

TITLE: Sustainability Procedures

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- Board of Governors
- President's Council
- Senate

1. Purpose

In Sheridan's Sustainability Policy, Sheridan expresses its intent to preserve and enhance natural and social capital to allow future generations to enjoy a quality of life that is equal to or greater than our own. As an academic institution, employer, investor and community partner, Sheridan strives to become the institutional model for how a 21st century organization practices sustainability - balancing economic, social and environmental priorities as a responsible corporate citizen.

This procedure describes areas of activity that intersect with sustainable practice, and describes how Sheridan achieves responsible decision making that reflects the crucial balance between economic, social and environmental priorities.

2. Scope

This procedure applies to any person making decisions on behalf of Sheridan that have material impact on sustainable practice. Decision makers include Board members, employees and others including volunteers, consultants and contractors engaged by Sheridan to provide services.

3. Definitions

Building Automation System (BAS) – A computerized, intelligent network of electronic devices that automatically control a wide range of building operations such as heating, ventilation, cooling, humidification, security/access control, lighting, energy management, maintenance management, and fire safety control.

Commissioning Agent (CxA) – A member of the project team, hired directly by the owner and working independently of the designer and contractor, who ensures the proper specification, installation and operation of technical building systems.

Climate Change – In the context of this Policy, refers to the significant and lasting change in the statistical distribution of weather patterns that the world is currently experiencing – often referred to as “global warming”.

Continuous Improvement – An ongoing effort by stakeholders throughout an organization to save energy by consistently focusing on minimizing waste and increasing efficiency.

EN 253 and EN 13941 Standards – German technical standards pertaining to district energy networks. EN 253 is the standard for District Heating Pipes – Preinsulated Bonded Pipe Systems for Directly Buried Hot Water Networks. EN 13941 is the standard for Design and Installation of Preinsulated Bonded Pipe Systems for Direct Heating.

EnergyPlus – An energy analysis and thermal load simulation program for new and existing buildings, created and distributed by United States Department of Energy.

ENERGY STAR® for Buildings – A program and tool set offered by Natural Resources Canada in conjunction with United States Environmental Protection Agency that enables building owners and facility managers to compare and rank their building's energy performance against buildings with similar function, size and climate.

Environmental Degradation – The deterioration of the environment through depletion of resources such as air, water and soil, including the destruction of ecosystems and the extinction of wildlife.

German A-Rated – Achieving a German building energy rating (BER) of “A”. Building energy ratings are based on the overall energy efficiency of a building (residential or commercial), and are denoted on a scale of A to G, with A1 being the most energy efficient and G being the least energy efficient.

Greenhouse Gas (GHG) – Any gaseous compound, such as carbon dioxide, that traps heat in the Earth's atmosphere, and contributes to the greenhouse effect.

Grey Water – wastewater from sink or shower drains that does not contain serious contaminants, and which can be re-circulated in building systems for non-potable uses such as flushing toilets or irrigation.

Integrated Design – A design method that brings the whole building team, including all disciplines, early in the process and often throughout the development of the project.

Leadership in Energy and Environmental Design (LEED) – A voluntary, consensus-based standard for developing high-performance, sustainable buildings. LEED provides a framework for assessing building performance and meeting sustainability goals related to sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED buildings are designated as Certified, Silver, Gold or Platinum depending on the number of credits achieved.

Natural Capital – The stock of natural ecosystems that yields a flow of valuable ecosystem goods or services into the future.

Organics – In this context, refers to all [matter](#) composed of [organic compounds](#) that has come from the remains of once-living [organisms](#) such as [plants](#) and [animals](#) and their waste products in the [environment](#).

Recycling – Using waste as material to manufacture a new product. Recycling involves altering the physical form of an object or material and making a new object from the altered material. Recycling is not waste prevention because only waste can be recycled.

Reuse – Using an object or material again, either for its original purpose or for a similar purpose, without significantly altering the physical form of the object or material. Reuse is not recycling, because recycling alters the physical form of an object or material. Reuse is generally preferred to recycling because reuse generally consumes less energy and resources than recycling.

Scope 1 Emissions – Direct greenhouse gas emissions from sources owned or controlled by the organization, such as those from combustion of fossil fuels in boilers, furnaces and vehicles.

Scope 2 Emissions – Greenhouse gas emissions created off site on behalf of the organization, such as those from the generation of electricity purchased by the organization.

Social Capital – The expected collective or economic benefits derived from cooperation between individuals and groups.

Social Equity – Fair access to livelihood, education, and resources; full participation in the political and cultural life of the community; and self-determination in meeting fundamental needs.

