

## WASTE MANAGEMENT PROGRAM

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### 1. INTRODUCTION

Bishop's University adopted its first Environmental Policy on November 21, 2003. In 2013, the Policy was updated and approved by the Board of Governors. The institution has a long-standing commitment to making its environment a better place for members of its community and of the community at large. The program targets eight areas of responsibility, which include Environmental Sustainability Awareness, Energy Efficiency, Transportation, Water consumption and Air Management, Waste Reduction: Solid, Organic and Hazardous Materials, Buildings & Grounds, Purchasing and Protection of Trees and Green Space.

This Waste Management Program is a further step in implementing waste reduction as part of the Environmental Sustainability Policy. Its action plan will provide for objectives that will also lead to obtaining an "ICI ON RECYCLE" certification from RECYC-QUÉBEC. This certification is a well-known recognition program attesting the commitment of the awardee in improving environmental performance.

#### 1.1. SCOPE

This Waste Management Program includes all residual materials generated by the Bishop's community anywhere on campus, whether it be students, faculty, staff, management or campus visitors.

This program will be accompanied by an annual action plan that will provide for specific objectives and measure results. This program should be revised every three years to reflect the results of the 3-year audit report and advancement in Bishop's performance in waste management.

### 2. WASTE MANAGEMENT PRINCIPLES

Waste Management aims at reducing the quantity of waste that goes to the landfill. Waste has to be viewed as a resource and the only waste that should go to the landfill is the ultimate waste that cannot be reused, recycled or composted.

<b>REFERENCE(S):</b>		Page 1 of 6
<i>Environmental Sustainability Policy, 2013</i>		

## 2.1. THE 3R PRINCIPLES

The 3R principle (Reduce, Reuse, Recycle) is a hierarchy of waste management strategies to minimize waste.

- Reduce: where applicable, the University should aim at reducing its consumption of materials that generate waste;
- Reuse: where applicable, the University should redistribute its excess materials within the community so that they can be reused;
- Recycle: where applicable, the University should aim at recycling materials that cannot be reused.

## 2.2. OBJECTIVE ZERO WASTE

Ultimate waste is the only waste that should go to the landfill. Zero waste is not an absolute principle, as the current levels of technological developments do not allow for a perfect management of waste. The Zero waste objective aims at reducing to a minimum the ultimate waste that we do send to the landfill and that is the goal toward which the Bishop's community should be headed.

## 3. CURRENT SITUATION

The members of the Bishop's community have already implemented many measures to limit and manage waste. There is however no follow-up of these actions and we are not able to measure their impact. The following sections present the priorities put forward in the Environmental Program and resume the actions taken to achieve these objectives in order to establish a clear picture of the current situation. This picture will be the framework against which to measure future improvements until further review of this program.

### 3.1. HAVING AN EFFECTIVE PAPER WASTE REDUCTION PROGRAM

There is no official program or procedure on paper waste reduction. However, steps have been taken to reduce the use of paper on campus. There has been a major effort put towards eliminating paper through technology. For example, most of Recruitment and Admissions activities that generated paper have been digitized and are now managed electronically. Employees have been encouraged to print two-sided when they do have to print paper. One-sided printouts are reused by the Print Shop to make memo pads that are available to all Bishop's employees. These initiatives led to a paper consumption reduction of 20% since the adoption of the environmental program.

### 3.2. LIMITING SOLID WASTE GENERATED BY THE UNIVERSITY

There is no official program or procedure on how to limit solid waste generated by the University. Individual or departmental initiatives have not been recorded, so there is no way to establish a valid picture of the situation.

### 3.3. MAINTAIN AN EFFECTIVE RECYCLING PROGRAM ACROSS CAMPUS

Buildings & Grounds is responsible for implementing and maintaining the recycling program on campus. There are several bins available around campus for disposing of recyclable materials. Every office on campus has an individual blue recycling bin that each employee is responsible for emptying in the bigger bins closest to their office. Most of the bins collect mixed materials, but six containers receive cardboard only. Here is the list of containers:

Type of container	Quantity
Cardboard only	6
Mixed Materials	121

All recycling bins are collected once a week by the supplier currently under contract. The city of Sherbrooke is currently evaluating the opportunity of adding institutions to its current municipal collection program. In that case, a collection contract would not be necessary for Bishop's anymore.

