

GUIDE FOR SUSTAINABLE SCHOOLS IN
Manitoba

2nd Edition



iisd International
Institute for
Sustainable
Development Institut
international du
développement
durable

Manitoba 

ACKNOWLEDGEMENTS

The International Institute for Sustainable Development (IISD) gratefully acknowledges the contributions of the following individuals in the development of the *Guide for Sustainable Schools in Manitoba*:

PROJECT TEAM 2011

Natalie Swayze, IISD Associate (Primary Author)

Carolee Buckler, Sustainable Development Coordinator, Manitoba Education

Anne MacDiarmid, ESD Consultant, Manitoba Education

MANITOBA SUSTAINABLE SCHOOLS COMMITTEE 2011

Andy Mead, Principal, George Waters Middle School

Brian O'Leary, Superintendent, Seven Oaks School Division

Curtis Belton, Principal, Rockwood School

**Graham Bruce, Assistant Superintendent,
Pembina Trails School Division**

**Jan Zamparutti, Director of Educational Technology
Support Services, Winnipeg School Division**

**Linda Girling, Coordinator of Instructional Support,
Louis Riel School Division**

Paul Cuthbert, Superintendent, Evergreen School Division

Revisions to the guide in 2014 and 2016 were provided by Anne MacDiarmid and Dylan Duval, Manitoba Education and Training.

This project was supported through the designated grant portion of the Government of Manitoba's support for IISD, in addition to the province's core institutional support to the Institute.



TABLE OF CONTENTS

1.0	About the <i>Guide for Sustainable Schools in Manitoba</i>	4	4.0	Toolbox	37
1.1	The Decade of Education for Sustainable Development (DESD)	4	4.1	Governance	37
1.2	Sustainability Education in Manitoba	5	4.1.1	Global Dimension	37
1.3	What is the <i>Guide for Sustainable Schools in Manitoba</i> ?	9	4.1.2	Inclusion, Participation, Health, and Well-Being	40
1.4	History of the <i>Guide</i>	10	4.2	Curriculum, Teaching, and Learning	41
1.5	Contact	12	4.3	Human Capacity Building	51
			4.3.1	Research and Reports	51
			4.3.2	Funding, Scholarships, and Reward and Recognition Programs	54
			4.3.3	Policies	55
2.0	Becoming a Sustainable School	13	4.3.4	Case Studies	56
2.1	What is sustainability?	13	4.3.5	Events	56
2.2	What is a sustainable school?	13	4.4	Facilities and Operations	57
2.2.1	The Whole-School Approach Adopted by the Sustainability and Education Academy	14	4.4.1	Building and Grounds Management	57
2.2.2	General Guidance on the Whole-School Approach	17	4.4.2	Energy	61
2.3	Why is school sustainability important?	17	4.4.3	Food	65
2.4	What is a school sustainability policy?	19	4.4.4	Purchasing and Procurement	66
2.4.1	IISD Policy Bank	19	4.4.5	Transportation, Travel, and Traffic	68
2.5	What is a School Sustainability Plan?	20	4.4.6	Waste	70
			4.4.7	Water	74
			4.5	Partnerships	76
3.0	School Sustainability Plans (SSPs)	21	5.0	References	77
3.1	SSP Structure	21			
3.2	Developing an SSP	22			
3.2.1	Build your SSP team.	22			
3.2.2	Develop your vision.	23			
3.2.3	Conduct a self-assessment.	24			
3.2.4	Determine priorities, strategies, expected outcomes, and timelines.	26			
3.2.5	Make curriculum connections.	27			
3.2.6	Determine monitoring and evaluation activities—indicators and data collection techniques.	28			
3.2.7	Record baseline data.	30			
3.2.8	Determine Reporting and Communications Activities.	30			
3.3	Implementing Your SSP	31			
3.4	Monitoring and Reporting on Your SSP	31			
3.5	SSP Template	33			



ABOUT THE GUIDE

FOR SUSTAINABLE SCHOOLS IN MANITOBA

The vision of this Guide is for all schools in Manitoba and their communities to be sustainable.

1.1 The Decade of Education for Sustainable Development (DESD)

The United Nations declared 2005 to 2014 to be the United Nations Decade of Education for Sustainable Development (<http://www.desd.org>). The DESD was an important catalyst for reorienting education systems toward sustainable development. While the DESD produced many successes, much work remains to be done. In recognition of this and based on the international community's commitment to promote ESD beyond the DESD, UNESCO, the lead agency for the DESD, has developed a Global Action Programme (GAP) on ESD.

The overall goal of the Global Action Programme is **“to generate and scale up action in all levels and areas of education and learning in order to accelerate progress towards sustainable development”** (p. 1). The GAP focuses on five priority action areas which are key leverage points to advance the ESD agenda.

1. **Advancing policy:** Mainstream ESD into education and sustainable development policies to create an enabling environment for ESD and to bring about systemic change.
2. **Transforming learning and training environments:** Integrate sustainability principles in education and training settings.
3. **Building capacities of educators and trainers:** Increase the capacities of educators and trainers for effective delivery of ESD.
4. **Empowering and mobilizing youth:** Generate ESD actions among youth.
5. **Accelerating sustainable solutions at the local level:** Scale up community-based ESD programs and local multi-stakeholder ESD networks.

In particular, transforming learning and training environments includes a focus on whole-school approaches to advance sustainable development.

The vision of ESD is of a world in which everyone has the opportunity to benefit from quality education and learn the values, behaviours, and lifestyles required for a sustainable future and for positive societal transformation.

Education for Sustainable Development (ESD) entails a reorienting of education to guide and motivate people to become responsible citizens of the planet. It addresses the interrelationships among the environment, the economy, and society: “ESD aims to help people to develop the attitudes, skills, perspectives and knowledge to make informed decisions and act upon them for the benefit of themselves and others, now and in the future” (UNESCO, n.d.). ESD moves from students learning about sustainable development to students experiencing how to live sustainably. It therefore encourages linking ideas to action. ESD supports the acquisition of knowledge to understand our complex world and the development of interdisciplinary, critical thinking, and action skills to address these challenges with sustainable solutions. ESD requires changes in *how* teachers teach, not just *what* they are teaching. ESD also requires new methods of measuring and assessing student achievement that reflect these characteristics.



1.2 Sustainability Education in Manitoba

Manitoba has been active in all aspects of ESD. A position of Sustainable Development Coordinator was created in Manitoba to work with Manitoba Education and Training to provide support and leadership toward enhancing a culture of ESD in school divisions and post-secondary institutions across the province. A Sustainable Development Consultant was engaged to provide ESD professional learning and curricular support for the infusing of ESD into Kindergarten to Grade 12 schools. This includes developing curriculum support documents, supporting educators implementing ESD in their classrooms and schools, supporting ESD school plans, delivering ESD grant and award programs, and supporting ESD categorical grants in school divisions.

The department also developed a provincial Education for Sustainability Action Plan (2004–2008) that directed the first steps in fostering teaching and learning for sustainability in elementary and secondary classrooms. Since this first action plan, Manitoba schools and school divisions have made considerable progress toward the implementation of ESD.

In 2012 an ESD Leadership Council (ESD-LC) was established with a goal to work together through a strong coalition of partners, to strengthen our capacity to provide the foundation for a more relevant education and for a sustainable future for all of us.

A three-year action plan was developed by the ESD-LC, which is made up of senior level representatives from various educational sector groups, faculties of education, and government departments.

The Manitoba ESD story can be found at www.edu.gov.mb.ca/k12/esd/pdfs/esd_mb.pdf. Manitoba Education and Training's commitment to ESD can be found on its website (<http://www.edu.gov.mb.ca/edu/mandate.html>), in the following statements.

MISSION:

To ensure that all Manitoba's children and youth have access to an array of educational opportunities such that every learner experiences success through relevant, engaging and high quality education that prepares them for lifelong learning and citizenship in a democratic, socially just and sustainable society.

First Overarching Goal: To ensure education in Manitoba supports students experiencing and learning about what it means to live in a sustainable manner.

Manitoba Education and Training has been working in four key areas to advance ESD in the province:

1 Integrating ESD into the provincial curricula – ESD has been and continues to be embedded in the Kindergarten to Grade 12 curriculum with specific learning outcomes established in science, social studies, and health and physical education, as well as in new curriculum being developed, including technical and vocational education. The learning outcomes are benchmarked at <http://www.edu.gov.mb.ca/k12/esd/correlations/charts/index.html>. In addition to integrating ESD into the curriculum, Manitoba Education and Training is rewriting the Grade 12 World Issues course to be a *Global Issues: Citizenship and Sustainability* course, with a strong emphasis on sustainability, including a “take action” component for students. A draft version of this course is available at www.edu.gov.mb.ca/k12/cur/socstud/global_issues/index.html.

2 Identifying and promoting learning resources to support ESD – Supporting these curriculum-wide elements, Manitoba Education and Training has created information posted on the ESD website (<http://www.edu.gov.mb.ca/k12/esd>). The purpose of the site is to assist Manitoba teachers in integrating sustainability—whether as a subject of learning, as an issue of discussion and debate, or as an approach to learning—into their classroom activities. The site contains resources, grants, the EcoGlobe recognition program, curriculum support materials, and a listing of many support organizations to assist educators.

3 Building ESD capacity through professional learning – Manitoba Education and Training has been conducting ESD sessions throughout the province, providing educators with information, activities, and initiatives they can adapt and use in their individual schools and school divisions.

4 Providing system-wide support and guidance for ESD – Manitoba Education and Training provides ESD grants and recognition to schools and school divisions to support ESD activity. Since 2008, the department partnered with York University to deliver the Sustainability and Education Academy (SEdA) in Manitoba. SEdA offers senior education officials from school divisions the opportunity to be trained in incorporating sustainable development into policies, capacity building, operations, partnerships, and school programs and to develop ESD action plans. This resulted in the development of the *Domain Framework for Whole System Approach to ESD*, which can be used for reviewing, monitoring, and reporting the status of ESD implementation to make divisional planning more sustainable (available at http://www.edu.gov.mb.ca/k12/esd/pdfs/seda_domain_framework.pdf). Having school division leaders participate in this program has been instrumental in advancing ESD within and among school divisions in Manitoba.

Manitoba First Nations Education Resource Centre (MFNERC) attended SEdA in 2008 and since then has developed a partnership with Manitoba Education and Training to enhance linkages between First Nations schools and the provincial education system in the implementation of ESD.

In addition to the above, the department is working with faculties of education in Manitoba to incorporate ESD into teacher education and training by providing pre-service teacher ESD workshops, hosting an ESD seminar for faculty members in partnership with Learning for a Sustainable Future and the Deans of Education in November 2009, and supporting a committee of Faculty of Education representatives to make recommendations on ESD in teacher education. Through the ESD-LC, faculties of education have continued to advance ESD in teacher education by creating courses and providing summer institutes on ESD.



Manitoba believes in fostering the development of partnerships in delivering ESD programming to build and enhance a culture of ESD in Manitoba. One of these relationships is the partnership between Environment Canada, Manitoba Education and Training, and Learning for a Sustainable Future to establish an ESD provincial working group in Manitoba. The Manitoba Education for Sustainable Development Working Group (MESDWG) was established as a pilot in December 2005 and has served as a model for the other groups set up across the country. The MESDWG comprises stakeholders from formal, non-formal, and informal education, governments, non-governmental organizations (NGOs), industry, and community groups. Its role is to support regional coordination and the development and implementation of ESD across Manitoba. The Working Group hosted an international ESD conference in November 2008. In 2010, five committees were established to help continue to guide its work: youth engagement, Aboriginal education, public sustainability education, ESD measurement, and ESD partnerships. MESDWG organized the Celebrating Sustainability Month unConference for the public with themes on water, waste, food, and energy in October 2013 and again in 2014.

Manitoba has taken a leadership role in strengthening cooperation on ESD regionally, nationally, and internationally. On the national front, Manitoba is leading the Council of Ministers of Education, Canada's (CMEC) working group, the Education for Sustainable Development Working Group (ESDWG). ESD is a priority for Manitoba Education and Training as educators, schools, and school divisions realize the importance of promoting sustainable living to the students. The ESD initiative in Manitoba is linked to the United



Nations Decade of Education for Sustainable Development, led by the United Nations Educational, Scientific and Cultural Organization (UNESCO) (<http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/>). Manitoba Education and Training aligned its provincial priorities with those of the United Nations Economic Commission for Europe (UNECE).

In March 2012, the UNECE Steering Committee on ESD declared three priorities:

- to ensure that every school has an ESD school plan by 2015
- to promote the introduction of ESD into teacher education
- to reorient technical and vocational education and training in support of sustainable development and the transition to a green economy

We are encouraging all schools in Manitoba to embed ESD into their annual school plan or, if preferred, to create a separate ESD school plan by 2015.

An ESD school plan seminar/webinar was held in June 2014 and is posted on the department's MAPLE site (<http://www.mapleforem.ca>) in the ESD School Planning Group.

1.3 What is the *Guide for Sustainable Schools in Manitoba*?

The *Guide for Sustainable Schools in Manitoba* is the result of a partnership of Manitoba Education and Training and school divisions in Manitoba that seeks to support Manitoba schools and their communities in their goals to become sustainable. The *Guide* invites schools to take a whole-school approach to sustainability by exploring sustainability through curriculum, in addition to through real-life learning experiences, improvements in school management of resources and facilities (e.g., energy, waste, water, biodiversity, schoolyard design, and purchasing of products and materials), and associated social and financial issues.

The vision of the *Guide* is for all schools in Manitoba and their communities to be sustainable, so that students will become informed and responsible decision makers, playing active roles as citizens of Canada and the world, and will contribute to social, environmental, and economic well-being and an equitable quality of life for all, now and in the future.

