ASSESSING THE SUSTAINABILITY ATTRIBUTES OF ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT) CAMPUS

Civil and Environmental Engineering

By

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An undergrad thesis submitted to the Department of Civil and Environmental Engineering of Islamic University of Technology (IUT), Board Bazar, Gazipur in partial fulfillment of the requirements of the degree.

OF

BACHELOR OF SCIENCE IN CIVIL AND ENVIRONMENTAL ENGINEERING

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Recommendation of the Board of Examiners

The thesis titled "**Assessing the Sustainability Attributes of Islamic University of Technology (IUT) Campus**" submitted by Galib Shahriar, Student ID 125416 of Academic Year 2012-2013 has been found as satisfactory and accepted as partial fulfillment of the requirement for the degree of Bachelor of Science in Civil Engineering.

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It is hereby declared that this thesis/project report or any part of it has not been submitted elsewhere for the award of any Degree or Diploma.

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Dedication

I dedicate my thesis work to my family. A special feeling of gratitude to my loving parents.

I also dedicate this thesis to the friends who have supported me throughout the process. I will always appreciate all they have done.

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Abstract

This investigation was carried out to assess the sustainability attributes of IUT campus. The main objective was to find out the scopes of improvement after the assessment is finished. From the investigation it has been found that the campus of IUT, which represents the lion's share of the campuses in Bangladesh, is far from the best possible condition in terms of sustainability. There is still a long way to go for the university campuses of Bangladesh.

This investigation is important because the world's environment is degrading day by day and it cannot be changed or the adverse impacts cannot be reduced overnight. Creating a sustainable campus may be the trigger point towards a sustainable environment.

Also what the students, faculties and staffs can do for creating a sustainable campus is stated in this thesis.

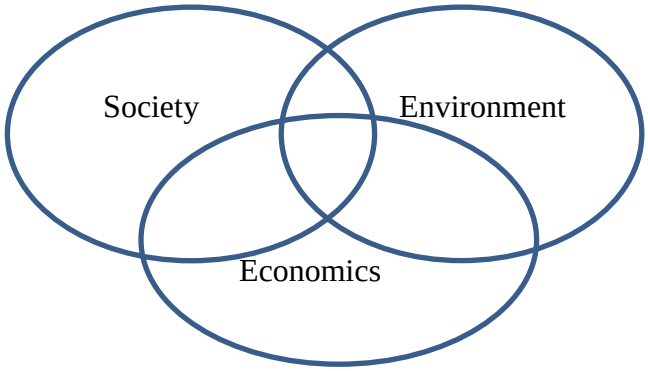
Chapter 1: Introduction

1.1.General:

Among the many ways that sustainability has been defined, the simplest and most fundamental is: "the ability to sustain" or, put another way, "the capacity to endure."

Originally defined in the 1987 Brundtland Commission Report, sustainability is the development to meet the need of the present without compromising the ability of the future generations to meet their own needs. For example, thinking about forests, sustainable use of forests can be claimed when the present generation will use the forests in such a way that they are fulfilling their own needs and also making sure that their next generations also will not be deprived of the benefit of having forests.

Sustainability has three pillars:



The 2005 World Summit on Social Development identified sustainable development goals, such as economic development, social development and environmental protection. This view has been expressed as an illustration using three overlapping ellipses indicating that the three pillars of sustainability are not mutually exclusive and can be mutually reinforcing. In fact, the three pillars are interdependent, and in the long run none can exist without the others. The three pillars have served as a common ground for numerous sustainability standards and certification systems in recent years, in particular in the food industry. Standards which today explicitly refer to the triple bottom line include Rainforest Alliance, Fair trade and UTZ Certified. Some sustainability

experts and practitioners have illustrated four pillars of sustainability, or a quadruple bottom line. One such pillar is future generations, which emphasizes the long-term thinking associated with sustainability.

Now talking about campus sustainability, there is no formally accepted definition of campus sustainability yet. But speaking informally, a sustainable campus is one that develops process or management systems that help create a vibrant campus economy and high quality of life while respecting the need to sustain natural resources and protect the environment. Sustainable programs are those that result from an institution's commitment to environmental, social, and economic health.

Campus sustainability has become an issue of global concern for university policy makers and planners as result of the realization of the impacts the activities and operations of universities have on the environment. The issue has also been intensified by the pressure from government environmental protection agencies, sustainability movements, university stakeholders as well as the momentum of other forces including student activism and NGOs. For example, in 2000 the US Environmental Protection Agency issued an enforcement alert which explained that the agency was now holding colleges and universities to the same standards as industry with regards to the issues of human health and environment. Some universities have also voluntarily signed some declarations to indicate their commitments to sustainability and the number of those universities is increasing.

1.2. Background:

The Stockholm Declaration of 1972 was the first to make reference to sustainability in higher education and has recognized the interdependency between the humanity and the environment and suggests several ways of achieving environmental sustainability. It declared: "The protection and improvement of the human environment is a major issue which affects the well-being of peoples and economic development throughout the world; it is the urgent desire of the peoples of the whole world and the duty of all Governments.

Later there were few more declarations related to sustainability is higher education. A table is given in the following page:

Table 1

Chronology of some declarations related to sustainability in higher education

Year	Declaration
1972	The Stockholm Declaration on the human environment
1977	Tbilisi declaration
1990	University Presidents for a sustainable future: the Talloires declaration
1991	The Halifax declaration
1992	Report of the United Nations Conference on environment and development—Chapter 36, Promoting education, public awareness and training
1993	Ninth International Association of Universities Round Table: The Kyoto Declaration
1993	Association of Commonwealth Universities' Fifteenth Quinquennial Conference: Swansea Declaration
1994	RE-Copernicus charter
1997	International Conference on Environment and Society—Education and Public Awareness for Sustainability: Declaration of Thessaloniki

The Stockholm Declaration offered 24 principles to achieve environmental sustainability, stressing bilateral and multilateral arrangements. While the majority of principles focused on legislation, Principle 19 stated the need for environmental education from grade school to adulthood. The rationale offered was that education would "broaden the basis for enlightened opinions and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension" (UNESCO, 1972, Principle 19).

1.3. Objectives of the study:

Sustainability is a term that has grown rapidly in popularity in recent years. At an institution of higher education, the concept of sustainability can be applied to education, research, and learning as well as the physical imprint of the campus itself on the natural environment. Through green building and strategic planning and design of campus facilities and systems, a university can

greatly reduce its impact on the natural environment while also serving as a living laboratory for the advancement and education of sustainability.

Higher education institutions are in a unique position to both lead and benefit from campus-wide sustainability initiatives, and green building in particular. As driving forces behind innovation and progress, universities and colleges face a singular opportunity to lead in addressing the challenges of climate change and environmental sustainability, not only through research and academic learning, but through applied action. Green planning and development projects offer an opportunity to leverage talents of professors and experts across disciplines, and to think strategically and long-term about the campus and it's systems as a whole.

Sustainability planning and green building also provide opportunities to generate long-term value for an institution. As long-term landholders with assets that are generally concentrated within a given area and connected through shared infrastructure, universities are in an optimal position to capture the long-term benefits associated with green building, including cost savings. Delivering high-performance, healthy green buildings that enhance learning may also help a university in building and maintaining a competitive edge amongst its peers – and a means for attracting top faculty, staff and students.

In addition to creating internal value, sustainability planning within an institution can positively impact the local community and foster positive relationships between university and city. As significant landholders within communities, universities and colleges have tremendous economic and fiscal impact as well as physical impact on local infrastructure and resources. Demonstrating a commitment to reducing negative impacts (such as air and water pollution, energy and water use, and waste) while stimulating the local economy through local purchasing programs through green planning and development provides an opportunity for a university to serve as a responsible developer and for new avenues for coordination between universities, the surrounding community, and the city as a whole.

In the process of sustainability planning, LEED can play an important role in structuring and guiding the green building and planning processes. Utilizing the rating systems early in the planning and design stages of a project enables the project team to take a holistic approach to development, drives innovative and cross-cutting design solutions, and ensures environmental benefit across the full spectrum of ecological considerations. LEED also offers an opportunity to validate and recognize an institution's commitment to sustainability. Finally, it connects its

participants to resources and assistance for green projects as well as other institutions undergoing similar projects to allow institutions to share and learn from each other's experiences.

In my thesis, the objectives that I have been working for are:

- Determining how an adapted STARS sustainability assessment framework can be applied at IUT.
- Understanding the role that Different organizations and the university administration can play in gathering and analyzing data for a campus sustainability assessment framework.
- Understanding what the primary barriers will be in implementing this project
- Preparing a guide that will direct students of IUT towards "Greening the Campus" course and IUT volunteers on how to undertake the data gathering and synthesis of information

for the assessment.

1.4. Methodology:

This study investigated how much sustainable is IUT campus comparing with the criteria provided in the STARS technical manual. For investigation, data were collected from the faculties and staffs of IUT, official records of IUT and by practical experience. The main way of collecting information from the IUT staffs were arranging a questionnaire survey. The honorable staffs of IUT contributed in the investigation by their knowledge about the varsity campus.

After all the data were collected, the calculations were done with the help of the formulas tables provided in the STARS Technical Manual.

About STARS:

The Sustainability Tracking, Assessment & Rating System (STARS) is a voluntary, self-reporting framework for helping colleges and universities track and measure their sustainability progress. It is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the campus sustainability community.
- Create incentives for continual improvement toward sustainability.

- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community.

STARS is intended to engage and recognize the full spectrum of colleges and universities—from community colleges to research universities, and from institutions just starting their sustainability programs to long-time campus sustainability leaders. STARS encompass long-term sustainability goals for already high-achieving institutions as well as entry points of recognition for institutions that are taking first steps toward sustainability.

The current version of STARS incorporates feedback, suggestions, and lessons learned since the launch of STARS 1.0 in January 2010. While STARS is the most thoroughly vetted and extensively tested campus sustainability framework for North American institutions, it is by no means perfect. The current version of STARS is intended to stimulate, not end, the conversation about how to measure and benchmark sustainability in higher education. AASHE welcomes your feedback and participation in continuing to refine and shape the system.

How credits were developed and weighted:

STARS participants pursue credits and may earn points in order to achieve a STARS Bronze, Silver, Gold or Platinum rating, or recognition as a STARS Reporter. The credits included in STARS span the breadth of higher education sustainability and include performance indicators and criteria related to Academics, Engagement, Operations, and Planning & Administration.

STARS credits were initially developed in large part by reviewing campus sustainability assessments, sustainability reports from businesses, and other sustainability rating and ranking systems. Credits have been revised based on feedback from hundreds of diverse stakeholders and experts. Previous versions of the STARS Technical Manual, as well as the record of changes between versions, may be found on the STARS website.

Credits vary in the number of points they are worth. Points were allocated by a panel of STARS Steering Committee members and AASHE staff using the following considerations:

a. To what extent does achievement of the credit ensure that people (students, employees and/or local community members) acquire the knowledge, skills, and dispositions to meet sustainability challenges?

b. To what extent does achievement of the credit contribute to positive environmental, economic and social impacts?

- To what extent does achievement of the credit contribute to human and ecological health and mitigate negative environmental impacts?
- To what extent does achievement of the credit contribute to secure livelihoods, a sustainable economy and other positive financial impacts?
- To what extent does achievement of the credit contribute to social justice, equity, diversity, cooperation, democracy and other positive social impacts?

c. To what extent are the positive impacts associated with achievement of the credit *not* captured in other STARS credits?

As these questions indicate, the focus in allocating points was on the *impact*, not the *difficulty*, of earning the credit. Some sustainability initiatives may be very difficult to implement but yield negligible impacts. Conversely, some generally easier projects have significant impacts. Assigning points based on the difficulty of earning a credit would create a perverse incentive for institutions to focus on the difficult projects or initiatives, which may not have the most meaningful impact.

Given the diversity of higher education institutions, each STARS credit should be appropriate for most institution types. In order to accommodate this diversity, some STARS credits do not include detailed specifications but are instead flexible or open. In other cases, credits include an applicability criterion, so that the credits only apply to certain types of institutions. By following this approach, institutions are not penalized when they do not earn credits that they could not possibly earn due to their circumstances.

Additionally, STARS is designed to incorporate the full spectrum of sustainability achievement, and upper levels of achievement represent highly ambitious, long-term goals. Therefore there are some credits for which few, if any, institutions will achieve full points currently.

Lastly, to help ensure that the system works as intended, AASHE strives to ensure that each credit is objective, measurable, and actionable.

Recognition and scoring:

STARS only gives positive recognition – each level of recognition represents significant sustainability leadership. Participating in STARS, which includes gathering extensive data and sharing it publicly, represents a commitment to sustainability that should be applauded.

There are four STARS ratings available: Bronze, Silver, Gold, and Platinum. The table below summarizes the scoring thresholds corresponding with each rating. The score table is given below:

Table 2:

Stars rating	Minimum score required
Bronze	**25**
Silver	**45**
Gold	**65**
Platinum	**85**
Reporter	**<25**

In addition, any institution that wishes to participate in STARS but does not want to pursue an overall STARS rating or make their scores public may participate as a **STARS Reporter**.

