

Towards Sustainability and Sustainable Education:

A Vision for University of New Brunswick Environmental Policy

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Suggestions for a University of New Brunswick Environmental Policy

1. Introduction

The University of New Brunswick has been and continues to be a leader in the New Brunswick community when it comes to innovation, expertise, and cutting edge information. Because of growing concern and uncertainty surrounding issues such as global climate change and water quality, UNB has the opportunity to influence students, the leaders of tomorrow, in positive ways to foster knowledge and wisdom and to teach valuable skills that will enable people to live sustainably on our planet.

As an institution of higher learning, the University of New Brunswick has both an opportunity, and responsibility to model the way as an environmental leader in our society. In an age when humankind is facing increasing environmental challenges, students will need education that will allow them to successfully address those challenges. This education will come not only through the curriculum, but also through the practices and examples provided within the institution. Educational institutions need to provide an example of ethical and practical environmental stewardship and responsibility.

The University of New Brunswick is widely respected and hence what it does as an organization matters. By operating sustainably it can, therefore, become a good example for the Fredericton community, the New Brunswick community, and national and international academic communities.

The University's mission states that the University strives to provide students and faculty with the highest possible quality of instruction, facilities, opportunities, and support in an environment conducive to the development of the whole person. This holistic concept must recognise also the person's role in the world as a citizen of the larger biotic community and as integral part of the environment. The University has a responsibility to help students develop into conscientious adults and so should itself act responsibly towards the earth and its inhabitants.

This policy is presented as a starting point and based on the assumption that it will evolve and improve as time passes and resources become available, technology improves, and social values change. It is highly suggested that the University form a set of clear and concise environmental goals that will shape policy and act as a test for proposed actions. These goals must reflect a holistic perspective of the University within its social and ecological context.

2. Policy

The policy is structured into eleven areas: Energy Use, Curriculum, Water, Transportation, Hazardous Materials, Solid Waste, Food, Purchasing, Buildings, Land Use, and Investment / Finance.

2.1 Energy Use

The University shall endeavour to minimize energy consumption, promote renewable energy sources, reduce fossil fuel consumption and other non-renewable energy sources, and reduce pollution emissions.

2.2 Curriculum

The University shall make explicit commitment to developing the environmental content and nature of the curriculum. The University shall endeavour to encourage faculty and Senate to consider, where appropriate, awareness of environmental issues by incorporating environmental content throughout existing curriculum and modifying current curriculum when it contradicts environmental messages and practice. The University shall endeavour to increase environmental related course offerings, and to allocate more resources towards environmentally related research.

2.3 Water

The University shall endeavour to minimize water consumption. As part of the watershed of the area, the University shall endeavour to assure that the water emitted and flowing from the university carries as little pollutant and has as high a quality as possible.

2.4 Transportation

The University shall endeavour to reduce the use of fossil fuels and emissions and to promote alternative forms of transportation that are more environmentally friendly.

2.5 Hazardous Materials

The University shall endeavour to reduce and/or limit and monitor the use of hazardous materials in cleaning supplies and in laboratories.

2.6 Solid Waste

The University shall endeavour minimize solid waste production and shall promote reducing waste, reusing, recycling, and composting.

2.7 Food

The University shall endeavour to minimize the ecological impact of food provided on campus and shall promote composting of waste food.

2.8 Purchasing

The University shall endeavour to minimize the ecological impact of the products and services purchased in support of campus operations.

2.9 Buildings

The University shall endeavour to minimize the ecological impact of the construction, maintenance, and operations of the buildings on campus.

2.10 Land Use

The University shall endeavour to promote ecological harmony and act as environmental stewards on lands owned by the University.

2.11 Investment and Finance

The University shall endeavour to make environmentally ethical investments.

3.0 Environmental Committee

The Environmental policy is such that it requires constant monitoring and evaluation. Therefore we suggest the formation of Environmental Committee with membership from the Administration, Faculty, the student body, and the community.

