

MANAGING THE MATRIX

*How a Multistakeholder Process + The 171 Indicator Campus Sustainability Assessment Framework =
A Solid Foundation for Long-Term Campus Sustainability*

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Introduction

It is hard to debate the fact that the earth and its inhabitants face a global crisis, unparalleled in recorded human history. Some may consider this fear mongering, others an understatement. Hot topic issues of the day such as climate change, globalization, poverty, HIV/AIDS, and terrorism – all of which include underlying factors of systemic racism, inequities and other forms of discrimination – are entrenched in systems that seem impossible to change. The reasons for these problems are complex, and they are deeply integrated into local and global political, economic and social systems; a matrix of poly-dimension relationships and variables that seem beyond any one points ability to control. But access points to enter the matrix do exist.

The concept of sustainable development is as broad as are the many attempts of defining the term. Simply put, it means respecting all species, present and future, and their abilities to adequately and equitably meet their needs. Also referred to as sustainability, the concept elicits heated semantic debates, particularly when the issues of scale and equitable distribution of resources are addressed. The concept evolved as a means by which multiple issues can be integrated into more holistic considerations. That is, for example, an institution's choice to invest its pension fund in a particular company whose activities are destroying ecosystems and incurring health problems for populations of the area, ought to then be considered a choice to support the activities of company, rather than only a legal obligation to incur financial gains for the fund.

Despite the definitional debate, this paper will address sustainability in such a manner that considers the main tenants of the term – the social, ecological and economic spheres – and applies them in an integrated fashion to university and college campuses. The choice of applying the concept of sustainability to campuses stems from the recognition that it is largely the most educated people in the world creating the systems and components of these systems which have caused the major challenges of today. As such, sustainability in institutions of higher education represents a tangible step into the matrix.

Universities need to be reconstructed as engaged social institutions that function as critical, reflective knowledge and capacity building centres for the next generation of engaged global citizens. Higher education institutions play a unique and important role in society. They are leaders, innovators, and problem-solvers. The current challenge of making progress toward sustainability poses a great opportunity for institutes of higher education to realize their role, and responsibility, as societal leaders. (Cole, 2003:7)

If we are to believe that universities, long regarded as bastions of free thought, have an unparalleled ability to apply new theories, technologies and values, then it is incumbent upon them to teach but also, very importantly, lead by example in seeking solutions to the enormous ecological, social and economic challenges faced by the global family. A university or college campus provides the ideal grounds for restructuring toward sustainability due to its educational role in creating future leaders, but also as a result of it being a micro-matrix that is directly connected to the larger social, economic, ecological and political macro-matrices.

Universities have significant purchasing power, maintain buildings and grounds, provide services to different constituents and have complex political and governing structures. Applying sustainability to institutions of higher education means that the campus communities act upon their responsibilities to protect and enhance the health and well-being of all humans and ecosystems, which have spin-off effects on broader communities, be they local or global. Through classroom learning and collaboration among compartmentalized sectors of the institution, the knowledge of campus community stakeholders can be applied to address the ecological and social challenges faced both today and in the future. Ultimately, leading by example in the move from theory to practice will provide a valuable contribution to broader transformations required to substantively address local and global challenges.

To teach excellence is one thing, but to exemplify it poses another challenge entirely. In Canada, the campus sustainability movement is being aided along through the efforts of the Sierra Youth Coalition (SYC). SYC is the youth chapter of the Sierra Club of Canada and works on environmental and social justice issues through empowering youth to become actively engaged in their communities. One such community is the campus community. Accordingly, SYC developed its Sustainable Campuses project to facilitate development of a Canada-wide campus sustainability movement. Facilitation of this movement includes regional staff working with various campus partners, currently numbering over 40 campuses, to empower student leadership to successfully spearhead the initiatives. This empowerment is derived through access to several resources and tools developed to help guide effective campus sustainability initiatives, and access to the network of other campuses doing similar work. The tools offer a particular approach to sustainability projects in the context of institutions of higher education, which include specialized resources around process, research, and implementation strategies.

