

SRA MAROON PAPERS

THE McMASTER STUDENTS UNION | KEY POINTS & RECOMMENDATIONS FROM SRA POLICY PAPERS

POLICY PAPER UNIVERSITY SUSTAINABILITY

PREAMBLE

As both an educator and a facility requiring significant energy use and waste production, McMaster University has a significant effect on its surrounding ecological environment. The University has a role in developing sustainability measures in the classroom, while also ensuring its operations are as sustainable as possible. Thus, this policy sets out the MSU's stances regarding a variety of on-campus sustainability measures that either are in place and can be improved, or are not in place and could be instituted. Below are the principles, concerns, and recommendations that the McMaster Students Union holds regarding these issues, summarized from the official general policy titled University Sustainability.

PRINCIPLES

The MSU believes that:

- Through the development and maintenance of a sustainable campus, McMaster University can positively impact the local and provincial landscape of environmentally minded education
- Students should be encouraged to follow sustainable practices in the classroom
- When it does not detract from the quality of education and student, faculty, and administrative life, the University should conserve energy whenever possible
- Students should be encouraged to participate in conversations by the University related to maintaining and improving sustainability practices on campus
- McMaster University should maintain an up-to-date policy bank on sustainability-related issues on McMaster's campus
- Food waste represents a large aspect of McMaster's sustainability footprint, and efforts should be taken to limit the amount of excess resulting from on-campus food
- Garbage disposal and recycling practices on campus should be sustainable and clearly articulated to students to ensure everyone is working to keep campus clean and environmentally friendly



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CONCERNS

The MSU is concerned that:

- Many courses at McMaster currently rely heavily on physical handouts and submissions, using unnecessary energy and creating waste in the campus environment
- Many course outlines in a variety of programs do not contain information related to the Sustainable Written Work Submission Guidelines or relevant McMaster sustainability policies
- Courses that include a lab component often use a high volume of material during laboratory processes, including gloves and test tubes
- After evening classes have been completed, many lecture halls and buildings remain with lights on through the duration of the night
- Many buildings are outfitted with outdated lighting technology that uses more energy than newer and more innovative designs
- Currently the University relies heavily on fossil fuels for many of its energy needs, and these are not a sustainable means of powering the University's operations
- Currently the University hosts various sustainability-related working groups, yet poor advertising by the University generally results in low student consultation
- McMaster University's current policy base is small in both the number of policies it contains and the scope of each individual policy
- The University does not currently emphasize student opinions in their policies;
- McMaster currently does not offer portion sizes for meals, and this results in excess waste as students dispose of uneaten food
- Many of McMaster's food supplies are not local, and this leads not only to extra expenses but also unsustainable transportation practices for the food to arrive on campus
- Residence recycling practices are not taught to students effectively or at all in many instances, leading students to incorrectly recycle their garbage
- Currently much of McMaster's recycling is actually disposed of as garbage on campus, which leads to questions surrounding why recycling bins are present and why this material is not separated effectively

RECOMMENDATIONS

The MSU recommends that McMaster University:

- Instead of physical handouts, programs should use online tools such as Avenue to Learn or LearnLink to upload documents and accept student submissions for assignments
- McMaster's Sustainable Written Work Submission Guidelines should be included on every course outline and uploaded to the program's website for easy access
- Courses that include a lab component should ensure that material waste is reduced up to the point that it does not compromise the safety of students, faculty, and



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- staff, as well as the class's educational quality
- When University buildings are not in use non-essential energy use such as light and heating should be reduced
 - McMaster University should retrofit many of its buildings with LED lights, which offer better energy efficiency over the long term
 - McMaster University should implement newer and more environmentally friendly ways of producing energy to reduce its dependency on non-renewable forms of energy creation
 - McMaster University should advertise both independently and through the McMaster Students Union when sustainability-related working groups are being created
 - McMaster University should increase its policy base to include its stances and approaches to a variety of other sustainability-related issues on campus, while also including research and tangible steps to accomplish each of their goals
 - When appropriate and relevant, McMaster policies on sustainability should emphasize the student consultation that occurred, and how this consultation ensures that new sustainable practices are amenable to students
 - McMaster should offer a variety of portion sizes for its meals, and have this information clearly available to students both online and at point-of-purchase;
 - Locally grown food should become a greater resource for McMaster's Facility Services when deciding where to obtain many of the ingredients used in its food
 - During the academic year and in Welcome Week particularly, students should be taught about proper garbage disposal and recycling practices within their residence
 - McMaster should ensure that garbage is appropriately sorted so that recyclable material is not disposed of as garbage

FURTHER READING

For more information about University Sustainability, visit the [General Policies section](#) of the MSU website to read the full Policy Paper.



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POLICY PAPER

MSU Policy on University Sustainability

Introduction

It is no secret to anyone attending, funding, or working in the PSE sector that the role of the university extends far beyond its educational mandate. Universities are often evaluated on their ability to produce research and global-minded citizens alongside their instructional objectives¹, and this holistic view of institutions of higher learning allows the university's role to be reimagined, and redefined. Thus, as both a stakeholder in and an actor on the province's social benefit, McMaster University plays an important role in contributing to a better model of society. It is with this spirit that this policy paper is written.

As environmental problems continue to grow both province and nation wide, sustainability movements similarly continue to expand across Canada. In addition, as both a center of rapid innovation and of high-energy use, McMaster University cannot be ignored as having a significant impact on the ecological environment in which it is situated. By being an avenue for higher learning as well, McMaster plays a part in shaping student opinions on sustainable practices, and affirming the student's place in both their local and global environment. Thus, this policy sets out to recognize the sustainability initiatives currently in place at McMaster University, and intends to provide well-researched and thoughtful recommendations to encourage further positive steps in the direction of an environmentally friendly campus.

