

# President's Advisory Committee on the Environment, Climate Change, and Sustainability

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## ANNUAL REPORT 2017



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## Table of Contents

INTRODUCTION .....	3
OUR APPROACH TO SUSTAINABILITY .....	4
CAMPUS AS LIVING LAB (CLL) SUBCOMMITTEE.....	7
1. New Initiatives and Innovations .....	7
2. Operational Improvements.....	8
a. <i>Engineering Strategies and Practice</i> .....	8
b. <i>UBC Model of Capstone Courses</i> .....	8
c. <i>Improvements to Operational Policies, Guidelines, and Plans</i> .....	8
d. <i>Other thoughts</i> .....	9
3. Research.....	9
4. Communication and Outreach .....	10
AGENT OF CHANGE (AOC) SUBCOMMITTEE.....	10
1. Networks .....	11
2. Student-Led Engagement.....	11
3. Catalyst or Brokering Role .....	12
4. U of T Sustainability Success Stories .....	14
CURRICULUM INNOVATION (CI) SUBCOMMITTEE.....	14
1. Inventory .....	14
2. Student Engagement .....	15
3. Pathways .....	16
a. <i>UTM Pathway Proposal</i> .....	16
b. <i>Daniels Faculty of Architecture Pathway Idea</i> .....	17
c. <i>Faculty of Arts and Science</i> .....	17
4. Future Initiatives .....	17
COMMUNICATIONS AND ENGAGEMENT .....	18
LONGER-TERM PLANS .....	19

## INTRODUCTION

The Committee on the Environment, Climate Change, and Sustainability (CECCS) was first proposed in the President's Beyond Divestment: Taking Decisive Action on Climate Change: [Administrative Response to the Report of the President's Advisory Committee on Divestment from Fossil-Fuels](#) in March 2016, as one of eight new sustainability initiatives announced in that report (Beyond Divestment). A [Call for Nominations](#) was issued in October of that same year and Committee members were formally [announced](#) in the winter of 2017. The Committee met for the first time on February 27, 2017.

The mandate of the CECCS is to identify ways to advance the University's contributions to meeting the challenges of climate change and sustainability, with a particular focus on research and innovation, teaching, and University operations. In its activities, the Committee will, among other things, support the implementation of the seven other commitments made in *Beyond Divestment* (p. 3):

1. Launching a tri-campus clean-tech challenge to encourage environment and energy-related entrepreneurship
2. Providing \$750,000 to be distributed over three years for climate change related academic initiatives
3. Prioritizing climate change-related themes in selected programs and curricula
4. Increasing the Utilities Reduction Revolving Fund by 50 per cent (from \$5 million to \$7.5 million) to encourage more extensive implementation of energy-saving retrofits in our buildings
5. Formally adopting substantially more rigorous energy efficiency standards for capital projects
6. Pursuing opportunities to use our campuses as 'test beds' for environmental and sustainability research and best practices
7. Investigating the potential for development of other renewable energy projects

Commitments above that target operations are now well underway. The remaining, ongoing commitments integrate well with the framework outlined in this document. Further Committee activities consistent with its mandate may include:

- Facilitating the sharing among divisions of best practices in operational sustainability and environment-related academic planning;
- Highlighting opportunities to strengthen further the University's support for divisional and faculty led initiatives in relevant fields;
- Taking on a leadership role in organizing University-wide events and platforms to promote sustainability-related research, teaching, and outreach; and
- Raising the profile of the University's contributions to sustainability both within and outside our academic community.

Above all, the CECCS sees itself as a means to identify, facilitate, support, enable and promote sustainability efforts and initiatives, and to foster a sense of common identity and purpose—a common enterprise—by bringing together existing sustainability networks and connections at U of T and in the community. Key strategies are to promote the integration of operational and academic sustainability, develop partnerships on sustainability issues with the various communities inside and outside U of T, and make sustainability curriculum opportunities available to students. The ultimate goal is to help U of T build on its strong record of success in research, teaching and operations in the areas of environment, climate change and sustainability, and to help make sustainability part of the core identity of the University.

## **OUR APPROACH TO SUSTAINABILITY**

An important starting point for the CECCS was to bring clarity to the broad and multidimensional concept of sustainability and to delineate a guiding framework for the Committee's work. The first meeting on February 27 was dedicated to discussing these issues, and led to the adoption of a regenerative sustainability approach.

