energy Performance and Opportunities, Address Resourcing Needs, Develop Maintenance Procedures, Provide Energy Reporting and Feedback. The NVSD scored:

Overall Ranking: 1 Star, % Achievement: 17%, % required to reach next Star level: +4%

8.0 APPENDIX B – ASSET REGISTRY

8.1 Elementary Schools

Site	Main Building Area	Ancillary Area
Blueridge Elementary	3,360 m^2	-
Boundary Elementary	3,538 m^2	-
Braemar Elementary	4,196 m^2	-
Brooksbank Elementary	3,539 m^2	89 m^2 (1 portable)
Canyon Heights Elementary	3,820 m^2	89 m^2 (1 portable)
Capilano Elementary	4,224 m^2	-
Carisbrooke Elementary	3,734 m^2	-
Cleveland Elementary	4,231 m^2	178 m^2 (2 portables)
Cove Cliff Elementary	2,753 m^2	178 m^2 (2 portables)
Dorothy Lynas Elementary	3,681 m^2	927 m^2 (1 demountable)
Eastview Elementary	4,364 m^2	-
Highlands Elementary	3,146 m^2	267 m^2 (3 portables)
Larson Elementary	3,928 m^2	356 m^2 (4 portables)
Lynn Valley Elementary	2,781 m^2	356 m^2 (4 portables)
Lynnmour Elementary	2,717 m^2	-
Montroyal Elementary	3,324 m^2	-
Norgate Elementary	2,747 m^2	-
Queen Mary Elementary	4,210 m^2	178 m^2 (2 portables)
Queensbury Elementary	2,669 m^2	89 m^2 (1 portable)
Ridgeway Elementary	4,061 m^2	1,176 m^2 (2 portables & 1 demountable)
Ross Road Elementary	3,774 m^2	267 m^2 (3 portables)
Seymour Heights Elementary	2,794 m^2	89 m^2 (1 portable)
Sherwood Park Elementary	5,171 m^2	-
Upper Lynn Elementary	4,380 m^2	-
Westview Elementary	2,872 m^2	178 m^2 (2 portables)
Total Elementary Schools	94,253m^2	

8.2 Secondary Schools

Site	Main Building Area	Ancillary Area
Argyle Secondary	12,815 m^2	-
Handsworth Secondary	13,036 m^2	-
Windsor Secondary	13,082 m^2	-
Seycove Secondary	8,897 m^2	-
Carson Graham Secondary	13,102 m^2	-
Mountainside Secondary	8,492 m^2	-
Sutherland Secondary	10,657 m^2	-
Total Secondary Schools	80,527 m^2	

8.3 Support Facilities

Site	Main Building Area	Ancillary Area
Lucas Centre (partial building)	4,795 m^2	-
Education Services Centre	5,725 m^2	-
Cheakamus Centre	3,935 m^2	-
Total Support Facilities	12,740m^2	

8.4 Closed Sites

Site	Main Building Area	Ancillary Area
Lucas Centre (partial building)	2,090 m^2	-
Leo Marshall Curriculum Centre	1,535 m^2	-
Total Closed Sites	3,625 m^2	

Cloverley Elementary, previously listed as a closed school, was demolished in the spring of 2024 to make way for the new school that is currently under construction. A portion of the Lucas Centre was also demolished in November 2024.

8.5 Leased Sites

The following sites are owned by the school district but leased (in their entirety) and operated by others. They are not included in the scope of this Plan but are listed for reference.