Principle One: Through the development and maintenance of a sustainable campus, McMaster University can positively impact the local and provincial landscape of environmentally minded education.

As a formally funded and recognized institution of higher learning, McMaster's primary goal should be to provide an accessible and quality environment from which all students can learn, thrive, and ultimately succeed after graduation. In achieving this goal, the MSU recognizes that the University faces challenges to the implementation and maintenance of sustainability practices that may run counter to these ultimate objectives. For instance, although McMaster may not be particularly sustainable when it invests high amounts of money in exhaustible energy forms, the MSU understands the potential negative impact that divestment can have on the University's ability to maintain its operations. This being said, there are many ways that McMaster can feasibly change to reduce its ecological footprint, and to encourage students to reduce their own. By considering the suggestions listed below, the MSU is confident that McMaster University's status as a thought leader will extend to the field of sustainably minded business practices.

¹ <http://www.harvard.edu/president/speech/2010/role-university-changing-world>

Principle Two: Students should be encouraged to follow sustainable practices in the classroom.

As students make up the majority of the university's population, it is of great importance that they are both encouraged to follow and to become involved in sustainable practices. The classroom setting is a great opportunity for students to become sustainable leaders. Despite efforts of many faculty members to decrease their waste, many course assignments and evaluations are still submitted and communicated on paper. The opportunity for students to follow sustainability practices also exists within the student's laboratory habits, surrounding the use of wet lab materials and equipment. Thus, since a great portion of the average student's time on campus takes place in the classroom, McMaster's ability to create sustainably minded students will be most effective by focusing on this environment.

Concern One: Many courses at McMaster currently rely on physical handouts and submissions, using unnecessary energy and creating waste in the campus environment.

By requiring physical copies of assignments to be submitted for evaluation, students are printing and creating physical copies that will eventually go to waste. Many course instructors currently have strict course submission guidelines, which require physical submissions for assignments and include double spaced, one side of text per page rules, among other margin outlines. A study was done at McMaster through the Sustainability Office where professors in the faculties of Social Science and Arts & Science were surveyed to see whether they would consider changing the requirements for assignment submissions to be more sustainable with the amount of paper used. Options they were given included reducing margins, printing single-spaced and printing double sided. This data was used to create the Sustainable Work Submission Guidelines to be implemented on McMaster's campus.² This policy however is currently not heavily advertised or implemented in the classroom environment.

Professors already using Avenue for courses also have the option to have students submit their work online. This is ideal because there is generally no waste created in this process and students don't need to travel to campus to submit course work, which saves time and fossil fuel emissions as well.

² (<http://www.mcmaster.ca/sustainability/documents/Annual%20Report%202012.pdf>)

Concern Two: Many course outlines in a variety of programs do not contain information related to the Sustainable Written Work Submission Guidelines or relevant McMaster sustainability policies.

Students are currently unaware of the Sustainable Written Work Submission Guidelines because they are rarely included on course outlines or conveyed during class. Course outlines currently address due dates, the mark break down, and the Academic Dishonesty policy, yet many lack a section regarding sustainability in the classroom. There cannot be a change in submissions if students are unaware of the guidelines and course instructors are not providing students with them.

Concern Three: Courses that include a lab component often use a high volume of material during laboratory processes, including gloves and test

Courses often include a lab component where students learn how to apply the knowledge learned in the classroom. While practicing skills in simulated environments such as infection control for students progressing toward work in the health care field or wet laboratory techniques for students striving for future involvement in research, a high volume of unnecessary waste may be created. Thus, the MSU is concerned at the amount of waste produced in laboratory environments, especially if this waste is excessive even when considering the necessary waste produced because of the safety regulations that are in place.

Recommendation One: Instead of physical handouts, programs should use online tools such as Avenue to Learn or LearnLink to upload documents and accept student submissions for assignments.

Courses that already use Avenue to Learn or LearnLink for their courses have the option to have course work submitted online. By doing so, students would not need to print physical copies or travel to campus to submit course work, which could potentially save students money and reduce fossil fuel emissions. Of course there is also the benefit of reducing the amount of waste created by handing in physical copies of assignments. Oftentimes assignments with strict submission guidelines are done on a computer, such as reports and essays, which then need to be printed. However it is more accessible for students to simply upload them and submit them by the deadline. Thus, the MSU recommends that all courses use Avenue to Learn or LearnLink as a means of allowing students to submit online assignments instead of handing in physical copies.

Recommendation Two: McMaster's Sustainable Written Work Submission Guidelines should be included on every course outline and uploaded to the program's website for easy access.

Students cannot engage in sustainable practices if they are not aware of the policies and guidelines currently set by their faculty or by the University. McMaster's Sustainable Written Work Submission Guidelines should be included on all course outlines to encourage students to think sustainably about course work submissions and create a sustainable culture among students at McMaster. Classes offered in the Faculty of Arts & Science have already acknowledged sustainability in sections regarding assignment submission³, which encourages students to upload assignments to Avenue to Learn, and only accept hard copies in extenuating circumstances. Other faculties should adopt the same practices in order to create a more sustainably conscious campus.

Recommendation Three: Courses that include a lab component should ensure that material waste is reduced up to the point that it does not compromise the safety of students, faculty, and staff, as well as the class's educational quality.

To ensure compliance with McMaster's commitment to reducing its greenhouse gas emissions, maximum efforts should be made. These efforts should be far-reaching, from course assignments being submitted online versus on paper, to conservative practice with lab material and equipment. However, these efforts should not compromise the student's safety or quality of teaching or learning. For instance, nursing students practicing safe injection techniques should have available unused needles that the student disposes immediately post-procedure. As well, in programs at McMaster that require the use of biosafety procedures, unused plastic ware must be placed in the biomedical waste stream because it is unknown whether the material has come into contact with biohazards or not.⁴

Principle Three: When it does not detract from the quality of education and student, faculty, and administrative life, the University should conserve energy whenever possible.