The concept of regenerative sustainability differs in two key ways from more conventional approaches to sustainability. First, it recognizes the interconnectedness between human and environmental wellbeing and focuses equally on both. Second, it emphasizes the goal of creating net positive outcomes in human and environmental wellbeing, not just reductions in damage or harm. In other words, it asks, can our activities actually improve both environmental quality and human wellbeing?

This shift in perspective has the potential to provide a positive motivation for addressing the crisis of climate change and other sustainability problems: to think of every aspect of modern economic activity, including the acts of building and developing land, as potential acts of restoration and regeneration, in both human and environmental terms. Of course, not all human activities can be regenerative; sometimes harm reduction is the best we can do. However, focusing first on regenerative sustainability outcomes offers the possibility of unlocking opportunities for sustainability action that are more far-reaching, and more motivating, than conventional damage limitation approaches.

In adopting the concept of regenerative sustainability, with its emphasis on both human and environmental wellbeing, the CECCS is also suggesting that sustainability is more than a subject-area or discipline. It is a cross-cutting framework, ethic, and key component of the University of Toronto identity, with connections to all Faculties and subject-areas, and can be used to:

- Integrate operational and academic activities;

- Open the door to a strong and highly visible campus as living lab/University as agent of change agenda;
- Engage thousands of students both on- and off-campus in research-intensive problem-solving, through courses and internships;
- Build very strong partnerships with the private, public, and civil society sectors;
- Create a U of T presence and identity in sustainability that has significant positive implications for recruitment of students, faculty and staff, and for fund-raising.

In order to avail ourselves of this opportunity, the Committee has adopted three themes in our approach to regenerative sustainability.

The first is the internally-focused theme of *campus as living lab* of sustainable practice, research, and teaching where all three U of T campuses will serve as a test bed of sustainability. This theme merges academics, campus facilities management, and potentially external partnerships, to provide students with real-world skills and, for the institution, a path to meet its on-campus sustainability goals. As U of T redesigns and retrofits infrastructure in greener ways, these projects would provide hands-on learning opportunities for our students. The CECCS will assist in bringing students, faculty, staff, and external partners together to use U of T as a living lab to incubate exciting ideas and pilot promising new solutions to real-world challenges threatening the health of people and the planet.

The University of Toronto is uniquely suited for the role of sustainability test bed. As owner-operators of this substantial and extensive institution, we are able to be early innovators in areas where others may not be prepared or equipped to do so. As a public institution, we have a longer planning horizon and are able to evaluate and consider changes where benefits may accrue over decades or more. This is a rare opportunity, and with it comes a greater responsibility to act in the long-term public interest.

Furthermore, operations that might be seen as a risk outside of the University setting can be taken here as a research challenge and opportunity. Perhaps most importantly, the University can teach and research the challenges involved in addressing sustainability, training students in real-world applications of sustainability technology and behaviour changes, and researching the problems involved in doing so.

The second theme is the more externally-focused concept of University as *agent of change in the community*. As an agent of change, the University aspires to teach future sustainability leaders, conduct important research, and ensure that we work actively with private, public and civil society partners to learn together the lessons of sustainability and convey the outcomes of our joint activities to society at large. All of this is done with the view that, by working together, we are capable of contributing solutions to society's sustainability challenges.

Partners are crucial to the University's efforts because partners can do what the University cannot. Private sector partners can help us to commercialize and take to market technologies and innovations developed on our campuses. In turn, we help the private sector find efficiencies and market opportunities by shining the light on sustainability issues and climate risks.

Public sector partners can work with U of T to develop policies and regulations and then share these changes with other communities. Civil society partners can help with fundamental issues of social and environmental justice, and community engagement efforts beyond the University gates. Partners also contribute expertise, human capital, and resources for projects that might not otherwise be available to the University, in areas of application beyond the physical boundaries of the University campuses.

With regard to the themes of campus as living lab and University as agent of change, the CECCS would help to identify opportunities and facilitate the process by which U of T would develop living lab projects on campus. It would also work in partnership with other sectors in society to take a leadership role in supporting the broad cultural change required to combat climate change. In particular, it would explore how sustainability innovations can be applied in society and supported by appropriate policy, to respond to the urgent challenges posed by climate change.