Site	Main Building	Ancillary
Fromme Elementary (Leased to Cousteau School)	2,906 m^2	89 m^2 (1 portable)
Maplewood Elementary (Leased to Kenneth Gordon Maplewood School)	2,438 m^2	445 m^2 (5 portables)
Plymouth Elementary (leased to Lions Gate Christian Academy)	2,742 m^2	962 m^2 (exterior gym)
Westover Elementary (leased to Brockton Preparatory)	2,111 m^2	-
Lonsdale Creek Day Care	313 m^2	-
Total Leased Locations	12,006 m^2	

9.0 APPENDIX C – 2024/25 ENERGY DATA

Site	Electrical Consumption (kWh)	Electrical Cost	Fuel Consumption (GJ)	Fuel Consumption (ekWh)	Fuel Cost	Total Energy Consumption (ekWh)	Total Energy Cost
Argyle Secondary	810,740.00	95,505.90	2,969.54	824,870.95	36,411.22	1,635,610.95	131,917.12
Blueridge Elementary	109,796.00	13,008.39	1,288.68	357,965.49	16,384.29	467,761.49	29,392.68
Boundary Elementary	91,328.00	11,180.64	1,007.13	279,757.32	12,798.26	371,085.32	23,978.90
Braemar Elementary	110,478.75	13,459.56	1,264.63	351,285.63	15,774.91	461,764.38	29,234.46
Brooksbank Elementary	126,360.00	14,965.15	749.54	208,204.17	9,688.80	334,564.17	24,653.95
Canyon Heights Elementary	139,890.00	16,723.23	1,530.02	425,006.73	19,366.69	564,896.73	36,089.92
Capilano Elementary	112,452.73	13,766.14	1,026.87	285,241.49	13,499.61	397,694.22	27,265.74
Carisbrooke Elementary	83,897.76	10,525.29	1,386.76	385,211.94	17,086.90	469,109.70	27,612.20
Carson Graham Secondary	773,493.75	86,796.39	2,938.27	816,186.48	36,324.33	1,589,680.23	123,120.71
Cheakamus Centre	716,536.73	89,104.46	527.86	146,627.21	13,123.30	863,163.95	102,227.75
Cleveland Elementary	128,513.33	15,522.57	1,338.03	371,675.83	18,749.61	500,189.16	34,272.18
Cove Cliff Elementary	89,946.00	11,284.04	1,140.87	316,907.51	15,059.76	406,853.51	26,343.81
Dorothy Lynas Elementary	177,696.00	21,206.79	1,291.35	358,708.33	16,269.76	536,404.33	37,476.55
Eastview Elementary	148,812.00	17,011.49	1,568.34	435,649.15	19,802.65	584,461.15	36,814.15
Education Services Centre	556,260.00	53,207.97	2,364.37	656,769.00	111,485.54	1,213,029.00	164,693.51
Handsworth Secondary	720,607.50	83,404.61	2,382.20	661,722.22	29,223.47	1,382,329.72	112,628.08
Highlands Elementary	160,005.00	19,597.76	661.12	183,643.78	8,545.56	343,648.78	28,143.32
Larson Elementary	131,100.00	15,542.18	1,267.36	352,043.42	16,008.50	483,143.42	31,550.68
Lucas Centre	243,890.67	27,379.54	2,308.04	641,122.60	29,794.54	885,013.27	57,174.08