McMaster University space is regulated and managed by an extensive group of personnel and systems. It is the place of education and work for tens of thousands of individuals. Thus, the consumption of energy for lighting and heating to provide comfortable and safe environments is essential. Additionally however, the university should not be wasteful in its consumption of energy. There are off-peak hours where it is possible to conserve energy. For example, lecture halls that are not in use during the day or night, or heating and air conditioning for buildings, some of which are absent of staff during the night, are situations where it is possible to conserve energy without negatively impacting

³ <http://artsci.mcmaster.ca/courses-year/?y=2014>

⁴ https://biosafety.mcmaster.ca/biosafety_waste_disposal.htm

the lives of McMaster community members. The university and the MSU should strive to maintain the experience of its members while minimizing environmental impacts. If it is possible to conserve energy without impacting the experience of McMaster community members, it is necessary for the institution to do so.

Concern Four: After evening classes have been completed, many lecture halls and buildings remain with lights on through the duration of the night.

Leaving lights on overnight in an average office space consumes enough energy to microwave 945 dinners⁵. Based on this, it is easy to imagine how much energy is consumed in keeping the lights on overnight in a large number of buildings on campus. There are complex and appreciable reasons for leaving lights on in a university building at times of reduced use, such as during the night and on weekends. The Hamilton Property Standards By-law, for one, requires that all buildings have illuminated hallways, stairways, common areas and underground parking at all times¹. Additionally the technical and logistical difficulties of turning all lights off have to be considered, as do safety and security concerns. The University acknowledges these issues in its 2010 Climate Action Plan⁶. However, not all spaces are covered under the bylaw, and such spaces also often have their lights left on. These include classrooms, lecture halls, laboratories, and library meeting rooms. Ensuring that lighting in non-essential spaces is shut off when not in use could be a significant contribution to reducing overall energy usage.

Concern Five: Many buildings are outfitted with outdated lighting technology that uses more energy than newer and more innovative designs.

Light emitting diodes (LEDs) offer significantly lower energy consumption and longer life spans compared to traditional lighting technologies. Currently, McMaster spends almost \$6 million a year in electricity costs⁷. With lighting being a significant portion of that expense, it is economically as well as environmentally beneficial to the university to ensure all lights on campus be as energy-efficient as possible.

⁵ Sustainable Energy Authority of Ireland. *Lighting Energy Facts*. Retrieved March 14, 2015 from http://www.seai.ie/EnergyMAP/Energy_Awareness/Energy_Awareness_Resources/Energy_Facts/Lighting_Energy_facts/

⁶ <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>

⁷ First joint Campus Lights Out Event Proves Successful. (2014, November 12). Retrieved March 15, 2015, from <http://sustainability.psu.edu/spotlight/first-joint-campus-lights-out-event-proves-successful>

Concern Six: Currently the University relies heavily on fossil fuels for many of its energy needs, and these are not a sustainable means of powering the University's operations.

It is unsustainable and harmful that fossil fuels, such as oil and gas, are used to provide energy and heating for McMaster. These methods of power generation are problematic for a number of reasons: 1) they will not prove to be cost effective in the long term, 2) their environmental impact and total impact on the university's green house gas emissions is monumental due to the energy requirements of McMaster and, 3) the university should act as a leader in the community for cheap, renewable energy consumption.^{8 9} At the same time, it must be recognized that the provincial government determines much of the source of McMaster's campus energy.¹⁰ Nonetheless, little documentation is accessible indicating that the University has challenged or advocated for change.

Recommendation Four: When University buildings are not in use non-essential energy use such as light and heating should be reduced.

Although legally dictated lighting and heating policies cannot be sidestepped, effectively managing the energy usage of the university during times of reduced use could have a significant positive impact. This could be as simple as turning off lighting in classrooms overnight and on weekends, as well as shutting off computers and other electronic equipment when not in use. One approach that has been used to great effect at American universities is an innovative, volunteer-driven initiative known as Friday Night Lights Out. At Penn State University, student volunteers come together weekly on Fridays to turn off unnecessary classroom lights that would otherwise stay on all weekend. This program has been in operation since 2006 and has saved Penn State more than 700,000 kilowatt hours of electricity¹¹. After receiving media attention, the concept expanded into the first nationwide Campus Lights Out event in October 2014. The University of Texas at Austin, the University of Toledo, the University of Kansas and Bowling Green University joined Penn State in turning off a total of 14,628 lights and 737 electronics such as projectors and computer monitors, saving a total of 18,869 kWh¹². This project focuses on encouraging facility users

⁸ Smith SJ, Kyle GP, Wise MA, Clarke LE, Rauch EM, Kim SH, et al. California in Context: Long-Term Scenarios of Energy Efficiency and Renewable Energy. Energy. 2007 p. 118.