This paper will consider the process and research tools made available through the Sierra Youth Coalition to illustrate the main elements necessary for campus sustainability initiatives to enjoy as much success as possible. Divided in four broad sections, it will begin with a discussion on the multistakeholder process of moving toward sustainability that is built with a core group of diverse, invested and engaged stakeholders, as a necessary starting point. The second section of the paper considers the importance of assessing sustainability on campus, discusses broad versus narrow assessment frameworks, and presents the Campus Sustainability Assessment Framework (CSAF). These two elements – a multistakeholder process and a comprehensive campus sustainability assessment – are brought together in the third section as key components in building a strong and sustainable foundation for assessments to move beyond information gathering and into systems reform. The final section of the paper is a case study from Concordia University in Montreal, Canada, illustrating how CSAF, accompanied by a multistakeholder process, can assist in the integration of a holistic concept within a compartmentalized institution.

I. Madame President, meet the Janitor: building bridges through a multistakeholder process

The multistakeholder approach

Development of the ‘multistakeholder’ approach has largely been a response to demands by various groups for meaningful engagement in contributing to decisions that impact them. These types of decisions occur in a variety of contexts, be they global or local, political or economic, work place or learning place. While the idea and practice of engaging diverse stakeholders in decision-making is not a new concept, the term multistakeholder enjoyed a popularization in the last decade of the twentieth century, alongside the concept of sustainable development. A multistakeholder approach is widely considered to be a necessary process in order to effectively work toward sustainability. This is due to the deep and integrated nature of change that is essential in order to attain sustainability, which requires all community members to play active roles, among many factors.

In freedom-of-choice societies, the conditions motivating change need to precipitate community members' desire to effectuate it. This desire to participate is largely facilitated by meaningful engagement in various processes established for the development and realization of the vision and goals directing the change. Applying a multistakeholder approach to move toward sustainability is therefore an important foundation from which to build successful sustainability initiatives. Accordingly, the same is true when addressing issues related to campus sustainability: a multistakeholder process needs to be applied to initiatives geared toward changing campus operations, curricula, and campus community members' attitudes in order to ensure the broadest possible effectiveness.

The multistakeholder approach on campus

There are three main avenues through which broad change can occur within institutions of higher education: top-down, bottom-up, and centre-out. On one hand, the first two occur with the perceived understanding that the university or college is made up of two main camps: those who comprise the institution - administrators, staff and faculty; and the constituents of the institution - the students. The top-down model takes advantage of the inherent hierarchical structure and often represents the fastest and most efficient manner for change to occur. Top-level directives can influence strategic planning for both the operations and academic components of a campus, and resources are more easily made available to effectuate the vision. Bottom-up models often use campaigning or lobbying for change by the constituents of the institution, that is, students, and sometimes staff and faculty. Bottom-up efforts can be very effective when large or disruptive support is mobilized, but on the whole, these efforts do not enjoy the same mechanisms to affect change quickly, such as the resources and control over strategic planning, as do the top-down efforts. Consequently, much time and effort is placed into garnering buy-in from the decision-makers, which may or may not be successful. In these instances, there are not often clear and open avenues of communication with decision-makers, tending to result in more energy required over longer periods of time in order to see change through, if at all.

The centre-out model, on the other hand, seeks to dissolve the perceived divide between components and constituents of the institution and considers all to be campus community members, each playing distinct and important roles. This blurred distinction does not automatically result in broader access to decision-making for all, but it is an important step in the right direction to make decision-making more accessible to a more diverse base of those impacted by the decisions. Centre-out efforts are based on collaboration among multiple stakeholders of the institution and can be very effective in producing change when the engagement is captured via a multistakeholder committee. This way, active communication lines are opened to join administrators, staff, faculty, students and when applicable, broader community members, in an important forum for engagement of different voices, each representing various stakes within the campus community.