An institution's STARS score is based on the percentage of applicable points it earns across four categories:

- Academics (AC)
- Engagement (EN)
- Operations (OP)
- Planning & Administration (PA)

For example, if an institution earned 30 percent of all applicable points, the institution's overall score would be 30, making it eligible for a STARS Bronze Rating.

In addition to the credits in the four categories outlined above, institutions may pursue Innovation & Leadership (IN) credits to earn up to 4 bonus points for new and path-breaking practices and performances that are not covered by other STARS credits or that exceed the highest criterion of a current STARS credit. Each point earned in Innovation & Leadership increases an institution's overall score by 1 point.

Some credits do not apply to all institutions. For example, the credits about dining services do not apply to institutions that do not have dining services operations. Institutions will earn a score

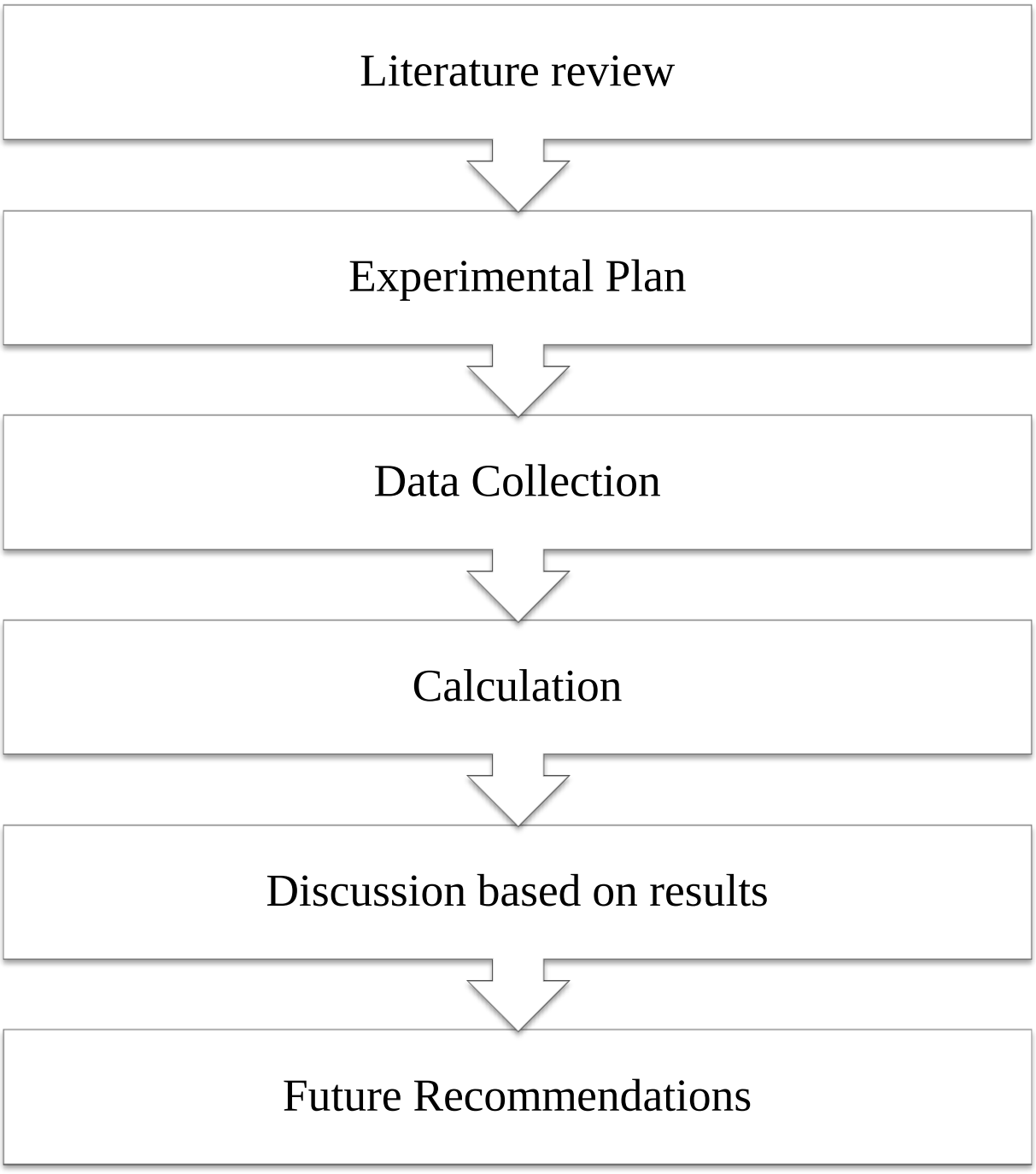
based on the percentage of *applicable* points they earn. In other words, credits that do not apply to an institution will not be counted against that institution's overall score.

In addition, the number of points that are available for a credit may vary based on an institution's context. This variability is linked to third-party reference standards or methodologies for evaluating the sustainability impact of the area being evaluated in the credit. STARS 2.0 introduced this approach to contextual variability in the *Biodiversity* and *Water Use* credits.

A STARS rating is in effect for three years. All participants have continuous access to the STARS Reporting Tool and may update information at any time; however, the data that is shared publicly will only be updated when an institution formally submits a new report.

While AASHE has strived for a fair and consistent approach to allocating points and ratings, this is an inherently subjective exercise. Developing a more robust point allocation methodology, including expanding the application of contextual variability as feasible, and finding additional ways to accommodate how regional variations and difference in institution type influence each institution's sustainability impacts, will be considered for future versions of STARS.

1.5. Research Flow Diagram:



1.6. Layout of this thesis:

Chapter 1 thoroughly discusses the background and objective of this study. **Chapter 2** discusses the specific problem, research question, the scope, quality of information seeking, citation and discussions of the thesis, critical analysis and if the thesis is relevant, appropriate and useful. **Chapter 3** mainly focuses on how the data were collected and how they were calculated to categorize campuses based on their sustainable attributes. **Chapter 4** is the next part that gives the results based on which the campuses are classified and discussions based on the results. The last part**, Chapter 5** draws attention to recommendations i.e. how the sustainability attributes of the campuses can be increased for a better environment friendly campuses. It also shows way to the campuses, that are not sustainable, a way to become a sustainable one.

Chapter 2: Literature Review

2.1. General:

Sustainability planning is a matter of growing interest. This integrates local, short-term decisions are consistent with strategic, regional and global, long-term goals. Creating a sustainable campus can be the trigger point to creating a sustainable and sound environment. This thesis discusses about the current condition of the sustainability attributes of Islamic University of Technology (IUT) campus and about works previously done about creating a sustainable campus and eventually a sustainable environment. This chapter also focuses on the history of sustainable movement.

2.2. Sustainable campus:

There is no accepted definition of a sustainable campus yet. But a campus can claim themselves sustainable if they-

- Help create a vibrant campus economy
- Ensure high quality of life while respecting the need to sustain the natural resources
- Protect the environment

So it can be said that a sustainable campus will be a mixture of these:

2.3. Sustainable environment:

Sustainable environment is much more than a recent buzzword. A sustainable environment means a state in which the demands placed on the environment can be met without reducing its capacity to allow all people to live well, now and in the future. Financially speaking, it means the maintenance of the factors and practices that contribute to the quality of environment on a long-term basis.

Evidence is strong that we are exceeding and eroding the earth's carrying capacity, that there are limits to growth on a finite planet. Effects are interactive, complex, unpredictable and escalating, as we head for a global average temperature rise of more than 2 degrees centigrade over pre-industrial levels.

Planning sustainability can play a handful role in:

- Environmental protection
- Social development
- Economic development

Sustainability relates to the choices individuals and government entities make and how those choices affect the future. For example, polluting water supplies or wasting water reduces the availability of clean, uncontaminated water for future generations.

Simply stated, our global future depends on it. The importance of finding a sustainable future is rooted in three issues that are very much linked to one another: 1) fossil fuel depletion, 2) climate change due to CO_2 emissions, and 3) the increasing costs of energy and water.

Since the industrial revolution, the world's industrialized nations have been founded on access to "cheap" fossil fuel energy. We all know that fossil fuels are a finite resource, and it's alarming that demand for fossil fuels continues to increase. As other nations, such as China and India, become more industrialized, the global demand and price of fossil fuels will further increase, as will emissions of CO_2. We're also witnessing steady increases in the prices of energy from other sources, and in turn, the cost of fresh water. This is placing an increasing burden on economies worldwide, as well as the costs that an average homeowner faces.

Since the 1980s sustainability has been used more in the sense of human sustainability on planet Earth. According to the Brundtland Commission of the United Nations on March 20, 1987, the goals of sustainability are:

2.4. Relating campus sustainability with environmental sustainability:

Universities can nowadays be regarded as 'small cities' due to their large size, population, and the various complex activities taking place in campuses, which have some serious direct and indirect impacts on the environment. The environmental pollution and degradation caused by universities in form of energy and material consumption via activities and operations in teaching and research, provision of support services and in residential areas could be considerably reduced by an effective choice of organizational and technical measures.

Colleges and universities are usually large institutions that use a great deal of resources. Additionally, they teach students who will become engineers, architects, scientists, and programmers of tomorrow. "If we are to achieve a sustainable future, institutions of higher

education must provide the awareness, knowledge, skills, and values that equip individuals to pursue life goals in a manner that enhances and sustains human and non-human well-being." (James & Card, 2012)

Environmental degradation does not only occur in lecture halls and research laboratories, but also in the living and administration areas and could be effectively reduced considerably by adoption and implementing a systematic organizational and technical measure. However, with such large scale and range of potential impacts, the heterogeneous nature of university campuses, different land uses and activities on campus and the fact that universities have some social responsibilities of training and educating the society, environmental management and sustainability at colleges and universities requires a holistic approach similar to that of towns.

2.5. History of the sustainable movement:

Followed by the Stockholm declaration in 1972, the Tbilisi Conference echoed the sentiments of the Stockholm Declaration by stating that environmental education should be provided to people of all ages, all levels of academic aptitude and must be delivered in both formal and non-formal environments. The declaration discussed the need for environmental education, the principle characteristics of environmental education and ordered guidelines for international strategies of action including specific recommendations for university education, specialist training, international and regional co-operation, access to information, research and experimentation, training of personnel, informing and educating the public, technical and vocational education and educational programs and materials. The declaration implored higher education to consider environmental and sustainability concerns within the framework of the general university. The Tbilisi Declaration further recognized requirements for the development of sustainability initiatives within the university amongst faculty, students and support staff and was the first declaration to take an international and holistic approach to the environment within a higher education context.

The Talloires Declaration was the first statement made by university administrators of a commitment to sustainability in higher education. It stated that "university heads must provide leadership and support to mobilize internal and external resources so that their institutions respond to this urgent challenge" It concluded that signatory universities must work together

towards environmental sustainability and encourage universities who were not present at the conference to sign the declaration and join administrators in their efforts. This task was indeed realized as the signatories to the Talloires have increased from 20 in 1990 to over 275 signatories in 2000.

In the early 1990s, an observable shift toward an integration of environmental education and campus operations occurred. Before that point, David Orr found that "campus resource flows were regarded as technical matters of institutional management, not problems of moral or even pedagogical concern," (Orr 5 in *The Campus and Environmental Responsibility*). Universities frequently studied the environmental impacts of others, but they rarely turned this analysis onto themselves (Creighton and Cortese 22; Eagan 66).

By 1992, however, David Eagan noted that "campus environmentalism is starting to alter perceptions about what higher education is for, what is worth learning, and what graduates brought to understand and do about environmental concerns for colleges and universities to realize this educational potential, they need to better recognize their essential role in fostering this kind of grounded learning" (Eagan 75). This transformation began the era of campus sustainability in the United States.

2.6. Scope of the study:

Universities make a significant contribution to the development of our society, and, therefore, have a special societal responsibility, in particular with regard to youth training and public awareness about sustainability. Therefore, universities should promote a pattern of development that would be compatible with a safe environment, biodiversity, ecological balance, and intergenerational equity. As sustainability concept is applied to universities, it should serve as a means of configuring the campus and its various activities so that the university, its members and its economies are able to meet their needs and express their greatest potential in the present and planning and acting for the ability to maintain these ideals in a very long-term.

The importance of sustainable development can be seen on many campuses when many universities have established the "green campus", promoted its implementation and making

sustainability a priority in the campus planning and development. This is because there are many benefits that can be achieved through the development of a sustainable campus when there is a balance in the three aspects of economic, social and environment. However, there are still many who view sustainable development from the aspect of environmental alone.