The third cross-cutting theme is that of *curriculum innovation*. Reflecting our view that sustainability is not a subject like physics or sociology, but rather a cross-cutting framework, ethic and stance, we feel it is important not simply to develop new research institutes and teaching programs to train sustainability scholars and professionals (though this is obviously important), but also to make sustainability learning available to all interested students at the University. Sustainability learning conceived of in this way would help train a generation of engaged citizens who will graduate U of T with a sustainability ethic and, in so doing, help support the wider cultural shift that is necessary to transition to a low-carbon economy. This leads to the concept of sustainability pathways, whereby each undergraduate student at the University would be given the opportunity to experience sustainability learning in their program, no matter what program they are enrolled in, to be given community-engaged learning opportunities, and to develop cross-cutting interdisciplinary skills, in so doing.

Crucial to the development of sustainability pathways is an inventory of courses at U of T that already contain sustainability content and community-engaged learning opportunities. The CECCS will work with the Provost's Office to support the development of such inventories and the curriculum innovation required to develop sustainability pathways.

These three themes are pursued in further detailed by three subcommittees set up under the CECCS.

## CAMPUS AS LIVING LAB (CLL) SUBCOMMITTEE<sup>ii</sup>

The mandate of the *campus as living lab* approach is to bring faculty members, students, staff, and, where appropriate, external partners together to collaborate on developing sustainability projects that combine operational and academic activities. Such projects will contribute to the operational sustainability goals of the University, and also provide an opportunity for research and experiential learning. Students will be directly involved in addressing real world sustainability problems of interest to the University.

The inaugural meeting of the CLL subcommittee (May 8) considered the best ways to pursue the ideal of *campus as living lab*. It was determined that the work of the subcommittee would be divided into four categories based on the top four identified priorities:

- New Initiatives and Innovations
- Operational Improvements
- Research
- Success Stories and Outreach

As a next step, CLL began to look for opportunities within each category. In many ways, students are the ‘raw material’ for living lab projects, and there is no doubt that student interest in projects of this sort is huge but is currently not being fully met. Similar to the Curriculum Innovation (CI) subcommittee (below), a useful parallel activity would be to create an inventory—in this case, a student engagement database to identify appropriate projects and internal units and external partners interested in participating. The CI inventory itself is likely to identify some of the relevant CLL opportunities.

The following is a brief consideration of each category and some thoughts on opportunity.

### 1. New Initiatives and Innovations

This category encompasses technological innovation and such initiatives as the Clean Tech Challenge proposed in *Beyond Divestment*. Office of the Vice-President, Research & Innovation (VPRI) innovation hubs and accelerators also fall under this heading. The goal here is to link such outward-facing activities at the University to operational sustainability initiatives, and potentially connect external partners to those initiatives.

## 2. Operational Improvements

This category includes both unrealized and existing operational sustainability projects, and lies at the heart of CLL activities. A key question becomes how best to bring students into the process. Some opportunities identified by CLL are briefly addressed below.

### *a. Engineering Strategies and Practice*

One promising avenue is Engineering Strategies and Practice [ESP APS111/112], the first-year engineering course where a core assignment has students proposing solutions to real world problems. A recent example solicited proposals from students on how to address the issue of on-campus buildings that are heated by steam radiators and lack ventilation (e.g. Physical Geography). Each year upwards of 1000 students take this course; divided into groups of five, this represents 200 projects annually. The resulting proposals could prove very useful to the University, and human resources have already been earmarked for this purpose. Committee member Aimy Bazylak will lead this collaboration.

### *b. UBC Model of Capstone Courses*

CLL is also considering drawing on an initiative found at UBC: through capstone courses in Engineering, 66 building lifecycle assessments (LCAs) were completed and close supervision by the instructor ensured the quality of the work undertaken. U of T could expand on this model by focusing on building retrofits more generally, and taking an interdisciplinary approach by including students from business, engineering, architecture, etc. In an initial step, John Robinson is working with Bryan Karney from Engineering on how best to develop such retrofit projects into the Engineering Capstone courses.

### *c. Improvements to Operational Policies, Guidelines, and Plans*

We see significant opportunity to involve students in analysing the University's operational policies, guidelines, and plans. Students could potentially review how we do things as a University and propose improvements in line with best practices elsewhere.