The *Guide* seeks to assist Manitoba schools in

- **moving beyond sustainability awareness raising, by undertaking concrete, action-oriented learning activities, integrated with school curricula, leading to teaching for sustainability as an integral component of school planning**
- **actively engaging in a continuous cycle of planning, implementing, and reviewing approaches to sustainability as part of everyday school operations**
- **using natural resources in more sustainable ways, achieving measurable social, ecological, educational, and financial outcomes**
- **monitoring and reporting on progress toward becoming sustainable**
- **developing values that support a sustainability ethos, working toward sustainability in partnership with their local communities and school authorities and ensuring students share ownership of sustainability initiatives and decision making**

1.4 History of the *Guide*

In 2008/2009 and 2009/2010, Manitoba Education and Advanced Learning worked with IISD on research into the state of sustainable development policy setting at the school division level in Manitoba. The investigation suggested there might be potential value in creating a handbook on sustainability policy for the divisions. This sustainability policy handbook for Manitoba school divisions would serve as a “how to” for divisions in developing, implementing, and monitoring sustainability policies. A Manitoba Sustainable Schools Committee was created to guide the development of the handbook. Early in the planning stages, however, the Committee determined that rather than creating a handbook for school division sustainability policies, it would be more effective to work together to create a guiding framework for school sustainability. This framework would include much of the content found within a handbook for school division policy, but rather than focusing solely on policy, the scope would be expanded to include overall recommendations, resources, and so forth to guide individual school sustainability planning and action.

Accordingly, the Manitoba Sustainable Schools Committee worked to develop the content and structure of the *Guide* while providing input related to the most effective means of encouraging and supporting schools to use their tools and resources. The Committee agreed that the *Guide* would be most effective if it was made accessible in the form of an online, expandable platform. This idea developed through dialogue with representatives from the Australian Sustainable Schools Initiative (AuSSI), which presently reaches 2000 schools, representing approximately one-quarter of all schools in Australia through online mediums (for examples, see [Australian Sustainable Schools Initiative \(AuSSI\)](#), [Queensland Sustainable Schools](#), and [New South Wales \(NSW\) Sustainable Schools](#) websites).

With this long-term vision in mind, the initial content was developed to provide the foundational resources and tools required to support school sustainability in Manitoba. The current version of the *Guide* includes updates to website addresses and the content to reflect progress. Modelled after exemplars from other countries and programs, including the AuSSI, the NSW Sustainable Schools, the [UK Sustainable Schools program](#), and the [Eco-Schools program](#), the *Guide* includes

- A** the rationale for school sustainability
- B** a template for a School Sustainability Plan (SSP), which uses terminology consistent with the department's existing school annual report and addresses key issues facing schools
- C** essential tools and resources to assist schools in developing, implementing, and monitoring their SSPs while integrating sustainability considerations into whole-school planning



The *Guide* is designed to help schools through the process of developing, implementing, and monitoring sustainability plans.

- Section 2.0, *Becoming a sustainable school*, provides key background information about sustainability and the need for school sustainability plans.
- Section 3.0, *School Sustainability Plans (SSPs)*, provides a step-by-step guide to help schools through the stages of sustainability planning.
- Section 4.0, *Toolbox*, provides the essential materials to assist schools throughout the stages of sustainability planning.

1.5 For more information, please contact:

Anne MacDiarmid

Sustainable Development Consultant

Manitoba Education and Training

1567 Dublin Avenue

Winnipeg MB R3E 3J5

Phone: 204-945-6943

Fax: 204-945-1704

Email: anne.macdiarmid@gov.mb.ca

Website: www.edu.gov.mb.ca/k12/esd



2

BECOMING A SUSTAINABLE SCHOOL

2.1 What is sustainability?

Manitoba Education and Training’s description and history of sustainability may be found at www.edu.gov.mb.ca/k12/esd/whats_esd.html. The Manitoba sustainability story can be found at www.edu.gov.mb.ca/k12/esd/pdfs/esd_mb.pdf. Sustainable development has been defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987). Sustainable development is a way of thinking about how we organize our lives and work. It implies more than recycling or donating to charity and requires profoundly different thought processes and actions.

Sustainability is about finding ways of living and working that support a high quality of life without compromising the future of generations to come. People are increasingly recognizing that they need to change their lifestyles and habits to ensure that we take the very best care of our planet and its resources.



2.2 What is a sustainable school?

Sustainability is a “whole-school” approach, one that extends beyond the curriculum and addresses the entire planning and management of the school facility. School sustainability policies can reinforce what is taught about sustainability in the classroom, establish the school itself as a laboratory, improve the school’s own ecological footprint, and strengthen public relations with the surrounding community. A sustainable school prepares young people for a lifetime of sustainable living through

its teaching and day-to-day practices. As models of good practice, sustainable schools provide students and staff with concrete opportunities to contribute to sustainable living, while demonstrating good practices to other school stakeholders.

2.2.1 The Whole-School Approach Adopted by the Sustainability and Education Academy

As part of Manitoba Education and Training's commitment to provide professional opportunities to school and school division administrators in support of ESD, administrators in Manitoba received training through the Sustainability and Education Academy (SEdA). At the SEdA Conferences, the focus was to inspire educational leaders to create a culture of education for sustainable development, integrated into all aspects of the Kindergarten to Grade 12 education system and resulted in the development of the *Domain Framework for Whole System Approach to ESD*, which can be used for reviewing, monitoring, and reporting the status of ESD implementation to make divisional planning more sustainable (available at www.edu.gov.mb.ca/k12/esd/pdfs/seda_domain_framework.pdf).

SEdA identifies the following five key domains as part of the whole division approach to ESD:

1 Governance

Divisions govern taking a systemic approach to implementing sustainable development, focusing on the following:

- **priority in division strategic plan**
- **board and policy development**
- **committees**
- **budget**
- **community partnerships**
- **evaluation and monitoring**

2 Curriculum, Teaching, and Learning

Students acquire and demonstrate the knowledge, skills, attitudes, and life practices that contribute to a sustainable future.

- **All subject areas include a cross-curricular focus of ESD.**
- **Project-based learning focuses on ESD.**
- **Pedagogy focuses on systems thinking, inquiry, active learning, futures thinking, and problem solving from a local and global perspective.**
- **Connections to student engagement, citizenship, and relevance are made.**
- **Opportunities exist to engage parents and the community in the practice of ESD principles.**

3 Human Capacity Building

Human resources policies, practices, and development plans are aligned with sustainable development principles.

- Professional development is provided for professional and support staff.
- ESD resources are provided for teachers.
- ESD practices are profiled and recognized.
- Succession planning (e.g., leadership development) is undertaken.
- A staff wellness plan is developed and implemented.

4 Facilities and Operations

Sustainability principles are adopted and demonstrated.

Facilities

- Sustainability principles are applied to the design, construction, and renewal of school buildings, including innovative financial models.
- Schools structures and outdoor spaces are “facilities that teach” sustainability practices.

Operations

- Sustainability principles apply to all aspects of school management, procurement, and resource use.
- Sustainability principles apply to transportation decisions.
- Audit tools are used to assess impacts and improve efficiencies.

5 Partnerships

Schools involve parents and community with ESD initiatives.

Parent and Community Partnerships

- Parents and community are actively engaged to address local sustainability issues through community projects and partnerships.

Learning

- Cooperative education supports ESD partnerships with the community.
- Opportunities exist to engage parents and the community in the practice of ESD principles.

At SEdA Education Leader Seminars, participants were encouraged to return to their divisions as a small team and lead change toward integrating sustainability into virtually everything the organization does. The SEdA seminar has proven very effective in presenting the rationale for sustainability, outlining the five domains of sustainability, motivating participants, and producing a plan for sustainability in the participants' divisions.

However, to sustain that activity and produce deep and lasting change requires tools to engage a much greater number of administrators, teachers, and staff in ESD. The *Domain Framework for Whole System Approach to ESD* (available at www.edu.gov.mb.ca/k12/esd/pdfs/seda_domain_framework.pdf) is intended for the use of school division officials who want to support sustainable school planning and lead sustainable change in their division. School principals and teachers can use this *Guide for Sustainable Schools in Manitoba* to introduce ESD to their staff and develop school plans and initiatives. Leaders in faculties of education or ministries of education may want to use this material, with appropriate modification, to offer training sessions on sustainability to their staff. Having an ESD workshop, which could be provided by the ESD consultant from Manitoba Education and Training, should be seen as a step in a process designed to educate, engage, and motivate across the organization. Resources and approaches are offered that may be of value in a number of different venues and with a variety of participants.



2.2.2 General Guidance on the Whole-School Approach

Sustainable schools should accomplish the following:

- **Make a whole-school commitment** – a “whole of school” cultural change.
- **Form a School Sustainability Plan (SSP) Team** (see [Section 3.2.1, Build your SSP team](#)) to guide sustainability – including teachers, students, parents and community groups, establishing ownership to all sectors and a distributed workload.
- **Develop a School Sustainability Plan** (see [Section 3.0, School Sustainability Plans](#)) – a structured way to achieve outcomes within a given timeframe related to governance; curriculum, teaching, and learning; human capacity building; facilities and operations; and partnerships.
- **Implement plans and actions** – without implementing plans and assigning tasks, limited progress occurs.
- **Build community links and partners** – enrich the school’s program and bring valuable resources, expertise, and support.
- **Monitor and report on progress** – assist the school in measuring progress and improve plans and actions, while remaining accountable.

Sustainable schools undertake a process of change that is

- **participative** (involving the whole staff and members of the local community)
- **holistic** (employing an integrated approach to school management involving the whole site, the whole-school community, and all aspects of the curriculum)
- **sustainable** (becomes an ongoing part of school management with continuous improvement)

2.3 Why is school sustainability important?

Increasing attention has been paid by schools to sustainability issues, in Manitoba and throughout the world (Fien, 2001; Gough, 2005; Gough & Sharpley, 2005; Henderson & Tilbury, 2004; James, 2006; Swayze & Creech, 2009). Efforts to turn schools into “sustainable schools” initially focused attention on school curricula but a sustainable school extends this commitment into new areas. Research suggests that sustainability is developed most effectively when it is put at the heart of a school. A sustainable school takes an integrated approach to sustainability, exploring sustainability through teaching and learning, values and ways of working, and engagement of local community. The “whole-school” approach responds to global calls to reorient the curriculum, management, and practices of school education toward sustainability (Henderson & Tilbury, 2004; UNESCO, 2005).

Sustainable schools are concerned about energy and water consumption, procurement and waste management, health and well-being, travel and traffic, inclusion and participation, and the challenges faced by those living in its community and in other parts of the world. Sustainable schools rethink school management and governance processes, the management of school buildings and school grounds, and building partnerships between the school and the community. This creates a “holistic” approach that reflects the belief that sustainability “is not just a curriculum issue; it requires the involvement of the whole school” (Gough & Sharpley, 2005, p. 7).

The benefits of school sustainability include

- **cost savings from reduced consumption of resources and improved management of the school grounds and facilities**
- **opportunities to achieve curriculum requirements, using sustainability to deliver the curriculum in ways that are relevant and real, with teachers and students working on real-life problems and outcomes**
- **professional and personal development opportunities for the whole-school staff and broader community**
- **the school serving as a model for sustainability within the community, encouraging participation, inclusion, and interaction with community members, while promoting student voice and leadership**
- **creation of community partnerships, which enrich a school’s program and add valuable resources, expertise, and support, while connecting the school to other community initiatives**



2.4 What is a school sustainability policy?

School sustainability policies are set at the school division level. These policies aim to create a healthy environmental, economic, and socially responsible living and learning environment for all students and staff, establishing a division level commitment to sustainability along with guidelines on the range of plans and actions that could be adopted at the individual school level.

Different policies that exist around sustainability issues include

- **recycling and waste reduction and management**
- **energy and water efficiency**
- **human resources, health, and well-being**
- **school bus fleet management (such as anti-idling policies), and active transportation**
- **policies on “green” procurement (use of paper with recycled content) and supply chain management; use of fair trade coffee and reusable or compostable dishware (dealing with suppliers who themselves have introduced their own sustainability practices)**
- **use of local food in cafeterias**
- **staff and student volunteering in local community social and environmental projects**
- **integration of sustainable development into the curriculum**
- **use of the school itself as a place to practise and measure environmental responsibility**



The International Institute for Sustainable Development (IISD) published a report in 2009, *Sustainability Policies at the School Division Level in Manitoba: The Status of Policy Development and Its Relationship to Actions in School*, by Natalie Swayze and Heather Creech. See www.iisd.org/pdf/2009/sd_policies_mb_school_division.pdf to learn about the research done and suggestions made.

2.5 What is a School Sustainability Plan?

A key element of being a successful sustainable school is developing a structured approach. Wherever your school is on its sustainability journey, planning is a good place to start.

A School Sustainability Plan (SSP) (see Section 3.0, *School Sustainability Plans*) is a document that establishes the school intentions with regard to sustainability. It represents an agreement to work together across the whole school. An SSP helps to integrate sustainability considerations into whole-school planning, addressing key issues facing the school related to governance; curriculum, teaching, and learning; human capacity building; facilities and operations; and partnerships.

The most successful SSPs are those that involve

- active student involvement in all stages of planning, implementing, and monitoring
- active participation by staff, parents, local community members, and representatives from government and non-government agencies
- a holistic perspective that employs an integrated systems approach to planning and includes the whole site, the whole-school community, and all aspects of the curriculum
- a long-term vision encompassing continuing consideration of sustainability
- integration of sustainable development into the curriculum, making use of learning experiences and opportunities while improving management of school resources and grounds
- opportunities for students to participate and to develop into effective and committed citizens and sustainability advocates
- incorporation of sustainability into the whole-school planning processes, linking administration and management, incorporating local community, and providing participatory processes for the whole-school community to be involved in planning and activities



3

SCHOOL SUSTAINABILITY PLANS (SSPs)

Developing an SSP may seem a bit daunting at first. Be sure to remember that any school can start small, with just one priority issue, and build from there. Don't attempt to tackle too much at once. If you invest too much time in planning, you may lose energy for implementing and reviewing.

3.1 SSP Structure

The [SSP Template](#) (see *SSP Template*) is available for use.

An SSP consists of the following components:

- **Vision** – What the school is hoping to achieve (one or two paragraphs)
- **SSP Team** (see Section 3.2.1, *Build your SSP team*) – Who is on the team and what their positions are, ensuring shared leadership and capacity building
- **SSP Priorities** – Established goals across key topics: governance; curriculum, teaching, and learning; human capacity building; facilities and operations; and partnerships



A toolbox of resources (see Section 4.0, *Toolbox*) has been compiled for schools to use within each of these topics. Schools may use these resources throughout the process of developing, implementing, and monitoring their SSPs.