⁹ [http://www.mcmaster.ca/sustainability/documents/BPS_Template_2012_-_University_EN\(1\).v.3.pdf](http://www.mcmaster.ca/sustainability/documents/BPS_Template_2012_-_University_EN(1).v.3.pdf)

¹⁰ <http://ppims.services.mcmaster.ca/plant/documents/EMP%20PLAN.pdf>

¹¹ First joint Campus Lights Out Event Proves Successful. (2014, November 12). Retrieved March 15, 2015, from <http://sustainability.psu.edu/spotlight/first-joint-campus-lights-out-event-proves-successful>

¹² First joint Campus Lights Out Event Proves Successful. (2014, November 12). Retrieved March 15, 2015, from <http://sustainability.psu.edu/spotlight/first-joint-campus-lights-out-event-proves-successful>

to take responsibility in turning lighting off, an idea that McMaster seems to support with the Climate Action Plan's recommendation to create a multi-faceted educational campaign on energy consumption and conservation¹³. This campaign includes low-cost "please turn me off" reminders installed next to light switches. While commendable, an initiative like Friday Night Lights Out would arguably attract more attention to the issue and have more of an impact. There is a range of other lighting control strategies that can be used as well. Astronomical time clock scheduling, for example, automatically turns off or dims lights based on sunset and sunrise timings. Scheduling can reduce lighting costs by 10-35%¹⁴. Occupancy sensors are another option – they automatically turn off lights when occupants leave a room, with average savings of 35%¹⁵. The Climate Action Plan does recommend increasing the use of occupancy sensors, but states that it is unknown where occupancy sensors are currently installed on campus, and that priority areas, costs, and energy-saving potentials have yet to be identified¹⁶.

There are appreciable safety and legal concerns around the shutting off of lights at night, and by no means should all lights on campus be turned off as many areas are open for use at all times. However, there are definitely changes that can be made to ensure unnecessary lighting is turned off to minimize waste.

Recommendation Five: McMaster University should retrofit many of its buildings with LED lights, which offer better energy efficiency over the long term.

In July 2014, McMaster Facilities Services completed the replacement of 150 lamps in the basement of Togo Salmon Hall with LED tubes. According to energy metering devices installed prior to the replacement, electricity demand dropped by 25% immediately after replacement¹⁷. Additionally, the replacement is projected to pay for itself with energy savings as well as cost savings in maintenance because of the longer lifetime of LED lamps¹⁸. McMaster currently

¹³ McMaster University Office of Sustainability. (2010). *Climate Action Plan*. Retrieved March 15, 2015 from http://www.mcmaster.ca/sustainability/documents/Climate_Action_Plan_Dec_2010.pdf

¹⁴ Lighting Controls Strategies Can Save Money. (2010). Retrieved March 14, 2015, from <http://www.facilitiesnet.com/lighting/article/Lighting-Controls-Strategies-Can-Save-Money-Facilities-Management-Lighting-Feature--11916>

¹⁵ Lighting Controls Strategies Can Save Money. (2010). Retrieved March 14, 2015, from <http://www.facilitiesnet.com/lighting/article/Lighting-Controls-Strategies-Can-Save-Money-Facilities-Management-Lighting-Feature--11916>

¹⁶ McMaster University Office of Sustainability. (2010). *Climate Action Plan*. Retrieved March 15, 2015 from http://www.mcmaster.ca/sustainability/documents/Climate_Action_Plan_Dec_2010.pdf

¹⁷ McMaster University Facility Services. (2014). *LED Retrofit Project in TSH Basement*. Retrieved March 14, 2015 from http://www.mcmaster.ca/sustainability/documents/LED%20Retrofit%20Project%20in%20TSH%20Basement_V3.pdf

¹⁸ McMaster University Facility Services. (2014). *LED Retrofit Project in TSH Basement*. Retrieved March 14, 2015 from http://www.mcmaster.ca/sustainability/documents/LED%20Retrofit%20Project%20in%20TSH%20Basement_V3.pdf

has a plan in motion to replace 27,792 lamps across campus with LED lights, in classrooms, office spaces and parking lots⁵. Parking Lot C and Robinson Theatre are slated to be targets of this replacement initiative, as are Commons and the Information Technology Building¹⁹. It is highly commendable that the University has taken these steps in improving its environmental and economic sustainability. The Energy Management Plan does not, however, ensure that all spaces will be retrofitted with LED lights. Moving forward, once priority areas as previously identified are completed, the university should consider fully replacing all lights with LEDs. The fact that the advantages to retrofitting have been immediate and drastic in areas where it has already taken place should make clear the benefits of such action.

Recommendation Six: McMaster University should implement newer and more environmentally friendly ways of producing energy to reduce its dependency on non-renewable forms of energy creation.

The University, in partnership with the MSU, should lobby and advocate for sustainable energy source provision to its campuses. At the same time, it is important to again recognize that the university is not solely responsible for the sources of its energy.²⁰ However, the university is a powerful body in regards to lobbying. By prioritizing renewable energy sources for campus use, the university can work to decrease its reliance on fossil fuels.

The University should apply and advocate for funding from the provincial government to provide funding for the construction of 'green' buildings, and for the renovation of existing buildings to retrofit them with sustainable energy sources. Construction of such buildings is possible, as illustrated by the Engineering Technology Building (ETB), which is outfitted with a rainwater treatment mechanism and the ability to house solar panels.²¹ With the construction of new buildings ongoing and upcoming (The L.R. Wilson Hall – which is LEEDs certified - and a new residence complex), the university should look to continue outfitting buildings with renewable energy usage potential.^{22 23} The University should also take the required steps to complete the implementation of sustainable energy sources, such as installing solar panels on ETB. In addition, it should explore and fund the implementation of other sustainable energy sources on pre-existing university buildings.

¹⁹ McMaster University Facility Services. (2014). *LED Retrofit Project in TSH Basement*. Retrieved March 14, 2015 from http://www.mcmaster.ca/sustainability/documents/LED%20Retrofit%20Project%20in%20TSH%20Basement_V3.pdf

²⁰ <http://ppims.services.mcmaster.ca/plant/documents/EMP%20PLAN.pdf>

²¹ New Engineering Building Opens at McMaster. 2009 Oct 23.

²² New Liberal Arts Building Moving Forward. 2012 Jun 28.