The Committee notes that projects focused on the purely technical aspects of operational activities may not be particularly promising in terms of student engagement. For instance, while it is useful to examine how effectively building retrofits are performing, such analysis usually entails meter reading by staff members. Students would require training by staff to complete this task and are unlikely to have ready access to the meters.

It may often be more feasible to have students engaged in social science research projects—examining human behaviour for instance. Methodologies drawn from the social sciences are particularly useful in determining whether a specific initiative targeted to amend human behaviour is proving effective. In other words, in identifying which interventions work and



which do not. As an example, Ron Swail notes that for the first time in a decade the waste diversion rate on the St. George campus has gone down. It would be beneficial to have students study our community's use of the recycling program to determine why this is the case and how our performance can be scaled up and improved.

Also, students could study institutional divisions and organizational structures and identify backlogs and inefficiencies, and propose improvements in the flow of information, authority, knowledge, etc.

#### *d. Other thoughts*

In its upcoming meetings, the subcommittee will also explore other opportunities for student engagement in CLL, such as:

- Adding sustainability channel to existing programs, e.g. Engineering's Professional Experience Year (PEY) or UTSC co-op programs,
- Tapping into the student environmental committee of each college,
- Supporting annual inter-campus challenges, e.g. Recycle Mania,
- Promoting UTSC's annual sustainability hack-a-thon, and,
- Developing college- or resident-level sustainability challenges and competitions.

The UTSC Sustainability Office has the human resources to assist in the development of ideas and initiatives such as those above, and student engagement represents a significant part of their mandate. The Committee is reviewing whether similar capacity exists on the St. George and UTM campuses.

In addition to identifying potential opportunities for students, the subcommittee has also been brainstorming how we can foster student involvement in ways that do not increase the burden on staff members. In other words, how best to mediate projects so that students obtain valuable experience and produce useful information for the University, without requiring significant time commitments or human resource capacity. A parallel consideration is how to offer quality assurance for our partners, as well as protection from exploitation for our students. One approach would be to have faculty members manage the process and serve as the main contact for project partners. They have a clear understanding of the issues and are able to provide day-to-day guidance.

### **3. Research**

CLL projects offer the potential for producing publishable research, thus linking students to research activities. A goal, therefore, is the identification of aspects of the projects that lend themselves to publishable research. In this way we can begin to integrate research and

operations; to make operations less standalone by bringing academic research into the process, or to link the two by making operations proposals more academic in nature.

#### **4. Communication and Outreach**

An important component of the *campus as living lab* approach concerns communications and outreach: how best do we relay our stories of technical advancement and success? In undertaking this task, CLL will first identify our target audiences—allies who can help; students; community partners; the general public; etc. and then identify the systems that are of most interest to each audience.

Potential approaches currently under consideration include:

- Campus tours or virtual tours; including a sustainability tour that is targeted to high school science classes,
- Creation of a web presence for CLL to be modeled after other sustainability leaders, such as Harvard University

### **AGENT OF CHANGE (AOC) SUBCOMMITTEE<sup>iii</sup>**

The *agent of change* subcommittee sees itself as an enabler, convener or agent of empowerment and has been giving thought on how best to empower the University community to work more actively with private, public and civil society sector partners. The University is already an agent of change through a number of our functions: in creating human capital; undertaking research and development; policy making; sharing expertise; and collaborating and adding value collectively. AOC has been reflecting on how best to inventory and communicate these roles to its target audiences.

The subcommittee is also considering how to conduct broad outreach to find new partners (in parallel with enriching partnerships that already exist) and determine how best to leverage current research partners into a broader approach based on student engagement. The focus in the latter case should be on issues that have particular relevance to the city and our students, similar to the initiatives of the Four Toronto University Presidents, StudentMove, and the more recent housing initiative.

At the first meeting of the AOC subcommittee (May 10), it was determined that the work of the subcommittee would be structured according to four overlapping areas of interest:

- Networks
- Student-led engagement
- Catalyst or brokering role

- U of T sustainability success stories

Each of these areas is examined in more detail below:

### **1. Networks**

The subcommittee concluded that a productive first step is to form a snapshot of what is already happening at the University through an inventory of individuals and groups engaged in sustainability initiatives with external partners. The Expanded Student Engagement (ESE) project with its database of community engagement (see discussion in *Curriculum Innovation* section of this report below) will be useful here. Ultimately, the goal is to establish a process where there are thousands of students engaged in regenerative sustainability projects with external partners. But what is the best way to achieve this? How do we create processes where student engagement is vibrant and productive?