For each **Priority** there are identified **Strategies, Curriculum Connections, Expected Outcomes, Timeframes or Deadlines, Indicators, Data Collection Mechanisms, and Results**. Strategies are the actions undertaken, Curriculum Connections are plans for curriculum-related learning activities, Expected Outcomes are the observable, measurable outcomes to be achieved, the Timeframes or Deadlines are the estimated times to implement actions and realize outcomes, Indicators are the milestones to demonstrate progress, Data Collection is how evidence of progress is collected, and Results are the status, data, or anecdotal evidence of progress.

Priority	Strategies What actions will you take? Who is responsible?	Curriculum Connections	Expected Outcomes What specifically are you trying to improve? (Observable, measurable)	Timeframe/ Deadline	Indicators How will you know you are making progress?	Data Collection By what means will you collect evidence of progress?	Results Status, data or anecdotal evidence

- **Record of Baseline Data** is the data collected before strategies are undertaken. The baseline data will be used as indicators of improvement and assessment of outcomes.
- **Reporting and Communications Activities** concern the records on SSP reporting and communication to school stakeholders.

3.2 Developing an SSP

3.2.1 Build your SSP team.

Your SSP team will work together to develop and implement the SSP. The SSP team is the driving force behind the SSP and should first and foremost involve student(s) and also ideally include school administrators, teachers, non-teaching staff, school custodians, and parents, as well as members of the local community.

The SSP team

- **takes the lead in developing, implementing, and reporting on the SSP**
- **aims to keep the whole school and community informed about the SSP and involved in the projects that will take place**

- aims to ensure that all sectors of the school community are represented in the decisions related to the SSP
- ensures support from school administration
- provides a link between students, teachers, school administration, and the whole-school community

While assembling your school's SSP team, consider the following:

- It is important to have a cross-section of people from across the school and the local community to provide access to a range of different skills and viewpoints. Ideally, your SSP team will include individuals from the school and your local community. Members in the team can include students, the school principal, teachers, parents, members of your community, and school administrators, as well as cleaning and maintenance staff. Although it's a good idea to involve a range of people, it's very important to remain focused on involving students. Opportunities for students to participate in planning can be built into the curriculum and into the role of the school's student bodies.
- You will need to assign roles for team members and be sure to keep notes of all SSP team meetings in order to make a record of discussions and major decisions.
- Teams can take many forms and sizes depending on individual schools. For example, the SSP could be linked to an existing school council or school club or, in small schools, the team might include only students.

3.2.2 Develop your vision.

Developing a shared vision is a vital part of the process of becoming a sustainable school. A vision statement is a declaration of a shared sense of purpose. A shared vision is an important element within your whole-school approach to environmental education.

There is no formula for what a vision statement should look like, how long it should be, or what it should include. It can be a short statement or a more comprehensive explanation of a preferred future. Once developed, a vision is not static but is part of a regular cycle of reflection, planning, and evaluation.



As your SSP team develops a vision, consider the following issues with respect to sustainability:

- where your school is now
- what relevant emerging issues or impacts are affecting your school community
- where your school wants to be in the future

3.2.3 Conduct a self-assessment.

The purpose of a self-assessment is to give a realistic picture of the school's current performance related to sustainability. It should tell you what you are doing well and what you might need to work on. You have to know where you are starting from so you can set realistic targets and measure your success.

Conducting a self-assessment is an essential first step in preparing your SSP and also a great way to initiate the work of your SSP team. Conducting a self-assessment allows your SSP team to determine the key issues facing your school community, preparing you to develop your SSP **Priorities** and **Expected Outcomes**. You should plan to carry out a self-assessment on an annual basis to help you update your SSP activities.

The SEdA Seminar for Education Leaders produced a [*Domain Framework for Whole System Approach to ESD*](#), which can be used to help participants determine the degree to which their division is approaching sustainability in a comprehensive manner. This table highlights the five domains of sustainability and identifies a number of sub-domains. This tool may be useful to

- illustrate the five domains of sustainability
- illustrate the breadth and comprehensive nature of sustainability for a division
- stimulate critical analysis and discussion about the current status of your division with respect to a comprehensive approach to sustainability
- illustrate the scope of a whole division action plan
- serve as a tracking tool for reporting progress on sustainability

As your SSP team conducts a self-assessment, consider the following:

- What are the key issues facing your school related to governance; curriculum, teaching, and learning; human capacity building; facilities and operations; and partnerships? A toolbox of resources (see [Section 4.0, Toolbox](#)) has been compiled for schools to use within each of these topics. For example: Is the school litter free? Does the school recycle cans, paper, computer cartridges, et cetera? Does the school compost and use recycled paper in disposable materials such as paper towels? Does the school turn off lights when not in use? Are windows and doors kept airtight to prevent draughts? Are windows kept closed while heating or air conditioning is on? Does the school avoid the use of aerosols in art lessons or by domestic staff? Does the school encourage walking or cycling to school and have healthy food choices? Do school grounds include gardens and/or areas of wildlife habitat other than those offered by grass on school fields? Do school toilets have water-saving devices fitted? Are sustainability issues discussed in lessons or in assemblies? How are inclusion, participation, and health and well-being addressed?
- Does your school division have an established sustainability policy and/or plans?
- Does your school already have sustainability plans or priorities established?
- Are there ways to collect input from the school community as part of the evaluation?

In addition to the SEdA Assessment Instrument on *Domain Framework for Whole System Approach to ESD*, there are other excellent resources and checklists available via download, which you may find useful in conducting your self-assessment. These resources and checklists can be adapted to suit your particular needs. More resources can be found in the toolkit.

- **UK Self-Evaluations** – <http://se-ed.co.uk/edu/sustainable-schools/quick-links-for-teachers/>
- **Eco-Schools Environmental Review Checklist** – <http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/>



3.2.4 Determine priorities, strategies, expected outcomes, and timelines.

Priorities should be developed based on the following key topics: Governance; Curriculum, Teaching, and Learning; Human Capacity Building; Facilities and Operations; and Partnerships.

A toolbox of resources (see [Section 4.0, *Toolbox*](#)) has been compiled for schools to use within each of these topics. Schools may use these resources throughout the process of developing, implementing and monitoring their SSP action plans.

As your SSP team develops Priorities, consider the following:

- **What key issues are affecting your school and local area?**
- **What established priorities and/or policies are in your school division?**
- **What opportunities do you have to consult with the broader school community and ensure ownership and willingness by the school community to implement the SSP?**
- **For each Priority, you will also need to come up with Strategies, Curriculum Connections, Expected Outcomes, Timeframes or Deadlines, Indicators, Data Collection Mechanisms, and Results. Strategies are the actions you undertake. Curriculum Connections are made along with possible learning activities. Expected Outcomes are the observable, measurable outcomes you are trying to realize. Timeframes or Deadlines are for realization of your outcomes. Indicators are the milestones to know you are making progress. Data Collection is how you collect evidence of progress. Results are the status, data, or anecdotal evidence.**

For each of your **Priorities** you will need to determine **Strategies**, as actions or activities, along with **Expected Outcomes**, or what you hope to achieve.

As your SSP team develops Strategies and Expected Outcomes, consider the following:

- **Start small and aim for the achievable.**
- **Focus on achieving specific and measurable outcomes (e.g., reducing litter and waste to landfill, reducing water and energy use, reducing greenhouse gas emissions, and increasing gardens areas and biodiversity). For example, you might decide to reduce litter in the yard and waste to landfill by 50 percent, reduce water use in the school by 15 percent and improve stormwater quality, reduce energy use and greenhouse gas emissions in the school by 15 percent, expand the area of gardens by 20 percent, and increase biodiversity in areas of the school ground by 50 percent, et cetera.**

- **Make use of existing frameworks, policies, and established operating procedures in the school.**
- **Make note of what resources you will need.**

Finally, record the **Timeframe** or **Deadline** to realize each **Expected Outcome**.

3.2.5 Make curriculum connections.

Connecting to the Curriculum gives relevance to the SSP activities and leads to real benefits both in terms of helping teachers to engage students and in creating real-life learning opportunities. Integrating these steps into teaching programs will give students important skills across all curriculum areas. Connecting your SSP to the curriculum also helps the whole school to get involved in raising understanding and knowledge of sustainability. Connecting to the Curriculum does not have to be onerous and it enhances the way in which lessons are delivered, while enriching learning experiences.



For example, if a class is working on manipulating numbers and presenting results graphically as part of math or on infusing technology as part of Learning with Information and Communication Technology (LwICT) <http://www.edu.gov.mb.ca/k12/tech/index.html>, real data relating to energy consumption can be collected and used as part of work on the energy-use improvements. This helps students to learn from a real-world situation and establishes the relevance for

the students to develop more sustainable behaviours. This example has applications in all subject areas, such as science and citizenship lessons, while investigating ways to reduce dependence on energy from fossil fuels.

Manitoba Education and Training has continued to integrate ESD into the Kindergarten to Grade 12 curriculum with specific outcomes established in science, social studies, health education and physical education, as well as with new curriculum being developed, in areas such as technical-vocational education. The learning outcomes are benchmarked at <http://www.edu.gov.mb.ca/k12/esd/correlations/charts/index.html>. Supporting these

curriculum-wide elements, the department has established a website for education for sustainable development with resources and supports for educators (www.edu.gov.mb.ca/k12/esd).

For more information on how to link your SSP into the curriculum and make use of learning opportunities as part of your SSP, visit the toolbox of resources (see Section 4.0, *Toolbox*), where you will find useful tools and web links. The department has already made the ESD curricular connections, which are available on the following links:

- <http://www.edu.gov.mb.ca/k12/esd/correlations/index.html>
- <http://www.edu.gov.mb.ca/k12/esd/resources.html>

3.2.6 Determine monitoring and evaluation activities – indicators and data collection techniques.

Schools should evaluate and monitor the effectiveness of their SSPs at regular intervals. While building your SSP, your team identified **Expected Outcomes** and the **Timeframe / Deadline** to realize your outcomes.

You will now determine

- **the Indicators you will look for—to know you are making progress; record this in your SSP**
- **the Data Collection techniques show you how to collect evidence of progress**

For example, you might monitor the amount of waste paper that is recycled by weighing the amount collected and keeping records, and then evaluate progress against the targets set in the SSP to see how successful you have been. This could be done by producing graphs showing reduction of waste or changes in amounts of paper collected.

Information and methods of gathering data as part of the monitoring and evaluation process will depend on the topics under investigation, and the age and ability of the students involved, but could include the following:

- **measurable improvements or cost savings—records from gas, water, and electricity bills**
- **litter/waste audits to show the effects of litter/recycling initiatives (e.g., weighing litter and material collected for recycling or composting)**
- **feedback from questionnaires and surveys or interviews—gaining personal impressions of the changes that have taken place from students, staff, residents, and the local community, which also complements whole-school involvement**

- graphs, charts, or photographs (e.g., before and after photographs)
- sick leave and absenteeism figures
- information on leadership opportunities and activities for students
- new opportunities or links to local or provincial organizations and businesses
- listing evidence of wildlife/species to show the effect of school grounds development

As your SSP team develops Indicators and Data Collection Techniques, consider the following:

- **Effective monitoring and evaluation is an ongoing part of any project and should be built into the entire process.**
- **Students should be actively involved in the gathering of evidence and given responsibility for carrying out the monitoring of SSP activities to give them a greater sense of ownership.**
- **Evaluation follows from monitoring. Evaluating the success of your activities will allow you to make changes to the SSP if required and allow you to judge the success of your activities and plan any necessary changes; continual monitoring will ensure that enthusiasm for the program is maintained throughout the school.**

The **Results** column in your SSP is used for communications and reporting.



3.2.7 Record baseline data.

While building your SSP, your team identified **Strategies** and **Expected Outcomes**. In order to measure your progress, you will need to record (or estimate) the current status of each area you hope to improve, creating your baseline data. For example, if one of your Expected Outcomes is to reduce litter in the yard by 50 percent, you will need to record (or estimate) the amount of litter before you start. Or, if your Expected Outcome is to reduce water use in the school by 15 percent, you could use a meter reading or water bill to record how much water you are currently using. Or, if one of your Expected Outcomes is to increase biodiversity in the school ground by 50 percent, you will need to measure or estimate the percentage of biodiversity before you begin. Keep in mind that many of the activities provide excellent learning opportunities for students!

3.2.8 Determine Reporting and Communications Activities.

Reporting and Communications Activities are key components of a sustainable school and for remaining accountable to school stakeholders. **Reporting and Communications Activities** are recorded on the first page of your SSP.

As your SSP Team develops Reporting and Communication Activities, consider the following:

- **posting and/or distributing your SSP results within the school, your school division and to your local community, including updates and descriptions of some of the SSP activities and progress in school assemblies, school website, letters or emails home to parents, articles in a local newsletter or paper, letters to the local authority/local recycling companies, or letters to local businesses seeking resources**
- **sharing results of resource use changes and savings (e.g., current costs of water use, energy use, and waste disposal, or current greenhouse gas emissions)**
- **sharing tips for parents to introduce sustainable practices at home (e.g., recycling, composting, cutting energy and water use, planting indigenous plants, gardening, healthy food)**
- **organizing a regular, school-wide “Day (or Week) of Action” as an opportunity for everyone in the school community to get together to work toward achieving some of the targets set out in your SSP**
- **conducting surveys within the school and wider community to seek input and opinions**
- **arranging for visitors from outside organizations and businesses**

3.3 Implementing Your SSP

Implementation is an essential step, without which nothing can be achieved. Lack of action can be very discouraging to staff and students. If the plan is not implemented, then there will obviously be no outcomes or progress.

While implementing your SSP, be sure to consider the following:

- **Who is responsible for specific actions?**
- **How will you aim to involve and update the whole school and community?**
- **Who is responsible for your data to provide evidence of progress and to keep track of Indicators toward reaching Expected Outcomes?**

3.4 Monitoring and Reporting on Your SSP

What have we done? What is the impact? What have we have learned?

To find out whether or not you are successfully achieving the **Expected Outcomes** in your SSP, you should monitor and measure your progress. As well as allowing you to judge the success of your **Strategies** and plan any necessary changes, a continuous monitoring process will help you to sustain interest in the program throughout the school. While building your SSP, your team identified **Expected Outcomes** (the observable, measurable outcomes you are trying to improve), the **Timeframe** or **Deadline** in or by which to realize your outcomes, **Indicators** (to know you are making progress), and the means for **Data Collection** (how you collect evidence of progress).



