

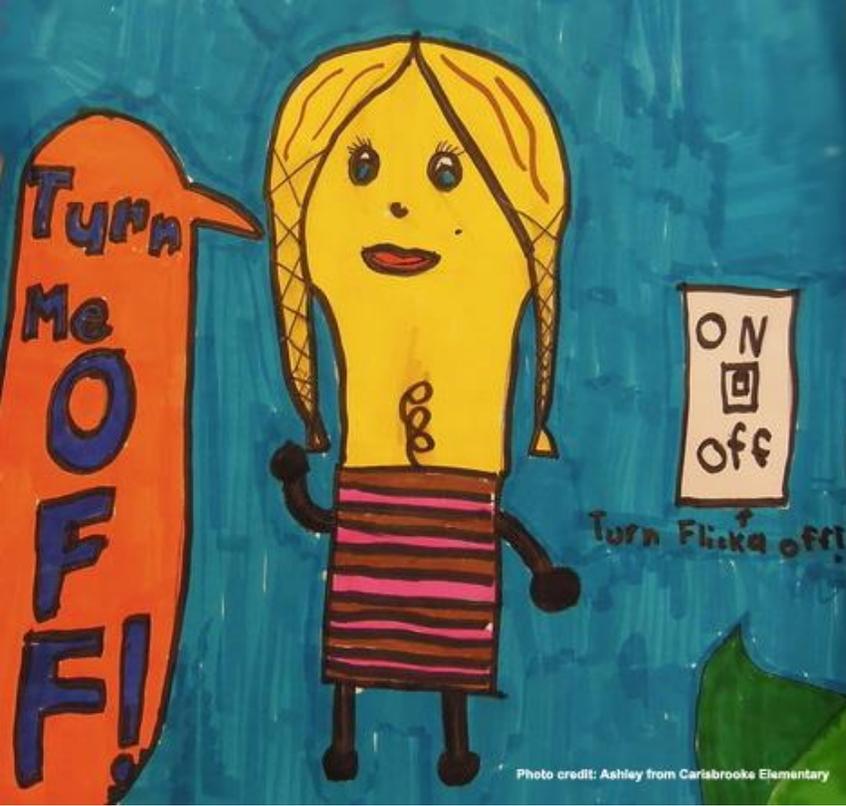


North Vancouver  
**School District**  
the natural place to learn®

# North Vancouver School District 2015-2016 Sustainability Report



December 30, 2015



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# EXECUTIVE SUMMARY

The North Vancouver School District is committed to “providing the highest standard of education and demonstrating leadership in environmental stewardship by providing programs, education and facilities that foster greater sustainability.”

In preparation for the development of a district level Sustainability Plan, this 2015 Sustainability Report provides a primer on activities and program already underway at the District and school level in support of making NVSD the “Natural Place to Learn.” The report has been prepared by Prism Engineering, the District’s Energy Manager. The report outlines the policy context, then provides a background on District lead initiatives, committees and groups, school -led initiatives, external programs and curriculum based programs.



# POLICY CONTEXT

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 School Board's Sustainability Policy, Ten Year Strategic and Operational Plans, Outdoor Learning Policy and BC Ministry of Education's Sustainability Education Framework provides the policy context that supports the development and maintenance of a holistic sustainability plan for the District.

## Ten Year Strategic Plan

In September 2011, the North Vancouver School Board released its Ten Year Strategic Plan in which one high level goal is to "Provide leadership in environmental education and sustainability practice." The goal is defined as follows:

*"It is our responsibility to be leaders in environmentally sound practices. What we learn and practice now will have an impact on the future; we want that to be a positive impact.*

*Through our sustainability initiatives and programs, we can engage students proactively in understanding and protecting the environment. We want to ensure we are using less and creating greater efficiencies in all of our operations.*

*We know that decisions we make now affect the future. Therefore, we need to demonstrate responsibility when managing our financial resources. Revenue generating initiatives will ensure that we continue to offer world-class instruction in modern, safe, efficient, and well-designed facilities."*

Three objectives in this Ten Year Strategic Plan guide NVSD's sustainability work including:

1. Facilitate student participation in environmental leadership and sustainability practices.
2. Embed sustainability in all planning, decision making and daily practices.
3. Utilize our resources to optimize the well-being of learners and benefit the long-term interests of the community.