Summary of the major strengths and weaknesses of cross-institutional sustainability assessment tools that are currently available and are provided in the next page:

Table 3:

Assessment tool	Major strengths	Major weaknesses
1.National Wildlife Federation's State of the Campus Environment	Comprehensive Combines eco-efficiency and sustainability Identifies barriers, drivers, incentives and motivations Identifies processes and current status	Little use of the term, 'sustainability' Small sample within each college/university
2.Sustainability Assessment Questionnaire	Emphasizes (cross-functional) sustainability as a process Useful as a conversational and teaching tool Probing questions that identify weaknesses and set goals	No mechanism for comparison or benchmarking Difficult for large universities to complete
3.Auditing instrument for sustainability in higher education (AISHE)	Flexible framework for institutional comparisons Process-orientation which helps prioritize and set goals through developmental stages	Difficult to comprehend Motivations are potentially excluded
4.Higher Education 21's Sustainability indicators	Process-orientation that moves beyond eco-efficiency with a relatively small set of indicators Recognizes sustainability explicitly and strategically	Difficult to measure and compare Indicators may not represent most important Issues
5.Environmental Workbook and Report	Useful in strategic planning and prioritizing Collects baseline data and best practices Difficult to aggregate and compare data	Motivations are largely ignored Operational eco-efficiency and compliance focus
6.Greening Campuses	Comprehensive, action orientation incorporating processes Explicitly and deeply addresses sustainability Focus on Canadian community colleges User friendly manual with case studies, recommendations	Calculations and comparisons difficult Resources out-of-date
7.Campus ecology	Cross-functional, practical 'guide' and framework Baseline for current tools	Environmentally focused (i.e. not sustainability) No longer 'state-of-the-art'
8.Environmental performance survey	Process-oriented Compatible with environmental management systems	Operational eco-efficiency focus Neglects sustainability and cross-functional initiatives
9.Indicators snapshot	Quick and prioritized environmental snapshots Opportunity for more depth on issues of concern	Operational, eco-efficiency focus, with little reference to processes, motivations, benchmarking and
10.Grey pinstripes with green ties	Model for data collection and reporting Links programs and reputations	Not sustainability specific Neglects decision-making processes

		and operations
11. EMF self assessment	**Rapid self-assessment focused of processes**	**Operational eco-efficiency focus**

Chapter 3: Experimental Method

3.1. Introduction:

In this chapter the experimental method of this study is discussed. It includes the ways of collection and preparation of data, tables and formulas required for calculation and the the final assessment.

3.2. Institutional Characteristics:

3.2.1 Institutional boundary:

- Institution type: Baccalaureate, Masters
- Institutional control: Privet non-profit
- Brief description: Islamic University of Technology, commonly known as IUT has a campus of 30 hectors. It has 201 administrative staffs and 890 and 150 undergrad and postgrad students respectively. This varsity is mainly run by OIC (Organization of Islamic Cooperation) donation.
- Features included within the varsity campus:

Table 4:

	Present?	Included?
Agricultural school	**No**	**No**
Medical school	**No**	**No**
Other professional school(s)	**No**	**No**
Satellite campus	**Yes**	**No**
Hospital	**Yes**	**Yes**
Farm larger than 5 acres	**No**	**No**
Agricultural experimental station	**No**	**No**

3.2.2. Operational characteristics:

- Endowment size:
- Total campus area: 30 acres
- Locale: Urban
- IECC climate zone: Warm
- Gross floor area of building space: 68000 square feet
- Floor area of laboratory space: 7000 square feet
- Floor area of healthcare space: 2500 square feet
- Floor area of other energy intensive space: 10000 square feet

3.2.3. Academics and demographics:

- Number of academic divisions: 5
- Number of academic departments: 5
- Number of students enrolled for credit: 1040
- Number of employees (Staffs + Faculties): 201
- Full time equivalent student enrollment: 975
- Full time equivalent of employees: 180
- Full-time equivalent of students enrolled exclusively in distance education: 0
- Number of students resident on-site: 950
- Number of employees resident on-site: 15
- Number of other individuals resident on-site, e.g. family members of employees, individuals lodging on-site (by average occupancy rate), and/or in-patient hospital beds (if applicable): 5
- Weighted campus users, performance year:

  Weighted campus users = (A + B + C) + 0.75 [(D - A) + (E - B) – F]

  A= Number of students resident on-site

  B= Number of employees resident on-site

  C= Number of other individuals resident on-site and/or in-patient hospital beds

  D= Total full-time equivalent student enrollment

E= Full-time equivalent of employees (staff + faculty)

F= Full-time equivalent of students enrolled exclusively in distance education

Weighted campus user:

(950 + 15 + 5) + 0.75 [(975 - 950) + (180 - 15) – o] = 1112.5

3.3. Academics:

Curriculum:

3.3.1. Academic courses:

Credit rationale and criteria:

This credit recognizes institutions that offer sustainability courses and that include sustainability in courses across the curriculum. Sustainability courses can provide valuable grounding in the concepts and principles of sustainability, help build knowledge about a component of sustainability, or introduce students to sustainability concepts. Institutions that integrate sustainability concepts throughout the curriculum prepare students to apply sustainability principles in their professional fields. Having sustainability courses and content offered by numerous departments helps ensure that the institution's approach to sustainability education is comprehensive and includes diverse topics. This will help students develop a broad understanding of the field. Likewise, offering sustainability courses and content in numerous departments can increase student exposure to sustainability topics and themes.

For this section, an inventory will be conducted on the offered courses of the varsity. The inventory will include:

- Courses that have been formally designated as sustainability course offerings in the institution's standard course listings or catalog;

Table 5:

Course type	Factor	Multiply	Number of courses offered of each type	Divide	Total number of courses offered by the institution	Equals	Points earned
Sustainability courses		*		/		=	
Courses that include sustainability		*		/		=	
Total points							**Upto 8**

- Courses that have been identified as sustainability course offerings (i.e. "sustainability courses" and "courses that include sustainability")

Table 6:

Factor	Multiply	Number of courses with sustainability course offerings	Divide	Total number of departments	Equals	Points earned
$6^{2/3}$	*		/		=	**Upto 6**

Here part 1 discusses sustainable courses or courses that include sustainability and part 2 discusses about departments that offer sustainability courses.

3.3.2. Learning outcomes:

Credit rationale and criteria:

This credit recognizes institutions with sustainability learning outcomes associated with program degrees and/or courses of study. Learning outcomes help students develop specific sustainability knowledge and skills and provide institutions and accrediting bodies with standards against which to assess student learning.

Institution's students graduate from degree programs that include sustainability as a learning outcome or include multiple sustainability learning outcomes. Sustainability learning outcomes (or the equivalent) may be specified at:

- Institution level (e.g. covering all students)
- Division level (e.g. covering one or more schools or colleges within the institution)
- Program level
- Course level (if successful completion of the course is required to complete a degree program)

This credit includes graduate as well as undergraduate programs. For this credit, "degree programs" include majors, minors, concentrations, certificates, and other academic designations. Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the*: Continuing Education* credit in Public Engagement. Programs that include co-curricular aspects may count as long as there is an academic component of the program.

Calculation for this part:

Table 7:

Factor	Multiply	Number of students that graduate from programs that have adopted at least one sustainability learning outcome	Divide	Total number of graduates	Equals	Points earned
8	*****		**/**		**=**	**Upto 8**

3.3.3. Undergraduate program:

Credit rationale and criteria:

This credit recognizes institutions that have formal, undergraduate-level degree programs focused on sustainability. Developing such programs signals an institution's commitment to sustainability. Such programs also provide a path for students to study sustainability topics in

depth, which better prepares them to address sustainability challenges. Formal academic programs also provide a home for sustainability scholars within the institution.

The requirements for this section are, institution offers at least one:

- Sustainability-focused program (major, degree program, or equivalent) for undergraduate students
- Undergraduate-level sustainability-focused minor or concentration (e.g. a concentration on sustainable business within a business major).

Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the *Continuing Education* credit in Public Engagement.

Scoring:

Institutions earn the maximum of 3 points available for this credit for having at least one sustainability-focused degree program or the equivalent for undergraduate students. Partial points are available. An institution with no sustainability-focused degree program that has at least one sustainability-focused minor, concentration or certificate earns 1.5 points (half of the points available for this credit).

3.3.4. Graduate program:

Credit rationale and criteria:

This credit recognizes institutions that have formal, graduate academic degree programs focused on sustainability. Developing such programs signals an institution's commitment to sustainability. Formal academic programs focused on sustainability provide a path for students to study sustainability topics in depth, thus better preparing them to address sustainability challenges. Formal academic programs also provide a home for sustainability scholars within the institution.

The requirements are, institution offers at least one:

- Sustainability-focused program (major, degree program, or equivalent) for graduate students
- Graduate-level sustainability-focused minor, concentration or certificate (e.g. a concentration on sustainable business within an MSC program).

Extension certificates and other certificates that are not part of academic degree programs do not count for this credit; they are covered in the *Continuing Education* credit in Public Engagement.

Scoring:

Institutions earn the maximum of 3 points available for this credit for having at least one sustainability-focused degree program or the equivalent for graduate students. Partial points are available. An institution with no sustainability-focused degree program for graduate students that has at least one graduate-level sustainability focused minor, concentration or certificate earns 1.5 points (half of the points available for this credit).

3.3.5. Immersive Experience:

Credit rationale and criteria:

This credit recognizes institutions that offer sustainability-focused immersive experience programs. Sustained immersive experiences such as community-based internships and "study abroad" programs give students the opportunity to witness and learn in-depth about sustainability challenges and solutions. These programs provide a memorable way for students to deepen and expand their knowledge of sustainability.

Institution offers at least one immersive, sustainability-focused educational study program. The program is one week or more in length and may take place off-campus, overseas, or on-campus.

For this credit, the program must meet one or both of the following criteria:

- It concentrates on sustainability, including its social, economic, and environmental dimensions;
- It examines an issue or topic using sustainability as a lens.

For-credit programs, non-credit programs and programs offered in partnership with outside entities may count for this credit. Programs offered exclusively by outside entities do not count for this credit.

Scoring:

Institutions earn 2 points for meeting the criteria outlined above. Partial points are not available for this credit.

3.3.6. Sustainability Literacy Assessment:

Credit rationale and criteria:

This credit recognizes institutions that are assessing the sustainability literacy of their students. Such an assessment helps institutions evaluate the success of their sustainability education initiatives and develop insight into how these initiatives could be improved.

Institution conducts an assessment of the sustainability literacy of its students. The sustainability literacy assessment focuses on knowledge of sustainability topics and challenges. Assessments that exclusively address sustainability culture (i.e. values, behaviors, beliefs, and awareness of campus sustainability initiatives) or student engagement in sustainability-related programs and activities are excluded. Cultural assessments are recognized in the *Assessing Sustainability Culture* credit in Campus Engagement.

Participation in the National Survey of Student Engagement (NSSE) Sustainability Education Consortium does not count for this credit.

An institution may use a single instrument that addresses sustainability literacy, culture, and/or engagement to meet the criteria for this credit if at least a third of the assessment focuses on student knowledge of sustainability topics and challenges.

Attributes for sustainable literacy assessment:

Table 8:

Topic	Points earned
An assessment of sustainability literacy is: • **Administered to the entire student body or, at minimum, to the institution's predominant student body (e.g. all undergraduate students), directly or by representative sample. (2 points)** **Or** • **Administered to a subset of students (e.g. students enrolled in a sustainability program) or a sample of students that may not be representative of the institution's predominant student body (e.g. graduate and not undergraduate students). (1 point)**	
• **Administered as a pre- and post-assessment to the same cohort of students or to representative samples in both the pre-test and post-test.**	
Total points	**Upto 4**

3.3.7. Incentives for Developing Courses:

Credit rationale and criteria:

This credit recognizes institutions that offer incentives to help faculty expand sustainability course offerings. Providing release time, funding for professional development, trainings, and other incentives can help faculty broaden and deepen sustainability curriculum. Faculty members often need these incentives to determine how best to include sustainability in their courses. Providing such incentives lends institutional support to increased sustainability course offerings.

Institution has an ongoing program or programs that offer incentives for faculty in multiple disciplines or departments to develop new sustainability courses and/or incorporate sustainability into existing courses or departments. The program specifically aims to increase student learning of sustainability.

Incentives may include release time, funding for professional development, and trainings offered by the institution. Incentives for expanding sustainability offerings in academic, non-credit, and/or continuing education courses count for this credit.

Scoring:

Institutions earn 2 points for meeting the criteria outlined above. Partial points are not available for this credit.

3.3.8. Campus as a Living Laboratory:

Credit rationale and criteria:

This credit recognizes institutions that utilize their infrastructure and operations as living environments for multidisciplinary learning and applied research that advances sustainability on campus. Students that actively participate in making their campuses more sustainable are well prepared to continue that work in their careers and communities after graduation.