As your SSP team monitors and prepares to report on your progress, compare your **Baseline Data** with your final results and evaluate the success of your **Strategies**. Your **Results** or the status, data, or anecdotal evidence should be in the final column of your SSP for reporting purposes.

The methods of monitoring that you use will depend on the targets and measurement criteria set out in your SSP, as well as the age and ability of students. You may wish to consider the following forms of monitoring:

- **Encourage students to undertake the monitoring wherever possible to help foster a greater sense of ownership toward the project.**
- **Display the monitoring results (e.g., in graphs, charts) and use the data to deliver aspects of the curriculum; many types of evidence also provide valuable real-life data for curricular activities in areas such as math and ICT.**
- **Make sure that the whole school is kept up to date, perhaps by posting ongoing results on notice boards or by celebrating the achievement of an Expected Outcome in assembly.**
- **Produce a regular report.**
- **Retain collected data so that you have the evidence required to review your work.**

Finally, follow through with any of your pre-determined **Reporting and Communications Activities**.



SSP Template

School Name -

School Division -

Vision - What the school is hoping to achieve (one or two paragraphs)

SSP Team - Who is on the team and what their positions are

SSP Priorities - Information on the SSP team's priorities related to the following topics: Governance; Curriculum, Teaching, and Learning; Human Capacity Building; Facilities and Operations; and Partnerships

A Toolbox of resources (see Section 4.0) has been compiled for schools to use within each of these topics. Schools may use these resources throughout the process of developing, implementing, and monitoring their SSP Action Plans.

Record of Baseline Data - The baseline data will be used to indicate improvement and to assess outcomes.

Reporting and Communication Activities

Priority	Strategies What actions will you take? Who is responsible?	Curriculum Connections	Expected Outcomes What specifically are you trying to improve? (Observable, measurable)	Timeframe/ Deadline	Indicators How will you know you are making progress?	Data Collection By what means will you collect evidence of progress?	Results Status, data, or anecdotal evidence

Priority	Strategies What actions will you take? Who is responsible?	Curriculum Connections	Expected Outcomes What specifically are you trying to improve? (Observable, measurable)	Timeframe/ Deadline	Indicators How will you know you are making progress?	Data Collection By what means will you collect evidence of progress?	Results Status, data, or anecdotal evidence

Priority	Strategies What actions will you take? Who is responsible?	Curriculum Connections	Expected Outcomes What specifically are you trying to improve? (Observable, measurable)	Timeframe/ Deadline	Indicators How will you know you are making progress?	Data Collection By what means will you collect evidence of progress?	Results Status, data, or anecdotal evidence

4 TOOLBOX

This toolbox of resources has been compiled for schools to use within each of the key topics of an SSP. Schools may use these resources throughout the process of developing, implementing, and monitoring their SSPs and are encouraged to make suggestions about new resources to be added.

4.1 Governance

Governance provides a systemic approach to implementing Sustainable Development.

4.1.1 Global Dimension

Sustainable schools aim to integrate a global dimension that engages and motivates school staff and students. There is a global dimension to every aspect of life and communities and sustainability isn't something that can be achieved in isolation. The air we breathe, the food we eat, and the clothes we wear link us to people, ecosystems, and economies all over the world. The decisions we make on a daily basis have a global impact. Young people growing up today can look forward to spending their working lives as citizens of an increasingly complex world. Today's youth are part of a global society and need to be familiar with global issues and to feel empowered to play a part in sustaining our world. Sustainable schools that bring together a wide range of people and ideas have a great opportunity to foster global perspectives. The Global Dimension of sustainable schools helps learners maximize their potential in our global society. Students experience and act on sustainability issues in a personal and local way, while exploring the "ripple effect" through which local actions affect the wider world.



Manitoba Resources	
Organization/Title	Website URL
Canadian Foodgrains Bank	http://foodgrainsbank.ca/
First Nations Steering Committee— <i>Anti-Racism Toolkit Activity Set: Educational Activities for Use in Workshops and Classrooms</i>	http://www.fnesc.ca/publications/pdf/ARToolkitActivitySet.pdf
The Ladybug Foundation	http://www.ladybugfoundation.ca
Manitoba Conservation and Water Stewardship — <i>TomorrowNow: Manitoba's Green Plan</i>	http://www.gov.mb.ca/conservation/tomorrownowgreenplan/
Manitoba Council for International Cooperation	http://mcic.ca/
Manitoba Education and Training — Diversity Education	http://www.edu.gov.mb.ca/k12/diversity/index.html
Manitoba Education and Training — Education for Sustainable Development	http://www.edu.gov.mb.ca/k12/esd/
Manitoba Education and Advanced Learning — <i>Responding to Religious Diversity in Manitoba's Schools: A Guide for Educators</i>	http://www.edu.gov.mb.ca/k12/docs/support/religious_diversity/full_doc.pdf
The Marquis Project	http://www.marquisproject.com/
Pembina Trails School Division — Brush Out Poverty	http://www.pembinatrails.ca/Video%20library/BOP.html
Winnipeg Harvest	http://www.winnipegharvest.org/

Other Resources	
Organization/Title	Website URL
Canadian Teachers' Federation — Imagineaction	http://www.imagine-action.ca
Eco-Schools	http://www.eco-schools.org/partners/partners.htm
Facing the Future	http://facingthefuture.org

Other Resources	
Organization/Title	Website URL
Foreign Affairs, Trade and Development Canada — Global Classroom Initiative	http://www.acdi-cida.gc.ca/cidaweb/cpo.nsf/vWebCCEn?OpenView&RestrictToCategory=2239
Free the Children	http://www.freethechildren.com
Make Poverty History	http://www.makepovertyhistory.ca/
National Wildlife Federation — Fast Facts about Global Dimensions	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Global-Dimensions/Facts.aspx
National Wildlife Federation — Sample Global Dimensions Action Plan	www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Global-Dimensions/Action-Plan.aspx
National Wildlife Federation — Sample Global Dimensions Audit	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Global-Dimensions/Audit.aspx
National Wildlife Federation — Top Ten Tips to Develop Global Perspectives	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Global-Dimensions/Tips.aspx
TakingITGlobal	http://www.tigweb.org/tiged
UNESCO, World Conference on Education for Sustainable Development — Bonn Declaration	http://www.desd.org/ESD2009_BonnDeclaration080409.pdf
UNICEF Global Classroom	http://www.unicef.ca/en/teachers/article/global-classroom
United Nations—Legal Empowerment of the Poor and Eradication of Poverty	http://www.un.org/esa/socdev/documents/reports/Legal%20empowerment%20of%20the%20poor.pdf

4.1.2 Inclusion, Participation, Health, and Well-Being

Sustainable schools aim to be models of social inclusion, health, and well-being. Sustainable schools enable all learners to participate fully in school life while instilling a long-lasting respect for human rights, freedoms, culture, and creative expression. Schools have a crucial role to play in promoting the health of young people and shaping the attitudes and behaviours that affect it. Good health at an early age does not only help to avoid future health problems such as obesity and heart disease, it can also improve pupils' abilities to learn and their attitudes toward others. Sustainable schools promote community cohesion by providing an inclusive, welcoming atmosphere that values everyone's participation and contributions—irrespective of background, culture, age, religion, or ability—and by challenging prejudice and injustice in all its forms.

Manitoba Resources	
Organization/Title	Website URL
First Nations Steering Committee— <i>Anti-Racism Toolkit: Activity Set: Educational Activities for Use in Workshops and Classrooms</i>	http://www.fnesc.ca/publications/pdf/ARToolkitActivitySet.pdf
Food Matters Manitoba	http://www.foodmattersmanitoba.ca/
FortWhyte Alive	http://www.fortwhyte.org
Green Action Centre	http://www.greenactioncentre.ca
Green Action Centre — Active and Safe Routes to School	http://greenactioncentre.ca/program/asrts
The Ladybug Foundation	http://www.ladybugfoundation.ca
Manitoba Children and Youth Opportunities — MB4Youth	http://www.gov.mb.ca/cyo/youth/
Manitoba Council for International Cooperation	http://mcic.ca
Manitoba Education and Advanced Learning — <i>Responding to Religious Diversity in Manitoba's Schools: A Guide for Educators</i>	http://www.edu.gov.mb.ca/k12/docs/support/religious_diversity/full_doc.pdf
Manitoba Education and Training — Diversity Education	http://www.edu.gov.mb.ca/k12/diversity/index.html
Manitoba Education and Training Student Services — Philosophy of Inclusion	http://www.edu.gov.mb.ca/k12/specedu/aep/inclusion.html

Manitoba Resources

Organization/Title	Website URL
Manitoba Healthy Schools	http://www.gov.mb.ca/healthyschools/
Manitoba <i>in motion</i>	http://www.manitobainmotion.ca/
PEG	http://mypeg.ca/

Other Resources

Organization/Title	Website URL
Eco-Schools	http://www.eco-schools.org/
Keep Scotland Beautiful — Eco-Schools: Environmental Review Checklist	http://www.keeptscotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/
Keep Scotland Beautiful — Eco-Schools: Health and Well-Being	http://www.keeptscotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/health-and-well-being/
Make Poverty History	http://www.makepovertyhistory.ca/
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf



4.2 Curriculum, Teaching, and Learning

Students acquire and demonstrate the knowledge, skills, attitudes, and life practices that contribute to a sustainable future.

The sampling of organizations listed below provides teacher materials, information, and opportunities to help students participate in sustainable activities.

Manitoba Resources	
Organization/Title	Website URL
Aquavist	http://aquavist.ca/
ArtsJunktion	http://artsjunktion.mb.ca/
Assiniboine Park School and Group Programs	http://www.assiniboinepark.ca/zoo/home/learn-play/school-group-programs
Climate Change Connection — Resources are available on this website to help Manitobans understand climate change.	http://www.climatechangeconnection.org/
Green Manitoba — Education for Water Stewardship Workshop	http://greenmanitoba.ca/water-workshop/
Manitoba Conservation and Water Stewardship — The Climate and Green Initiatives section of Manitoba Conservation’s website contains a number of resources on the issue of climate change and ideas on ways to reduce personal greenhouse gas emissions.	http://www.gov.mb.ca/conservation/climate/index.html
Manitoba Conservation and Water Stewardship — Fisheries	http://www.gov.mb.ca/conservation/fish
Manitoba Conservation and Water Stewardship — Pollution Prevention	http://www.gov.mb.ca/conservation/pollutionprevention/index.html
Manitoba Conservation and Water Stewardship — <i>TomorrowNow: Manitoba’s Green Plan</i>	http://www.gov.mb.ca/conservation/tomorrownowgreenplan/
Manitoba Education — <i>Education for Sustainable Development: Kindergarten to Grade 12 Correlation Chart Template and Kindergarten Toolkit</i>	http://www.edu.gov.mb.ca/k12/esd/correlations/full_doc.pdf

Manitoba Resources	
Organization/Title	Website URL
Manitoba Education — <i>Lake Winnipeg: A Resource for Grade 12 Interdisciplinary Topics in Science (40S)</i>	http://www.edu.gov.mb.ca/k12/esd/lake_wpg/index.html
Manitoba Education — <i>Lake Winnipeg Water Stewardship: A Resource for Grade 8 Science</i>	http://www.edu.gov.mb.ca/k12/esd/water/index.html
Manitoba Education and Training — Community and Diversity: A Grade 4 Interdisciplinary Early Years Multimedia (IEYM) Unit for Teachers	http://www.edu.gov.mb.ca/k12/tech/imym/4/index.html
Manitoba Education and Training — Eco-Globe Schools — Recognition Program: Supporting Websites	http://www.edu.gov.mb.ca/k12/esd/eco_globe/support.html
Manitoba Education and Training — ESD Correlation Charts of Student Learning Outcomes	http://www.edu.gov.mb.ca/k12/esd/correlations/charts/index.html
Manitoba Education and Training — ESD: K–4 Poster Activities	http://www.edu.gov.mb.ca/k12/esd/poster_activities/index.html
Manitoba Education and Training — ESD Posters: K–4 and 5–12	http://www.edu.gov.mb.ca/k12/esd/poster.html
Manitoba Education and Training — Little Earth Charter	http://www.edu.gov.mb.ca/k12/esd/lec.html
Manitoba Education and Advanced Learning — <i>A Teacher’s Guide for the Video Sila Alangotok — Inuit Observations on Climate Change: A Resource for Senior 2 Science</i>	http://www.edu.gov.mb.ca/k12/docs/support/sila_video/
Manitoba Education and Advanced Learning — <i>“Refuse Refuse”: A Guide to Waste Reduction in Manitoba Schools</i>	http://www.edu.gov.mb.ca/k12/esd/resources.html
Manitoba Envirothon	http://www.thinktrees.org/Envirothon.aspx
Manitoba Forestry Association	http://www.thinktrees.org/
Manitoba Healthy Schools	http://www.gov.mb.ca/healthyschools/

Manitoba Resources	
Organization/Title	Website URL
Manitoba <i>in motion</i>	http://www.manitobainmotion.ca/
Manitoba Model Forest	http://www.manitobamodelforest.net
<i>Sustainable Happiness and Health Education: Teacher's Guide for Manitoba</i> by Catherine O'Brien	http://sustainablehappiness.ca/wp-content/uploads/2013/01/SH-Teachers-Guide-MAN.pdf
What's Your H2O IQ?	http://www.h2oiq.ca/
Environment	
FortWhyte Alive	http://www.fortwhyte.org
FortWhyte Alive School Programs	http://www.fortwhyte.org/schoolprograms
FortWhyte Alive — Slow the Flow Water Education Program	http://www.fortwhyte.org/slowtheflow
Green Kids	http://www.greenkids.com/
Living Prairie Museum — Environmental Education	http://www.winnipeg.ca/publicworks/parksOpenSpace/livingprairie/
Manitoba Nature Summit	http://www.naturesummitmb.com/
Science Council Manitoba	http://www.scmb.mb.ca
The Manitoba Student Transportation Network	http://thegreenpages.ca/mb/2007/03/the_manitoba_student_transport/
The Marquis Project	http://www.marquisproject.com
Oak Hammock Marsh Interpretive Centre	http://www.oakhammockmarsh.ca/learn/
Prairie Wildlife Rehabilitation Centre	http://pwildlife.ca/
University of Manitoba — Environmental Conservation Lab	http://umanitoba.ca/faculties/environment/research/facilities
<i>Water on the Land: Sustainable Stormwater Management Guide</i>	http://greenmanitoba.ca/umedia/Water-on-the-Land-Mar_1-2013.pdf
Youth Encouraging Sustainability (Y.E.S.)	http://www.scmb.mb.ca/pages/yes.html