## 3 Year Operation Strategy

The 3-Year Operating Plan 2015-2018, presented to the Board of Education on June 16, 2015, is a 'companion' document to the 10-Year Strategic Plan. The Operating Plan provides strategies for achieving specific objectives that are identified within the 2011-2021 Strategic Plan's Goals. Together, the Operating Plan and Strategic Plan serve as reference points for the future direction of the North Vancouver School District.

The 2015-2018 Operating Plan highlights the following sustainability related goals and strategies for the next three years:

- Facilitate student participation in environmental leadership and sustainability practices.
  - Common vision and action plan
  - Environmental, nature-based learning and sustainability practices
  - Develop and refine best practices
- Embed sustainability in all planning, decision making, and daily practice.
  - Environmental education and sustainability practices in school plans and goals and district in-service sessions

- Connections between teaching, learning, the natural environment and the built environment
  - Broaden participation in the Workplace Conservation Awareness program
- Utilize our resources to optimize the well-being of learners and benefit the long-term interests of the community.
    - Outdoor learning spaces to support and enhance learning in nature
    - Resources for nature-based environmental learning and sustainability initiatives
    - Funding for public education to meet expectations
    - Responsible use of our resources and assets



## Sustainability Policy

In March 2011 the North Vancouver School Board developed Policy 613 Sustainability (See Appendix A) that commits the District to maintaining and operating its facilities and services in a sustainable manner. The Policy outlines that the board will, among other actions, develop and maintain a current, School District-wide Sustainability Plan that is progressive, transparent, and measurable.

## Outdoor Learning Spaces

In May 2013, the NVSD Board of Education adopted Policy 806 “Outdoor Learning Spaces<sup>1</sup>” that recognizes the benefit of outdoor learning spaces in all forms of students’ intellectual development. The policy promotes the development of learning spaces beyond the conventional classroom and school building.

## BC Ministry of Education

The Ministry of Education established the Sustainability Education Framework<sup>2</sup> in 2008 with the vision of encouraging the K-12 education system to show leadership in adopting and promoting:

- Environmentally sustainable practices, and
- Learning opportunities that support healthy, natural, social and economic environments for current and future generations

This vision is also supported by the BC Energy Plan that sets out a strategy to encourage British Columbians to take responsibility for our climate and environment.

More recently, the BC Ministry of Education has been working to redesign the BC Curriculum. The new curriculum focuses on core competencies, essential learning and literacy and numeracy foundations.

<sup>1</sup> Source: <http://www.sd44.ca/Board/PoliciesProcedures/Series800/Policy806/Pages/default.aspx>

<sup>2</sup> Source: <http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustcoursecontent-1.pdf>

# SUSTAINABILITY INITIATIVES

This section outlines the sustainability programs, activities and initiatives already underway at the District and in NVSD schools. The activities are grouped as District-led initiatives, committees and groups, school-led initiatives, partnerships and curriculum.

## District-Led Initiatives

### Energy Management Program

NVSD's Strategic Energy Management Plan (SEMP) supports the District's commitment to energy efficiency and conservation by providing a framework for reducing energy consumption and its associated environmental impact. The Plan is updated on an annual basis and is managed by the District's Energy Manager.

By focusing on energy management, NVSD is reducing its exposure to energy cost escalations, demonstrating environmentally responsible development on the North Shore, and reducing its reliance on the province's energy infrastructure. NVSD has a goal to obtain an energy reduction of 15% by June 2018 (2017/18 fiscal year). These savings will be made up of approximately 23% reduction in electrical and an 11.5% reduction in fuel.

### Sustainability Engagement and Communications

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

The District's Sustainability Engagement Action Plan, an appendix to the SEMP, includes annual goals and a schedule of sustainability engagement activities. The Plan is updated every August by the Energy Manager, and covers five key strategy areas to encourage energy conservation behaviour change: 1) Program Planning, 2) Engagement Program, 3) Campaigns and 4) Communications. Campaigns include Lights out Lunches, Holiday Shutdowns and Sweater Day.

### LEED Construction

NVSD is committed to building green. All new construction projects since 2012 have been built to Leadership in Energy and Environmental Design (LEED) standards. LEED is an international recognized standard that comprise a set of rating systems for the design, construction, operation, and maintenance of green buildings. NVSD LEED buildings include, Carson Graham, Queen Mary, Ridgeway, Cheakamus Centre and the Educational Learning Center. Each building features a number of design innovations that save energy and water, reflect the natural character and history of the area and reduce the impact the building has on the environment.