Social Justice – The ability of people to realize their potential in the society and geographic location in which they live.

Sustainability – Meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable practice requires finding balance between economic, social and environmental priorities.

The Natural Step – A non-profit organization founded in Sweden in 1989 by scientist Karl-Henrik Robèrt, which promotes application of The Natural Step framework. The Natural Step framework sets out four science-based system conditions for the sustainability of human activities on Earth.

Waste – Objects or materials for which no use or reuse are intended.

Zero Waste and Net-Zero-Waste – Redesign of resource life cycles so that all products are reused and no trash is sent to landfills, similar to the way that resources are reused in nature.

4. Procedure

4.1 Overarching Principles

In 1987, the Brundtland Commission formally defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”, thus establishing the core principle of balancing current needs with those of future generations. When interpreted more broadly, sustainable practice requires a balanced implementation in three crucial areas: environmental sustainability, financial/economic sustainability, and social sustainability.

To promote consistent, informed and responsible decision making around its sustainability practices, Sheridan has formally adopted the four science-based sustainability principles of The Natural Step (See Appendix A for more detail). These principles provide a framework through which Sheridan can consider its professional practices.

4.2 Application of Principles

Sheridan will establish its path to sustainable practice through consistent application of The Natural Step principles to decision making and strategic planning. Elements of the path will be described in the Sustainability Plan, which will be built through broad stakeholder engagement, and will be reviewed on a bi-annual basis.

Whenever Sheridan makes a major operational decision, the key sustainability plans should be consulted for consistency. These plans include the Sheridan Sustainability Plan, the Integrated Energy and Climate Master Plan, and the Zero Waste Plan.

Sheridan decision makers should carefully consider any applicable sustainability plan provisions affecting the decision and any environmental implications associated with the decision. Office for Sustainability is available to assist with supplying background knowledge, theory or planning provisions that might relate.

4.3 Overall Sustainability

The following is a list of general guidelines, measures and provisions pertaining broadly to sustainable practice, which a decision maker may consult for reference.

1. Sheridan will seek to consistently act in ways that preserve and enhance natural and social capital to allow future generations to enjoy a quality of life that is equal to or greater than our own.
2. Sheridan will develop and model a culture of sustainability that instills a global societal perspective, and truly reflects how the Sheridan community's everyday interactions affect sustainability on campus and beyond.
3. Sheridan will take every opportunity to minimize adverse environmental and social impacts of its facilities operations. All campus operations, including procurement and food services, should seek ways to mitigate and improve the environmental impacts associated with delivery of services.
4. Any new RFP solicited should include ways that vendors will seek to mitigate and improve the environmental impacts associated with the delivery of services.
5. Sheridan will embrace transparency and accountability, as cornerstones of driving its sustainable transformation, by publically sharing its sustainability metrics and institutional sustainability performance. This includes, wherever possible, establishing infrastructure for monitoring, processing and measuring resource consumption and pricing at the building level, and allowing access to this information.
6. Sheridan will develop and publish its Sustainability Plan by January 1, 2016. The Plan will be built through broad stakeholder engagement, and will be reviewed on a bi-annual basis. The Plan will be published on the Office for Sustainability Intranet, accessible to employees through Access Sheridan.

7. Sheridan will file an Annual Sustainability Report describing its progress on goals set forth in the Sustainability Plan.
8. Sheridan will leverage its position as a leader in creative programming to address sustainability challenges with innovations in energy and water use, waste reduction, air quality improvement, and product procurement that will meet and potentially exceed our mandatory compliance commitments. Research at Sheridan can contribute creative solutions that diminish, neutralize and counteract adverse environmental impacts. Where possible, lessons learned will be applied and freely shared.
9. Sheridan will strive to help students, through their experiences at Sheridan, achieve environmental awareness and exposure to leading-edge sustainable practice within the context of current and emerging world issues. Sheridan seeks to help students become conscientious stewards of the planet.
10. Sheridan strives to prepare the next generation of global citizens to address the difficult challenges of global climate change, environmental degradation, social justice, and social equity.

4.4 Energy and Utility Performance

Sheridan seeks a world-class reputation for energy management and performance, which includes maintaining a high-performance physical infrastructure that uses energy in the most efficient, cost-effective, and environmentally-responsible manner possible.

Carefully managing the institution's energy is crucial to ensuring alignment with Sheridan's sustainability principles, strengthening our ability to prepare future global leaders, reduce financial risk in our operational portfolio, and express our commitment to our students, employees, the environment, and the communities we serve. The approach is consistent with our expressed commitment to "challenging ourselves to continuous improvement and developing innovative solutions in business operations to address issues of energy and water use, waste reduction, air quality improvement, and product procurement."