Institution is utilizing its infrastructure and operations for multidisciplinary student learning and applied research that contributes to understanding campus sustainability challenges or advancing sustainability on campus in at least one of the noted areas:

- Air & Climate
- Buildings
- Energy
- Food & Dining
- Grounds
- Purchasing
- Transportation
- Waste
- Water
- Coordination & Planning
- Diversity & Affordability
- Investment
- Public Engagement
- Wellbeing & Work
- Other (e.g. Arts & Culture)

Scoring:

Institutions earn 0.4 points for each area covered, regardless of how many projects there are in each area.

Institutions with projects that cover 10 or more areas earn the maximum of 4 points available for this credit.

Research:

3.3.9. Research and Scholarship:

Credit rationale and criteria:

This credit recognizes institutions where faculty and staff are conducting research and other forms of scholarship on sustainability topics. Conducting an inventory of an institution's sustainability research can serve as a valuable first step in identifying strengths and areas for development. Likewise, since sustainability requires collaboration that transcends traditional disciplines, conducting an inventory can help connect individuals, laboratories, research centers, and other campus community members with a shared interest in sustainability. The percentage of research faculty and staff and departments that are engaged in sustainability research are measures of the spread of sustainability research.

Part 1

Institution's faculty and/or staff conduct sustainability research and the institution makes an inventory of its sustainability research publicly available.

Calculations for part 1:

Table 9:

Factor	Multiply	Faculty and staff engaged in sustainability research	Divide	Total faculty and staff engaged in research	Equals	Points earned
40	*		/		=	**Upto 6**

Part 2

Institution's academic departments (or the equivalent) include faculty and staff who conduct sustainability research.

Any level of sustainability research is sufficient to be included for this credit. In other words, a researcher who conducts both sustainability research and other research may be included.

This credit applies to all institutions where research is considered in faculty and/or staff promotion or tenure decisions. Institutions that do not consider research in promotion or tenure decisions as a matter of policy or standard practice may choose to either omit or include the Research subcategory. Pursuing one or more Research credits and omitting other credits in the subcategory as "not applicable" is not allowed.

Calculation for part 2:

Table 10:

Factor	Multiply	Departments that conduct sustainability research	Divide	Total number of departments that conduct research	Equals	Points earned
8	*****		**/**		**=**	**Upto 6**

3.3.10. Support for Research:

Credit rationale and criteria:

This credit recognizes institutions that have programs in place to encourage students and faculty members to research sustainability. Providing support and incentives demonstrates that sustainability is an institutional priority and can help deepen students' understanding of sustainability issues and attract new researchers to the field. In addition, it helps faculty members explore new areas and encourages broader research on the topic.

Addressing sustainability challenges requires solutions and understandings that often cover multiple academic disciplines. Giving interdisciplinary research equal weight as research from a single academic discipline provides an important foundation that allows faculty to pursue sustainability related research.

Institution encourages and/or supports sustainability research through one or more of these:

- An ongoing program to encourage students in multiple disciplines or academic programs to conduct research in sustainability. The program provides students with incentives to research sustainability. Such incentives may include, but are not limited to, fellowships, financial support, and mentorships. The program specifically aims to increase student sustainability research.
- An ongoing program to encourage faculty from multiple disciplines or academic programs to conduct research in sustainability topics. The program provides faculty with incentives to research sustainability. Such incentives may include, but are not limited to, fellowships, financial support, and faculty development workshops. The program specifically aims to increase faculty sustainability research.
- Formally adopted policies and procedures that give positive recognition to interdisciplinary, trans disciplinary, and multidisciplinary research during faculty promotion and/or tenure decisions.
- Ongoing library support for sustainability research and learning in the form of research guides, materials selection policies and practices, curriculum development efforts, sustainability literacy promotion, and learning objects focused on sustainability.

Scoring:

Institutions earn the maximum of 4 points available for this credit by providing all of the incentives and supports listed in the criteria above. Partial points are available based on the number of incentives and/or supports provided. For example, an institution that provides 2 of the 4 incentives or supports listed would earn 2 points (half of the points available for this credit).

3.3.11. Open Access to Research:

Credit Rationale and Criteria:

This credit recognizes institutions that have policies and repository programs in place to ensure open access to new peer-reviewed research produced by their faculties. Institutions that empower faculty to distribute their scholarly writings freely help stimulate learning and innovation, and facilitate the translation of this knowledge into public benefits that advance sustainability.

Institution has a formally adopted open access policy that ensures that versions of future scholarly articles by faculty and staff are deposited in a designated open access repository.

The policy may allow for publisher embargoes and/or provide a waiver option that allows faculty to opt-out of the open access license/program for individual articles. Open access policies and programs that are strictly voluntary in nature (opt-in) do not count unless there are incentives or supports for open access publishing, e.g. a fund to support faculty and staff with article processing and other open access publication charges.

Policies and programs adopted by entities of which the institution is part (e.g. government or university system) may count for this credit as long as the policies apply to and are followed by the institution. The open access repository may be managed by the institution or the institution may participate in a consortium with a consortial and/or outsourced open access repository.

Scoring:

Institutions earn the maximum of 2 points available for this credit by having an open access policy that meets the criteria above covering the entire campus. Partial points are available if some, but not all, of the institution's research-producing divisions (e.g. schools, colleges, departments) are covered by an open access policy. For example, an institution with an open access policy covering 2 of its 6 colleges that produce research would earn 1 point (half of the points available for this credit).

3.4. Engagement:

Campus Engagement:

3.4.1. Student Educators Program:

Credit Rationale and Criteria:

This credit recognizes institutions with programs that engage students to serve as educators in peer-to-peer sustainability outreach. Such initiatives, sometimes known as "Eco-Reps" programs, help disseminate sustainability concepts and a sustainability ethic throughout the campus community. In addition, serving as an educator is a valuable learning experience for students that can deepen their understanding of sustainability while developing their outreach and education skills.

Institution coordinates an ongoing peer-to-peer sustainability outreach and education program for students enrolled for credit. The institution:

- Selects or appoints students to serve as peer educators and formally designates the students as educators (paid and/or volunteer)
- Provides formal training to the student educators in how to conduct peer outreach
- Supports the program with financial resources (e.g. by providing an annual budget) and/or administrative coordination by faculty or staff.

Calculation for this part:

Table 11:

Factor	Multiply	Number of students served by a peer-to peer outreach and education Program	Divide	Total number of students enrolled for credit	Equals	Points earned
4	*****		**/**		**=**	**Upto 4**

3.4.2. Student orientation:

Credit rationale and criteria:

This credit recognizes institutions that include sustainability in orientation activities and programming. Including sustainability in student orientation demonstrates that sustainability is an institutional goal and encourages students to adopt sustainable habits in their new school environments. Orientation sets the tone for the campus experience.

Institution includes sustainability prominently in its student orientation activities and programming.

Sustainability activities and programming are intended to educate about the principles and practices of sustainability. The topics covered include multiple dimensions of sustainability (i.e. social, environmental and economic).

Because orientation activities vary from one institution to another, prominent inclusion of sustainability may not take the same form on each campus. Prominent inclusion of sustainability may also take different forms for different types of students (e.g. undergraduate students, transfer

students, graduate students). When reporting for this credit, each institution will determine what prominent inclusion of sustainability means given its particular context. (See the Credit Example below for additional information.)

As this credit is intended to recognize programming and student learning about sustainability, incorporating sustainability strategies into event planning (e.g. making recycling bins accessible or not serving bottled water) is not, in and of itself, sufficient for this credit. Such strategies may count if they are highlighted and are part of the educational offerings. For example, serving local food would not, in and of itself, be sufficient for this credit; however, serving local food and providing information about sustainable food systems during meals could contribute to earning this credit.

Calculation for this section:

Table 12:

Factor	Multiply	Percentage of entering students provided orientation activities and programming that include sustainability (0-100)	Equals	Points earned
.02	*		=	Upto 2

3.4.3. Student life:

Credit rationale and criteria:

This credit recognizes institutions that have co-curricular programs and initiatives that contribute to students learning about sustainability outside of the formal classroom. These programs and initiatives engage students by integrating sustainability into their lives, experiential learning experiences, and campus culture.

Institution has co-curricular sustainability programs and initiatives. The programs and initiatives fall into one or more of the following categories:

- Active student groups focused on sustainability
- Gardens, farms, community supported agriculture (CSA) or fishery programs, and urban agriculture projects where students are able to gain experience in organic agriculture and sustainable food systems

- Student-run enterprises that include sustainability as part of their mission statements or stated purposes (e.g. cafés through which students gain sustainable business skills)
- Sustainable investment funds, green revolving funds or sustainable microfinance initiatives through which students can develop socially, environmentally and fiscally responsible investment and financial skills
- Conferences, speaker series, symposia or similar events related to sustainability that have students as the intended audience
- Cultural arts events, installations or performances related to sustainability that have students as the intended audience
- Wilderness or outdoors programs (e.g. that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles
- Sustainability-related themes chosen for themed semesters, years, or first-year experiences (e.g. choosing a sustainability-related book for common reading)
- Programs through which students can learn sustainable life skills (e.g. a series of sustainable living workshops, a model room in a residence hall that is open to students during regular visitation hours and demonstrates sustainable living principles, or sustainability-themed housing where residents and visitors learn about sustainability together)
- Sustainability-focused student employment opportunities offered by the institution
- Graduation pledges through which students pledge to consider social and environmental responsibility in future job and other decisions
- Other co-curricular sustainability programs and initiatives

Scoring:

Institutions earn 0.25 points for each category listed above for which it has one or more programs up to a maximum of 2 points available for this credit. Partial points are available based on the number of categories for which an institution has programs.

3.4.4. Outreach materials and publications:

Credit rationale and criteria:

This credit recognizes institutions that produce outreach materials and publications that enhance student learning about sustainability outside of the formal classroom.

Institution produces outreach materials and/or publications that foster sustainability learning and knowledge. The publications and outreach materials include at least one the following:

- A central sustainability website that consolidates information about the institution's sustainability efforts
- A sustainability newsletter
- Regular coverage of sustainability in the main student newspaper, either through a regular column or a reporter assigned to the sustainability beat
- Social media platforms (e.g. Facebook, Twitter, interactive blogs) that focus specifically on campus sustainability
- A vehicle to publish and disseminate student research on sustainability
- Building signage that highlights green building features
- Signage and/or brochures that include information about sustainable food systems
- Signage on the grounds about sustainable grounds-keeping and/or landscaping strategies employed
- A sustainability walking map or tour
- A guide for commuters about how to use more sustainable methods of transportation
- Navigation and educational tools for bicyclists and pedestrians (e.g. covering routes, inter-modal connections, policies, services, and safety)
- A guide for green living and/or incorporating sustainability into the residential experience
- Other sustainability outreach materials and publications

Scoring:

Institutions earn 0.25 points for each type of publication and/or outreach material described above, regardless of how many of each type are produced. Institutions with eight or more types of publications or outreach materials earn the maximum of 2 points available for this credit.

3.4.5. Outreach campaign:

Credit rationale and criteria:

This credit recognizes institutions that hold sustainability outreach campaigns that yield measurable, positive results in advancing the institution's sustainability performance (e.g. a reduction in energy or water consumption). Campaigns engage the campus community around sustainability issues and can help raise student and employee awareness about sustainability. In addition, campaigns encourage students and employees to adopt or try sustainable practices and lifestyles.

Part 1:

Institution holds at least one sustainability-related outreach campaign directed at students that yields measurable, positive results in advancing sustainability. The sustainability-related outreach campaign may be conducted by the institution, a student organization, or by students in a course.

Part 2:

Institution holds at least one sustainability-related outreach campaign directed at employees that yields measurable, positive results in advancing sustainability. The sustainability-related outreach campaign may be conducted by the institution or by an employee organization.

The campaign(s) reported for this credit could take the form of a competition (e.g. a residence hall conservation competition), a rating or certification program (e.g. a green dorm or green office rating program), and/or a collective challenge (e.g. a campus-wide drive to achieve a specific sustainability target). A single campus-wide campaign may meet the criteria for both parts of this credit if educating students is a prime feature of the campaign and it is directed at both students and employees.

To measure if a campaign yields measurable, positive results, institutions should compare pre-campaign performance to performance during or after the campaign. The following impacts are not sufficient for this credit

- Increased awareness
- Additional members of a mailing list or group

Scoring:

Part 1:

An institution earns the maximum of 2 points available for Part 1 of this credit for having one or more sustainability-related outreach campaigns that are directed at students and yield measurable, positive results in advancing sustainability. Partial points are not available for Part 1 of this credit.

Part 2:

An institution earns the maximum of 2 points available for Part 2 of this credit for having one or more sustainability-related outreach campaigns that are directed at employees and yield measurable, positive results in advancing sustainability. Partial points are not available for Part 2 of this credit.

3.4.6. Assessing sustainability culture:

Credit rationale and criteria:

This credit recognizes institutions that are assessing the sustainability culture of the campus community. Such assessments help institutions evaluate the success of their sustainability outreach and education initiatives and develop insight into how these initiatives could be improved.