### **3.4. OFFERING FURNITURE FOR SALE OR DONATION PRIOR TO DISPOSAL**

Bishop's Executive Committee approved a Procedure for the Disposal of Goods in January 2016. This procedure puts forward the 3R principle (Reduce, Reuse, Recycle) and provides for means of disposing of excess goods. Priority is given to reuse within the Bishop's community. Several auctions and sales have been organized to offer excess goods to the community. Other goods are put aside for the Refugee Sponsorship Garage Sale organized yearly by the Bishop's/Champlain Refugee Sponsorship Committee. When goods are no longer in working order or when they cannot be reused within the community or offered at the garage sale, they are recuperated by local social economy organizations with which we have put in place informal agreements. These organizations either repair and offer the goods to the larger community or recycle them. Lastly, some materials such as scrap metal are sold to local businesses.

### **3.5. USING YARD WASTE AS MULCH ON CAMPUS GROUND**

Yard waste is no longer sent to the landfill. B&G employees have been grasscycling for some time and all leaves that are collected in the fall are brought to the back of campus and left there to decompose.

### **3.6. IMPLEMENTING A FOOD COMPOSTING PROGRAM**

Organic waste is collected at Dewhurst and at the Gait and then transferred in specific containers. Residents of Patterson Hall also have the opportunity to collect organic waste and dispose of it in a container located behind the building. Organic waste is also collected at the Bishop's Arches Brewery as residual by-products of brewing are put in a compost bin and sent to the compost container beside the Gait. In total, there are five containers around campus that can receive organic waste, the contents of which are collected by a company specialized in waste disposal. Organic waste is not collected elsewhere on campus and ends up directly in the garbage.

### **3.7. USING EFFECTIVE, ENVIRONMENTALLY FRIENDLY CLEANING SUPPLIES WHEN APPROPRIATE**

B&G's Custodial Manager has been purchasing eco-friendly products since 2010. The products used are manufactured by InnuScience, a Canadian company specialized in biotechnical cleaning products.

### **3.8. IN ACCORDANCE WITH PROVINCIAL AND FEDERAL REGULATIONS, MONITORING THE SAFE USE AND STORAGE OF HAZARDOUS AND TOXIC MATERIALS ON CAMPUS AND CARRYING OUT THE DISPOSAL**

All of Bishop's hazardous and toxic materials are managed according to provincial and national regulations. Biohazard materials and chemical products are collected by a specialised firm. Some biological by-products are sterilized and sent to the landfill or recycled, as permitted by regulation. The amount of waste that is sent to the landfill is minimal and follows best practices in the hazardous materials waste management field. A registry of all products collected by the specialized firm is available. There is no radioactive waste on campus anymore. We still have some samples on hand and when the time comes, they will be collected by a specialized company.

## **4. INVENTORY OF RESIDUAL MATERIALS**

### **4.1. AUDIT**

Over the summer 2017, the Sustainable Development Student Intern (SDSI) conducted an audit to inventory residual materials produced by services on campus. Residence and Conference Services, the Print Shop, the Sports Centre, Security, ITS and Buildings & Grounds were audited to construct a profile of their waste management practices and to find new disposal solutions to waste that is sent to the landfill. The inventory did not quantify the volume of waste. In later occurrences of the audit, an estimate of quantities will be introduced to satisfy the requirement of the "ICI ON RECYCLE" program.

The following table presents the units that were audited, the main problems that were found and the changes that were introduced following the audit:

Unit	Problems	Changes
Residence and Conference Services	<ul style="list-style-type: none"> <li>Furniture and appliances are sent to the landfill</li> <li>Compost is mainly sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li>Furniture and appliances are now sent to local social economy businesses or the eco-centre</li> </ul>
Print Shop	<ul style="list-style-type: none"> <li>Used office supplies are not something people want to reuse</li> <li>Waste toner was sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li>Waste toner is now sent back to Xerox with the empty toner cartridges</li> </ul>
Sports Centre	<ul style="list-style-type: none"> <li>Coulter Field Sifter's Rubber is sent to the landfill</li> <li>Compost is mainly sent to the landfill</li> <li>Styrofoam is sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
Security	<ul style="list-style-type: none"> <li>Styrofoam is sent to the landfill</li> <li>Used office supplies are sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
Information Technology Services (ITS)	<ul style="list-style-type: none"> <li>Styrofoam is sent to the landfill</li> <li>Hard drives are not recycled because of security issues</li> </ul>	<ul style="list-style-type: none"> <li>A local social economy business is now collecting IT equipment for recycling</li> </ul>
Buildings and Grounds (B&G)	<ul style="list-style-type: none"> <li>Used office supplies are sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
Health & Safety	<ul style="list-style-type: none"> <li>Some biological by-products are sent to the landfill</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

Styrofoam, compost and used office supplies are the main waste items that are sent to the landfill in most services. A campus-wide solution should be implemented to collect these items.