²³ Syed S. Meeting the Residence Needs of Students: A McMaster Perspective [Internet]. 2015 [cited 2015 Mar 15]. Available from: <http://www.ousa.ca/2015/01/07/meeting-residence-needs-students-mcmaster-perspective/>

Principle Four: Students should be encouraged to participate in conversations by the University related to maintaining and improving sustainability practices on campus.

For sustainability practices to be solidified on campus, the University should look for new and creative ways to integrate students. Currently McMaster University has developed an energy management plan that focuses on the promotion and advertisement of efficient green practices. However, many of these considerations come from faculty services with little to none consultation from the students. Many undergraduate programs include sustainability course material that provides students with the fuel to formulate innovative ideas. Furthermore, the future of the University is heavily decided by the actions of students. As a result, allowing students to engage in conversations with the University could increase the effectiveness of any future sustainability methods.

Concern Seven: Currently the University hosts various sustainability-related working groups, yet poor advertising by the University generally results in low student consultation.

While there exists sustainability-related working groups at the University, many of these groups are managed by full-time staff members rather than active McMaster students. As of now, OPIRG McMaster (Ontario Public Interest Research Group) is the only organization with a board of directors formed entirely of full time undergraduate students within the community.²⁴ Furthermore, MIIETL (McMaster Institute for Innovation & Excellence in Teaching & Learning) has a team of thirty-four members, with four members being students.²⁵ MIIETL is also able to successfully incorporate student feedback through working groups as well. For instance, Arts & Science student Spencer Nestico-Semianiw is currently the working group coordinator for the Impact of Reflection Community Engaged Learning Working Group, with many students being included in the other working groups as well. It is a concern however to the MSU that this level of student consultation is not present at sustainability working groups. As a result, conversations that should have taken place before the application of these strategies will happen later and hamper progress.

According to a 2014 poll taken at Western University, only 31.4% of students are interested in taking a sustainability-related course.²⁶ Therefore, making a sustainability course mandatory in certain programs may increase student engagement and awareness. This course could also lead to leadership opportunities in working groups to have a larger student representation. Aside from more sustainability content in University education, a focus on advertising

²⁴ <http://www.opirg.ca/page/board-directors>

²⁵ <http://miietl.mcmaster.ca/site/team/>

²⁶ http://news.westernu.ca/wp-content/uploads/sites/2/back_issues/2014/10/WN-Oct-16-web.pdf

sustainability working groups through online surveys and student positions on the MSU is required to raise awareness.

Recommendation Seven: McMaster University should advertise both independently and through the McMaster Students Union when sustainability-related working groups are being created.

At this moment, there are only a hand full of working group organizations within McMaster University and the Hamilton community. However, student awareness concerning these work groups is extremely low and lack a strong student presence. Following a similar promotion strategy as the recent health care referendum, having an efficient social media campaign along with promotional material are crucial to a successful sustainability program. In March 2013, the University created a Mac Kill-O-Watt energy conservation challenge between Kenneth Taylor Hall (KTH) and Chester New Hall (CNH). Due to the effective promotion methods of this challenge, CNH and KTH saved \$515.40 and \$464.50 respectively within six weeks.²⁷ These results create the perfect topics for discussions between the working groups at the University. As of now, McMaster's Annual Sustainability Reports do not include any objectives towards sustainability-related working groups but rather academic sustainability programs (ASP). While ASP provides students with the opportunity to learn more about sustainable practices in the classroom, the promotion of these courses along with other research and work groups is almost non-existent. Currently Wilfrid Laurier University (WLU) offers individuals and groups across their campus an award for sustainable awareness and initiatives.²⁸ Creating an award would engage students and encourage them to strive for bigger and better initiatives. Furthermore, WLU has created an Environmental Week, bringing students and campus partners together to discuss important issues surrounding sustainability.²⁹ McMaster University has a similar event, the Annual Campus Sustainability Day (ACSD), but on a much smaller scale.³⁰ With that in mind, McMaster University should focus on collaborating with MacGreen to expand ACSD to a weeklong event. Following the formula of MacTalks and ArtsMatter, MacGreen has the potential to effectively market sustainable practices and continue to engage and educate students. This event would also allow for working groups such as MIIETL and OPRIG to advertise themselves and provide students the opportunity to sign up for their projects. The fact that other

²⁷http://www.mcmaster.ca/sustainability/documents/Sustainability%20Report_FINAL_March022015.pdf

²⁸http://www.mcmaster.ca/sustainability/documents/Sustainability%20Report_FINAL_March022015.pdf page 22

²⁹http://www.mcmaster.ca/sustainability/documents/Sustainability%20Report_FINAL_March022015.pdf page 22

³⁰http://www.mcmaster.ca/sustainability/documents/Sustainability%20Report_FINAL_March022015.pdf page 21

universities are successfully implementing these initiatives is a message that McMaster University can and should do the same.

Principle Five: McMaster University should maintain an up-to-date policy bank on sustainability-related issues on McMaster's campus.

In the context of environmentalism, policy approaches represent an important method for universities to set out their intentions for maintaining sustainable practices, while also keeping these efforts accountable to society at large. A policy bank can also be beneficial to a wide variety of different groups, including students, faculty, staff, environmental groups, governments, and local businesses who are interested in learning about what McMaster does to ensure its sustainable operation. Up-to-date policy is also essential for the success of this approach however. Due to the complexity of university operation, several years after policy approval can often lead to a remarkably different environment both internal and external to the university. Thus, it is important that universities provide updated policies whenever possible to ensure that interested members are able to see an accurate snapshot of the university's environment.

Concern Eight: McMaster University's current policy base is small in both the number of policies it contains and the scope of each individual policy.