The subcommittee is considering how to address limited bandwidth for our community partners and the risk of taking on a burden—for instance, the time and resources required to train volunteers—without guarantee of a good outcome.

Another issue under AOC consideration concerns the limited usefulness of an inventory, which tends to become outdated very quickly. As an alternative, the subcommittee may do better to support and foster networks that already exist, and to focus on pulling together a network of networks. Before doing so, AOC plans to have a clearly delineated sense of what a University-wide network can provide for individual groups and their networks.

In recognition of the fact that embedding a function within a divisional office better ensures continuity, a further consideration is where in the University this network should be embedded (for example the Office of the Provost or VPRI).

### **2. Student-Led Engagement**

Once more, a focus on students was identified as a productive means of achieving AOC goals while supporting deep cultural change. As faculty engagement in sustainability is already occurring, the subcommittee would seek to catalyze student-led engagement in this area and generate new ways of engaging the local community. The subcommittee would make a significant contribution if it were to set up student engagement on a greater scale in keeping with the goal to have U of T engage with regional problems through external partnerships. But what is the best strategy to do this?

A number of specific opportunities were identified:

- At OISE, sustainability has been a priority for a number of years. Hilary Inwood is interested in pedagogy and teaching as related to sustainability and is a good contact;
- Bob Gibbs has assembled a group on community-engaged learning;
- The Extended Student Engagement project is developing a list of partner intermediaries – faculty and university offices that have active relationships with partner organizations in the community; and

While taking inventory, the subcommittee could gauge how student engagement programs are faring and determine if they are over- or undersubscribed.

### 3. Catalyst or Brokering Role

The first subcommittee meeting was also spent determining what would be the subcommittee's most productive contributions. This consideration was framed by the question, how does or should U of T interpret its role as an agent of change in the community? How we can do more with the partners in and around us? AOC plans to identify the demand that currently exists and create further demand; to help our partners see opportunity and need when it comes to regenerative sustainability.

The subcommittee would like to develop a better understanding of the University's approach to working with external partners—perhaps through models or case studies of how projects and collaborations have been structured. Recognizing that various divisions within the University have differing degrees of engagement and different difficulties achieving engagement, it is expected that there is a variety of structures and approaches. It is critical to map out these forms of engagement, identify which divisions are actively involved, and determine how best to scale up this activity.

The subcommittee has begun to map out the 'terrain' of external engagement and has identified three models of partnership:

1. **Private sector partnerships**, where the University works with industry partners on the development of products or services—examples would include tech development or incubators
2. **Policy partnerships**, where the University works with government agencies and other policy-making bodies in overseeing policy development
3. **Civil society partnerships**, where the University works with NGOs, funding councils, Indigenous communities, and other civil society bodies for the purpose of fostering social change

The Innovations & Partnerships Office as part of the portfolio of the Vice-President Research and Innovation helps to support private sector partnerships and other forms of research and innovation collaborations with NGOs, various governmental organizations, sponsors and related funding opportunities. Industry-University partnerships frequently involve faculty members and other members of the U of T research community (i.e. graduate students, postdoctoral fellows). External interest from various organizations looking to partner with the university continues to grow and the Innovations & Partnerships Office provides support to help external partners connect to and navigate the University research landscape, in addition to any networking resources which may exist within various U of T divisions.

The subcommittee is also contemplating the idea of a ‘listening tour’ of external partners to identify ways to scale up engagement. In so doing, we would encourage partners to consider how they may contribute to sustainability in new ways, and indicate how sustainability can solve problems that have been self-identified by partners but that are not necessarily recognized as sustainability problems. We can offer help dealing with problems that our partners do not have the bandwidth to take on themselves.