## Recycling and Waste Diversion System

In 2014/15 NVSD rolled out a District wide recycling and organics collection system. The new system features paper, organics, mixed recyclables and garbage receptacles in the hallways. As a part of the roll out, an Education Committee compiled the [SD44 Waste Diversion Handbook<sup>3</sup>](#), to educate students, teachers and staff about how to use the new system.

## Green Clean Project

In an effort to promote healthy schools by adopting a chemically-reduced approach to cleaning, custodial staff switched to micro fibre cleaning for NVSD facilities in 2014. Other benefits to this alternative approach to cleaning include cost savings (micro fibre is more absorbent and durable than traditional cloths and mops) and increased efficiency and decreased strain on workers since the material is lighter and easier to maneuver. Approximately 90% of the daily cleaning in the district will be conducted with the microfiber/water combination. The remaining 10% of the time are situations which may require specialty cleaning products.

# Committees and Groups

## Sustainability Leadership Committee

The Sustainability Leadership Committee was first struck in 2011 and consisting of at least one trustee, one representative of each of the School District employee groups as well as one parent representative from the DPAC and two student representatives from the Student Leadership Council, or two other students. The Committee meets on a regular basis through the school year.

The purpose of the committee is to:

- To build capacity amongst staff, parents and students as the authors of their own environmentally-sustainable future
- To recommend to the Board and Superintendent effective sustainability initiatives and solutions
- To maintain a sustainability policy and processes for the School District
- To foster and celebrate successful sustainability initiatives within the School District
- To consider community partnerships that will assist the School District in achieving its sustainability goals

## Learning In Nature Working Group

Established in 2013, the Learning in Nature working group has focused on reviewing the vision and direction for Environmental Education in North Vancouver. In particular, the group has been working

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<sup>3</sup> <http://www.sd44.ca/District/Sustainability/Documents/WasteDiversionInSchoolsHandbook.pdf>

towards identifying the current continuum of learning experiences existing within SD 44, and providing guidance on future directions towards excellence in Environmental Education. The group meets throughout the year and is composed of elementary and secondary administrators including representation from the Board of Trustees and the Senior Executive.

Group goals include:

- Provide guidance on future directions on Excellence in Environmental Education
- Identify the principles and guiding documents, and compile key resources to support excellence in Environmental Education
- Initiate a process for identifying key concepts (K-12) that support and promote environmental learning and leadership
- Design, support and deliver professional development opportunities that build capacity for educators and environmental advocates
- Support the development of community partnerships that enhance environmental learning

### Green Champion Network

The Green Champion network is an informal network of teachers and staff who are doing sustainability projects in their schools. The Energy Manager and Communications managers coordinate the list of names, which grows through campaign and initiative participation. Green Champions are sent periodic messages about sustainability initiatives and news. They are also invited to participate in two annual events: a Green Network event at the beginning of the year and an annual Green Tea celebration event in May.



# School-Led Initiatives

## Environmental Clubs

Several schools have organized student environmental clubs, which are led by one or more teachers in the school. The initiatives completed at each school vary from school to school and year to year and are determined by the student members in the environmental club that year.

## School Gardens

Many schools have developed school gardens to teach students about food systems, gardening and growing vegetables and fruit. These gardens are organized and maintained by one or more teachers at the school along with support from students and custodial staff.

## Composting

In conjunction with school gardens, some schools have developed composting systems for instructional and waste reduction purposes. The compost systems have been built and are maintained by students and teachers.

## Sustainability Expo at Argyle

Argyle Secondary's first Sustainability Expo took place on April 29, 2014. The purpose of the fair was to share knowledge, raise environmental awareness, and inspire action through environmental stewardship. Eco-initiatives within the School District were featured at the fair along with local sustainability specialists and not-for-profit groups, including renewable energy experts, waste management specialists, beekeepers, animal rights advocates, urban gardeners, land conservancy professionals, and environmental managers. Argyle hosted a second Sustainability Fair in February 2015.

## NVSD Green Fairs

The Green Fair was an event organized by staff and student members of the NVSD Sustainability Leadership Committee. The third annual Green Fair took place in 2013 and brought together students from elementary and secondary environmental clubs and local partners in sustainability. Students shared the projects they were championing at their schools while the partners showcased ongoing sustainability projects related to the reduction of operation costs and the promotion of healthy school environments.