McMaster University's Office of Sustainability, located in building 12 of the E.T. Clarke Centre, is responsible for the sustainability of the University's campus, including areas of focus such as education, energy, transportation, waste, and water.³¹ This office also contains McMaster's policy bank on sustainability, which includes policies on sustainable buildings, battery recycling, environmentally green purchasing, plastic bags, and the official McMaster University Sustainability policy.³² These five policies represent the entirety of the University's current policies on sustainability, and the MSU is thus concerned at the lack of official stances the University has taken on environmental practices on campus. In addition, with the exclusion of the McMaster University Sustainability Policy, all of these policies have not been updated for over five years, and several are only one page.

For instance, the McMaster Sustainability Building Policy was last updated on June 19th, 2008, and contains five points on how to promote sustainability on campus.³³ The wording of these points however is extremely vague, and does

³¹ <http://www.mcmaster.ca/sustainability/about.html>

³² <http://www.mcmaster.ca/sustainability/policies.html>

³³ <http://www.mcmaster.ca/policy/Governance/Other/Sustainable%20Building%20Policy.pdf>

not provide any clear, measurable, or accountable ways in which to assess them. Despite this concern, the policy still states to, “achieve a minimum annual energy consumption saving of 35% and developing renovated buildings to achieve savings of 25%.” Although the MSU applauds this intention, the policy as it is currently written provides no plan to achieve this goal. This lack of clarity may be a barrier for readers in understanding how the University attempts to reinforce and complete its objectives. In addition, the vagueness in which the wording is often presented often makes the objectives themselves unclear.

Concern Nine: The University does not currently emphasize student opinions in their policies.

All five of McMaster’s sustainability-related policies do not include or allude to student consultation having been conducted during the policy process. With students participating in the University experience as fully as faculty, staff, and administration, it is important for student opinion to be included in the policy decisions made on behalf of the University.

The McMaster University Sustainability Policy is a strong example of the importance of student consultation. In this policy many statements are made regarding sustainability at McMaster, and several furthermore affect students. For instance, the policy outlines the following objectives³⁴:

- 1) Provide faculty, staff and administration with opportunities to increase their awareness and knowledge of sustainability;
- 2) Provide students with internships and volunteer opportunities in the areas of sustainable development

Although these objectives are regarded positively by the MSU, the policy includes no evidence that they were discussed with students. If student consultation had occurred, these objectives could not only be more robust, but could also be better suited to what students are actually looking for.

Recommendation Eight: McMaster University should increase its policy base to include its stances and approaches to a variety of other sustainability-related issues on campus, while also including research and tangible steps to accomplish each of their goals.

³⁴ http://www.mcmaster.ca/sustainability/policies/McMaster_University_Sustainability_Policy.pdf

Although McMaster's policy base is not as expansive as students may desire, this is not to say that McMaster does not have a robust and in many ways forward-thinking sustainability plan. For instance, McMaster's Climate Action Plan sets out many of McMaster's plans for energy reduction and sustainability approaches to campus life³⁵. In addition, the Sustainability Annual Report published in 2014 is an extremely clearly articulated, specific, and heavily consulted document that outlines much of McMaster's approach to sustainability³⁶. In fact, McMaster University contains a wide variety of documents related to on-campus sustainability.³⁷ Thus, students would definitely like to see McMaster's policies completed with the same level of thought and insight as their reports and action plans. As well, McMaster University would be able to easily transfer many of its points contained in these plans to their policies. This would allow McMaster to be able to rapidly expand that number of policies it has to officially govern its operations, allowing students to feel confident that the University is being accountable in its approach to creating an environmentally minded campus.

Recommendation Ten: When appropriate and relevant, McMaster policies on sustainability should emphasize the student consultation that occurred, and how this consultation ensures that new sustainable practices are amenable to students.

Upon a quick policy review of other Ontario universities, it is clear that the lack of student consultation in University sustainability measures is not a challenge specific to McMaster. Many universities, including the University of Toronto, Queen's, and Laurier all boast active sustainability communities, yet still lack direct student consultation in their policies. With this in mind, it is important for McMaster to move towards conducting and then including student consultation and opinions in their policies. This provides several benefits. First, it empowers students to look at sustainability issues critically, and to be able to see their influence on the university environment. Second, it strengthens the University's policies because it includes an additional perspective. Students are often recognized for bringing unique contributions and solutions to global problems, and student insight into University sustainability practices is no different. Lastly, including student consultation satisfies an important accountability measure for McMaster. Students are just as active of a stakeholder in the well-being of universities as faculty and staff, and deserve the right to shape how their university operates. It is with these reasons that the MSU

³⁵ <http://www.mcmaster.ca/sustainability/documents/Climate.Action.Plan.2013%20-%20ONLINE.pdf>

³⁶ http://www.mcmaster.ca/sustainability/documents/Sustainability%20Report_FINAL_March022015.pdf

³⁷ <http://www.mcmaster.ca/sustainability/reports.html>

recommends for McMaster to include student consultation in its sustainability policies.

Principle Six: Food waste represents a large aspect of McMaster's sustainability footprint, and efforts should be taken to limit the amount of excess resulting from on-campus food.

At McMaster University, it is currently required for all first year residence students to purchase a meal plan. These meal plans are usually quite expensive, and result in students often using on-campus meal sources for food to reduce the amount of left over money. As a result, food waste is particularly common on campus, and contributes to the University's sustainability footprint in general. Thus, it is important the University take the necessary steps to reduce food waste on campus.

Concern Ten: McMaster currently does not offer portion sizes for meals, and this results in excess waste as students dispose of uneaten food.