The subcommittee has begun to identify potential partners. The City of Toronto would be an obvious partner for this enterprise given the University-wide commitment to working with our city. In particular, we could be doing more with City Planning and other agencies, such as Waterfront Toronto:

- Sidewalk Labs LLC proposal to Waterfront Toronto for 12 acres to build an internet-enabled city of the future
  - Possibility of connecting to computer science and machine learning or informatics, the new joint position between the Department of Computer Science and the School of the Environment
  - Test bed for early technologies to be used at the waterfront
  - The President’s board membership with Waterfront Toronto may facilitate this initiative

Generally speaking, there is a lot of potential for the Faculty of Law, Munk School of Global Affairs, and School of Public Policy and Governance to work with the City on developing better policies on all things related to city planning (bylaws, rules, guidelines, standards etc.) – from a new building code that pays attention to energy use and migrating birds, to waste generation, to transport incentives (basically, issues of long-term institutional design). The kinds of challenges that the University faces on the institutional/policy/legal side are magnified on city-scale, and there is significant scope for actionable, scalable research.

The subcommittee is also interested in supporting the new research program on Sustainable Built Environment Performance Assessment:

- Nine faculty members from Architecture, Engineering, Computer Science, Environment and Public Health
- New postdoc started work in May on human wellbeing in buildings
- Funding commitment from four deans is in place for a second postdoc, focusing on environmental performance
- The John H. Daniels Faculty of Architecture, Landscape, and Design and the School of the Environment are recruiting a new cross-appointed assistant professor in the area of Sustainable Built Environments

#### **4. U of T Sustainability Success Stories**

As was the case for the other subcommittees, there is the matter of how best to tell our sustainability stories and ‘inventory our successes.’ In the case of the AOC theme, the subcommittee would wish to raise awareness of what is going on at U of T in terms of partnerships and how we are functioning as an agent of change in the community.

One idea raised by the subcommittee is a ‘look book’ – in the same spirit of the Blue Book - where the intended audience would be students, partners, and potential partners and the goal would be to tell the U of T partnership stories alongside detailed examples and case studies.

### **CURRICULUM INNOVATION (CI) SUBCOMMITTEE<sup>iv</sup>**

As a starting point, the Curriculum Innovation subcommittee has identified three priorities, stated briefly as:

- Inventory
- Student Engagement, and
- Pathways

#### **1. Inventory**

As noted earlier, an inventory of available courses which contain sustainability content and community-engaged learning opportunities is crucial to the development of the sustainability pathways approach. As one of three priorities, CI will work with the Provost’s office to support the development of such an inventory and the curriculum innovation required to develop sustainability pathways.

The goal of this inventory is to have a complete listing of (i) all U of T courses, in all divisions, that have sustainability content, organized in terms of some classification system, and (ii) a subset of the above courses with some experiential learning component. Fortunately, we are not starting from scratch in this task as some information has been gathered for the Expanded Student Engagement (ESE) project, funded by the Faculty of Arts & Science.

The Expanded Student Engagement project, proposes an approach to student engagement that focuses on sustainability practices and outcomes. The project will support expanded student engagement by creating a full inventory of sustainability-related courses at U of T, and identifying potential partners for experiential learning projects through those courses. The intent is to develop a set of specific programs that will enable students to work with partners to support sustainability activities on- and off-campus. The ultimate goal is to engage thousands of students in these projects in a variety of modes: graduate and undergraduate, paid and volunteer, for-credit and not-for credit.

The ESE project focuses on the for-credit (curricular) route to student engagement, leaving the for-pay route (e.g. internships) for future work. The first steps will be (i) to compile an inventory of all sustainability courses at U of T, supplemented by direct email to all faculty members, and (ii) to compile an inventory of faculty and offices that work with partner organizations in the community. The ESE project will then identify the sub-set of faculty members from the inventory that are already undertaking, or are interested in undertaking, community-engaged learning in their courses, and start to identify processes for matching courses and community partners.

To date three inventories have already been compiled:

- Online inventory created by Dione Dias of the Sustainability Office;
- Data from Christine Babikian, the FAS Scheduling Officer listing all FAS courses with green, sustain\* or envir@ in their Calendar entries; and
- Data from Jennifer Esmail, from the Centre of Community Partnerships, listing all service learning courses on all three campuses between 2006 and 2016

So far, the data compiled has focused on St. George, and a priority is to include UTM and UTSC in this scan. Future plans also include expanding the inventory beyond the undergraduate level to include graduate and professional school courses and opportunities.