## Teacher and Staff Sustainability Projects

The following is a list of additional sustainability projects that have been implemented in NVSD Schools. The ideas have been provided by teachers and staff who attended the First Annual Green Tea Event in May 2015, an event designed to recognize and celebrate the contribution of teachers, staff, administrators and parents in making the District the "natural place to learn."

- Tree planting initiatives
- Salmonoids
- Water conservation initiatives
- Recycling "junk" art projects
- Adopt a park initiatives

- Invasive species
- Food preservation after growing
- Bring a farm (chicken) into your class
- "Cow in the classroom"
- Raising butterflies
- Bee awareness programs
- BC Agriculture "spuds in tubs"
- Garbage-free lunches
- Adopt-a-street
- Clothing "Swap+Shop"
- Recycle your cell
- Storm drain marking
- Stream clean-ups



# Partnerships

## BC Hydro FirstWave Programs

BC Hydro's FirstWave program is a resource and learning platform for online and in-class conservation education. The program is created by BC teachers for BC teachers with the support of BC Hydro with the goal to educate and empower students to take action on energy use within their schools, homes and communities. Individual program include:

- Energy Explorers (Kindergarten)
- Energy Connections (Grade 6)
- Energy Investigations (Grade 9)
- Earth Day (Kindergarten to Grade 12)
- Take Action (Grades 4 to 7)

In the 2014/15 school year, 29 NVSD teachers in 38 classrooms from 17 different schools participated in the BC Hydro Program.

## Healthy Schools BC & WildBC

WildBC<sup>4</sup> is one of the Habitat Conservation Trust Foundation's longest standing and environmental education programs. The program aims to inspire and empower people and their communities to understand and care for the natural world through environmental education. The program offers an assortment of dynamic workshops, learning resources and programs on a variety of environmental topics in BC.

With assistance from the Healthy Schools<sup>5</sup> Network grant and a grant from TD Friends of the Environment Fund, the Outdoor School Program at Cheakamus Centre has been growing and expanding school gardens for the last 2 years through the WildBC program. The gardens function as a learning lab to teach students about the food cycle, by working in unison with the school's new food waste program, and how to work together through planting, weeding and harvesting.

## BC Green Games

BC Green Games is a province-wide contest for environmental success stories from K-12 students. Project entries are required to be action-oriented and told through digital storytelling through media such as PowerPoint or video. The purpose of the contest is to inspire environmental awareness and to foster responsibility and leadership in sustainable practices throughout communities and schools. The competition is a partnership between Science World and the Ministry of Education. The Green Games were developed in collaboration with the Environmental Educator's Provincial Specialist Association, the Richmond school districts, and the NVSD. In 2013, Carson Graham Secondary won in the Secondary School category.



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<sup>4</sup> Source: <http://hctfeducation.ca/wildbc/>

<sup>5</sup> Source: <http://healthyschoolsbc.ca/about/healthy-schools-bc/>



photo credit: the edible garden project

## Sutherland Schoolyard Market Garden

An Edible Garden Project

Sutherland Schoolyard Market Garden celebrated its grand opening on June 12<sup>th</sup> 2015. The Edible Garden Project, a local non-profit, partnered with a team of North Shore volunteers to raised funds to create over 100 raised garden beds that are producing over 50 lbs of produce each week on Sutherland School grounds. The garden will serve as a learning garden for students and will promote ecological and social sustainability in the community.

## Great Canadian Shoreline Cleanup

The Great Canadian Shoreline Cleanup is an initiative jointly led by the Vancouver Aquarium and WWF aimed at educating and empowering people to make a difference through community clean up events. NVSD sustainability champions actively participate in these events each year. Previous cleanups include:

- Oct 3, 2014 – Cleveland Elementary, Mackay Creek at Canyon Heights
- Sept 25, 2013 – Sherwood Park School, Taylor Creek at Sherwood Park School

## Edible Gardens Project

The Edible Garden Project works to bring fresh produce to low-income individuals, empower people with the skills and knowledge to grow their own and transform community spaces into vibrant, edible places. NVSD partnered with the organization to develop the Sutherland Schoolyard Market Garden.

## Walking Wednesdays

The City of North Vancouver, in cooperation with NVSD, Travel Smart, and the Heart & Stroke Foundation, launched the Safe and Active School Travel Program at Queensbury Elementary in 2014, Larson Elementary and Ridgeway Elementary Spring 2015 and started with Queen Mary and Westview in the fall of 2015. The program addresses safety issues beyond the immediate school property and includes the development of Safe Routes to School plans, taking walkability and safety issues into account

The 2014 pilot at Queensbury Elementary resulted in a 9% increase of students walking to school and improve funding for adult crossing guards at busy school intersections in the City from North Vancouver City Council.