Institution conducts an assessment of campus sustainability culture. The cultural assessment focuses on sustainability values, behaviors and beliefs, and may also address awareness of campus sustainability initiatives.

An assessment that covers a single sustainability topic (e.g. a transportation survey) does not count in the absence of a more comprehensive cultural assessment. Assessments of sustainability literacy (i.e. knowledge of sustainability topics and challenges) and student engagement in sustainability-related programs and activities are excluded. Literacy assessments are recognized in the Sustainability Literacy Assessment credit in Curriculum. Participation in the National Survey of Student Engagement (NSSE) Sustainability Education Consortium does not count.

An institution may use a single instrument that addresses sustainability literacy, culture, and/or engagement to meet the criteria for this credit if at least a third of the assessment focuses on sustainability values, behaviors and beliefs.

Calculations for this section:

Table 13:

Attributes of the sustainability culture assessment (points awarded)	Points earned
An assessment of sustainability culture (i.e. values, behaviors and beliefs) is: • **Administered to the entire campus community (students, staff and faculty), directly or by representative sample (0.25 points)** • **Administered to a subset of the campus community or a sample that may not be representative of the entire community. (0.5 points)**	
• **Administered longitudinally to measure change over time (i.e. with one or more follow-up assessments administered to the same cohort or representative samples of the same population).**	***2**
Points earned	**Upto 1**

3.4.7. Employee educators program:

Credit rationale and criteria:

This credit recognizes institutions that coordinate programs in which faculty and staff members educate and mobilize their peers around sustainability initiatives and programs. Engaging faculty and staff in peer educator roles can help disseminate sustainability messages more widely and encourage broader participation in sustainability initiatives.

Institution administers or oversees an ongoing staff/faculty peer-to-peer sustainability outreach and education program that meets the following criteria:

- Employee sustainability educators are formally designated and receive formal training or participate in an institution-sponsored orientation to prepare them to conduct peer outreach to other employees
- The institution supports the program with financial resources (e.g. by providing an annual budget) and/or administrative coordination by staff or faculty
- The peer educators represent diverse areas of campus; the outreach and education efforts of sustainability staff or a sustainability office do not count in the absence of a broader network of peer educators.

Calculation for this section:

Table 14:

Factor	Multiply	Number of employees served by a peer-to peer outreach program	Divide	Total number of Employees	Equals	Points earned
3	*****		**/**		**=**	**Upto 3**

3.4.8. Employee orientation:

Credit rationale and criteria:

This credit recognizes institutions that address sustainability issues during new employee orientation. Including sustainability in new employee orientation helps establish sustainability as an institutional priority and part of the campus culture. Providing information and tools about the institution's sustainability programs and options at the time when an employee is getting acquainted with his or her new employer and developing new work routines and habits can help encourage the adoption of environmentally and socially preferable habits, routines, and choices.

Institution covers sustainability topics in new employee orientation and/or in outreach and guidance materials distributed to new employees, including faculty and staff. The topics covered include multiple dimensions of sustainability (i.e. social, environmental and economic).

Calculation for this section:

Table 15:

Factor	Multiply	Percentage of new employees offered orientation and/or outreach and guidance materials that cover sustainability (0-100)	Equals	Points earned
0.01	*****		**=**	**Upto 1**

3.4.9. Staff professional development:

Credit rationale and criteria:

This credit recognizes institutions that ensure that staff members have the opportunity to participate in training and/or other professional development opportunities in sustainability. By offering and supporting training and professional development opportunities in sustainability to all staff members, an institution helps equip its staff to implement sustainable practices and systems and to model sustainable behavior for students and the rest of the campus community.

Part 1:

Institution makes available training and/or other professional development opportunities in sustainability to all staff at least once per year.

Part 2:

Institution's regular (full-time and part-time) staff participate in sustainability training and/or professional development opportunities that are either provided or supported by the institution.

For both Part 1 and Part 2 of this credit, the opportunities may be provided internally (e.g. by departments or by the sustainability office) or externally as long as they are specific to sustainability. The opportunities may include:

- Training to integrate sustainability knowledge and skills into the workplace.
- Lifelong learning and continuing education in sustainability
- Sustainability accreditation and credential maintenance (e.g. LEED AP/GA).

Scoring:

Part 1:

An institution earns 1 point by making available sustainability training and/or professional development opportunities to all staff members at least once a year. Partial points are not available for Part 1.

Part 2:

An institution earns the maximum of 1 point available for Part 2 of this credit when 75 percent or more of regular (full-time and part-time) staff participate annually in sustainability training or

professional development that is either provided or supported by the institution. Partial points are available based on the percentage of regular employees that participates, as follows:

Table 16:

Estimated percentage of regular staff that participates annually in sustainability training or professional development	Points earned
1-24%	.25
25-49%	.5
50-74%	.75
More than 74%	1

Public engagement:

3.4.10. Community partnerships:

Credit rationale and criteria:

This credit recognizes institutions that have developed campus-community partnerships to advance sustainability. As community members and leaders, colleges and universities can be powerful catalysts, allies and partners in envisioning, planning and acting to create a sustainable future in the region and beyond.

Institution has one or more formal community partnership(s) with school districts, government agencies, nonprofit organizations, NGOs, businesses and/or other external entities, to work together to advance sustainability.

This credit recognizes campus-community partnerships that the institution supports (materially or financially) and that address sustainability challenges in the broader community. This may be demonstrated by having an active community partnership that meets one or more of the following criteria:

- The partnership is multi-year or ongoing, rather than a short-term project or event
- The partnership simultaneously supports all three dimensions of sustainability, i.e. social equity and wellbeing, economic prosperity, and ecological health
- The partnership is inclusive and participatory, i.e. underrepresented groups and/or vulnerable populations are engaged as equal partners in strategic planning, decision-making, implementation and review

Scoring:

Institutions earn the maximum of 3 points available for this credit for having at least one formal community partnership that is "transformative", i.e. it meets all of the criteria outlined above. Partial points are available for institutions that have a partnership that meets at least one of the criteria, as follows:

Table 17:

Institution has at least one formal community partnership that is:	Points earned
Transformative – meets all three criteria	**3**
Collaborative – meets two of the criteria	**2**
Supportive – meets one of the criteria	**1**

3.4.11. Inter campus collaboration:

Credit rationale and criteria:

This credit recognizes institutions that collaborate with other colleges or universities to help build campus sustainability broadly. Institutions can make significant contributions to sustainability by sharing their experiences and expertise with other colleges and universities. Sharing best practices and lessons learned can help other institutions realize efficiencies that accelerate the movement to sustainability.

Institution collaborates with other colleges and universities in one or more of the following ways to support and help build the campus sustainability community. The institution:

- Is an active member of a national or international sustainability network
- Is an active member of a regional, state/provincial or local sustainability network
- Has presented at a sustainability conference during the previous year
- Has submitted a case study during the previous year to a sustainability resource center or awards program that is inclusive of multiple campuses
- Has had staff, students, or faculty serving on a board or committee of a sustainability network or conference during the previous three years
- Has an ongoing mentoring relationship with another institution through which it assists the institution with its sustainability reporting and/or the development of its sustainability program

- Has had staff, faculty, or students serving as peer reviewers of another institution's sustainability data (e.g. GHG emissions or course inventory) and/or STARS submission during the previous three years
- Has participated in other collaborative efforts around sustainability during the previous year, e.g. joint planning or resource sharing with other institutions

Scoring:

Institutions earn 0.5 points for each initiative listed above up to the maximum of 3 points available for this credit.

3.4.12. Continuing education:

Credit rationale and criteria:

This credit recognizes institutions that provide continuing education courses and programs in sustainability to the community. Such courses train community members in sustainability topics and help build knowledge about the subject. They can also provide the training people need to obtain and perform green jobs. Certificate programs offer professional recognition for sustainability training and are important tools in helping students obtain, perform, and advance their position in green jobs.

Part 1:

Institution offers continuing education courses that address sustainability.

Courses that address sustainability include continuing education sustainability course offerings (i.e. sustainability courses and courses that include sustainability). Courses that are typically taken for academic credit are not included in this credit; they are covered in the Curriculum subcategory.

Part 2:

Institution has at least one sustainability-themed certificate program through its continuing education or extension department.

Degree-granting programs (e.g. programs that confer Baccalaureate, Masters, and Associates degrees) and certificates that are part of academic degree programs are not included in this credit; they are covered in the Curriculum subcategory.

Scoring:

Part 1:

Institutions earn the maximum of 3 points for Part 1 of this credit when courses that address sustainability comprise 10 or more percent of all continuing education courses offered. Incremental points are awarded based on the percentage of continuing education course offerings that address sustainability. For example, an institution where 5 percent of all continuing education courses offered were sustainability courses would earn 1.5 points (half of the points available for Part 1).

Table 18:

Factor	Multiply	Number of continuing education courses that address sustainability	Divide	Total number of continuing education courses offered	Equals	Points earned
30	*****		**/**		**=**	**Upto 3**

Part 2:

Institutions earn 2 points in Part 2 of this credit for having at least one certificate program that meets the criteria outlined above. Partial points are not available for Part 2 of this credit.

3.4.13. Community service:

Credit rationale and criteria:

This credit recognizes institutions that engage their student bodies in community service, as measured by how widespread participation is at the institution. Volunteerism and the sense of compassion that community services help develop are fundamental to achieving sustainability. From tutoring children to removing invasive species to volunteering at a food bank, students can make tangible contributions that address sustainability challenges through community service. In addition, community engagement can help students develop leadership skills while deepening their understandings of practical, real-world problems.

Part 1:

Institution engages its student body in community service, as measured by the percentage of students who participate in community service.

Part 2:

Institution engages students in community service, as measured by the average hours contributed per student per year. Institutions may exclude non-credit, continuing education, part-time, and/or graduate students from this credit.

Scoring:

Part 1:

Table 19:

Factor	Multiply	Number of students engaged in community service	Divide	Total number of Students	Equals	Points earned
3	*****		**/**		**=**	**Upto 3**

Part 2:

Table 20:

Factor	Multiply	Number of student community service hours contributed	Divide	Total number of students	Equals	Points earned
0.1	*****		**/**		**=**	**Upto 2**

3.4.14. Participation in public policy:

Credit rationale and criteria;

This credit recognizes institutions that promote sustainability through public policy advocacy. There are myriad public policies for which institutions can advocate that address sustainability, including policies specific to higher education. Given the prominence and importance of colleges and universities in their communities, institutions can be powerful voices in advancing sustainability through legislation and policy.

Institution advocates for public policies that support campus sustainability or that otherwise advance sustainability. The advocacy may take place at one or more of the following levels:

- Municipal/ Local
- State/Provincial/Regional
- National
- International

Scoring:

Institutions earn 0.67 points for each level outlined above at which they advocate for public policies that support campus sustainability or that otherwise advance sustainability. A maximum of 2 points are available for this credit.

3.4.15. Trademark licensing:

Credit rationale and criteria:

This credit recognizes institutions that join a monitoring and verification organization to help ensure that apparel bearing the institution's name is produced under fair conditions. By ensuring that apparel bearing the institution's logo is made under fair working conditions, institutions promote health, safety, and secure livelihoods for domestic and global workers.

Institution is a member of the Fair Labor Association (FLA) and/or the Worker Rights Consortium (WRC). Please note that other initiatives to support fair labor standards in the supply chain are recognized in the Sustainable Procurement credit in Purchasing.

Scoring:

Institutions earn 2 points by being a member of the Fair Labor Association or the Worker Rights Consortium. Partial points are not available for this credit.

3.5. Operations:

3.5.1. Air and climate:

Credit rationale and criteria:

This credit recognizes institutions that have inventoried their greenhouse gas (GHG) emissions and that have reduced their adjusted net Scope 1 and Scope 2 GHG emissions.

Part 1:

Institution has conducted a publicly available greenhouse gas (GHG) emissions inventory that includes, at minimum, Scope 1 and Scope 2 GHG emissions and may also include Scope 3 GHG emissions. The inventory may also be verified by an independent, external third party and/or validated internally by campus personnel who are independent of the GHG accounting and reporting process.

Part 2:

Institution reduced its adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus user compared to a baseline.

Part 3:

Institution's annual adjusted net Scope 1 and Scope 2 GHG emissions are less than the minimum performance threshold of 0.02 metric tons of carbon dioxide equivalent (MtCO2e) per gross square foot (0.215 MtCO2e per gross square metre) of floor area. Performance for Part 3 of this credit is assessed using EUI-adjusted floor area, a figure that accounts for significant differences in energy use intensity (EUI) between types of building space.