3.1 Terms of Reference - The Environmental Committee will:

- i. recommend to the President amendments to the Environmental Policy;
- ii. report changes in policy to students, administration, faculty, and the public;
- iii. educate members of the University Community on environmental issues;
- iv. monitor the financial effectiveness of the operation of the policy, and to lobby for a portion of any savings from the implementation of the policy to be placed in a trust fund to support future environmental projects, and to recommend to the President suitable projects to be supported;
- v. recommend to the President that the University seek donations and funding to support specific environmental projects, and to recommend suitable projects to be supported;
- vi. conduct a biannual environmental audit, using performance indicators, to assess progress being made by the University towards achieving the goals outlined in this Policy;
- vii. report to the President, the students, administration, faculty, and the public the findings of the biannual audit and annually on any other pertinent matters, and;
 - viii. attend pertinent decision making and planning meetings to advise and recommend to ensure compliance with the Environmental Policy.

3.2 Membership

Ex-officio: Vice-President of Campus Services and Planning
 Director of Student Affairs and Services
 Environmental Studies Coordinator
 Director of Environment and Sustainable Research Center
 Student Union Social Issues Coordinator
 Executive Councillor of the UNB Students' Environmental Society

1 Student
 1 Faculty
 1 Community Member

3.3 Chair

Director of Student Affairs and Services

4. Performance Indicators

For the purposes of the environmental policy, performance indicators are quantifiable targets. Their purpose is twofold. They will provide a framework for the implementation of the policy and they will serve as a standard upon which the auditing body can measure progress in the implementation of the policy.

The Environmental Committee can update and change performance indicators, as they seem fit.

4.1 Performance Indicators and possible strategies. Indicators are *italicized*.

4.1.1 Energy Use

- *Targeted emission and energy consumption reductions.*

Strategies

- Establish baseline energy use from the last five years and establish targets for reduction.
- Retrofitting infrastructure towards energy efficiency where economically feasible
 - Minimize heat loss through windows
 - Improve insulation of buildings on campus
 - Make transition to energy efficient light bulbs
- Reducing use of artificial lights and maximize use of natural light on campus
- Examine and improve control of temperatures in buildings on campus
- Investigate and promote opportunities for the development and implementation of sustainable and more environmentally friendly energy alternatives by using available resources (i.e. students, departments and existing developmental infrastructure capabilities on campus.)

4.1.2 Research and Curriculum

- *Increased offerings in environmental course offerings.*
- *Modification of current curriculum to reflect environmental awareness and development goals.*

Strategies

- Develop partnerships with other institutions and organizations that will help develop curriculum and infrastructure for environmental education.
- Local community and university resources are utilized and local/regional issues are integrated into coursework
- Raise environmental consciousness through existing curricula
- Promotion and development of environmentally sound practices through curriculum
- Mandatory environmental ethics course content for all undergraduate degrees
- Offer courses and programs (undergraduate and graduate level) in environmental studies
- Promote environmental research through grants
- Encourage Honors students in relevant fields to work with the university community to conduct an environmental audit of the campus every two years

4.1.3 Hazardous Materials

- *Reductions in the use, acquisition and disposal of hazardous materials.*

Strategies

- Develop protocol for purchase, handling, and disposal of hazardous wastes.
- Ensure proper use and disposal of all hazardous materials used on campus including: batteries, laboratory chemicals, paint, florescent lights, computers and structures.
- When using hazardous chemicals in laboratory research encourage the use of micro-scale labs
- Reduce dependency on hazardous cleaning agents and make transition to environmentally friendly cleaners.
- Reduce use of pesticides and chemical fertilizers on campus, with eventual goal of phasing out its use and replacing them with the use of environmentally friendly fertilizers and pesticides when needed.