## **2. Student Engagement**

CI will build on the results of the ESE project. Locke Rowe has arranged for a member of his team, Kristen Stinchcombe, to continue to collect and collate the data, and produce a consistent course inventory. This will enable the ESE team (John Robinson, Eleanor Fish, Danielle Pal, Emily Shaw and Nathan Postma) to develop an email survey of all faculty and to begin to identify faculty members and University offices with strong links to external partner organizations.

The stated goal of the inventory is to foster experiential learning and foster and facilitate student engagement in regenerative sustainability. The next—key—step in this process is to make the inventory readily available to students. Collaborating with Susan McCahan and the Office of the

Vice-Provost, Innovations in Undergraduate Education, CI will explore the best option to catalogue this data, keep it up-to-date and make it accessible to students. This will also connect to subsequent work on creating student sustainability pathways.

In addition, CI is undertaking a further inventory of student groups with an interest in sustainability. Committee member Conor Anderson is taking the lead on this initiative.

### 3. Pathways

The first two priorities are essential to supporting the development of sustainability pathways, whereby each undergraduate student at the University is given the opportunity to add sustainability learning to their program, no matter what program they are enrolled in, and to be given community-engaged learning opportunities, and develop cross-cutting interdisciplinary skills, in so doing. The Curriculum Innovation subcommittee would like to facilitate this process and has selected three early-stage initiatives to support.

#### *a. UTM Pathway Proposal*

Committee member Shashi Kant has outlined a process for implementing a sustainability pathways program at UTM. He, too, adopts the broader concept of sustainability as encompassing human wellness and considers sustainability relevant to all departments and disciplines. In brief, he has proposed the following framework:

- First year – help departments incorporate sustainability into 100 level courses
- Second year – new course focused on the relevant knowledge and skills required to address sustainability
- Third year – elective courses and an experiential learning experience over the summer
- Fourth year – capstone course

Professor Kant has identified the next step as identifying relevant courses and instructors as well as creating a group of Fellows consisting of one or two professors from each sustainability-related program at UTM.

This Sustainability Pathway approach has been adopted by the University of Toronto Mississauga:

To support the student academic experience, UTM will continue to create imaginative and new interdisciplinary undergraduate educational experiences designed to challenge student thinking, performance and growth to levels they were not at previously. One approach worth investigating is sponsoring opportunities for engaged learning that incentivize multi-disciplinary collaborations at UTM that link across the



humanities, social sciences, and sciences. For example, providing students with the option to include a ‘Sustainability Pathway’ in their degree would allow our students to leave UTM with a deeper appreciation and understanding of the complexity surrounding sustainability in all that it encompasses. (Draft Academic Plan, June 2017:7)

*b. Daniels Faculty of Architecture Pathway Idea*

The Daniels Faculty of Architecture recently took over the undergraduate Architecture Studies program originally hosted by the Faculty of Arts and Science. This has afforded the Faculty a unique opportunity to switch over to a structure compatible with a pathways approach while they are in the process of absorbing courses and students from FAS. Committee member Liat Margolis will work with Jeannie Kim (Assistant Dean, Academic Programs and Outreach at the Daniels Faculty of Architecture) who is overseeing this process.

*c. Faculty of Arts and Science*

The third opportunity identified lies in the Faculty of Arts and Science: the School of the Environment is a natural home to a pathways program and Committee member and Director of the School, Kimberly Strong, is taking the lead on this initiative.

The School already prioritizes climate change-related themes through both its undergraduate and graduate programs. In addition, it is developing a new Master of Environment and Sustainability (MES), which builds on our interdisciplinary graduate Collaborative Programs in Environmental Studies and Environment & Health. The School will explore the possibility of developing pathways for undergraduate students in the Faculty of Arts and Science.

## **4. Future Initiatives**

*a. Pathways: Reaching all students*

The subcommittee plans to work with introductory level course instructors across disciplines who would like to incorporate sustainability into the curriculum and to offer assistance in doing so. The subcommittee could develop models of incorporation depending on the nature of course and how it is taught.

*b. Proposed Workshop*

The subcommittee is considering hosting a sustainability workshop in the fall to invite experts to share experiences and models of sustainability curriculum innovation with U of T academic and operational leaders.