Scoring:

Adjusted net Scope 1 and 2 GHG emissions = { [A + (B – C)] – (D + E+ F+ G - H) }

A = Gross Scope 1 GHG emissions (MtCO2e)

B = Gross Scope 2 GHG emissions (MtCO2e)

C= Emissions reductions from REC/GO purchases (MtCO2e)

D= Institution-catalyzed carbon offsets generated (MtCO2e)

E = Carbon sequestration (MtCO2e)

F = Carbon storage from on-site composting (MtCO2e)

G = Third-party verified carbon offsets purchased (MtCO2e)

H = Carbon offsets for which emissions reductions have been sold or transferred (MtCO2e)

Part 1:

Table 21:

Components of the GHG Inventory	Points available	Points earned
Scope 1 and Scope 2 GHG emissions	**1.0**	
Scope 3 GHG emissions from: • **Business travel** • **Commuting** • **Purchased goods and services** • **Capital goods** • **Fuel- and energy-related activities** • **Waste generated in operations** • **Other sources**	**.083 each**	**Upto .5**
Validation or verification (internal and/or third party)	**0.5**	
Total points earned		**Upto 2**

Part 2:

Points Earned = 4 × { [(A/B) - (C/D)] / (A/B) }

A = Adjusted net Scope 1 and 2 greenhouse gas emissions, baseline year (MtCO2e)

B = Weighted campus users, baseline year

C= Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year (MtCO2e)

D= Weighted campus users, performance year

Part 3:

Points Earned = 4 × { [A - (B/C)] / A}

A = Minimum performance threshold (MtCO2e per gross square foot/metre)

B = Adjusted net Scope 1 and 2 greenhouse gas emissions, performance year (MtCO2e)

C = EUI-adjusted floor area, performance year (square feet/metres)

3.5.2. Outdoor air quality:

Credit rationale and criteria:

This credit recognizes institutions that are working to protect ecosystems and human health by minimizing atmospheric pollution and protecting outdoor air quality. Conducting an inventory of air emissions is helpful in determining compliance with international conventions and national regulations, identifying significant emissions, and acting to minimize those emissions.

Part 1:

Institution has adopted policies or guidelines to improve outdoor air quality and minimize air pollutant emissions from mobile sources on campus. Policies and/or guidelines may include, but are not limited to, prohibiting vehicle idling, restrictions on the use of powered lawn care equipment, and similar strategies for minimizing on-site mobile emissions.

Policies adopted by entities of which the institution is part (e.g. government or university system) may count for Part 1 of this credit as long as the policies apply to and are followed by the institution.

Part 2:

Institution has completed an inventory of significant air emissions from stationary sources on campus or else verified that no such emissions are produced. Significant emissions include nitrogen oxides (NOx), sulfur oxides (SOx), and other standard categories of air emissions identified in environmental permits held by the institution, international conventions, and/or national laws or regulations.

Scoring:

Part 1:

Institutions earn the maximum of 0.5 points available for Part 1 of this credit for having policies or guidelines in place to improve outdoor air quality and minimize air pollutant emissions from mobile sources. Partial points are not available for Part 1 of this credit.

Part 2:

Institutions earn the maximum of 0.5 points available for Part 2 of this credit by having completed an inventory of significant air emissions from stationary campus sources or else verified that no such emissions are produced. Partial points are not available for Part 2 of this credit.

3.5.3. Building operation and maintenance:

Credit rationale and criteria:

This credit recognizes institutions that operate and maintain their buildings in ways that protect the health of building occupants and the environment. An institution's existing building stock is typically the largest source of campus energy consumption and greenhouse gas emissions. By adopting and following a sustainable operations and maintenance framework, institutions can conserve energy and water, minimize impacts on the surrounding site, reduce waste and water consumption, promote indoor environmental quality, and support markets for environmentally preferable materials while providing healthy and productive work, learning, and living spaces.

The criteria are, institution should own and maintain buildings that are:

- Certified under a green building rating system for existing buildings, e.g. LEED®: Building Operations +Maintenance (O+M)
- Operated and maintained in accordance with formally adopted sustainable operations and maintenance guidelines and policies that include one or more of the following:
    - Indoor air quality (IAQ) management program
    - Green cleaning program
    - Energy management or benchmarking program
    - Water management or benchmarking program

Scoring:

Table 22:

Operation and maintenance level	Factor	Multiply	Floor area of building space certified at each level	Divide	Total floor area of building space	Equals	Points earned
Certified LEED O+M Platinum or at the highest achievable level under another GBC rating system	**5**	*		/		=	
Certified LEED O+M Gold or at the 2nd highest level under another 4- or 5- tier GBC rating system	**4**	*		/		=	
Certified at mid-level under a 3- or 5- tier GBC rating system (e.g. BREEAMIn Use, CASBEE for Existing Buildings, DGNB, Green Star Performance)	**3.5**	*		/		=	
Certified LEED O+M Silver or at a step above minimum level under another 4 -or 5–tier GBC rating system	**3**	*		/		=	
LEED O+M Certified or certified at minimum level under another GBC rating system	**2.5**	*		/		=	
Certified at any level under a non- GBC rating system (e.g. BOMA BESt, Green Globes CIEB)	**2.5**	*		/		=	
Not certified, but managed	**.5-2**	*		/		=	

according to sustainable guidelines or policies							

3.5.5. Building design and construction:

Credit rationale and criteria:

This credit recognizes institutions that have incorporated environmental features into their design and construction projects. Decisions made during the design phase, such as where to locate the building and how it is oriented, can yield significant energy savings and reduce impacts on the site. By designing and building for enhanced indoor environmental quality (IEQ), institutions can ensure their buildings provide safe, healthy, and productive spaces for the campus community.

Institution-owned buildings that were constructed or underwent major renovations in the previous five years are:

- Certified under a green building rating system for new construction and major renovations, e.g. OP4_terms®: Building Design & Construction (BD+C)
- Certified Living under the Living Building Challenge
- Designed and built in accordance with formally adopted green building guidelines and policies that cover one or more of the following:
    - Impacts on the surrounding site (e.g. guidelines to reuse previously developed land, protect environmentally sensitive areas, and otherwise minimize site impacts)
    - Energy consumption (e.g. policies requiring a minimum level of energy efficiency for buildings and their systems)
    - Building-level energy metering
    - Use of environmentally preferable materials (e.g. guidelines to minimize the life cycle impacts associated with building materials)
    - Indoor environmental quality (i.e. guidelines to protect the health and comfort of building occupants)
    - Water consumption (e.g. requiring minimum standards of efficiency for indoor and outdoor water use)
    - Building-level water metering

Scoring:

Table 23:

Design and construction level	Factor	Multiply	Floor area of building space certified at each level	Divide	Total floor area of newly constructed and renovated building space	Equals	Points earned
Certified Living under the Living Building Challenge	**3.5**	*		/		=	
Certified LEED BD+C Platinum or at the highest achievable level under another GBC rating system	**3**	*		/		=	
Certified LEED BD+C Gold or at the 2nd highest level under another 4- or 5-tier GBC rating system	**2.5**	*		/		=	
Certified at mid-level under a 3- or 5-tier GBC rating system (e.g. BREEAM, CASBEE, DGNB, Green Star)	**2**	*		/		=	
Certified LEED BD+C Silver or at a step above minimum level under another 4- or 5-tier GBC rating system	**1.875**	*		/		=	
LEED BD+C Certified or certified at minimum level under another GBC	**1.5**	*		/		=	

rating system							
Certified at any level under a non-GBC rating system (e.g. Green Globes NC)	**1.5**	*****		**/**		**=**	
Not certified, but constructed according to green building guidelines or policies	**.18-1.25**	*****		**/**		**=**	
Total points							**Upto 3**

Table 24:

Institution's formally adopted green building design and construction guidelines and policies cover:	**Factor**	**Factor to be applied**
Impacts on the surrounding site	**.18**	
Energy consumption	**.18**	
Building-level energy metering	**.18**	
Usage of environmentally preferable materials	**.18**	
Indoor environmental quality	**.18**	
Water consumption	**.18**	
Building-level water metering	**.18**	
Total factor to be applied		**Upto 1.25**

3.5.6. Building energy consumption:

Credit rationale and criteria:

This credit recognizes institutions that have reduced their building energy usage.

Part 1:

Institution has reduced its total building energy consumption per gross square foot/metre of floor area compared to a baseline.

Part 2:

Institution's annual building energy consumption is less than the minimum performance threshold of 65 Btu per gross square foot per Fahrenheit degree day (389 Btu per gross square meter per Celsius degree day). Performance for Part 2 of this credit is assessed using EUI-adjusted floor area, a figure that accounts for significant differences in energy use intensity (EUI) between types of building space (see G. Standards and Terms).

Scoring:

Part 1:

Total building energy consumption (source energy) = [A – (B + D)] + (B × C) + (D × E)

A = Total building energy consumption, all sources (MMBtu)

B = Grid-purchased electricity (MMBtu)

C = Source-site ratio for grid-purchased electricity (see F. Measurement)

D = District steam/hot water (MMBtu)

E = Source-site ratio for district steam/hot water (see F. Measurement)

Points earned for Part 1 of this credit are calculated according to the formula below. STARS awards only positive points; points will not be deducted if building energy consumption per gross square foot/meter of floor area increased rather than decreased during the time period.

Points Earned = 6 × { [(A/B) - (C/D)] / (A/B) }

A = Total building energy consumption (source energy), baseline year (MMBtu)

B = Gross floor area of building space, baseline year (gross square feet/meters)

C = Total building energy consumption (source energy), performance year (MMBtu)

D = Gross floor area of building space, performance year (gross square feet/meters)

Part 2:

Points Earned = 3⅓ × { [(A) – (B/C)/D] / A }

A = Minimum performance threshold (in MMBtu per square foot/meter per degree day)

B = Total building energy consumption (site energy), performance year (MMBtu)

C = EUI-adjusted floor area, performance year (square feet/meters)

D = Total degree days, performance year (heating + cooling)

3.5.7. Clean and renewable energy:

Credit rationale and criteria:

This credit recognizes institutions that support the development and use of energy from clean and renewable sources.

Institution supports the development and use of clean and renewable energy sources, using any one or combination of the following options.

- Option 1: Generating electricity from clean and renewable energy sources on campus and retaining or retiring the rights to the environmental attributes of such electricity. (In other words, if the institution has sold Renewable Energy Credits for the clean and renewable energy it generated, it may not claim such energy here.) The on-site renewable energy generating devices may be owned and/or maintained by another party as long as the institution has contractual rights to the associated environmental attributes.
- Option 2: Using renewable sources for non-electric, on-site energy generation, such as biomass for heating.
- Option 3: Catalyzing the development of off-site clean and renewable energy sources (e.g. an off-campus wind farm that was designed and built to supply electricity to the institution) and retaining the environmental attributes of that energy.
- Option 4: Purchasing the environmental attributes of electricity in the form of Renewable Energy Certificates (RECs), Guarantees of Origin (GOs) or similar renewable energy products that are either Green-e Energy certified or meet Green-e Energy's technical requirements (or local equivalents) and are verified as such by a third party, or purchasing renewable electricity through the institution's electric utility through a certified green power purchasing option.

Scoring:

Table 25:

Clean and renewable energy option	Factor	Multiply	Energy generated or purchased that meets criteria (MMBtu)	Divide	Total energy consumption	Equals	Points earned
Option 1	**4**	*		/		=	
Option 2	**4**	*		/		=	
Option 3	**4**	*		/		=	
Option 4	**4**	*		/		=	
Total points earned							**Upto 4**

3.5.8. Food and beverage purchasing:

Credit rationale and criteria:

This credit recognizes institutions that are supporting sustainable food systems through their food and beverage purchases. Institutions can do this by prioritizing the purchase of environmentally and socially preferable food and beverage items. These actions reduce the social and environmental impacts of food production and help foster robust local economies and food security; improved conditions for farm workers; healthier animals, soils and waterways; and secure livelihoods for farmers.

Institution and/or its primary dining services contractor conducts an inventory to identify food and beverage purchases that have sustainability attributes. A product may be counted in one of three categories (specific criteria for each category are outlined in the table on the following page):

- Third Party Verified.
- Both Local and Community-Based.
- Other Sustainability Attributes.

Scoring:

Part 1:

Table 26:

Category	Factor	Multiply	Percentage of total dining services food and beverage expenditures on products in each category (0-100)	Equals	Points earned
Third Party Verified or Both Local and Community-Based	**.04**	*****		**=**	
Other sustainability attributes	**.02**	*****		**=**	
Total points earned					

Part 2:

Points Earned = 2 × { [(100 – A) – 70] / 30 }

A= Percentage of total dining services food and beverage expenditures comprised of conventional animal products (0-100)

3.5.9. Sustainable dining:

Credit rationale and criteria:

This credit recognizes institutions that are supporting sustainable food systems and minimizing the impacts of their dining service operations.