Importance and goals of the multistakeholder committee on campus

Universities and colleges, as with most institutions, are extremely compartmentalized. This means that academic decisions are kept separate from operations decisions, and moreover, certain academic and operations decisions are kept separate from other decisions within the same sectors. There are practical reasons for the compartmentalization, but it is rare that, for example, a maintenance employee will engage with a faculty member, or that a food service provider will find themselves working with the human resources director to input into the development of strategies to make the campus more sustainable. Yet engagement in an accessible and participatory process by all campus community members is necessary to substantively advance the development and integration of new sustainability solutions into the policies, academic mandates, operational structures, and campus community members' attitudes in higher education institutions. It is also valuable in contributing to broad institutional memory: the more people involved in the project, the greater the sense of shared responsibility to move

the initiative forward. A formalized multistakeholder committee – that meets regularly, has a vision, and a strategic plan to attain goals – will bring together the knowledge, expertise and experience of a wide range of people, representing many different perspectives, which ultimately serves a variety of purposes.

A multistakeholder committee can accomplish two important process goals: establishing a broader base of engaged and invested participation, and creating a conduit for the extension of broader campus buy-in via the committee. When committee members are invested in the process, access to decision-makers, information and volunteers is facilitated. Depending on the composition of the committee, certain members will be senior-level decision-makers or close to senior level decision-makers. Other members will have direct access to important information required for the research processes. Still others will be able to ensure broader engagement in various projects (research or campaigns) by students through credited course work, or volunteer opportunities made available through student groups. In this context, it becomes more feasible that a campus president, a janitorial staff, and a variety of other campus community members can find themselves present at the same table. Additionally, engaged committee members can take the activities and vision of the initiative to their respective circles within the campus, be they colleagues or friends, for discussion and eventual buy-in. Achieving these two process goals – that is, engaged and invested participation by committee members and broader campus buy-in facilitated by committee members – is an invaluable asset for campus sustainability initiatives from the research through to the implementation of various projects.

II. 171 nooks and crannies: the Campus Sustainability Assessment Framework as a research tool

Establishing baseline data

With a strong multistakeholder process in place, an important starting point in the development of a campus sustainability initiative is a comprehensive and holistic overview of the campus, to establish baseline data. In essence, it is imperative to know where you are in order to determine where you are going. Furthermore, it is important to be able to measure where you are and where you are going with indicators in order to track progress or regress toward sustainability. Many indicator frameworks have been developed to guide this type of research and tracking, and can vary from broad and comprehensive frameworks to those that are narrow and focused. The first tend to include many indicators measuring specific areas, while narrow and focused frameworks tend to include fewer, more aggregated indicators. There are pros and cons for using each, and the debate on whether to employ broad or narrow frameworks is often based on three main issues: capacity to conduct research, timeline to conduct research, and ability to clearly communicate the results of the research.

A challenge with comprehensive frameworks comprising many indicators is the need for a larger research capacity and longer timeline to gather more extensive data and conduct more analysis in numerous areas of the campus. Additionally, summarizing complex data and extrapolating main points when the research is so varied can be problematic. A comprehensive framework can, however, paint a more holistic picture of the campus, which captures nuances that might otherwise be lost. In contrast, the advantage with focused frameworks comprising fewer indicators is the need for a smaller research capacity and shorter timeline, and communicating the results of more focused research is often easier to capture into main points. While the advantages are enticing, synthesizing or eliminating some research areas can, in effect, compromise the main tenants of the concept of sustainability by recreating silos of compartmentalized data and issues. For this reason, and despite the challenges inherent in using broad and comprehensive frameworks, the benefits of doing so will often outweigh the drawbacks.

There are two primary motives for conducting an assessment with a broad and comprehensive set of indicators: firstly, a larger research capacity requires a broader base of engaged participants in the initiative, making the efforts more participatory and omnipresent on the campus. Secondly, a broader

base of engaged participants contributes to a deeper institutional memory, which is ultimately a factor toward ensuring the long-term sustainability of the initiative. While more time and energy needs to go into project coordination in order to build an adequate research capacity, comprehensive indicator frameworks, such as the Campus Sustainability Assessment Framework, provide a structure through which engaging several stakeholders from a variety of areas on campus is facilitated.