No matter which McMaster operated food space a student visits at Mac, it is very difficult to be offered portion sizes for each meal. Often meals come in one size, and students may be forced to choose meals that they will not be able to finish. This commonly results in leftover food being created, which is disposed of afterwards. This is a strong concern for McMaster students, as not only do students want to have the opportunity to exercise portion control for their own health, but also since it will have a significant positive impact on the University's level of food waste.

Recommendation Eleven: McMaster should offer a variety of portion sizes for its meals, and have this information clearly available to students both online and at point-of-purchase.

In order to address this issue, McMaster University should offer several different portion sizes for as many of its meals as possible. By doing so students will be able to choose meals that will best satisfy them depending on their appetite at the time, and this will result in less food waste on campus. As well, this information should be provided to students in a variety of ways, including in the physical campus food spaces, as well as online so that both incoming and current students and learn about the various portion sizes offered.

Concern Eleven: Many of McMaster’s food supplies are not local, and this leads not only to extra expenses but also unsustainable transportation practices for the food to arrive on campus.

McMaster Hospitality Services currently operates most of the dining options for students on campus, with over 20 locations on campus³⁸. While other universities in Ontario have taken initiatives to increase the amount of local products that students consume, McMaster Hospitality Services has not yet issued any sustainability plan³⁹. There are several reasons to increase the amount of locally grown food on campus, but chief among them is decreasing the amount of “food miles” (the distance food travels from production to plate) to decrease greenhouse gas emissions. A recent study conducted in the region of Waterloo concluded that food sold in southern Ontario has traveled, on average, close to 4,500 miles from production before being consumed⁴⁰. In the Waterloo region, the importation of 58 commonly eaten foods accounted for over 51,000 tonnes of greenhouse gas emissions annually³. These emissions contribute to both climate change and air quality, and are ultimately unsustainable. As McMaster hosts close to 3,700 students in residence with a mandatory meal plan⁴¹ (and several students and faculty outside of residence dine at various Hospitality Services locations as well), McMaster Hospitality Services has an opportunity to promote sustainable food practices by emphasizing locally grown food in their menus.

Recommendation Twelve: Locally grown food should become a greater resource for McMaster’s Facility Services when deciding where to obtain many of the ingredients used in its food.

McMaster Hospitality Services should strive to obtain as much food from local resources as possible. The University of Guelph conducts several initiatives to increase the amount of local foods that they serve, and currently about 45 per cent of produce available is local in season⁴². Hospitality Services at the University of Guelph includes a local sustainability plan that commits to increasing seasonal local produce purchases⁴³. Some of the initiatives to help meet this commitment include a processing facility, which allows the University to store locally grown produce in season and store it for longer periods of time. The department also established a restaurant on campus that serves only food grown within a 100-mile radius of the University⁴⁴. These are large initiatives to

³⁸ <http://hospitality.mcmaster.ca/locations/locations.html>

³⁹ <http://hospitality.mcmaster.ca/>

⁴⁰ <http://metcalfoundation.com/wp-content/uploads/2011/05/food-connects-us-all.pdf>

⁴¹ <http://future.mcmaster.ca/student/residence/>

⁴² <http://atguelph.uoguelph.ca/2012/02/hospitality-services-wins-local-food-award/>

⁴³ <http://www.hospitality.uoguelph.ca/sustainability/downloads/HospitalityInitiatives.pdf>

⁴⁴ [https://www.hospitality.uoguelph.ca/sustainability/downloads/Ontario%20Farmer%20July%202014%20\(feeding%205000\).pdf](https://www.hospitality.uoguelph.ca/sustainability/downloads/Ontario%20Farmer%20July%202014%20(feeding%205000).pdf)

undertake, but demonstrate the commitment to sustainable food practices that the University of Guelph has. In comparison, McMaster has not developed any evident efforts to increase food sustainability. Hospitality Services at McMaster should attempt to increase seasonal local produce purchases by buying as much local produce as possible during the regular growing season, and forming relationships with local farmers and organizations that can help us secure local, sustainable foods. Hospitality Services should also develop a sustainability plan that addresses these concerns and outlines steps and goals to increase local food at McMaster.

Principle Seven: Garbage disposal and recycling practices on campus should be sustainable and clearly articulated to students to ensure everyone is working to keep campus clean and environmentally friendly.

A section of the McMaster Sustainability website outlines types of waste, and the way in which they can be recycled. For example, details on general recycling and disposing of coffee cups and plastic bottles are described on this portion of the website⁴⁵. This section ensures sustainable garbage disposal, and provides information so that students are aware of recycling practices on campus. The site also promotes new practices and waste disposal options adopted by the university. These guidelines help to make students aware and create a clean and sustainable environment on campus. Thus, McMaster's Sustainability office is evidence that sustainability, specifically related to waste management, is a priority for the University and should be for students as well.

Concern Twelve: Residence recycling practices are not taught to students effectively or at all in many instances, leading students to incorrectly recycle their garbage.

McMaster's residence facilities partner with Waste Services Inc. to work cooperatively to remove recyclable products from the residence buildings weekly⁴⁶. However, there are few guidelines on the McMaster website that are easily accessible to students and effectively educate them with regards to recycling practices. The Residence Handbook 2014/15 provided to students and available online⁴⁷ does not provide much information about recycling processes to make residents aware of proper recycling practices ("Residence Handbook 2014/15", 2014). It does not inform students to sort materials, or the location of

⁴⁵ <http://www.mcmaster.ca/sustainability/waste.html>

⁴⁶ ("Green Initiatives", 2007).