Part 1:

Institution's dining services support sustainable food systems in one or more of the following ways. The institution or its primary dining services contractor:

- Has a formally adopted sustainable dining policy;
- Sources food from a campus garden or farm;
- Hosts a farmers market, community supported agriculture (CSA) or fishery program, and/or urban agriculture project, or supports such a program in the local community;
- Has a vegan dining program that makes diverse, complete-protein vegan options available to every member of the campus community at every meal;

- Hosts low impact dining events (e.g. Meatless Mondays);
- Hosts sustainability-themed meals (e.g. local harvest dinners);
- Hosts a sustainability-themed food outlet on-site, either independently or in partnership with a contractor or retailer;
- Informs customers about low impact food choices and sustainability practices through labeling and signage in dining halls;
- Engages in outreach efforts to support learning and research about sustainable food systems;
- Other sustainability-related initiatives (e.g. health and wellness initiatives, making culturally diverse options available)

Part 2:

Institution's dining services minimize food and dining waste in one or more of the following ways. The institution or its primary dining services contractor:

- Participates in a competition or commitment program (e.g. U.S. EPA Food Recovery Challenge) and/or uses a food waste prevention system (e.g. Lean Path) to track and improve its food management practices;
- Has implemented trayless dining (in which trays are removed from or not available in dining halls) and/or modified menus/portions to reduce post-consumer food waste;
- Donates food to feed people;
- Diverts food materials from the landfill, incinerator or sewer for animal feed or industrial uses (e.g.converting cooking oil to fuel, on-site anaerobic digestion);
- Has a pre-consumer composting program;
- Has a post-consumer composting program;
- Utilizes reusable service ware for "dine in" meals;
- Provides reusable and/or third party certified compostable containers and service ware for "to-go" meals (in conjunction with an on-site composting program);
- Offers discounts or other incentives to customers who use reusable containers (e.g. mugs) instead of disposable or compostable containers in "to-go" food service operations

- Other materials management initiatives to minimize waste (e.g. working with vendors and other entities to reduce waste from food packaging).

This credit includes on-campus dining operations and catering services operated by the institution and the institution's primary dining services contractor.

Scoring:

Part 1:

An institution earns 0.125 points for each initiative outlined above up to the maximum of 1 point available for Part 1.

Part 2:

An institution earns 0.125 points for each initiative outlined above up to the maximum of 1 point available for Part 2.

3.5.10. Landscape management:

Credit rationale and criteria:

This credit recognizes institutions that manage their grounds sustainably. Sustainable landscape management integrates economic, social, and ecological considerations to meet human needs and maintain healthy ecosystems.

Institution's grounds include areas that are managed in accordance with:

- An Integrated Pest Management (IPM) program and/or a sustainable landscape management program that includes IPM;
- An organic land care standard or sustainable landscape management program that has eliminated the use of inorganic fertilizers and chemical pesticides, fungicides and herbicides in favor of ecologically preferable materials.

Scoring:

Table 27:

Management level	Factor	Multiply	Area managed at each level	Divide	Total area of managed grounds	Equals	Points earned
Conventional program	**0**	*		/		=	
IPM program	**1**	*		/		=	
Organic program	**2**	*		/		=	
Total points earned							**Upto 2**

3.5.11. Biodiversity:

Credit rationale and criteria:

This credit recognizes institutions that have a biodiversity management strategy designed to identify vulnerable ecosystems and species on campus and prevent, manage, and/or remediate damage to natural habitats and sensitive areas. Identifying and protecting the integrity of natural ecosystems can enhance the surrounding environment and improve the quality of campus and community life.

Institution conducts one or both of the following:

- An assessment to identify endangered and vulnerable species (including migratory species) with habitats on institution-owned or -managed land;
- An assessment to identify environmentally sensitive areas on institution-owned or -managed land

Scoring:

This credit is weighted more heavily for institutions that own or manage land that includes or is adjacent to any of the following:

- Legally protected areas (e.g. IUCN Category I-VI)
- Internationally recognized areas (e.g. World Heritage, Ramsar, Natura 2000)

- Priority sites for biodiversity (e.g. Key Biodiversity Areas, Alliance for Zero Extinction sites)
- Regions of conservation importance (e.g. Endemic Bird Areas, Biodiversity Hotspots, High Biodiversity Wilderness Areas)

2 points are available for this credit if the institution owns or manages land that includes or is adjacent to any of the above. 1 point is available for this credit for all other institutions. Please note that users do not have to calculate the number of points available themselves; points available will be calculated automatically when the relevant information is reported in the Institutional Characteristics section of the online Reporting Tool.

An institution earns the available points for conducting an assessment or assessments to identify endangered and vulnerable species and/or environmentally sensitive areas and for having plans or programs in place to protect or positively affect any species, habitats and/or environmentally sensitive areas identified. Partial points are not available for this credit.

3.5.12. Sustainable procurement:

Credit rationale and criteria:

This credit recognizes institutions that apply sustainability criteria when making procurement decisions. Each purchasing decision an institution makes represents an opportunity to choose environmentally and socially preferable products and services, to support companies with strong commitments to sustainability, and to support just and resilient local economies.

Part 1:

Institution has written policies, guidelines or directives that seek to support sustainable purchasing across commodity categories institution-wide, for example:

- A stated preference for post-consumer recycled or bio-based content or to otherwise minimize the negative environmental impacts of products and services.
- A stated intent to support disadvantaged businesses, social enterprises and/or local community-based businesses or otherwise support positive social and economic impacts and minimize negative impacts.

- A vendor code of conduct or equivalent policy that sets expectations about the social and environmental responsibility of the institution's business partners (i.e. product and service providers).

Part 2:

Institution employs Life Cycle Cost Analysis (LCCA) as a matter of policy and practice when evaluating energy and water-using products, systems and building components (e.g. HVAC systems). Practices may include structuring RFPs so that vendors compete on the basis of lowest total cost of ownership (TCO) in addition to (or instead of) purchase price.

Part 3:

Table 28:

Category	Examples
1. Chemically intensive products and services (e.g. building and facilities maintenance, cleaning and sanitizing, landscaping and grounds maintenance)	• **Published measures to minimize the use of chemicals.** • **A stated preference for green cleaning services and third party certified products.**
2. Construction and renovation (e.g. furnishings and building materials	• **A stated preference for materials that meet LEED requirements**
3. Information technology (IT) (e.g. computers, imaging equipment, mobile phones, data centers and cloud services)	• **Published measures to reduce the demand for equipment.** • **A stated preference for ENERGY STAR or EPEAT registered products.**
4. Food services (i.e. franchises, vending services, concessions, convenience stores)	• **Including sustainability objectives in contracts with on-site franchises.** • **Requiring that franchises pay a living wage to employees.**
5. Garments and linens	• **Published labor and human rights standards that suppliers must meet.**
6. Professional services (e.g. architectural, engineering, public relations, financial)	• **A stated preference for disadvantaged or community-based service providers.** • **A stated preference for B Corporations**
7. Transportation and fuels (e.g. travel, vehicles, delivery services, long haul transport, generator fuels, steam plants)	• **Published measures to minimize the size of the campus fleet or otherwise reduce the impacts of travel or transport.** • **A stated preference for clean and renewable**

	technologies.
8. Wood and paper	• **A stated preference for post-consumer recycled, agricultural residue or third party certified content.** • **A stated preference for FSC certified printing services.**
9. Other commodity categories that the institution has determined to have significant sustainability impacts	• **Strategies designed to address the impacts, e.g. a stated preference for multi-criteria sustainability standards.**

Scoring:

Part 1:

An institution earns 0.5 points for Part 1 of this credit for having written policies, guidelines or directives that that seek to support sustainable purchasing across commodity categories, institution-wide. Partial points are not available for Part 1.

Part 2:

An institution earns 1 point for Part 2 of this credit for employing Life Cycle Cost Analysis (LCCA) as a matter of policy and standard practice when evaluating all energy- and water-using products and systems. Partial points are available for institutions that employ LCCA less comprehensively. For example, an institution that employs LCCA for certain types of systems or projects and not others would earn 0.5 points (half of the points available for Part 2).

Part 3:

Institution earns 0.25 for each category of products and services for which it has published sustainability criteria. A maximum of 1.5 points are available for Part 1.

3.5.13. Electronics purchasing:

Credit rationale and criteria:

This credit recognizes institutions that are supporting markets for environmentally preferable computers and other electronic products.

Institution purchases EPEAT registered products for desktop and notebook/laptop computers, displays, thin clients, tablets/slates, televisions and imaging equipment (copiers, digital duplicators, facsimile machines, mailing machines, multifunction devices, printers and scanners). This credit does not include servers, smartphones, or specialized equipment for which no EPEAT certified products are available.

Scoring:

Table 29:

EPEAT registration level	Factor	Multiply	Expenditures on EPEAT registered electronics	Divide	Total expenditures on electronics	Equals	Points earned
Bronze	**.33**	*		/		=	
Silver	**.67**	*		/		=	
Gold	**1.00**	*		/		=	
Total points							**Upto 1**

3.5.14. Cleaning and janitorial purchasing:

Credit rationale and criteria:

This credit recognizes institutions that purchase green cleaning and janitorial products. By switching to nontoxic cleaning products, institutions reduce exposure impacts for all building occupants and the environment, thereby promoting clean and healthy work, living, and learning spaces.

Institution's main cleaning or housekeeping department(s) and/or contractor(s) purchase cleaning and janitorial paper products that meet one or more of the mentioned criteria:

- Forest Stewardship Council (FSC) certified
- Green Seal certified
- UL ECOLOGO certified
- U.S. EPA Safer Choice labeled (formerly Design for the Environment)
- Local equivalents for institutions outside the U.S. and Canada

Scoring:

Table 30:

Factor	Multiply	Expenditures on certified green cleaning and janitorial paper products	Divide	Total expenditures on cleaning and janitorial paper products	Equals	Total points earned
1	*****		**/**		**=**	**Upto 1**

3.5.15. Office paper purchasing:

Credit rationale and criteria:

This credit recognizes institutions that purchase recycled-content and third party certified office paper. By supporting markets for environmentally preferable paper, institutions contribute to conservation of water, energy, and virgin forest.

Institution purchases office paper with post-consumer recycled, agricultural residue, and/or Forest Stewardship Council (FSC) certified content.

Scoring:

Table 31:

Percentage of postconsumer recycled, agricultural residue, and/or FSC certified content	Factor	Multiply	Expenditures on specified level of postconsumer recycled, agricultural residue, and/or FSC certified content office paper	Divide	Total expenditures on office paper	Equals	Points earned
10-29	.2	*				=	
30-49	.4	*		/		=	
50-69	.6	*		/		=	
70-89	.8	*		/		=	
90-100	1.00	*		/		=	
Total points							Upto 1

3.5.16. Campus fleet:

Credit rationale and criteria:

This credit recognizes institutions that use cleaner fuels and fuel-efficient vehicles. Institutions can help shape markets by creating demand for and enhancing the visibility of more efficient vehicles and cleaner fuels that reduce greenhouse gas emissions and improve local air quality. While other credits address the climate impacts of fuel usage and the replacement of motorized vehicles with non-motorized vehicles, this credit recognizes the purchase and use of fuel efficient and alternative fueled vehicles.

Institution supports alternative fuel and power technology by including in its motorized vehicle fleet vehicles that are:

A. Gasoline-electric hybrid

B. Diesel-electric hybrid

C. Plug-in hybrid

D. 100 percent electric (including electric assist utility bicycles and tricycles)

E. Fueled with Compressed Natural Gas (CNG)

F. Hydrogen fueled

G. Fueled with B20 or higher biofuel for more than 4 months of the year

H. Fueled with locally produced, low-level (e.g. B5) biofuel for more than 4 months of the year (e.g. fuel contains cooking oil recovered and recycled on campus or in the local community)

Scoring:

Table 32:

Factor	Multiply	Number of vehicles that meet a criterion (A-H) for power or fuel type	Divide	Total number of vehicles in fleet	Equals	Points earned
1	*****		**/**		**=**	**Upto 1**

3.5.17. Student commute modal split:

Credit rationale and criteria:

This credit recognizes institutions where students use preferable modes of transportation to travel to and from the institution. Commute modal split is a common measure used to evaluate the sustainability performance of a transportation system.

Institution's students commute to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, or a combination of these options.

Students who live on campus should be included in the calculation based on how they get to and from their classes.

Scoring:

Table 33:

Factor	Multiply	Total percentage of students using more sustainable commuting options (0-100	Equals	Total points earned
0.02	*****		**=**	**Upto 2**

3.5.18. Employee commute modal split:

Credit rationale and criteria:

This credit recognizes institutions where employees use preferable modes of transportation to travel to and from the institution. Commute modal split is a common measure used to evaluate the sustainability performance of a transportation system.

Institution's employees (faculty, staff, and administrators) get to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, telecommuting, or a combination of these options.

Employees who live on campus should be included in the calculation based on how they get to and from their workplace.

Scoring:

Table 34:

Factor	Multiply	Total percentage of the institution's employees using more sustainable commuting options (0-100)	Equals	Points earned
0.02	*****		**=**	**Upto 2**

3.5.19. Support for sustainable transportation:

Credit rationale and criteria:

This credit recognizes institutions that support active transportation and commuting alternatives for its students and employees.