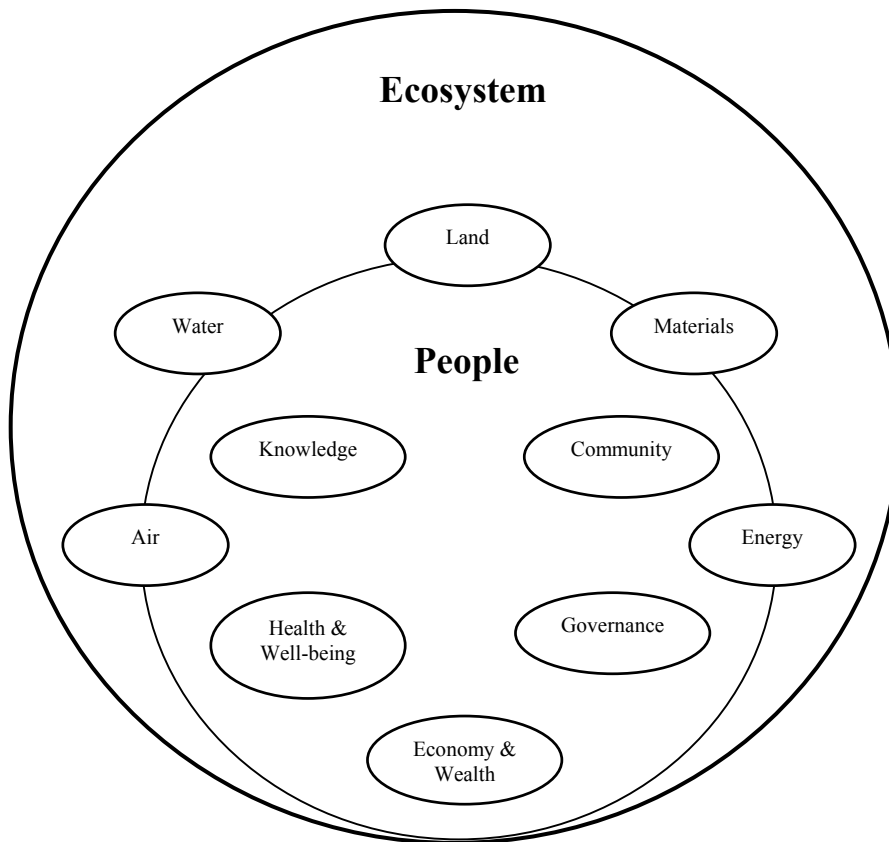
The Campus Sustainability Assessment Framework

The Campus Sustainability Assessment Framework (CSAF), completed in 2003, is the result of more than two years of intensive participatory action research, coordinated by Lindsay Cole. Cole, a Masters student at Royal Roads University in British Columbia at the time, engaged an advisory group of 15 students, professors and experts in the field of sustainability, and over 130 ad-hock advisors who all contributed to the development of CSAF. This framework was produced in response to a need expressed by students across Canada: to measure socio-economic and ecological sustainability on their campuses in a consistent manner. The methodology employed existing indicator frameworks as a starting point, and the resulting CSAF underwent three extensive reviews and revisions by the research team and other ad-hock advisors (Cole, 2003).

The CSAF assesses campus sustainability by looking at two sub-systems: people and ecosystems. The two are integrated into one whole system, highlighting the interconnections that form complex and dynamic systems, as illustrated in Figure 1.

Indicators vary from the percentage of total energy consumed derived from renewable resources, to the average student debt load, to the ratio of faculty with disabilities as a compared to percentages of the provincial working-age population with disabilities, and so forth. Some of the indicators are relatively easy to research and acquire data for, while other are significantly more difficult, if not impossible at the onset on the initiative. The reason for the latter is to be provocative and galvanize critical discourse on areas of sustainability that ought to be monitored and measured on campus. The various indicators provide an outline for research, which once compiled into a report, can effectively convey a holistic representation of the campus being assessed.

Figure 1: Egg of sustainability - the Campus Sustainability Assessment Framework model



Egg of sustainability

The people sub-system, which includes socioeconomic indicators, lies within the ecosystem-subsystem, which includes ecological indicators. It represents the supportive function of the environment that sustains human life. Within the ecosystem and people sub-systems are five dimensions, representing key campus sustainability issues identified by the CSAF’s co-research team. The five ecological dimensions include: Air, Land, Energy, Water, Materials. The five socioeconomic dimensions include: Community, Health and Wellbeing, Knowledge, Governance, Economy and Wealth. Each of the ten dimensions are further broken down into 33 sections, and each section includes a corresponding set of indicators. In total, there are 171 indicators.