Site	Electrical Consumption (kWh)	Electrical Cost	Fuel Consumption (GJ)	Fuel Consumption (ekWh)	Fuel Cost	Total Energy Consumption (ekWh)	Total Energy Cost
Lynn Valley Elementary	105,364.00	12,878.74	857.20	238,111.11	10,914.54	343,475.11	23,793.28
Lynnmour Elementary	180,594.00	20,512.59	1,126.14	312,815.33	14,382.41	493,409.33	34,895.01
Montroyal Elementary	122,938.00	14,358.83	1,098.41	305,113.43	13,817.04	428,051.43	28,175.86
Mountainside Secondary	263,775.00	29,060.05	2,244.16	623,377.47	27,379.55	887,152.47	56,439.60
Norgate Elementary	109,856.00	13,234.80	1,132.47	314,574.07	14,548.43	424,430.07	27,783.22
Queen Mary Elementary	211,930.00	25,763.91	596.60	165,721.00	28,945.73	377,651.00	54,709.64
Queensbury Elementary	86,406.99	10,868.76	1,011.87	281,074.65	13,353.81	367,481.65	24,222.57
Ridgeway Elementary	182,800.00	22,968.67	1,088.45	302,345.96	13,832.47	485,145.96	36,801.14
Ross Road Elementary	141,364.53	16,550.50	1,783.16	495,322.73	22,216.80	636,687.26	38,767.31
Seycove Secondary	432,858.00	45,991.62	2,560.31	711,198.23	32,055.24	1,144,056.23	78,046.87
Seymour Heights Elementary	82,650.49	10,509.77	1,260.19	350,053.38	16,432.22	432,703.87	26,941.99
Sherwood Elementary	195,312.00	24,651.35	1,186.48	329,579.02	15,314.40	524,891.02	39,965.76
Sutherland Secondary	605,533.33	68,695.74	3,257.59	904,885.42	39,670.94	1,510,418.75	108,366.68
Upper Lynn Elementary	156,090.67	18,241.46	1,169.60	324,888.89	14,763.03	480,979.56	33,004.49
Westview Elementary	117,470.00	14,243.93	881.98	244,995.37	11,229.83	362,465.37	25,473.76
Windsor Secondary	457,580.00	50,664.17	4,650.49	1,291,803.03	55,779.78	1,749,383.03	106,443.94

10.0 APPENDIX D – GUIDING POLICIES

NVSD Policy 613: Sustainability, initially implemented in March 2011, was updated and adopted by the Board of Education in June 2024 and is shown below.

NVSD POLICY 613: SUSTAINABILITY

The North Vancouver School District is committed to a sustainable future for students, the community, and the planet. We take a holistic view of sustainability that includes economic, environmental, and social considerations.

We strive to demonstrate leadership by providing the highest standard of education in environmental stewardship through programs, practices and facilities that inspire students and staff to be responsible citizens.

We embrace the following tenets of sustainability and will work collaboratively to accelerate progress by sharing knowledge and building upon the efforts of others.

Sustainability Education: We will provide opportunities for students to learn about environmental stewardship, climate action, social responsibility, and economic sustainability.

Environmental Impact Reduction: We will strive to reduce our environmental impact by conserving energy and water, minimizing waste, and reducing greenhouse gas emissions.

Sustainable Facilities: We will develop, operate, and maintain facilities in a manner that minimizes our ecological footprint and anticipates changing environmental, social, and economic conditions.

Sustainable Procurement: We will embrace ethically, socially, and environmentally responsible business practices while obtaining the best value for expenditures on goods and services.

Supporting Community Initiatives: We will support local sustainability initiatives by partnering with organizations that are committed to promoting sustainability in the community. We will encourage sustainable practices and lifestyles among our staff, students, and community.

Ecosystem Preservation: We will respect and protect local ecosystems and support biodiversity through responsible stewardship.

Monitoring, Reporting, and Continual Improvement: We will regularly monitor our performance, communicate progress towards our goals, and embrace opportunities to improve.

11.0 APPENDIX E – PAST PROJECTS

The following table summarizes the technical, behavioural and organizational initiatives the NVSD completed prior to the 2023/24 Annual Facilities Grant (AFG) cycle.

11.1 Projects Completed Prior to AFG 2024/25

Project Type	Number of Projects	Estimated Elec. Savings (kWh)	Estimated Fuel Savings (GJ)	Approximate Total Cost
Lighting	52	1,610,356	0	$2,767,506
Mechanical	21	169,175	7,769	$5,741,515
DDC Optimization	30	903,949	3,299	$584,443
Information Technology	2	94,109	0	$0
Behaviour	2	113,158	0	$4,500
New Construction	5	568,783	1,482	$8,175,000
Envelope	7	25,000	460	$2,850,000
Total	119	3,484,530 kWh	13,010 GJ	$20,122,964