Manitoba Resources	
Organization/Title	Website URL
Human Health and Well-Being	
Food Matters Manitoba	http://www.foodmattersmanitoba.ca/
Manitoba Children and Youth Opportunities — MB4Youth	http://www.gov.mb.ca/cyo/youth
Manitoba Council for International Cooperation	http://mcic.ca/
Manitoba Healthy Schools	http://www.gov.mb.ca/healthyschools
Moving Around Manitoba	http://www.movingaroundmanitoba.ca
Project Peacemakers	http://www.projectpeacemakers.org/ content/resources
Routes on the Red	http://www.routesonthered.ca



Manitoba Resources	
Organization/Title	Website URL
Economy	
Brush Out Poverty	http://www.pembinatrails.ca/Video Library/BOP.html
The Ladybug Foundation	http://www.ladybugfoundation.ca
Manitoba Education — “Globalization” handout	http://www.edu.gov.mb.ca/k12/cur/socstud/foundation_gr8/blms/8-5-2g.pdf
The Marquis Project — The Fair Game — Role play for Grades 10–12; costs and benefits of world trading systems	http://www.marquisproject.com/?page_id=152

Other Resources	
Organization/Title	Website URL
350 — This international campaign is building a movement to unite the world around solutions to the climate crisis.	http://www.350.org/
Affluenza — This site was inspired by the PBS special <i>Affluenza</i> , a documentary on the consumption culture of America.	http://www.pbs.org/kcts/affluenza/map/map.html
Canadian Association for School Health	http://www.cash-aces.ca/
Canadian Centre for Pollution Prevention — CONSUME THIS! Buying That Matters — This online youth-friendly booklet introduces sustainable consumption.	http://www.returnschool.ca/youthcentre/consumethis
The Center for a New American Dream — This is a campaign to educate young people about the connections between consumer choices and environmental and social issues.	http://www.newdream.org/
Climate Change Connection “Turn Your Key — This School is Idle-Free” — This site provides information on how to make your school an idle-free zone.	http://www.climatechangeconnection.org/Solutions/transportation/idling/turn-your-key-presentations/

Other Resources	
Organization/Title	Website URL
Climate Change: Youth Guide to Action — This comprehensive guide by TakingITGlobal leads young people through the steps toward effective action against climate change.	http://tig.phpwebhosting.com/guidetoaction/Climate_Guide_to_Action_en.pdf
The David Suzuki Foundation — This site provides useful suggestions on ways to lighten your ecological footprint.	http://www.davidsuzuki.org/what-you-can-do
The Earth Charter Initiative	http://earthcharter.org/
Ecological Footprint Calculators — The Ecological Footprint measures the amount of nature's resources an individual, a community, or a country consumes in a given year.	http://www.earthday.org/footprint-calculator http://www.wwf.panda.org/how_you_can_help/live_green/footprint_calculator/ http://footprintnetwork.org/en/index.php/GFN/page/calculators/
Education for Sustainable Development Toolkit by Rosalyn McKeown	http://www.esdtoolkit.org/
Green Action Centre	http://greenactioncentre.ca
Green Learning	http://www.greenlearning.ca/
Government of Canada — Canada's Action on Climate Change	http://www.climatechange.gc.ca/
Health Canada — Healthy Living	http://www.hc-sc.gc.ca/hl-vs/index-eng.php
Learning for a Sustainable Future — Professional Development	http://www.lsf-lst.ca/en/projects/teacher-resources/professional-development/
Learning for a Sustainable Future — Resources for Rethinking (R4R) — A database of high quality resources available to teachers	http://r4r.ca/en/
Loop Scoops — videos for Early Years students	http://pbskids.org/loopscoops/
Resource Racket: A Global Perspective on Resources and Consumption — Lesson plan for Grade 8 to 12	http://www.bestlibrary.org/ss11/files/The-Resource-Racket-A-Global-Perspective-on-Resources-and-Consumption-Lesson-Kit.pdf
The Story of Bottled Water	http://storyofstuff.org/movies/story-of-bottled-water/

Other Resources	
Organization/Title	Website URL
The Story of Electronics	http://storyofstuff.org/movies/story-of-electronics/
The Story of Stuff Video	http://storyofstuff.org/movies/story-of-stuff/
UNESCO — Teaching and Learning for a Sustainable Future – A multi-media teacher education programme	http://www.unesco.org/education/tlsf
WWF Earth Hour — Earth Hour is an international event created by WWF with the goal of getting as many individuals, schools, and businesses as possible to turn off their lights for one hour.	http://wwf.ca/earthhour/
YouthXChange is designed to assist teachers (Middle to Senior Years) in raising and acquiring awareness of the opportunities offered by the adoption of more sustainable consumer choices in a youth-friendly format.	http://www.youthxchange.net/



Other Resources	
Organization/Title	Website URL
Environment	
Anthesis Consulting Group—“What is your ecological footprint?”	http://ecologicalfootprint.com/
Canada Green — Natural Products	http://www.cagreen.ca/
Canadian Geographic	http://www.canadiangeographic.ca
Canadian Wildlife Federation	http://www.cwf-fcf.org
Clean Air Day (June)	http://greenactioncentre.ca/content/clean-air-day/
Climate Change Connection — Resources	www.climatechangeconnection.org/Resources/
The David Suzuki Foundation — 30 x 30 Nature Challenge	http://www.30x30.davidsuzuki.org/
Ducks Unlimited Canada — Project Webfoot	http://www.ducks.ca/initiatives/project-webfoot/
Ducks Unlimited — Wetlands	http://www.ducks.ca/our-work/wetlands/
EcoKids	http://www.ecokids.ca
Evergreen	http://www.evergreen.ca/en/
Get to Know — Virtual Hikes	http://www.get-to-know.org/hikes/
Green Action Centre — Active and Safe Routes to School	http://greenactioncentre.ca/program/asrts/
Green Action Centre — Commuter Challenge (June)	http://greenactioncentre.ca/program/commuterchallenge
Green Action Centre — Composting	http://greenactioncentre.ca/program/composting
Green Action Centre — Environmental Speakers Bureau	http://greenactioncentre.ca/program/environmental-speakers-bureau/
GreenHeart Education	http://www.greenhearted.org/
Monarch Teacher Network	http://www.monarchteacher.ca/
SEEDS — Green Schools	http://www.greenschools.ca/

Other Resources	
Organization/Title	Website URL
Sierra Club BC	http://www.sierraclub.bc.ca/
WasteFreeLunches.org	http://www.wastefreelunches.org
World Carfree Day (September)	http://www.worldcarfree.net/wcfd/
World Wildlife Federation — Schools for a Living Planet	http://www.schoolsforalivingplanet.com
Human Health and Well-Being	
Canadian Council on Learning (CCL)	http://www.ccl-cca.ca
Canadian Red Cross	http://www.redcross.ca
The Earth Charter Initiative	http://www.earthcharter.org/
First Nations Steering Committee— <i>Anti-Racism Toolkit: Activity Set: Educational Activities for Use in Workshops and Classrooms</i>	http://www.fnesc.ca/publications/pdf/ARToolkitActivitySet.pdf
Green Action Centre — Active and Safe Routes to School	http://greenactioncentre.ca/program/asrts
Health Canada — Healthy Living	http://www.hc-sc.gc.ca/hl-vs/index_e.html
Manitoba Education and Advanced Learning — <i>Responding to Religious Diversity in Manitoba's Schools: A Guide for Educators</i>	http://www.edu.gov.mb.ca/k12/docs/support/religious_diversity/full_doc.pdf
National Youth Leadership Council — Service-Learning Conference	http://www.nylc.org
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
UNESCO — ASPnet (Associated Schools Project Network)	http://www.unesco.org/education/asp
UNICEF Voices of Youth (action projects, youth forums and online discussions)	http://www.voicesofyouth.org

Other Resources	
Organization/Title	Website URL
Economy	
The Canadian Foundation for Economic Education — The Building Futures Network	http://www.buildingfuturesnetwork.com
Foreign Affairs, Trade and Development Canada	http://www.international.gc.ca/international/index.aspx
Make Poverty History	http://www.makepovertyhistory.ca/
United Nations Millenium Development Goals	http://www.un.org/millenniumgoals/
War Child Canada	http://www.warchild.ca/
The World Bank Group	http://www.worldbank.org/

4.3 Human Capacity Building

Human resources policies, practices, and development plans are aligned with sustainable development principles.

4.3.1 Research and Reports

Manitoba Resources	
Organization/Title	Website URL
Manitoba. (1997). <i>The Sustainable Development Act</i> , C.C.S.M. c. S270.	http://web2.gov.mb.ca/laws/statutes/ccsm/s270e.php
Manitoba Education and Training — ESD Research	http://www.edu.gov.mb.ca/k12/esd/research.html

Other Resources	
Organization/Title	Website URL
Barrs, R., & Lees, E. (2002). <i>School ground greening: A policy and planning guidebook.</i>	http://www.evergreen.ca/downloads/pdfs/School-Ground-Greening-Policy-Planning.pdf
Bell, A. C., & Dymont, J. E. (2006). <i>Grounds for action: Promoting physical activity through school ground greening in Canada.</i>	http://www.evergreen.ca/downloads/pdfs/Grounds-For-Action.pdf
Claire Warden	http://www.claire-warden.com/
Dymont, J. E. (2005). <i>Gaining ground: The power and potential of school ground greening in the Toronto District School Board.</i>	http://www.evergreen.ca/downloads/pdfs/Gaining-Ground.pdf
Evergreen. (2006). <i>Shade for kids: A policy primer for school boards.</i>	http://www.evergreen.ca/downloads/pdfs/shade_online.pdf
Fien, J. (2003). <i>Learning to care: Education and compassion.</i>	http://www.griffith.edu.au/_data/assets/pdf_file/0018/314613/fien03.pdf
Fien, J., & Maclean, R. (2000, Mar.). Teacher education for sustainability. II. Two teacher education projects from Asia and the Pacific. <i>Journal of Science Education and Technology</i> , 9(1), 37–48.	http://link.springer.com/article/10.1023%2FA%3A1009420923692#page-1
Gough, A. (2005). Sustainable schools: Renovating educational processes. <i>Applied Environmental Education and Communication</i> , 4, 339–351.	http://www.aeiforum.eu/images/bibliography/en/sustainable_schools.pdf
Gough, A., & Sharpley, B. (2005). <i>Educating for a sustainable future: A national environmental education statement for Australian schools.</i>	http://www.environment.gov.au/resource/educating-sustainable-future-national-environmental-education-statement-australian-schools
<i>Hands for nature: A volunteer management handbook.</i> (2003).	https://www.evergreen.ca/downloads/pdfs/Hands-For-Nature.pdf
Henderson, K., & Tilbury, D. (2004). <i>Whole-school approaches to sustainability: An international review of whole-school sustainability programs.</i>	http://www.aries.mq.edu.au/projects/whole_school/files/international_review.pdf

Other Resources	
Organization/Title	Website URL
Ministry of Education, British Columbia. (2010). <i>Sustainable Schools Best Practices Guide</i> .	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
Moore, R. C. (2014). <i>Nature play and learning places: Creating and managing places where children engage with nature</i> . Raleigh, NC: Natural Learning Initiative, and Reston, VA: National Wildlife Federation. Version 1.3.	http://natureplayandlearningplaces.org
Mundy, K. (2007). <i>Charting global education in Canada's elementary schools: Provincial, district and school level perspectives</i> .	http://www.unicef.ca/sites/default/files/imce_uploads/UTILITY%20NAV/TEACHERS/DOCS/GC/ChartingGlobalEducationinElementarySchools.pdf
Parkin, S., Johnston, A., Buckland, H., Brookes, F., & White, E. (2004). <i>Learning and skills for sustainable development: Developing a sustainability literate society</i> .	http://www.forumforthefuture.org/sites/default/files/project/downloads/learningandskills.pdf
Raffan, J. (2000). <i>Nature nurtures: Investigating the potential of school grounds</i> .	http://www.evergreen.ca/downloads/pdfs/Nature-Nurtures-Summary.pdf
Tilbury, D., Podger, P., & Reid, A. (2004). <i>Action research for change towards sustainability: Change in curricula and graduate skills towards sustainability, Final report</i> .	http://aries.mq.edu.au/publications/other/Education/ACTS_Report.pdf
UNECE. (2005). <i>UNECE strategy for education for sustainable development</i> . Economic Commission for Europe: Committee on Environmental Policy; CEP/AC.13/2005/3/Rev.1; III.14; 23 March 2005.	http://www.unece.org/env/documents/2005/cep/ac.13/cep.ac.13.2005.3.rev.1.e.pdf
UNESCO. (2005). <i>UN decade of education for sustainable development, 2005–2014</i> . Executive Board Report by the Director General on the United Nations Decade of Education for Sustainable Development 172 EX/11. Paris: UNESCO.	http://unesdoc.unesco.org/images/0014/001416/141629e.pdf

4.3.2 Funding, Scholarships, and Reward and Recognition Programs

Manitoba Resources	
Organization/Title	Website URL
Eco-Globe Program	http://www.edu.gov.mb.ca/k12/esd/eco_globe/criteria.html
Lake Winnipeg Foundation	http://www.lakewinnipegfoundation.org/
Manitoba Eco-Network — Environmental Funding Guide	http://www.mbeconetwork.org/resources/funding-guide
Manitoba Education and Training/ Manitoba Hydro Grants for Education for Sustainable Development	http://www.edu.gov.mb.ca/k12/esd/grant/index.html
Manitoba Excellence in Sustainability Awards	http://www.gov.mb.ca/conservation/susresmb/mrtsd/ mesa
Manitoba Hydro Forest Enhancement Program	https://www.hydro.mb.ca/community/forest_enhancement/
Waste Reduction and Pollution Prevention (WRAPP) Fund	http://www.gov.mb.ca/conservation/pollutionprevention/wrapp/wrappfund.html