## Bike to School Week

Bike to School Week is a week-long celebration in May that encourages staff and students to bike to school. The event is organized by HUB,



non-profit working to address cycling issues in Metro Vancouver. HUB provides safety information, resources, and educational programs. Participating schools can track the number of riders commuting to school and are eligible to win prizes.

### Destination Conservation

Destination Conservation is a multi-year sustainability program that helps schools and school districts to save money, reduce their natural resource consumption, and foster student leaders. Destination Conservation works with student-led school teams to identify challenges at their school and to develop customized conservation campaigns which explore three themes: energy, waste avoidance, and water. Destination Conservation is a project of Elements Society, a non-profit whose mission is to promote the conservation of natural resource by providing education that inspires and empowers individuals and communities towards environmental, social and economic responsibility.

### BC SEA and the Climate Showdown

The Climate Change Showdown is an interactive environmental workshop and contest for students in grades 4 to 7 run by the BC Sustainable Energy Association (BCSEA), a local non-profit that is committed to promoting the development, understanding, and adoption of sustainable energy and energy conservation and efficiency in BC.

The Climate Showdown includes an in-class workshop, and a take-home four-week contest that encourages families to make easy but important changes to their energy consumption. After four weeks, the contests are collected and the results are converted into measurable greenhouse gas (GHG) reductions. The classes with the most GHG savings in their region win prizes and the acknowledgement of their achievements at a City Council meeting in their community.

### Table Matters Network

NVSD partners with Table Matters, a local non-profit that is working to make healthy food accessible for everyone living on the North Shore. NVSD participated in monthly networking meetings and has signed the Table Matters Food Charter, which outlines a vision and principles around an integrated food system for the North Shore.

### Global Stewardship Program

NVSD students participated in Capilano University's Change Pilotz camp run by the university's Global Stewardship Program. The workshop focused on the skills needed to create and sustain a social enterprise: a "business" whose goal is to build the social capital of our communities and not just make a profit. After developing their business ideas, the high school students went before a panel of judges in the Eagles' Nest, a competition similar to Dragons' Den on CBC. Those who impressed the judges were given between \$500 and \$1000 to bring their ideas to fruition.



## Lions Gate Secondary Wastewater Treatment Plant: Educational Materials

Metro Vancouver is currently developing a comprehensive education program for the new Lions Gate Secondary Wastewater Treatment Plant (LGSWWTP). The regional government is working to develop place-based, community-connected learning around wastewater treatment and related sustainability topics. Metro Vancouver is consulting and collaborating with NVSD educators to craft an overall strategy and resources and programs that align with the new BC curriculum.

### Nature Kids BC

NatureKids BC helps children get outdoors to play, imagine and explore in nearby nature. This network of volunteer-led nature clubs is working with Norgate to structure its educational materials around curriculum goals, including literacy, science and math.

### My Class Needs

The MyClassNeeds Foundation (MCN) is a registered Canadian charity that helps connect NVSD K-12 classroom projects with interested donors through a crowdfunding website.



# Curriculum

Learning In, About, and For nature builds student engagement, intellectual development, self-regulation and citizenship. For this reason, 'Excellence in Environmental Education' is a key goal of the North Vancouver Board of Education's Ten Year Strategic Plan. Environmental education is broadly viewed in North Vancouver Schools as education in the environment, education about the environment, and education for the environment.

Environmental education promotes rich and active experience in, and an appreciation for the dynamic interactions of the Earth's physical and biological systems; the dependency of our social and economic systems on these natural systems; the scientific and human dimensions of environmental issues, and the positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems. Environmental Education is taught in traditional classrooms, across school grounds, in local parks and communities, and in dedicated settings like Cheakamus Centre.

The following guiding beliefs inform the district's ongoing work in providing excellence in teaching and learning in, about, and for nature.