Targets and Objectives

Sheridan has developed an Integrated Energy and Climate Master Plan under which we will make significant achievements in energy and environmental performance by 2020. Sheridan's targets and objectives as they relate to the Plan and this policy are the following:

- Achieve at least 50% reduction of energy consumption in existing buildings by 2020, relative to Sheridan's 2010 baseline energy consumption
- Reduce greenhouse gas emissions from energy use by at least 40% by 2020, relative to the 2010 Scope 1 and Scope 2 emissions baseline
- Deliver appropriate financial performance on recommended energy reduction investments
- Create a campus-wide energy culture focused on continuous improvement of energy performance
- Establish infrastructure and process for measuring and verifying energy consumption at the building level
- Increase visibility and access to building systems and operating data

- Ensure reliability of Sheridan’s energy supply in the face of disturbances such as price volatility, climate change impacts and environmental regulation
- Be a platform for new energy and waste technologies
- Use Sheridan as a ‘living laboratory’ for the development of competitive sustainability, energy and climate curricula
- Be a national and community role model

Further to these targets/objectives and Sheridan’s commitments to sustainability, the following list serves to describe the institution’s approach, objectives, goals and commitments specific to energy. It may be used by decision makers for reference and guidance.

1. Sheridan will complete implementation of the Integrated Energy and Climate Master Plan by January 1, 2020.
2. Sheridan will make a concerted, institution-wide effort, led by the Office for Sustainability, to identify relevant qualifications and specifications for any new buildings and to consider sustainability criteria when reviewing bid documents. Any new or substantially renovated building will be subject to a sustainability assessment by the Office of Sustainability, and Sheridan will make efforts to seek out the highest environmental standards possible for such construction.
3. Any new or substantially-renovated building will meet LEED Gold standards for its overall siting, design and construction.
4. Energy performance of new or substantially-renovated buildings will exceed LEED Gold, aligning instead with German A-Rated levels. Any RFP should specify energy end-use to meet a 12-month-average, specific end-use energy performance index (in typical operation for a typical year) between 70kWh/m² - 100kWh/m²
5. Energy performance of new facilities will be confirmed by a zoned EnergyPlus Energy Model for the design, consistent with those used in development of the Integrated Energy and Climate Master Plan.
6. Where appropriate, energy performance of new facilities will be validated every year through the ENERGY STAR® for Buildings program, and the certification displayed at the main entrance.
7. Operations at a new facility will be launched with a documented and fully-implemented waste program that achieves rates for diversion of waste from landfill consistent with the Zero Waste Policy.
8. Any new facility shall minimize consumption of municipally-supplied fresh water through use of rainwater capture and storage, a grey water infrastructure for non-potable water applications, and water-efficient appliances.
9. Any building automation system (BAS) architecture shall be specified, designed, installed and commissioned in accordance with the architecture and implementation developed under the Integrated Energy and Climate Master Plan. This means an open BAS implementation, flexibility in defining and re-assigning control zones, submetering for electricity, heat, gas, water and cooling for at least the building level, and automated scheduling and weather management.

10. Ongoing engagement with the facility's occupants will be facilitated by on-site display of metered data on standard and customized graphic dashboards, and through publically accessible Internet and intranet sites.
11. All new facilities will be connected to available central heating and cooling networks, and will meet its primary thermal conditioning requirements from these. Any RFP should specify that all new heating and cooling network extensions and connections should meet EN 253 and EN 13941 standards.
12. All new buildings will engage a qualified Commissioning Agent (CxA) to assure that these requirements are met. The Commissioning Agent will be engaged before approval of designs, and follow projects through construction, mechanical/electrical/building envelope testing, post-occupancy testing and the warranty period. A sample scope of work for commissioning is included in the Sheridan Commissioning Procedure.
13. Sheridan facilities will embody and demonstrate the fundamental aspects of sustainability: resource efficiency, use of natural materials, respect of natural environment, openness to the community, and transparency of operation. This physical embodiment of sustainability principles shows all learners how the four scientific principles of sustainability are realized in functional design.
14. Every new facility should demonstrate the results of integrated design. This means making evident in the built form the fact that engineers, tradespeople, architects and building owners collaborated from the outset, and carried a vision from concept through to the finished product. It also means that new facilities will avoid visible contradictions of Sheridan's principles and commitments.

4.5 Zero Waste

Sheridan seeks to achieve a world-class reputation for zero waste policies, practices and results. This requires broad commitment and collaboration from all sectors and stakeholders within Sheridan to a comprehensive approach, discipline, processes and infrastructure that reduce both waste and its impact in the most efficient, cost-effective, and environmentally responsible manner.