Research data required for the indicators vary from the percentage of total energy consumed derived from renewable resources, to the average student debt load, to the ratio of faculty with disabilities as compared to percentages of provincial working-age populations with disabilities, and so on. Some of the indicators are relatively easy to research and acquire data for, while others are significantly more difficult, if not impossible at the onset of the initiative. The reason for the latter type of indicators, is to be provocative and galvanize critical discourse on areas of sustainability that ought to be monitored and measured on campus. The various indicators provide an outline for research, which once compiled into a report, can effectively convey a holistic representation of the campus being assessed.

III. The matrix made manageable: setting the foundation for implementation

An functional multistakeholder committee, coupled with a comprehensive campus sustainability assessment co-developed by many campus community members, provides the ideal grounds for change to take place within an academic institution. Another important element in this formula is the implementation of projects and initiatives leading toward improvements in sustainability performance along the way, which are necessary throughout the course of the initiative. These actions will vary in size and scale, but it is important to chalk up some tangible successes from the beginning, during the development of the multistakeholder process and the assessment research, as a means for maintaining momentum, and for building toward larger, more systemic changes. These three elements – broad campus community member engagement (be it through the multistakeholder process, the research, or the

campaigns for change), a comprehensive campus sustainability assessment, and a steady flow of campaign successes, be they small or large – create the fundamental conditions required for large-scale systemic change.

Such large-scale systemic change within a university, where change is integrated into the decision-making structures of the institution along with implementation mechanisms, is most easily facilitated through the development of sustainability management systems (SMS). SMS's are most effectively built once a solid sense of 'where we are' and 'where we need to go' has been established, when diverse campus community members' input is included into the development and implementation of the vision. These systems generally include policies that lay out goals and objectives, mechanisms for monitoring and tracking progress, and committees broadly integrated within the institution (both horizontally across campus sectors and vertically throughout different decision-making levels) with the authority to allocate resources and through which diverse input can be sought. Arriving at this point is a formidable achievement unto itself. It represents an end of one process – the development of the campus sustainability initiative – and the beginning of another, where deeply integrated systemic reform can only really begin to take place.

To illustrate the multistakeholder process and use of the Campus Sustainability Assessment Framework can contribute to long-term sustainability on campus, we will consider the Sustainable Concordia Project.

IV. Case study: Concordia University in Montreal, Canada

Concordia University, a large public institution with 30,000 students and over 2,000 full-time employees in Montreal, Canada, was the first university in Canada to pilot the CSAF. The CSAF was used and framed as a tool within a larger initiative, the Sustainable Concordia Project (SCP). The SCP had a short-term goal to produce a campus sustainability assessment. The long-term goal is to create change toward sustainability on campus through the development and implementation of strategies for assessment recommendations, and monitoring sustainability progress or regress at the university by repeating the assessment every two to three years.

From its inception in July 2002, the SCP has blossomed into a poly-dimensional project with buy-in and support from many sectors and departments at Concordia University. This evolution has been complex and multi-layered, with relationships and numerous events that are difficult to capture in a manner that adequately highlights the nuances of the initiative's development. This case study will highlight the key elements of the SCP's success in a chronological fashion, through the three points outlined in the main body of this paper: a multistakeholder process, research, and implementation toward systems reform that produces change.

Mission statement of the Sustainable Concordia Project

The Sustainable Concordia Project (SCP) aims to make Concordia a more sustainable university community. It is a framework for empowering campus community members to engage in issues relating to sustainability they feel passionate about, which will enhance the community. The SCP's multistakeholder approach, which involves diverse members of the campus community, is built on a foundation of establishing mutual trust and understanding through dialogue and persistence, such that effective communication is possible and creative problem-solving flourishes. The SCP is committed to non-hierarchical, respectful exchanges. Through facilitating input and enabling access to resources, the SCP acts as a nexus for campus community members to address challenges faced by the community, as a community. (Concordia Campus Sustainability Assessment, 2003)

The SCP started as a student-driven initiative supported by university-wide participation, with built-in broad and diverse multistakeholder engagement. To finance the first year of the project, with the main costs consisting of salaries for two project co-Coordiators – both full-time students at Concordia – and the assessment report printing, \$25,000 was fundraised from a variety of sectors and faculties within the university.