Other Resources	
Organization/Title	Website URL
Caring for Our Watersheds	http://caringforourwatersheds.com/
Environment Canada — EcoAction Community Funding Program	http://www.ec.gc.ca/ecoaction
Evergreen — Get Involved: Funding Opportunities	http://www.evergreen.ca/get-involved/funding-opportunities/
Honda Canada Foundation	http://www.hondacanadafoundation.ca/default.htm
Learning for a Sustainable Future Action Project Funding	http://www.lsf-1st.ca/en/projects/teacher-resources/action-project-funding
Resources for Rethinking — EcoLeague Action Project Funding	http://www.ecoleague.ca/en/gen/about.php
SEEDS	http://www.seedsfoundation.ca
Shell Canada — Funding Guidelines and Process	http://www.shell.ca/en/environment-society/social-investment/funding-guidelines-process.html
TD Friends of the Environment Foundation	http://www.fef.td.com/
Tree Canada	http://treecanada.ca/en

4.3.3 Policies

Manitoba Resources	
Organization/Title	Website URL
<i>Domain Framework for Whole System Approach to ESD</i>	http://www.edu.gov.mb.ca/k12/esd/pdfs/seda_domain_framework.pdf
International Institute for Sustainable Development — <i>Sustainability Policies at the School Division Level in Manitoba</i>	http://www.iisd.org/pdf/2009/sd_policies_mb_school_division.pdf
Manitoba. (1997). <i>The Sustainable Development Act</i> , C.C.S.M. c. S270.	http://web2.gov.mb.ca/laws/statutes/ccsm/s270e.php
Winnipeg School Division — Sustainable Development Plan	https://www.winnipeg.ca/About%20WSD/sustainabledevelopment/Documents/Sustainable%20Development%20Plan%202014.pdf

4.3.4 Case Studies

Other Resources	
Organization/Title	Website URL
Australian Government — AuSSI Case Studies	http://www.olr.npi.gov.au/education/aussi/case-studies/index.html
Eco-Schools England — Case Studies	http://www.eco-schools.org.uk/gettingstarted/casestudies
<i>Evaluation of Eco-Schools Scotland</i>	http://files.eric.ed.gov/fulltext/ED497546.pdf

4.3.5 Events

Manitoba Resources	
Organization/Title	Website URL
IISD Events	http://www.iisd.org/calendar
Manitoba Eco-Network Events	http://www.mbeconetwork.org/
Manitoba Sustainability Initiatives Directory	http://msid.ca/home

Other Resources	
Organization/Title	Website URL
UNECE Events	http://www.unece.org/



4.4 Facilities and Operations

4.4.1 Building and Grounds Management

Sustainable schools aim to manage and, where possible, design their buildings in ways that visibly demonstrate sustainability to everyone who uses the school. The way school buildings are designed, constructed, and managed also affects their ability to “teach” students about sustainable living. For example, materials and equipment purchases provide opportunities to highlight sustainable practices, while the inclusion of food growing, biodiversity conservation, and natural play in school grounds increases learning value.

School grounds have great potential as a location and context for learning. Through their grounds, schools can bring students closer to the natural world, capture their imaginations in outdoor play, and help them learn about sustainable living. As today’s schools are challenged to increase both energy efficiency and testing scores for students, redesigning the school grounds and reclaiming the landscape as an outdoor classroom can assist schools in achieving both objectives. Surveys of school grounds and the local area can identify how the grounds are managed, used, and valued. Schools can undertake biodiversity investigations that inspire native gardens or students may look at patterns of use for design and technology projects. The school grounds provide an engaging, hands-on, and real-world location for teaching concepts in a variety of disciplines. Research has demonstrated that in all discipline areas, students who are given the opportunity to directly engage in outdoor education and experiential learning have been able to significantly increase their capacity for learning. Teachers can integrate student learning into the development of the SSP through many types of investigations. Investigations can lead to implementing changes in which the whole-school community can become involved.

Manitoba Resources	
Organization/Title	Website URL
Canada Green Building Council, Manitoba Chapter	https://www.cagbc.org/CAGBC/Chapters/Manitoba/Manitoba_Region_Chapter.aspx
Green Action Centre	http://greenactioncentre.ca
Green Manitoba	http://greenmanitoba.ca/home
Manitoba Conservation and Water Stewardship — Climate and Green Initiatives	http://www.gov.mb.ca/conservation/climate/index.html

Manitoba Resources	
Organization/Title	Website URL
Manitoba Education and Training — Education for Sustainable Development: Resources	http://www.edu.gov.mb.ca/k12/esd/resources.html
Manitoba Education and Advanced Learning — “Refuse Refuse”: A Guide to Waste Reduction in Manitoba Schools	http://www.edu.gov.mb.ca/k12/esd/resources.html
Oak Hammock Marsh Interpretive Centre	http://www.oakhammockmarsh.ca/learn/
<i>Water on the Land: Sustainable Stormwater Management Guide</i>	http://greenmanitoba.ca/umedia/Water-on-the-Land-Mar_1-2013.pdf

Other Resources	
Organization/Title	Website URL
Bell, A. C., & Dymont, J. E. (2006). <i>Grounds for action: Promoting physical activity through school ground greening in Canada.</i>	http://www.evergreen.ca/downloads/pdfs/Grounds-For-Action.pdf
Bienenstock Natural Playgrounds	http://www.naturalplaygrounds.ca/
Eco-Schools: Programme Materials	http://www.eco-schools.org.uk/gettingstarted/programmematerials
Eco-Schools USA School Grounds Audit (sample)	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/School-Grounds/~/_media/PDFs/Eco-schools/schoolgroundsaudit10-14-09.ashx
Education Scotland — Schools Global Footprint	http://www.ltscotland.org.uk/sustainabledevelopment/findresources/globalfootprint/index.asp
Evergreen	http://www.evergreen.ca
Evergreen — School Ground Greening	http://www.evergreen.ca/get-involved/resources/school-ground-greening/

Other Resources	
Organization/Title	Website URL
Foundation for Environmental Education — Eco-Schools	http://www.eco-schools.org/partners/partners.htm
GreenLearning	http://www.greenlearning.ca/
<i>Hands for nature: A volunteer management handbook</i>	https://www.evergreen.ca/downloads/pdfs/Hands-For-Nature.pdf
Keep Scotland Beautiful — Eco-Schools: Environmental Review	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/
National Wildlife Federation — Featured Case Studies	https://www.nwf.org/Eco-Schools-USA/Become-an-Eco-School/Case-Studies/Case-Study-Archive/School-Grounds.aspx
National Wildlife Federation — Sample Schoolyard Habitats Action Plan	http://www.nwf.org/Eco-Schools-USA/Become-an-Eco-School/Pathways/Schoolyard-Habitats/Action-Plan.aspx
National Wildlife Federation — Schoolyard Habitats	http://www.nwf.org/Get-Outside/Outdoor-Activities/Garden-for-Wildlife/Schoolyard-Habitats.aspx
Natural Playgrounds	http://www.naturalplaygrounds.com/
<i>Nature nurtures: Investigating the potential of school grounds. Executive Summary.</i>	http://www.evergreen.ca/downloads/pdfs/Nature-Nurtures-Summary.pdf
Ontario EcoSchools — <i>Biodiversity Education Factsheet</i>	http://www.ontarioecoschools.org/wp-content/uploads/2015/09/Biodiversity_Factsheet.pdf
Ontario EcoSchools — <i>School Ground Greening: Designing for Shade and Energy Conservation</i>	http://www.ontarioecoschools.org/wp-content/uploads/2014/09/SGG.pdf
<i>Queensland Sustainable Schools—“What Is a Sustainable School?”</i>	http://www.sustainableschools.qld.edu.au/Default.aspx?tabid=574

Other Resources

Organization/Title	Website URL
<i>Schools for the Future: Designing School Grounds</i>	https://www.gov.uk/government/publications/school-grounds-and-outdoor-space
<i>Shade for kids: A policy primer for school boards</i>	http://www.evergreen.ca/downloads/pdfs/shade_online.pdf
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf



4.4.2 Energy

Sustainable schools aim to be models of sustainable energy use. Sustainable schools save money year upon year and also have a positive impact on climate change by reducing emissions of carbon dioxide from energy use and enhancing sustainability while realizing long-term dollar savings through the efficient use of all forms of energy, water, and other resources. Our energy needs are met primarily by non-renewable sources including gas, oil, and coal, and energy use is a major proportion of non-staff costs in schools and a major part of schools' ecological impact. Energy use is a worldwide concern. Everyone, including schools, has an important role to play in finding more efficient ways to manage energy and reduce carbon dioxide emissions. By implementing energy-conservation measures and using energy-efficient technologies, schools can significantly cut their energy use. The result is financial savings, as well as a reduced ecological impact. Savings achieved in building operating budgets can be redirected; public image is enhanced by demonstrating a commitment to fiscal and ecological responsibility.

Manitoba Resources	
Organization/Title	Website URL
Aquavist	http://aquavist.ca/
City of Winnipeg — Water Conservation	http://www.winnipeg.ca/waterandwaste/water/conservation/default.stm
Climate Change Connection	http://www.climatechangeconnection.org
EnergyManitoba.org	http://www.energymanitoba.org
FortWhyte Alive — Slow The Flow Water Education Program	http://www.fortwhyte.org/slowtheflow
Green Action Centre	http://greenactioncentre.ca
Green Manitoba	http://greenmanitoba.ca/home
Manitoba Conservation and Water Stewardship — Climate and Green Initiatives	http://www.gov.mb.ca/conservation/climate/index.html
Manitoba Hydro — Be Power Smart	http://www.hydro.mb.ca/your_home/what_is_power_smart/index.shtml

Manitoba Resources	
Organization/Title	Website URL
Manitoba Hydro — Louie's Corner	http://www.hydro.mb.ca/education/louies_corner.shtml
Manitoba Municipal Government Energy Division	http://www.gov.mb.ca/ia/energy/
thegreenpages.ca — Manitoba Student Transportation Network	http://thegreenpages.ca/mb/2007/03/the_manitoba_student_transport

Other Resources	
Organization/Title	Website URL
American Wind Energy Association	http://awea.org/
Canadian Solar Industries Association	http://cansia.ca/
Canadian Wind Energy Association	http://canwea.ca/
Earth Hour	https://www.earthhour.org/
Eco-Schools England	http://www.eco-schools.org.uk/
Eco-Schools England — <i>Eco-Schools and the Pod: A Reference Guide</i>	http://www.eco-schools.org.uk/AssetLibraryFiles/EcoSchoolsPODbooklet_FINAL_1202.pdf
Education Scotland — Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/index.asp
Education Scotland — Sustainable Development Education	http://www.educationscotland.gov.uk/learningandteaching/learningacrossthecurriculum/themesacrosslearning/globalcitizenship/sustainabledevelopment/introduction.asp
European Wind Energy Association	http://ewea.org/
Foundation for Environmental Education — Eco-Schools	http://www.eco-schools.org/partners/partners.htm
Keep Scotland Beautiful — Eco-Schools: Energy	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/energy/

Other Resources	
Organization/Title	Website URL
Keep Scotland Beautiful — Eco-Schools: Environmental Review	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/
National Oceanic and Atmospheric Administration	http://www.noaa.gov/index.html
National Wildlife Federation — Energy Pathway — Energy Audit	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Energy/Audit.aspx
National Wildlife Federation — Energy Pathway — Fast Facts	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Energy/Facts.aspx
National Wildlife Federation — Energy Pathway — Sample Action Plan	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Energy/Action-Plan.aspx
National Wildlife Federation — Energy Pathway — Top 10 Tips to Minimize Energy Use	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Energy/Tips.aspx
Natural Resources Canada — CanmetENERGY	http://www.nrcan.gc.ca/energy/offices-labs/canmet/5715
Ontario Eco-Schools — <i>EcoReview: Energy Conservation</i>	http://www.ontarioecoschools.org/wp-content/uploads/2014/11/EcoReview_EnergyCon_fillableENFIN.pdf
Ontario Eco-Schools — <i>Platinum Energy Conservation Action Plan</i>	http://www.ontarioecoschools.org/wp-content/uploads/2014/12/Platinum_Energy_Cons_Action_Plan1.pdf
Ontario EcoSchools — <i>Energy Conservation Learning Activities by Grade (1–8)</i>	http://www.ontarioecoschools.org/wp-content/uploads/2014/11/1EN_EconEner1_8FIN.pdf
Ontario Eco-Schools — <i>Energy Conservation — Walkabout Worksheet</i>	http://www.ontarioecoschools.org/wp-content/uploads/2014/11/WAW-Energy2014FIN.pdf

Other Resources	
Organization/Title	Website URL
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
Top Tips to Reduce Energy and Water Use in Schools	https://www.gov.uk/government/publications/top-tips-to-reduce-energy-and-water-use-in-schools

4.4.3 Food

Sustainable schools aim to be model suppliers of healthy, sustainable food and drink, showing strong commitments to Earth, ethical responsibility, and respect for animal welfare in their food and drink provisions, and also maximizing use of local suppliers. There are many steps schools can take, both small and large, that can have a positive and significant effect on sustainability and most also will have a positive effect upon school budgets. Healthy, ethically sourced food can offer nutritional benefits while protecting Earth and supporting local producers and suppliers.