#### 4.2. CHARACTERIZATION

On October 10, 2017, a group of student volunteers, lead by the SDSI, have characterized samples of trash bags in three different locations: Paterson Hall, the Student Union Building, and the Sports Centre.

The characterization process began with the SDSI recruiting student volunteers during Frosh week. The volunteers attended a training by Jacinthe Caron, director of Conseil régional de l'environnement de l'Estrie (CREE) to prepare for the characterization. On the selected day, approximately 10% of all bags in each selected container were opened, trash sorted by category and finally weighted. The following table presents aggregated results:

Total waste per category and location (Kg)					
	SUB Building	Paterson Residence	Sports Complex	Total	% Total
Paper and cardboard	2.125	1.455	3.215	<b>6.795</b>	<b>30%</b>
Plastics	0.885	0.9623	1.115	<b>2.9623</b>	<b>13%</b>
Glass	0	0.25	0.115	<b>0.365</b>	<b>2%</b>
Metal	0	0.29	0.07	<b>0.36</b>	<b>2%</b>
Organic Matter	5.775	2.58	0.535	<b>8.89</b>	<b>39%</b>
Textile	0	0.075	3.14	<b>3.215</b>	<b>14%</b>
Styrofoam	0	0.08	0	<b>0.08</b>	<b>0%</b>
<b>Total</b>	<b>8.785</b>	<b>5.6923</b>	<b>8.19</b>	<b>22.6673</b>	<b>100%</b>

While results present a certain margin of error and only trash containers were characterized, we can certainly conclude that there is too much recyclable and compostable matter in the selected containers. The characterization results, in the long term, will be extrapolated to estimate total waste generation for the campus.

#### **4.3. ÉCO ENTREPRISE QUÉBEC**

“Organizations subject to the Environment Quality Act must register with ÉEQ, report the containers, packaging and printed matter they put on the market in Quebec depending on the type of materials and their quantities and pay their contributions to finance municipal curbside recycling services”. (Éco Entreprise Québec, 2017) As a public institution, Bishop’s has the obligation to report the quantity of promotional materials and packaging it produces to Eco Entreprise Québec (EEQ). The SDSI conducted an audit of all promotional materials and packaging over the summer of 2017.

The audit showed that Bishop’s produced approximately 5.1 tons of promotional materials and packaging for the year 2016.

### **5. ORIENTATIONS**

Within the priorities that were established in the Environmental Sustainability Program and given the current situation, Bishop’s will implement measures to improve its environmental performance. The following is the list of orientations that will further be developed through the annual action plans within the next five years:

#### **5.1. ORIENTATION 1: REDUCING**

- Reducing consumption of paper.
- Reducing packaging.
- Reducing printed promotional materials.
- Monitoring best practices at other universities.
- Introducing a local consignment system for glass containers at the Arches Brewery, or joining the provincial consignment program.

#### **5.2. ORIENTATION 2: REUSING**

- Following the procedure for the disposal of goods.
- Participating in a circular economy board with other universities for the disposal of scientific goods.

#### **5.3. ORIENTATION 3: RECYCLING**

- Implementing a better recycling system, including:
  - Adding compost bins on campus
  - Composting paper towels in bathrooms
  - Sorting paper and cardboard from other recyclable materials
  - Eliminating garbage bins and replacing them with 3-way stations in public areas
  - Eliminating garbage or recycling bins from classrooms
  - Reducing the size of garbage bins in offices.
- Studying the possibility of using food waste produced on campus as compost for student or academic agricultural projects.
- Evaluating the best option for managing organic waste at the brewery.
- Eliminating dangerous materials according to regulation.

- Working with contractors to increase the recycling of construction materials.
- Promoting Green events on campus.

#### **5.4. ORIENTATION 4: COMMUNICATING**

- Putting in place a communications plan to
  - Encourage community members to make the right decision
  - Inform community members of recycling programs and locations on campus (batteries, cell phones, ink cartridges, etc..)
  - Implement the Sustainable Development Assistant program in residences
  - Implement the Sustainable Development Leaders program within Faculty and Staff.

#### **5.5. ORIENTATION 5: MEASURING**

- Putting in place a measuring system to keep track of performance
  - Characterize waste twice a year
  - Audit services once a year.

### **6. CONCLUSION**

Bishop's community members already do a lot towards waste management on campus, but there are few records of what is actually done. The analysis of the current situation reveals that several areas can be improved, which is the basis for the orientations that will help plan the annual action plans. Ultimately, all actions will contribute to achieving the zero waste objective.