## COMMUNICATIONS AND ENGAGEMENT

Communications and engagement are substantial components of the Committee's work and have been a core topic of discussion in the Committee as a whole and in the three separate subcommittees. In fact, communications and engagement are key to pursuing all three cross-cutting themes of the CECCS. For instance, communicating our sustainability success stories is crucial to our role as an agent of change in the community. Similarly, engaging faculty, staff, students and partners is essential to the activities across all three subcommittees. How exactly the Committee plans to approach communications and engagement depends on the function and intended audience or partner in each situation.

Generally speaking, communication and engagement as it pertains to the work of the Committee may be categorized in the following, overlapping categories:

- Sharing U of T sustainability success stories to
  - The general public
  - Potential partners
  - U of T community partners
  - Secondary students and other educational audiences
  - Alumni and Donors
  
- Sharing student-led engagement opportunities with
  - Students
  - Faculty members or academic units
  - Actual or potential community partners
  
- Engaging faculty, staff, students and partners in CLL and AOC projects

The Committee is exploring the potential of an ECCS website and social media presence (Twitter, Facebook, wiki) noting that a generation gap exists in the use of internet resources. Where faculty members will often go in search of information (via websites and search engines, for instance), students may prefer to set up filters and have information made readily available through feeds. This latter preference demands a more active approach and subsequently, greater human resources. Ideas related to social media include inviting student groups to share their successes and challenges; soliciting sustainability ideas from students and staff via an 'ideas box' on the website; and 'takeover' weeks where different student groups are the voice of the week. Engagement goes beyond communication in order to develop the opportunity for true partnerships based on co-production methods of knowledge generation and joint activity. This both requires bridging the gap between academic and operational activities at the University, and also developing relationships with living lab and agent of change partners in the community.

The Committee is currently debating the value and feasibility of undertaking the tri-campus coordination of strategic messaging as it relates to sustainability. In other words, of shaping, directing and focusing sustainability messaging to develop commonality of message—crisp statements of who we are, what we do, and what we plan to do.

## **LONGER-TERM PLANS**

The preceding sections of this report provide a description of the very early activities of CECCS, based on three Committee meetings and a single meeting of each subcommittee. Further work is needed to turn these plans into a coherent set of activities. To date, the committee as a whole and the three subcommittees have identified specific action items and priorities to undertake immediately and in the near future to achieve specific long-term goals related to our three cross-cutting themes. Thought has also been given to priorities and goals to achieve in the medium term.

The next steps are to flesh out the subcommittee ideas in terms of short-term and mid-term work plans, and to ensure that the subcommittee activities are consistent and represent a mutually reinforcing agenda. Based on these initial ideas, the goal is to develop specific milestones for each subcommittee.

It is important to recognize that CECCS cannot itself implement most of the ideas it develops. The Committee does not teach courses, implement curriculum changes, undertake research, operate University facilities, or create partnerships. It will therefore be crucial to identify the individuals and offices (such as the Institute for Sustainable Energy, the School of the Environment, the Sustainability Office, etc.) who can take action on the priorities identified by CECCS and work with them to explore what can be done.

Some specific actions that might be possible in the medium term are:

- Workshops
  - Opportunities to bring experts and experienced colleagues from other universities to U of T to advise on how best to achieve goals related to CI, CLL and AOC
  - Opportunities to bring external partners to the University to share our expertise and experience
- Networking events—fairs, expos—to bring together like-minded individuals and groups—both within and outside the University—to expand networks and foster collaboration

- Issuing sustainability challenges to residents or colleges
- Expanding our initial inventories to the outlying campuses and to graduate level programs

In closing, ECCS believes that we face a situation of tremendous opportunity with regard to sustainability at the University of Toronto. Remarkable expertise and skills exist across the campus, in our staff, our faculty and our students. And interest on the part of students and partners in the community is extremely high. Our goal is to facilitate and enable some of those opportunities, such that sustainability becomes a defining feature of U of T's existence. We look forward to working toward that outcome.

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<sup>i</sup> Image taken from the 2015-16 Sustainability Yearbook produced by the St. George Sustainability Office in the Facilities & Services Department, University of Toronto.

<http://www.fs.utoronto.ca/sustainability-office/sustainability-yearbook-2015-16/>

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