Manitoba Resources	
Organization/Title	Website URL
Fair Trade Manitoba	http://fairtrademanitoba.ca/
Farmers' Markets Association of Manitoba	http://www.manitobafarmersmarkets.ca/
Food Matters Manitoba	http://www.foodmattersmanitoba.ca/
Food Matters Manitoba — <i>Health Impacts of Eating Locally: Nutrition and the 100 Mile Diet</i>	http://foodmattersmanitoba.ca/sites/default/files/Manitoba and the 100 Mile Diet.pdf
Manitoba Healthy Schools — Healthy Food in Schools	http://www.gov.mb.ca/healthyschools/foodinschools/index.html
Organic Food Council of Manitoba — Growing Up Organic	http://organicfoodcouncil.org/index.php/32-site-content/ofcm-archives/53-growing-up-organic

Other Resources

Organization/Title	Website URL
Keep Scotland Beautiful — Eco-Schools: Food and the Environment	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/food-and-the-environment/
Keep Scotland Beautiful — Eco-Schools: Health and Well-Being	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/health-and-well-being/
Recycle Everywhere	http://www.recycleeverywhere.ca/
<i>Top Tips for School Food and Catering Services</i>	http://www.education.gov.uk/publications/eOrderingDownload/00631-2009LEF-EN.pdf



4.4.4 Purchasing and Procurement

Sustainable schools aim to be models of waste minimization and sustainable procurement. Sustainable procurement or purchasing is the process of making and managing buying choices, which takes into account the impact of those choices on sustainable development. Sustainable schools use goods and services of high ecological and ethical standards from local sources where practicable, increasing value for money by reducing, reusing, repairing, composting, and recycling as much as possible. All procurement decisions will have some impact on sustainability—a good procurement decision is one that evaluates impacts in the same way that other procurement factors are evaluated. Initial cost, quality, durability, running costs, management, and disposal issues need to be assessed and will all influence the final procurement decision. Ecologically friendly purchasing decisions can positively affect a school’s waste and recycling systems. When purchasing materials (and services), schools can reduce their environmental impacts through some very simple choices, (e.g., investigating recycled copy paper use and recycling). Student investigations focusing on alternative materials, production cycles, or reuse options can inform these choices.

Manitoba Resources	
Organization/Title	Website URL
Green Action Centre — Green Purchasing	http://greenactioncentre.ca/live/green-purchasing
Green Manitoba	http://greenmanitoba.ca/home
Manitoba Infrastructure and Transportation — Green Procurement	http://www.gov.mb.ca/mit/psb/green.html
MDA Products and Services	http://www.mda.gov.mb.ca/mda-products-services.html
<i>Resource Racket: A Global Perspective on Resources and Consumption</i> (Lesson Plan)	http://www.bestlibrary.org/ss11/files/The-Resource-Racket-A-Global-Perspective-on-Resources-and-Consumption-Lesson-Kit.pdf
Sustainable Procurement in Manitoba	http://manitobasustainableprocurement.com/

Other Resources	
Organization/Title	Website URL
<i>A Bursar's Guide to Sustainable School Operation</i>	http://se-ed.co.uk/edu/a-bursars-guide-to-sustainable-school-operation/
Canada Green Natural Products	http://www.cagreen.ca
The David Suzuki Foundation — Reduce Your Carbon Footprint	http://www.davidsuzuki.org/what-you-can-do/reduce-your-carbon-footprint/four-places-to-cut-your-carbon/?gclid=C0an7s6Nz70CFYY7MgodkSkAtA
Ecological Footprint Calculators — The Ecological Footprint measures the amount of nature's resources an individual, a community, or a country consumes in a given year.	http://www.earthday.org/footprint-calculator http://wwf.panda.org/how_you_can_help/live_green/footprint_calculator/ http://ecologicalfootprint.com/
Eco-Schools England	http://www.eco-schools.org.uk/
Education Scotland — About Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/about/index.asp
Education Scotland — Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/index.asp
Keep Scotland Beautiful — Eco-Schools: Environmental Review	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/
My Sustainable Canada — <i>CONSUME THIS! Buying That Matters</i>	http://www.mysustainablecanada.org/publications/case-studies/79-consume-this-buying-that-matters.html
<i>Top Tips for Sustainable Purchasing in Schools</i>	http://webarchive.nationalarchives.gov.uk/20130401151715/http://www.education.gov.uk/publications/eOrderingDownload/sustainable_purchasing_top_tips.pdf

4.4.5 Transportation, Travel, and Traffic

Sustainable schools aim to be models of sustainable travel, where vehicles are used only when absolutely necessary and where there are exemplary facilities for healthier, less polluting, or less dangerous modes of transport. We have become a car-dependent society. The result is a growing list of environmental, social, and health impacts. Transport issues directly affect schools and staff and students in terms of road safety, ecosystem impacts, and health and fitness. Rising vehicle use adds to congestion, road accidents, and pollution, including carbon emissions. Car-sharing and public transportation help to ease these concerns, while walking and cycling also boost fitness and well-being. Students often ride everywhere in vehicles, even when they have the option to walk, bike, or use public transportation, which is contributing to a growing epidemic of childhood obesity. Sustainable schools promote sustainable travel to school, including advice on working with local authorities and communicating with parents, staff, and, of course, students. Sustainable schools seek sustainable transport solutions—transport that reduces fuel consumption, pollution, and car use. Every school can change its travel footprint, improving safety, reducing traffic congestion and carbon emissions, increasing physical activity for children, and reducing school transportation budgets.

Manitoba Resources	
Organization/Title	Website URL
Green Action Centre — Active and Safe Routes to School	http://greenactioncentre.ca/program/asrts
Green Action Centre — International Walk to School Month	http://greenactioncentre.ca/content/iwalk/
Green Action Centre — Transportation	http://greenactioncentre.ca/learn/transportation
Green Manitoba Commuter Challenge	http://greenmanitoba.ca/commuter-challenge/
Manitoba Conservation and Water Stewardship — Climate and Green Initiatives	http://www.gov.mb.ca/conservation/climate/index.html
Manitoba Healthy Schools	http://www.gov.mb.ca/healthyschools/
Manitoba <i>in motion</i>	http://www.manitobainmotion.ca/
Moving Around Manitoba	http://www.movingaroundmanitoba.ca

Other Resources	
Organization/Title	Website URL
Devon County Council — Sustainable School Travel and School Travel Plans	http://www.devon.gov.uk/school_travel_plans.htm
Eco-Schools USA — Transportation Audit	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Transportation/~//media/PDFs/Eco-schools/transportationaudit10-1-09.ashx
Education Scotland — Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/index.asp
International Walk to School Month	http://www.iwalktoschool.org/
Keep Scotland Beautiful — Eco-Schools	http://www.ecoschoolsscotland.org/guide/The%20Nine%20Topics/transport.html
Keep Scotland Beautiful — Eco-Schools: Transport	http://www.keepsotlandbeautiful.org/sustainable-development-education/ecoschools/ten-topics/transport/
National Wildlife Federation — Fast Facts about School Transportation	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Transportation/Facts.aspx
National Wildlife Federation — Sample Transportation Action Plan	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Transportation/Action-Plan.aspx
National Wildlife Federation — Top Ten Tips to Minimize Transportation Impacts	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Transportation/Tips.aspx
Natural Resources Canada — Welcome to the Idle-Free Zone	http://www.nrcan.gc.ca/energy/efficiency/communities-infrastructure/transportation/idling/4397
Sustainability and Environmental Education — Top Tips for Sustainable Schools Travel	http://se-ed.co.uk/edu/top-tips-for-sustainable-schools-travel

Other Resources	
Organization/Title	Website URL
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
Walking School Bus	http://www.walkingschoolbus.org

4.4.6 Waste

Sustainable schools aim to be models of sustainable waste management. Both consumption and waste have major ecological impacts. Producing goods and transporting them to consumers uses large quantities of fossil fuels and produces pollution, particularly carbon dioxide (the major greenhouse gas leading to climate change). When these products become waste, they are transported again, usually to landfills, where they produce methane (another potent greenhouse gas) as they break down, or to incinerators, which generate more pollution as they burn. Managing school waste begins with investigating the materials coming into the school, how the students and teachers use these materials, how much of the material after use can be reused, recycled, or composted and the way we undertake these activities either on site or through someone else. Through reducing, reusing, composting, and recycling, schools can cut waste production, saving money on disposal costs and reducing their burden on the environment. Monitoring the amount of trash a school creates and taking steps to minimize this amount takes time, effort, and the cooperation of the whole school. But this can be a very rewarding process. Not only will the school community become more aware of the impacts of its buying and disposal habits, but the school may also see direct financial benefits, such as a reduction in waste disposal costs, compost for use in gardens, and revenue from selling recyclable items. Waste that isn't disposed of properly becomes a visible problem in the form of litter on school grounds. By tackling litter along with other aspects of waste disposal, you can eliminate an unsightly problem, boosting both your school image and student pride.

Manitoba Resources	
Organization/Title	Website URL
Green Action Centre	http://greenactioncentre.ca
Green Manitoba	http://www.greenmanitoba.ca/
The Living Prairie Museum — <i>Environmental Education</i>	http://www.winnipeg.ca/publicworks/parksOpenSpace/livingprairie/education.asp
Manitoba Conservation and Water Stewardship — Climate and Green Initiatives	http://www.gov.mb.ca/conservation/climate/index.html
Manitoba Conservation and Water Stewardship — <i>TomorrowNow: Manitoba's Green Plan</i>	http://www.gov.mb.ca/conservation/tomorrownowgreenplan/
Manitoba Conservation and Water Stewardship — Waste Reduction and Prevention (WRAP)	http://www.gov.mb.ca/conservation/pollutionprevention/waste/index.html
Manitoba Education and Advanced Learning — <i>"Refuse Refuse": A Guide to Waste Reduction in Manitoba Schools</i>	http://www.edu.gov.mb.ca/k12/esd/resources.html
Manitoba Forestry Association — Think Trees	http://www.thinktrees.org/
Manitoba Model Forest	http://www.manitobamodelforest.net
Multi-Material Stewardship Manitoba	http://www.stewardshipmanitoba.org
Recycle Manitoba — Find a Collection Site	http://www.recyclemanitoba.ca/

Other Resources	
Organization/Title	Website URL
Biodegradable Products Institute	http://www.bpiworld.org/
Canada Green Natural Products	http://www.cagreen.ca/
Center for EcoLiteracy — <i>Rethinking School Lunch</i>	http://www.ecoliteracy.org/downloads/rethinking-school-lunch-guide
EcoActive — Waste Minimisation Pack for Schools	http://ecoactive.org.uk/wp-content/uploads/REDUCE-REUSE-and-recycle-pack.-web.pdf

Other Resources	
Organization/Title	Website URL
Eco-Schools USA Consumption and Waste Audit	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Consumption-and-Waste/~//media/PDFs/Eco-schools/wasteaudit10-14-09.ashx
Education Scotland — Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/index.asp
Keep Scotland Beautiful — Eco-Schools — Environmental Review	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/seven-elements/environmental-review/
Keep Scotland Beautiful — Eco-Schools — Ten Topics: Litter	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/litter/
Keep Scotland Beautiful — Eco-Schools — Ten Topics: Waste Minimisation	http://www.keepsotlandbeautiful.org/sustainable-development-education/eco-schools/ten-topics/waste-minimisation/
National Wildlife Federation — Facts about Consumption and Waste	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Consumption-and-Waste/Facts.aspx
National Wildlife Federation — Sample Consumption and Waste Action Plan	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Consumption-and-Waste/Action-Plan.aspx
National Wildlife Federation — Sample Consumption and Waste Audit	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Consumption-and-Waste/Audit.aspx
National Wildlife Federation — Top Ten Tips to Minimize Waste	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Consumption-and-Waste/Tips.aspx

Other Resources	
Organization/Title	Website URL
Ontario EcoSchools — EcoReview: Waste Minimization	http://www.ontarioecoschools.org/wp-content/uploads/2015/09/EcoReview_WasteMinimization.pdf
Ontario EcoSchools <i>Waste Minimization—Walkabout Worksheet</i>	http://www.ontarioecoschools.org/wp-content/uploads/2015/09/WAW_WasteMinimization.pdf
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
TerraCycle	http://www.terracycle.ca/



4.4.7 Water

Sustainable schools aim to be models of sustainable water use. Fresh, clean water is one of the basic necessities of life, but throughout the world it is becoming a scarce resource. Water covers about 70 percent of Earth. But the vast majority of Earth's water is found in the oceans, too salty to drink and unfit for many other applications. Only 1 percent of the Earth's water is readily accessible for human use. Sustainable schools aim to reduce water runoff, reduce the use of water in grounds maintenance, consume fresh water as efficiently as possible, and reuse water to a greater extent. By reducing water consumption, sustainable schools not only protect our water sources, but also delay the need to expand water and wastewater treatment plants and prolong the life of in-ground sewage disposal systems, (i.e., septic fields). Investigating water through the school's water bills is one of the first steps in water auditing and reducing consumption in the school. These steps provide an opportunity for schools to conserve a precious resource and save a significant amount of money.

Manitoba Resources	
Organization/Title	Website URL
Aquavist	http://aquavist.ca/
FortWhyte Alive	http://www.fortwhyte.org
FortWhyte Alive — Slow the Flow Water Education Program	http://www.fortwhyte.org/slowtheflow
Green Manitoba — Classroom and student resources are available on the issues of waste, energy, and water.	http://greenmanitoba.ca/home
International Institute for Sustainable Development — Water Innovation Centre	http://www.iisd.org/wic
Lake Friendly	http://www.lakefriendly.ca
Lake Winnipeg Foundation	http://www.lakewinnipegfoundation.org
Lake Winnipeg Research Consortium Inc.	http://www.lakewinnipegresearch.org
Manitoba Conservation and Water Stewardship	http://www.gov.mb.ca/waterstewardship
Manitoba Conservation and Water Stewardship — TomorrowNow: Manitoba's Green Plan	http://www.gov.mb.ca/conservation/tomorrownowgreenplan/

Manitoba Resources	
Organization/Title	Website URL
Manitoba Conservation Districts Association	http://www.mcda.ca
Manitoba Forestry Association — Envirothon	http://www.thinktrees.org/Envirothon.aspx
Manitoba Hydro — Power Smart Water and Energy Saver Program	https://www.hydro.mb.ca/your_home/water_use/water_energy_saver_program/index.shtml
Manitoba Model Forest	http://www.manitobamodelforest.net
Oak Hammock Marsh Interpretive Centre	http://www.oakhammockmarsh.ca/
Rivers West	http://www.riverswest.ca/main.php?p=8
What's Your H2O IQ?	http://www.h2oiq.ca/

Other Resources	
Organization/Title	Website URL
American Water Works Association — Water Knowledge	http://www.awwa.org/resources-tools/water-knowledge.aspx
Eco-Schools England — Water	http://www.eco-schools.org.uk/aboutecoschools/ninetopics/water
Eco-Schools USA Water Audit	https://www.nwf.org/pdf/Audits/WaterAudit.pdf
Education Scotland — Schools Global Footprint	http://www.educationscotland.gov.uk/schoolsglobalfootprint/index.asp
National Wildlife Federation — Water Pathway — Sample Action Plan	http://www.nwf.org/Global-Warming/School-Solutions/Eco-Schools-USA/Become-an-Eco-School/Pathways/Water/Action-Plan.aspx
<i>Sustainable Schools Best Practices Guide</i> by BC Ministry of Education	http://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf
Top Tips to Reduce Energy and Water Use in Schools	https://www.gov.uk/government/publications/top-tips-to-reduce-energy-and-water-use-in-schools

4.5 Partnerships

Support sustainability through parent and community partnerships.