4.1.4 Buildings

- *Reduction of the energy used to maintain and operate existing buildings.*
- *Use of low embodied energy, natural and recycled materials in construction and maintenance.*
- *Improvements in environmental quality within buildings*

Strategies

- Prior to new building projects, an environmental impact analysis will be completed and such impact is minimized through appropriate selection of materials or design elements.
- Building construction or renovation will make use of environmentally friendly materials and disposal procedures.
- Decrease dependency on structures with high levels of embodied energy and high-energy use.
 - Allow engineering students to do life cycle analyses projects on building materials etc.
- Introduce plant life into each classroom and other spaces.
 - Allow a biology class to take cuttings of plants and grow them in the campus greenhouse.
 - Delegate responsibility for the plant life within buildings.

4.1.5 Water Use

- *Reduction of water use and effluent from the facilities.*
- *Improved run-off water quality from campus.*

Strategies

- Reduce water consumption on campus using the average water consumption from the last five years as a baseline from which to continue to reduce.
- Introduce yearly water quality analysis testing.
 - Encourage biology/chemistry students to test water on campus.

- Water efficient models are installed when replacing any water fixture.
- Build constructed wetlands to bio-remediate runoff water.

4.1.6 Planning & Development & Land Use

- *Preservation and restoration of biological and ecological features of the campus and lands.*

Strategies

- Promote preservation and restoration of current land.
- Create ecological education demonstration features such as a garden and wetland.
- Introduce a composting program on campus.
- Practice ecological and sustainable forest management in the woodlots.
- Create campus ecology maps and ecological inventory.
- Make Ecological Impact Assessments (EIA's) mandatory before any construction takes place.
- Encourage the development of a tree preservation and planting program.

4.1.7 Solid Waste

- *Reduction of solid wastes created on campus.*
- *Increased recycling and waste reduction through composting.*

Strategies

- Improve efficiency and increase awareness of recycling program on campus.
 - Seek ways to expand the present recycling program on campus.
- Reduce waste produced by campus using the average waste produced on campus from the last five years as a baseline from which to continue to reduce.
- Furniture, books, office supplies are offered for sale or donation prior to disposal.
- Increase cost of packaged food.
- Promote use of re-usable dishes, utensils and coffee mugs on campus:
 - By reducing prices on refills.
 - And providing opportunity to purchase mugs easily at each food service outlet on campus.
 - Provide mug-washing stations at each outlet.

4.1.8 Food

- *Reduced ecological impact of food and provisioning.*
- *Increased food quality in terms human and ecological health.*

Strategies

- Provide incentives for students to use re-usable mugs, as discussed above.
- Decrease dependency on plastic and Styrofoam in food services on campus.
- When possible buy food and condiments in bulk to reduce packaging.
- When possible buy local food, develop partnerships with local farmers

- When possible buy organic food.
- Promote option of organic, fair trade, shade grown coffee.

4.1.9 Purchasing

- *Reduced ecological impact of purchases.*

Strategies

- Investigate the source of the clothing sold on campus and promote locally or nationally produced items.
- Encourage double sided printing and copying for both faculty and students.
- Purchase recycled paper for printers and photocopiers.
- Invest in greener technologies.
- Require suppliers to meet environmental standards (i.e. certified wood products, natural cleaners).
- Reduce purchase of non-recyclable material on campus.

4.1.10 Transportation

- *Reductions in energy use related to transportation.*
- *The use of more efficient vehicles, which have lower embodied energy, and use cleaner technologies.*
- *Better infrastructure for public transportation.*

Strategies

- Promote ride sharing for students, staff and faculty.
- Promote car-pooling for students, staff and faculty.
- Promote biking for students, staff and faculty.
 - Create safe and secure spaces to lock up bikes on campus.
 - Have access to year-round bike shelters.
- Promote the use of the city bus through including the Universal Bus Pass in the cost of tuition for interested students.
- Introduce an anti-idling policy on campus.
- Invest in energy efficient cars for campus security and other UNB owned vehicles.

4.1.11 Investments & Finance

- *Investments in environmentally ethical endeavors.*
- *Investments in green technologies.*

Strategies

- Encourage environmentally ethical investments.
- Invest in companies who promote and practice environmentally sustainable methods.
- Invest in at least one Canadian company dedicated to renewable energy initiatives.