⁴⁷ http://housing.mcmaster.ca/residence_admissions/documents/ResidenceHandbook_2014-15.pdf,

the recycling bins in each residence. Thus students are uninformed and this results in poor recycling practices.⁴⁸

A paper written by Bevan et al. stated that the biggest problem currently being faced at McMaster is contamination of recycling bins on campus. In 2004 approximately 90% of all recycling bins were contaminated and this was attributed to the confusion of identifying recycling containers on campus.⁴⁹

Recommendation Thirteen: During the academic year and in Welcome Week particularly, students should be taught about proper garbage disposal and recycling practices within their residence.

In 1999 it was identified that recycling in the City of Waterloo was not being performed properly, and the Region refused to collect recyclable materials due to the large amount of contamination⁵⁰. A survey was thus conducted to determine the most effective form of presenting information on recycling to university students.⁵¹ Most students agreed that they would benefit from obtaining this information through fridge magnets, travel mugs and frosh packages.⁵² Most students also assumed that recycling was the same in the City of Waterloo as it was in their original hometown.⁵³ This may also be a common misconception of students at McMaster. Thus, at McMaster there should be awareness of this as well when teaching recycling practices in residence.

A paper stated that one focus of the University of Western Ontario is to improve recycling in residence buildings⁵⁴. Western University planned to set up awareness nights in each university residence during the month of September to make students aware of the on-campus recycling program. Educational material would also be provided during this night.⁵⁵ An orientation week event such as this could be recommended at McMaster to ensure proper recycling practices in residence during the year.

Concern Thirteen: Currently much of McMaster's recycling is actually disposed of as garbage on campus, which leads to questions surrounding why recycling bins are present and why this material is not separated effectively.

⁴⁸ http://housing.mcmaster.ca/residence_admissions/documents/ResidenceHandbook_2014-15.pdf,

⁴⁹ (Bevan, Goom, Miles, Wheeler, 2004).

⁵⁰ (Robinson, Davies, Baycetch, Berlin, Agnew, 1999)

⁵¹ (Robinson et al., 1999).

⁵² (Robinson et al., 1999).

⁵³ (Robinson et al., 1999).

⁵⁴ (Bevan et al., 2004)

⁵⁵ (Bevan et al., 2004)

According to the McMaster Sustainability section on recycling⁵⁶, if a non-recyclable item is mixed in with the recycling, the entire batch will be thrown out. This phenomenon is called contamination and can occur commonly due to careless disposal and misinformation. A full day's worth of recycling can be lost, especially when there are far too many contaminants to be individually removed. At times, a staggering 90% of outdoor recycling bins were being contaminated beyond salvage on a daily basis.⁵⁷

Common contaminants listed on the website are plastic lined coffee cups, non-recyclable packaging, ceramics, tissue, aerosol cans, and cloth items. Papers soiled with grease cannot be processed along with clean paper and can ruin the integrity of new products. For the sake of proper processing, a batch of recycling must be thoroughly clean.⁵⁸

Recommendation Fourteen: McMaster should ensure that garbage is appropriately sorted so that recyclable material is not disposed of as garbage.

As of now, there are few measures in place to ensure that students in residence are properly sorting their waste. An increase in programming and education on proper waste sorting and disposal would significantly decrease the amount of recyclable material being thrown out. There should be a concentration on residence outreach programs that involve the Community Advisors, Inter-Residence Council, as well as the students.

The University of British Columbia (UBC) provides a sorting guide on their website⁵⁹ in order to minimize waste and contamination. UBC also provides residence sustainability toolkits and opportunities to get involved with residence sustainability committees.⁶⁰ Moreover, in the 2012 McMaster Sustainability Report⁶¹ a student intern was able to improve garbage and recycling disposal accuracy by up to 41% in high traffic areas. This was done through a series of cost-effective improvement strategies, and provides an example by which a larger portion of McMaster's recycling programs could operate. Housing and Conference also provides a Sustainability themed community that deals with sustainability in broader terms.⁶² Properly used, this community theme can be a great tool to promote proper recycling habits amongst residences.

⁵⁶ McMaster. (March 2012). Recycling [Web]. Retrieved from http://www.mcmaster.ca/sustainability/waste_recycle.html

⁵⁷ McMaster. (March 2012). Recycling [Web]. Retrieved from http://www.mcmaster.ca/sustainability/waste_recycle.html

⁵⁸ Stanford. Frequently Asked Questions: Contamination [Web]. Retrieved from http://bgm.stanford.edu/pssi_faq_contamination

⁵⁹ The University of British Columbia. Sorting Guide [Web]. Retrieved from <http://sustain.ubc.ca/campus-initiatives/recycling-waste/sort-it-out/sorting-guide>

⁶⁰ The University of British Columbia. Sustainability in Residence [Web]. Retrieved from <http://sustain.ubc.ca/get-involved/students/sustainability-residence>

⁶¹ McMaster University (2012). Sustainability Annual Report 2012 [Web]. Retrieved from <http://www.mcmaster.ca/sustainability/documents/Annual%20Report%202012.pdf>

⁶² McMaster University. Communities & Themes [Web]. Retrieved from http://housing.mcmaster.ca/residence_admissions/lifestyle_themes.html

Conclusion

As the MSU outlines its various principles, concerns, and recommendations regarding sustainability at McMaster University, it is important to still recognize the great work that the University does to develop and maintain important sustainability initiatives on campus. Being able to balance quality educational practices, student, faculty, and staff life, and keeping sustainable and environmental friendly practices in mind is challenging. Just like McMaster has established several pioneering initiatives related to sustainability that other universities have not yet implemented, other universities have done the same of which McMaster could benefit. Thus, it is important to still recognize the work that needs to be done to ensure that all stakeholders in McMaster's operation are also understanding and promoting the role the university has in creating a sustainable atmosphere. With this policy, the MSU looks forward to seeing McMaster continue this type of progress.