Manitoba schools include family and community representation for effective school and division planning. Families, schools, and communities that share sustainability initiatives and beliefs assist students in learning to live sustainably and improve education for Manitoba students.

Manitoba Resources	
Organization/Title	Website URL
Manitoba Association of Parent Councils	www.mapc.mb.ca
Manitoba Education and Training — Education for Sustainable Development: Related Links — Non-government organizations providing support to educators and schools	www.edu.gov.mb.ca/k12/esd
Manitoba Education, Citizenship and Youth — <i>School Partnerships: A Guide for Parents, Schools, and Communities</i>	http://www.edu.gov.mb.ca/k12/specedu/school_partnerships/pdf/School_Partnerships_Complete.pdf



Tread Lightly on Planet Earth

5

REFERENCES

Australian Government. (2006). *Australian sustainable schools initiative framework, 2006–2009*. Unpublished manuscript.

Australian Government. (2008). *About AuSSI*. Retrieved 4 February 2009, from <http://www.environment.gov.au/education/aussi/about.html#what>.

Barr, S. (2003). Strategies for sustainability: Citizens and responsible environmental behaviour. *Area*, 35(3), 227–240. Retrieved 19 January 2009, from <http://www.jstor.org/pss/20004317>.

Bascia, N., Cumming, A., Datnow, A., Leithwood, K., & Livingstone, A. (Eds.). (2005). *International Handbook of Educational Policy*. New York, NY: Springer Press.

Breiting, S., Mayer, M., & Mogensen, F. (2005). *Quality criteria for ESD schools: Guidelines to enhance the quality of education for sustainable development*. Austrian Federal Ministry of Education, Science and Culture. Retrieved from http://seed.schule.at/uploads/QC_eng_2web.pdf.

Brundtland Commission. (1987). *Our common future*. World Commission on Environment and Development report. Oxford: Oxford University Press.

Council of Ministers of Education, Canada. (2005). *Education in Canada*. Retrieved July 2008 from <http://www.cmec.ca/international/educationcanada.en.pdf>.

Council of Ministers of Education, Canada. (2008). *Report to UNECE and UNESCO on indicators of education for sustainable development: Report for Canada*. Council of Ministers of Education, Canada, in collaboration with Environment Canada and The Canadian Commission for UNESCO. Retrieved from <http://www.cmec.ca/international/unesco/Canada-Report-ESD-2007-10.en.pdf>.



- Council of Ministers of Education, Canada. (2008). *The development of education reports for Canada*. Council of Ministers of Education, Canada, in collaboration with The Canadian Commission for UNESCO. Retrieved from <http://www.cmec.ca/international/ice/ICE2008-reports-canada.en.pdf>.
- Creech, H., Roy, M., & Buckler, C. (2008). *Environment and sustainable development policy development in K–12 schools in Manitoba and Canada: An initial exploration*. International Institute for Sustainable Development. Retrieved from http://www.iisd.org/pdf/2008/enviro_sd_policy_schools.pdf.
- Darnton, A., Elster-Jones, J., Lucas, K., & Brooks, M. (2005). *Promoting pro-environmental behaviour: Existing evidence to inform better policy making: A study for the Department of Environment, Food and Rural Affairs*. The Centre for Sustainable Development, University of Westminster. Retrieved from <http://www.thepep.org/ClearingHouse/docfiles/Promoting.Proenvironmental.Behaviour.pdf>.
- Davis, J., & Ferreira, J. (2006). *Evaluating the Queensland Environmentally Sustainable Schools Initiative (QESSI) alliance model: Research findings from an evaluation of the QESSI Steering Committee*. Unpublished report.
- Davis, J., & Ferreira, J. (2009). Creating cultural change in education: A proposal for a continuum for evaluating the effectiveness of sustainable schools implementation strategies in Australia. *Australian Journal of Environmental Education*, 25.
- Department of Education and the Arts, & Sustainable Futures Australia. (2005). *Queensland Environmentally Sustainable Schools Initiative alliance strategic plan, 2005–2007*. Brisbane: Education Queensland.
- Enviroschools Foundation. *Enviroschools*. Retrieved from <http://www.enviroschools.org.nz>.
- Farthing, G. (2005). *UNECE Steering Committee on education for sustainable development*. Geneva. Retrieved from <http://www.unece.org/env/esd/1stMeetSCIntervent/Canada.doc>.
- Ferreira, J., Ryan, L., & Tilbury, D. (2007). Mainstreaming education for sustainable development in preservice teacher education: A review of existing professional development models. *Journal of Education for Teaching*, 33(2), 225–239.
- Fien, J. (2001). *Education for sustainability: Reorienting Australian schools for a sustainable future*. Paper 3, Tela Series. Melbourne: Australian Conservation Foundation.

- Fien, J. (2003). Learning to care: Education and compassion. *Australian Journal of Environmental Education*, 19, 1–14.
- Fien, J., & Maclean, R. (2000). Teacher education for sustainability. II. Two teacher education projects from Asia and the Pacific. *Journal of Science Education and Technology*, 9(1), 37–48.
- Foundation for Environmental Education. (n.d.). *Eco-Schools*. Retrieved from <http://www.eco-schools.org/partners/partners.htm>.
- Fullan, M. (1999). *Change forces: The sequel*. London: Falmer Press.
- Gough, A. (2004). *Evaluation of the sustainable schools stormwater action project 2003/2004*. Retrieved 4 February 2009, from <http://www.gould.edu.au/downloads/institute/StormwaterEvaluation.pdf>.
- Gough, A. (2005). Sustainable schools: Renovating educational processes. *Applied Environmental Education and Communication*, 4, 339–351.
- Gough, A., & Sharpley, B. (2005). *Educating for a sustainable future: A national environmental education statement for Australian schools*. Carlton South, Vic: Curriculum Corporation for the Australian Government Department of the Environment and Heritage.
- Government of Manitoba: Department of Manitoba Education, Citizenship and Youth. (2008). *Annual report of Manitoba education, citizenship and youth for the fiscal year ending March 31, 2008*. Retrieved from http://www.edu.gov.mb.ca/ar_ecy_0708/preface.pdf.
- Hargreaves, A. (1997). Rethinking educational change: Going deeper and wider in the quest for success. In A. Hargreaves (Ed.), *Rethinking educational change with heart and mind: 1997 ASCD Yearbook* (pp. 1–26). Alexandria, VA: Association for Supervision and Curriculum Development.



- Henderson, K., & Tilbury, D. (2004). *Whole-school approaches to sustainability: An international review of whole-school sustainability programs*. Canberra: Australian Research Institute in Education for Sustainability (ARIES) for the Australian Government Department of the Environment, Water, Heritage and the Arts. Retrieved from http://www.aries.mq.edu.au/pdf/international_review.pdf.
- James, M. (2006). Educating for a sustainable future in Victorian schools. *Eingana, Journal of the Victorian Association for Environmental Education*, 29(1), 26–28.
- Jensen, B. B., & Schnack, K. (2006). The action competence approach in environmental education. *Environmental Education Research*, 12(3–4), 471–486.
- Jickling, B., and Wals, A. E. J. (2008). Globalization and environmental education: Looking beyond sustainability and sustainable development. *Journal of Curriculum Studies*, 40(1), 1–21.
- Jones, S. E., Axelrad, R., & Wattigney, W. A. (2007). Healthy and safe school environment, Part II, Physical school environment: Results from the School Health Policies and Programs Study 2006. *The Journal of School Health* 77(13), 544–556.
- Larri, L. (2006). *Comparative assessment: Australian Sustainable Schools Initiative pilot programme in NSW and Victoria*. Report prepared for the Department of the Environment and Heritage, Commonwealth of Australia. Retrieved from <http://www.environment.gov.au/education/publications/pubs/comparative.pdf>.
- Levin, B. (2001). *Reforming education: From origins to outcomes*. London: Routledge.
- Mackenzie, C. (2005, Autumn). *Queensland Environmentally Sustainable Schools Initiative (QESSI)*. Retrieved from <http://education.qld.gov.au/schools/environment/outdoor/pdfs/qessi-overview.pdf>.
- Mayer, M., & Mogensen, F. (2005). *Working with quality criteria at ESD schools* [PowerPoint]. Paper presented at CVU–VEST SEED [Environment and School Initiative] Conference, Esbjerg. Retrieved from http://www.cvuvest.dk/_cvuvest/documents/Forskning/SEED/EsbjergMayerPresentation.ppt.
- McLaughlin, M., & Mitra, D. (2001). Theory-based change and change-based theory: Going deeper, going broader. *Journal of Educational Change*, 2, 301–323.

- Mundy, K. (2007). *Charting global education in Canada's elementary schools: Provincial, district and school level perspectives*. UNICEF Canada. Retrieved from http://www.unicef.ca/portal/Secure/Community/508/WCM/EDUCATION/Global_Education_in_Canada_UNICEF_OISE.pdf.
- Orellana, I., & Fauteux, S. (1998). *Environmental education: Tracing the high points of its history*. Environment Canada. Retrieved from <http://ec.gc.ca/education/default.asp?lang=En&n=616D4080-1&toc=show>.
- Parkin, S., Johnston, A., Buckland, H., Brookes, F. & White, E. (2004). *Learning and skills for sustainable development: Developing a sustainability literate society*. London: Forum for the Future/Higher Education Partnership for Sustainability. Retrieved from <http://www.forumforthefuture.org/files/learningandskills.pdf>.
- Pereira, E. G. (n.d.). *A future with zero CO2 emissions: International Eco-Schools programme* [PowerPoint]. Retrieved from http://www.icleieurope.org/fileadmin/user_upload/Target_Zero/Presentations/B4_PEREIRA_pres.pdf.
- Posch, P. (1994). Networking in environmental education. In B. Somekh & M. Pettigrew (Eds.), *Evaluating innovation in environmental education* (pp. 61–87). Paris: OECD.
- Preece, C. (2004). Developing a school environmental policy. *Physical & Health Education Journal*, 70(2), 13.
- Province of Manitoba. (1997). *The Sustainable Development Act*, C.C.S.M. c. S270: Part 1: Definitions. Retrieved 19 January 2009, from <http://web2.gov.mb.ca/laws/statutes/ccsm/s270e.php>.
- Scott, W. (2006). Sustainable schools: An initial appreciation and critique. Originally published in *Head Teachers and Bursars Handbook for Sustainable Procurement*. SCEMES Ltd. Retrieved from http://www.teachernet.gov.uk/_doc/11418/Sustainable%20Schools%20-%20appreciation%20and%20critique.pdf.



- Scott, W., Gough, S., & Reid, A. (2000, April). *Researching schools' contributions to sustainable development: Perspectives on environmental education and environmental management*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA, 24–28 April.
- Shallcross, T. (2004). *School development through whole school approaches to sustainability education: The SEEPS (Sustainable Education in European Primary Schools) project*. Manchester: Manchester Metropolitan University.
- St. James-Assiniboia School Division. (2010). *Commitment to Accomplishment planning model; Policy Manual; Section A: AE-R; #21901v*. Retrieved from <http://polmanual.sjsd.net>.
- St. James-Assiniboia School Division. (2010). *Communications with Staff; Policy Manual; Section B: GBD #58179v2*. Retrieved from <http://polmanual.sjsd.net>.
- Strauss, B. H. (1996). *The Class of 2000 report: Environmental education, practices and activism on campus*. Nathan Cummings Foundation.
- Swayze, N., & Creech, H. (2009). *Sustainability policies at the school division level in Manitoba: The status of policy development and its relationship to actions in schools (2009)*. Retrieved from http://www.iisd.org/pdf/2009/sd_policies_mb_school_division.pdf.
- The Roeher Institute. (2004). *Inclusive policy and practice in education: Best practices for students with disabilities*. Retrieved from <http://www.inclusiveeducation.ca/documents/BEST-PRACTICES.pdf> p.9.
- Tilbury, D., Podger, P., & Reid, A. (2004). *Action research for change toward sustainability: Change in curricula and graduate skills toward sustainability*. Final report prepared for the Department of the Environment and Heritage and Macquarie University.
- Tyack, D., & Cuban, L. (1995). *Tinkering toward Utopia: A century of public school reform*. Cambridge, MA: Harvard University Press.
- U.K. Department for Children, Schools and Families. (n.d.). *Sustainable schools national framework*. Retrieved from http://www.teachernet.gov.uk/sustainable-schools/upload/Sustainable_Schools_doorways.pdf.
- U.K. Department of Education and Skills. (2006). *Sustainable schools for pupils, communities and the environment: Government response to the consultation on the Sustainable Schools Strategy*. Retrieved from <http://publications.teachernet.gov.uk/eOrderingDownload/Sustainable%20Schools%20Consultation%20Response.pdf>.

- UNECE. (2005). *UNECE strategy for Education for Sustainable Development*. Economic Commission for Europe: Committee on Environmental Policy; CEP/AC.13/2005/3/Rev.1; III.14; 23 March 2005. Retrieved from <http://www.unece.org/env/documents/2005/cep/ac.13/cep.ac.13.2005.3.rev.1.e.pdf>.
- UNESCO. (2005). *United Nations Decade of Education for Sustainable Development*. Executive Board Report by the Director General on the United Nations Decade of Education for Sustainable Development 172 EX/11. Paris: UNESCO.
- UNESCO. (2013). *Proposal for a global action programme on education for sustainable development as follow-up to the United Nations Decade of Education for Sustainable Development (DESD) after 2014*. 37 C/57. Retrieved from <http://unesco.org/images/0022/002243/224368e.pdf>.
- UNESCO. (n.d.). *Three terms and one goal*. Retrieved from www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/three-terms-one-goal/.
- York University. (2007). *SEdA Sustainability and Education Academy Education Leader Seminars*. Brochure.