One of the first steps in the project was to form a multistakeholder advisory committee, composed of administrators from different sectors, faculty from a range of academic disciplines, students from different disciplines and levels of study, and staff from various departments. This committee created a forum to share and connect the knowledge, expertise and institutional memory of Concordia. Individuals who ranged from being interested in, to passionate and enthusiastic about sustainability were brought to the table who, in general, had only worked within their compartmentalized sectors of the university. The advisory committee also lent credibility and accountability to the SCP co-Coordiators; this was often important when seeking sometimes sensitive university data.

Concordia's multistakeholder process, as embodied through the advisory committee, was recognized as important for gathering information, and for strategizing and implementing systemic reform and change in the campus's operations, academics and planning. From as simple an action as an administrator or faculty facilitating communication between a student researcher and an important player on campus related to their research, multiple stakeholders coming together for the project has been critical in the SCP's success.

While the SCP advisory committee was being engaged and developed at Concordia, the SCP co-Coordiators started researching different components of CSAF and planning a process for engaging students in the research. This was conceived as an inherently necessary component of conducting the assessment for various reasons, the first being necessity; it would be virtually impossible for two people to complete the depth and breadth of research required by the CSAF. Second, an important and empowering part of learning is employing practical and analytical skills taken from the classroom and applying them to the world. Using the campus as the starting point, also directly connected to Concordia's motto: 'Real education for the real world'. Finally, having excited, positive and passionate students is key for building energy and enthusiasm for change toward sustainability on campus.

Two avenues were identified to engage students in the research process: volunteer and credit-based work. In the latter, the co-Coordiators identified courses with sustainability related content across the four Faculties at Concordia: Arts and Science, Engineering, Fine Arts and Business. Meetings were arranged with the course professors to propose the possibility of students conducting CSAF-related research for credit, as part of their coursework, supervised or supported by the co-Coordiators if necessary. Arrangements were made as per each professor's needs, and students from a wide range of

disciplines participated: communications, geography, design art, building engineering, political science and business, to name a few. In total, over 100 students were engaged for credit.

To draw student volunteers into the process, the co-Coordinator organized several meetings at the beginning of the Fall 2002 semester. A dynamic, engaging presentation outlined the relevance, vision and goals of the assessment and students were given concrete ways to get involved. This included a long list of all the different facets of research required for the CSAF, such as the history of the deficit reduction at the university in the Economy and Wealth chapter, or the availability and use of different recreation programs for students in the Health and Well-being chapter, or how water arrives and exits Concordia in the context of the municipal system for the Water chapter, among many others. Student contributors comprised the base for the Sustainable Concordia Project's student group, which went on to obtain official student group status.

The experience of the SCP to date illustrates that, if effectively coordinated, the process of engaging students in a dynamic learning situation, connecting research, feasibility studies and project implementation to the real world campus environment, is a very empowering and positive experience. As a result, students are become more actively engaged in their campus communities as they are better able to understand the institution, their position within it, and who to approach and what to propose should they have ideas for change. Coupling this with a strong multistakeholder process – where research and feasibility studies can be effectively implemented to enact change on campus thanks to the positive relationships, dialogue, and mentoring with staff, faculty and administrators – creates an ideal foundation for long-term change to occur. The university becomes a living laboratory for innovation toward sustainability.

At Concordia, the multistakeholder process and the CSAF research have built the base for many successful campaigns and projects. For example, students conducting research on the university's shuttle buses for the Energy chapter of the 2003 assessment researched the potential for using biodiesel in the fleet, and collaborated with employees in Distribution and Transportation for implementation. Researchers on the university's investment portfolio began a dialogue with the relevant Vice President to move some university investments toward more socially responsible choices. Students assessing paper use on campus started the *Recto-Verso* (double sided) Paper Campaign with other universities in Montreal to reduce paper use, increase the post-consumer content of purchased paper and change bulk purchasing of paper through the provincial purchasing group for all universities in the province of Quebec.