- A strong foundation in environmental education is a key element to the holistic education of today's student.
- Environmental education works best when infused across the curriculum rather than being treated as a separate discipline or subject area.
- Environmental education encourages targeted approaches to teaching and learning, emphasizes community involvement, and provides models for guiding implementation and progress.
- Environmental education is a vital tool in helping young people understand the nature and complexity of environmental challenges, and contributes to an environmentally responsible lifestyle.
- Creating a sense of belonging in students for their greater community and environment is a key element to advocacy, public voice, stewardship, activism, and leadership.
- An educated 'Global' citizen requires a sense of place, value, and connectedness to their community inclusive of the greater environment and indigenous 'ways of knowing'.

## Cheakamus Centre

Established in 1969, Cheakamus Centre is an overnight field school and environmental studies facility located on 165 hectares of ecological reserve near Squamish, BC. This Centre is owned by the NVSD and offers a wide variety of experiential environmental and indigenous learning programs to children and adults from the lower mainland and beyond. The flagship Outdoor School program includes field studies, youth leadership, outdoor recreation, and other direct experiences in nature intended to instill in young learners a sense of respect and appreciation for the natural world. Cheakamus Centre also hosts visitors from around the globe for special events, retreats, conferences and workshops that focus on environmental conservation and sustainability.

## Learning in Nature

NVSD has developed a framework to integrate school curricula to promote environmental/outdoor/nature based learning. The report provides an assessment strategy that investigated NVSD's existing, planned, and potential nature-based learning practices/opportunities. It also includes:

- An Opportunity & Assessment rubric that outlines the three criteria for the enhancement and integration of environmental learning for successful and sustainable projects.
- Models of four outdoor learning spaces created through the investigation of each elementary and secondary school site in the NVSD and rubric responses.
- Service Delivery Model In-Service Recommendations
- Policies and procedures for outdoor learning spaces

Since developing this framework, NVSD has developed administrative procedures and a proposal form for creating outdoor learning spaces.



# APPENDIX A: SUSTAINABILITY POLICY

In March 2011 the Board adopted *Policy 613-Sustainability as shown below*. This policy can also be found on the NVSD's website.

## Policy

The Board will strive to maintain and operate its facilities and services in a sustainable manner, and seek opportunities in its short- and long-term planning to reduce its environmental footprint. The Board is committed to working in ways that do not jeopardize current and future social, environmental, and economic resources. It will integrate economic, environmental, and social considerations into its decision-making.

### Rationale

The Board recognizes that a sustainable approach to its services and operations is essential to fulfilling its mandate of preparing students for responsible citizenship and success in life. The Board values the contributions of students, staff, parents, and the community to reduce the environmental impacts of our learning communities. In collaboration with local, provincial, regional, and global communities, the Board will provide leadership in environmental education and sustainability practices.

### Definition

This policy is built upon four pillars of sustainability:

- Support environmental education and sustainability initiatives
- Decrease dependencies upon the earth's finite resources
- Reduce waste and harmful emissions into the environment
- Respect green space through responsible stewardship.

## Administrative Procedures

In practice, the Board will:

Support environmental education and sustainability initiatives, and

- Encourage staff towards professional development that expands their understanding and capacity to teach sustainability principles and practices
- Support sustainability leadership to:
  - Build capacity amongst students, staff, and parents as responsible contributors to their own environmentally-sustainable future
  - Identify and implement effective sustainability initiatives and solutions
  - Foster and celebrate successful sustainability initiatives within the School District
  - Recognize and promote successful sustainability initiatives by students, staff and parents
  - Support development of the Environmental Learning Centre (ELC) and associated educational programs

- Consider community partnerships that will assist the School District in achieving its sustainability goals.

Decrease dependencies upon the earth's finite resources, and:

- Develop and maintain a current, School District-wide Sustainability Plan that is progressive, transparent, and measurable
- Embed its commitment to sustainability in the Board's Strategic Plan
- Balance and broaden its decision-making to include considerations of ecological, economic and social well-being
- Consult with internal and external advisors for necessary guidance and consideration of sustainability issues
- Pursue solutions for sustainability challenges in partnership with its communities and governments.

Reduce waste and harmful emissions into the environment, and:

- Develop and operate its facilities and services in a sustainable manner
- Encourage sustainable initiatives that realize both cost-savings and reduce environmental impact
- Implement all legislative requirements to promote sustainability.

Respect green space through responsible stewardship, and:

- Evaluate existing and future green spaces on School District property to ensure due diligence and full consideration in land space decision-making
- Support the maintenance of healthy and diverse green spaces where the Board has a presence
- Support development of the Environmental Learning Centre (ELC) and associated lands
- Collaborate with local municipalities to create an integrated perspective on future community green spaces.