The Sheridan Zero Waste Initiative supports Sheridan's commitment to "challenging ourselves to continuous improvement and developing innovative solutions in business operations to address issues of energy and water use, waste reduction, air quality improvement, and product procurement." It focuses on both guiding the implementation of the Zero Waste Plan and achieving the targets of the Plan.

At its core, the Zero Waste Initiative is both a learning process as well as an exercise in managing change. As with most of sustainability initiatives, the creation of 'shared value' across organizations and communities requires embedding and operationalizing sustainable design such as zero waste across functional departments and redesigning processes within the 'system'.

The goals and objectives for zero waste were formed by adhering to the following principles:

1. Zero waste is possible through a steadfast adherence to the principles and order of the 3 R's (reduce, reuse, and recycle).
2. We will succeed in our path to zero waste if we continuously strive to make waste more difficult.

3. Zero waste practices must be sustainable in the long term in respect to economic, environmental and social outcomes.
4. Zero waste should always strive to be the smart, simple, efficient and fun way for Sheridan.
5. The challenge of a zero waste future will foster creativity amongst Sheridan students, staff and faculty.
6. Zero waste will provide ongoing learning and educational opportunities for students, staff and faculty.
7. While stewardship of manufactured goods is a critical element of a zero waste future, so too will Sheridan adopt a stewardship philosophy that encourages sharing of precious resources in the Sheridan community.

Targets and Objectives

Sheridan has developed a comprehensive Zero Waste Action Plan under which Sheridan will make significant achievements in waste reduction. Sheridan's goals and targets as they relate to the Plan and this policy are outlined below, but all are geared towards the ultimate objective of Sheridan being a net-zero-waste higher education institution by January 1, 2020.

Based on best practice, Sheridan has established a comprehensive baseline that far exceeds standard waste audit baselines and includes financial and attitudinal metrics. The aim of the program is to set and monitor targets that are aspirational, achievable, relevant and understandable by all stakeholders.

These target and metrics will report on the following:

- Waste Reduction
- Waste Diversion
- Paper Reduction
- Carbon Emission Reduction
- Employee Engagement
- Reusing Materials
- Organics Processing/Use
- Financial Cost Savings

Furthermore, any new building on Sheridan campuses, in addition to be designed to minimize energy usage both in the construction as well as the ongoing operation will also be designed to minimize waste as well as utilize reusable and recycled materials both in the construction as well as the ongoing operation. This approach should also apply to any building that may be considered beyond its functional years. A zero waste approach would regard the building already built as the most efficient. Any decisions regarding demolition of older buildings or construction of new ones should adhere to the Zero Waste Plan.

Focus	A NET ZERO WASTE CAMPUS BY 2020
Reduce	Sheridan will reduce its waste to landfill by 50% in 2014 and 75% by 2015 (against 2012 figures)
Reuse	Sheridan will capture 20 tons of material for reuse in the school and in the community in 2014, 30 tons in 2015
Recycle	Sheridan's will achieve a waste diversion rate of 65% by end of 2014, 85% by end of 2015 (against 2012 figures)
Organics	Sheridan will separate and process 100% of its organics by end of 2014 (onsite by end of 2016)
Paper	Sheridan will reduce its paper usage by 10 million sheets by end of 2014 (against 2012 figures)
Financial Savings	Through combined zero waste efforts, Sheridan will save \$250,000 annually by end of 2014, \$400,000 by end of 2015 (against 2012 figures)
Carbon	Through combined zero waste efforts, Sheridan will eliminate 500 tons of carbon emissions annually by end of 2014, 750 tons by end of 2015 (against 2012 figures)
Campuses	All Sheridan campuses will be designated zero waste by end of 2014

4.6 Responsibilities

The Office for Sustainability is responsible for supporting the Sustainability Policy and Related Documentation, including Procedures and Plans.

The role of the Office for Sustainability is to coordinate and facilitate sustainable practice across Sheridan. As the central voice for sustainability at Sheridan, the Office addresses campus sustainability issues, provides advice and guidance, collects and disseminates information, enhances and promotes existing sustainability efforts, suggests and facilitates new initiatives, fosters dialogue across various departments, and helps develop new institutional policy and strategy.

5. Related Documentation

Sheridan Sustainability Policy
 Sheridan Sustainability Plan
 Integrated Energy and Climate Master Plan
 Zero Waste Plan
 Sheridan Commissioning Procedure
 Sheridan Sustainable Purchasing Guidelines