Once the Concordia Campus Sustainability Assessment was launched in February 2004, the need for a full-time Sustainability Coordinator position inside the university administration was understood by many different players on campus, in order to continue implementation of various initiatives. After the launch, several members of the advisory committee – a staff member, a few professors, an administrator and a couple of engaged students – came together to formulate the job description, roles and responsibilities and reporting structure for the position. A Concordia alumni, who had worked as a student in the SCP, then met with senior administrators to obtain approval and financial support. This was achieved and Concordia's first Sustainability Coordinator was hired as a fulltime post within the Environmental Health and Safety Office (EHSO) in July 2004. Since this time numerous other activities continue to move forward: an Environmental Policy was written through dialogue and input from many members throughout the university community and is waiting to be passed by the Board of Governors; a rooftop greenhouse is being converted to a space for innovative, interdisciplinary projects and campus community food growing; a greenhouse gas inventory is being compiled and a strategy for emissions reduction will be developed for implementation; and many other projects varying in size and scale. Also important to note is that a five cent per credit student fee levy was passed in the 2005 student elections, meaning that the Sustainable Concordia student group has an operating budget of approximately \$30,000 annually, as resources to continue work toward making the university more sustainable.

Since the addition of the full-time Sustainability Coordinator in the administration and the ensuing increase in the complexity and poly-dimensionality of the SCP's structure, it has become obvious that a clearly defined structure with delineated roles and responsibilities is critical for long-term change to occur. This is particularly important among and within the multiple layers that exist in the project: the Sustainable Concordia student group; the SCP advisory committee; the fulltime Sustainability Coordinator in the Environmental Health and Safety Office (EHSO) under the Vice President of Services; and the new full-time R4 Coordinator (Rethink, Reduce, Reuse, Recycle campaign), also housed in EHSO. A challenge for the SCP is how to effectively and clearly convey this poly-dimensionality and complexity throughout a compartmentalized institution – that is, what language can be used to make the big picture understood to everyone in the university community, especially decision-makers, in terms that are relevant to them. At present, the SCP is in the process of creating a cohesive, all encompassing framework for sustainability that incorporates support from around the university, to continue to break down compartments in order to create integrated sustainability management systems throughout Concordia.

Still, challenges remain. The SCP has thus far mainly experienced several small successes with creating change in the ecological sphere, such as the use of biodiesel in the shuttle buses and the *Recto-Verso* Paper Campaign. Ecological initiatives tend to be easier to enact because their impact is more easily understood, measurable and often have direct cost savings. The social and economic spheres are more challenging but equally important, and critical to work on in order to begin achieving broad spectrum sustainability. Another challenge is with the poly-dimensionality of the SCP: respecting diverse perspectives and building projects there from, often requires compromise, particularly on the extremes. This can sometimes serve to disempower and disengage some stakeholders from the process, however the solution lies in ensuring that there is a shared understanding of these realities and that dialogue and action remains respectful and transparent.

With the Sustainable Concordia Project, every challenge is balanced by a victory. While it is difficult to speculate how effectively the project will continue to evolve, it can be said now that a space has been created for dialogue to occur among many campus community members, which had never excited to this extent before. And people are talking. And changes are taking place. And the future feels exciting.

Conclusion

Creating more sustainable campuses is not a magic key to unlock a door leading to an end to all the challenges faced today by the global family. It represents but one point in a matrix of interrelated points where changes to one can have significant impacts throughout the many layers and intersecting junctures of complex systems. If campuses hope to lead by example, in turn influencing broader systems, by marking a tangible step forward toward sustainable ecological integrity, social equity and economic prosperity, it is imperative to get the example right.

This entails establishing a participatory multistakeholder process to engage diverse campus community members in the development and implementation of the campuses sustainability vision and goals; broad research using a comprehensive indicator framework to measure and assess diverse areas of campus sustainability; and the subsequent development of deeply integrated sustainability management systems as a result of the established process and research.

There may be no magic key but innovative minds can certainly pick locks.

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