Institution has implemented one or more of the following strategies to encourage more sustainable modes of transportation and reduce the impact of student and employee commuting. The institution:

- Provides secure bicycle storage (not including office space), shower facilities, and lockers for bicycle commuters. The storage, shower facilities and lockers are co-located in at least one building/location that is accessible to all commuters.

- Provides short-term bicycle parking (e.g. racks) for all occupied buildings and makes long-term bicycle storage available for students who live on-site (if applicable). Long-term bicycle storage may include bicycle depots/hubs/stations, indoor bicycle rooms, and/or bicycle cages/secure bicycle parking areas. Standard public bicycle racks are not sufficient for long-term storage.
- Has a bicycle and pedestrian plan or policy (or adheres to a local community plan/policy) that sets standards and practices for campus streets to enable safe access for all users (e.g. a "complete streets" or bicycle accommodation policy)
- Has a bicycle-sharing program or participates in a local bicycle-sharing program.
- Offers free or reduced price transit passes and/or operates a free campus shuttle for commuters. The transit passes may be offered by the institution itself, through the larger university system of which the institution is a part, or through a regional program provided by a government agency.
- Offers a guaranteed return trip (GRT) program to regular users of alternative modes of transportation
- Participates in a car/vanpool or ride sharing program and/or offers reduced parking fees or preferential parking for car/vanpoolers
- Participates in a car sharing program, such as a commercial car-sharing program, one administered by the institution, or one administered by a regional organization
- Has one or more Level 2 or Level 3 electric vehicle recharging stations that are accessible to student and employee commuters
- Offers a telecommuting program for employees, either as a matter of policy or as standard practice
- Offers a condensed work week option for employees, either as a matter of policy or as standard practice
- Has incentives or programs to encourage employees to live close to campus
- Other strategies to reduce the impact of commuting (e.g. preferred parking for fuel-efficient vehicles, cash out of parking programs)

Scoring:

Institutions earn 0.2 points for each initiative described above. Institutions with ten or more of the initiatives listed earn the maximum of 2 points available for this credit.

3.5.20. Waste minimization and diversion:

Credit rationale and criteria:

This credit recognizes institutions that are minimizing their production of waste, diverting materials from landfills and incinerators, and conserving resources by recycling and composting.

Part 1:

Institution has implemented source reduction strategies to reduce the total amount of waste generated (materials diverted + materials disposed) per weighted campus user compared to a baseline.

Part 2:

Institution's total annual waste generation (materials diverted and disposed) is less than the minimum performance threshold of 0.50 tons (0.45 tonnes) per weighted campus user.

Part 3:

Institution diverts materials from the landfill or incinerator by recycling, composting, donating or re-selling. For scoring purposes, up to 10 percent of total waste generated may also be disposed through post-recycling residual conversion. To count, residual conversion must include an integrated materials recovery facility (MRF) or equivalent sorting system to recover recyclables and compostable material prior to conversion.

Scoring:

Part 1:

Points earned = $5 \times \{ [(A/B) - (C/D)] / (A/B) \}$

A = Total waste generated (diverted + disposed), baseline year (short tons/tonnes)

B = Weighted campus users, baseline year

C = Total waste generated (diverted + disposed), performance year (short tons/tonnes)

D = Weighted campus users, performance year

Part 2:

Points earned = 2.78 × { [C - (A/B)] / C }

A = Total waste generated (diverted + disposed), performance year (short tons/tonnes)

B = Weighted campus users, performance year

C= Minimum performance threshold (0.50 short tons or 0.46 tonnes)

Part 3:

Points earned = 3 × { [(A + B + C) + (F if D ≥ F, else D)] / (A + B + C + D + E)] }

A = Materials recycled, performance year (short tons/tonnes)

B = Materials composted, performance year (short tons/tonnes)

C = Materials donated or re-sold, performance year (short tons/tonnes)

D = Materials disposed through post-recycling residual conversion, performance year (short tons/tonnes)

E = Materials disposed in a solid waste landfill or incinerator, performance year (short tons/tonnes)

F = Maximum allowable residual conversion [0.1 × (A + B + C + D + E)]

3.5.21. Construction and Demolition Waste Diversion:

Credit rationale and criteria:

This credit recognizes institutions that have diverted construction and demolition (C&D) wastes. Construction and demolition is a significant source of waste that falls outside of an institution's standard waste stream and may be handled by a separate contractor or waste hauler.

Institution diverts non-hazardous construction and demolition waste from the landfill and/or incinerator. Soil and organic debris from excavating or clearing the site do not count for this credit.

Scoring:

Table 35:

C&D waste recycled, donated or otherwise recovered	Add	C&D waste landfilled or incinerated	Equals	Total amount of C&D waste generated (recovered + disposed)
	+		=	

Table 36:

Factor	Multiply	C&D waste recycled, donated or otherwise recovered	Divide	Total amount of C&D waste generated (recovered + disposed)	Equals	Points earned
1	*****		/		**=**	**Upto 1**

3.5.22. Hazardous waste management:

Credit rationale and criteria:

This credit recognizes institutions that seek to minimize and safely dispose of all hazardous, universal, and non-regulated chemical waste and that have electronic waste ("e-waste") recycling and/or reuse programs. Hazardous waste typically contains toxic components such as lead and mercury that can contaminate soil and groundwater and have detrimental human health impacts if handled improperly.

Part 1:

Institution has strategies in place to safely dispose of all hazardous, special (e.g. coal ash), universal, and non-regulated chemical waste and seeks to minimize the presence of these materials on campus.

Part 2:

Institution has a program in place to recycle, reuse, and/or refurbish electronic waste generated by the institution and/or its students.

Scoring:

Part 1:

Institutions earn 0.5 points for meeting the criteria outlined above. Partial points are not available for Part 1.

Part 2:

Institutions earn the maximum of 0.5 points available for Part 2 for having or participating in a program to responsibly recycle, reuse, and/or refurbish electronic waste generated by both the institution and its students. Partial points are available.

3.5.23. Water use:

Credit rationale and criteria:

This credit recognizes institutions that have reduced water use. By reducing campus water withdrawals, institutions can reduce pressures on local aquifers, streams, rivers, lakes, and aquatic wildlife.

Part 1:

Institution has reduced its potable water use per weighted campus user compared to a baseline.

Part 2:

Institution has reduced its potable water use per gross square foot/metre of floor area compared to a baseline.

Part 3:

Institution has reduced its total water use (potable + non-potable) per acre/hectare of vegetated grounds compared to a baseline.

Scoring:

Table 37:

Physical risk QUANTITY	Points available for each part	Total point for this credit
Low and Low to Medium Risk	$1^{2/3}$	4
Medium to High Risk	$1^{2/3}$	5
High and Extremely High Risk	2	6

Part 1:

Points earned = [E / 0.3] × { [(A/B) - (C/D)] / (A/B) }

A = Potable water use, baseline year (US gallons/cubic metres)

B = Weighted campus users, baseline year

C= Potable water use, performance year (US gallons/cubic metres)

D= Weighted campus users, performance year

E = Points available for Part 1

Part 2:

Points earned = [E / 0.3] × { [(A/B) - (C/D)] / (A/B) }

A = Potable water use, baseline year (US gallons/cubic metres)

B = Gross floor area of building space, baseline year (gross square feet/metres)

C= Potable water use, performance year (US gallons/cubic metres)

D= Gross floor area of building space, performance year (gross square feet/metres)

E = Points available for Part 2

Part 3:

Points earned = [E / 0.3] × { [(A/B) - (C/D)] / (A/B) }

A = Total water use, baseline year (US gallons/cubic metres)

B = Area of vegetated grounds, baseline year (acres/hectares)

C= Total water use, performance year (US gallons/cubic metres)

D= Area of vegetated grounds, performance year (acres/hectares)

E = Points available for Part 3

3.5.24. Rainwater management:

Credit rationale:

This credit recognizes institutions that implement policies and programs to reduce stormwater runoff and resultant water pollution, and treat rainwater as a resource rather than as a waste product.

Institution uses green infrastructure and low impact development (LID) practices to help mitigate storm-water run-off impacts and treat rainwater as a resource rather than as a waste product.

Policies adopted by entities of which the institution is part (e.g. state government or the university system) may count for this credit as long as the policies apply to and are followed by the institution.

Scoring:

Table 38:

Which of the following best describes the institution's approach to rainwater management?	Points earned
Institution has comprehensive policies, plans or guidelines that cover the entire campus and mandate the use of green infrastructure and LID practices for all new construction, major renovation, and development projects.	1
Institution has policies, plans or guidelines that are less comprehensive (e.g. do not cover the entire campus, cover buildings and not other types of projects, or require consideration of rather than mandate green infrastructure and LID practices).	.5
Uses green infrastructure and LID practices on a case-by-case basis or for demonstration projects.	.25

3.6. Planning and administration:

3.6.1. Sustainability coordination:

Credit rationale and criteria:

This credit recognizes institutions with active committees, offices, or officers charged by the administration or board of trustees to coordinate sustainability work on campus.

Institution has at least one sustainability committee, office, and/or officer tasked by the administration or governing body to advise on and implement policies and programs related to sustainability on campus. The committee, office, and/or officer focuses on sustainability broadly (i.e. not just one sustainability issue, such as climate change) and covers the entire institution.

An institution that has multiple committees, offices and/or staff with responsibility for subsets of the institution (e.g. schools or departments) may earn points for this credit if it has a mechanism for broad sustainability coordination for the entire campus (e.g. a coordinating committee or the equivalent). A committee, office, and/or officer that focuses on just one department or school within the institution does not count in the absence of institution-wide coordination.

Scoring:

Institutions earn 1 point for having at least one committee, office, and/or officer that meets the criteria outlined above. Partial points are not available for this credit.

3.6.2. Sustainability planning:

Credit rationale and criteria:

This credit recognizes institutions that have developed comprehensive plans to move toward sustainability. Sustainability planning affords an institution the opportunity to clarify its vision of a sustainable future and provides a road map to help guide decision-making. Establishing measurable goals and objectives allows an institution to track its future progress, identify and document its successes, and manage the levels of resources devoted to the attainment of its sustainability goals.

Institution has formally adopted plans that include measurable sustainability objectives addressing one or more of the following areas:

- Curriculum
- Research
- Campus Engagement
- Public Engagement
- Air & Climate
- Buildings
- Energy
- Food & Dining
- Grounds
- Purchasing
- Transportation
- Waste
- Water
- Diversity & Affordability

- Investment
- Wellbeing & Work
- Other (e.g. Arts & Culture)

Scoring:

Institutions earn 0.25 points for each of the areas listed for which they have formally adopted plans that include at least one measurable sustainability objective. A maximum of 4 points is available for this credit.

3.6.3. Participatory governance:

Credit rationale and criteria:

This credit recognizes institutions that engage students, staff, faculty and local community members in the ongoing governance of the college or university. Governance includes a variety of organizational functions and decision-making processes, from financial oversight and personnel management to goal-setting and strategic planning.

Part 1:

Institution has adopted a framework for engaging internal stakeholders (i.e. students, staff, faculty) in governance. The framework includes:

- Representative bodies through which students, staff and/or faculty can each participate in governance (e.g. student council, staff council, faculty senate);
- Elected student, staff and/or faculty representatives on the institution's governing body.

Part 2:

Institution has adopted a framework for engaging external stakeholders (i.e. local community members) in the institution's governance, strategy and operations. The framework includes:

- Formally adopted policies and procedures to identify and engage local residents in land use planning, capital investment projects, and other institutional decisions that affect the broader community (e.g. development projects that impact adjacent neighborhoods);

- Formal participatory or shared governance bodies (e.g. seats on the institution's governing body and/or a formally recognized board, council or committee) through which community members representing the interests of the following stakeholder groups can regularly participate in institutional governance:
    - Local government and/or educational organizations;
    - Private sector organizations; and/or
    - Civil society (e.g. non-governmental organizations and non-profit organizations).

Scoring:

Part 1:

Table 39:

For each stakeholder group (students, staff and faculty):	Points available	Points earned
There is a representative body through which the stakeholder group can participate in governance.	**.25**	
There is an elected representative of the stakeholder group on the institution's governing body.	**.25**	
Total points earned per group		**Upto .5**

Part 2:

Table 40:

Institution has:	Points available	Points earned
Formally adopted policies and procedures to identify and engage local residents in land use planning, capital investment projects, and other institutional decisions that affect the community.	**.75**	
Formal participatory or shared governance bodies through which community members representing the interests of local government and/or educational organizations can regularly participate in institutional governance.	**.25**	
Formal participatory or shared governance bodies through which community members representing the interests of private sector organizations can regularly participate in institutional governance.	**.25**	

Formal participatory or shared governance bodies through which community members representing the interests of civil society (e.g. nongovernmental organizations and non-profit organizations) can regularly participate in institutional governance.	**.25**	
Total points earned		**Upto 1.5**

3.6.4. Diversity and Equity Coordination:

Credit rationale and criteria:

This credit recognizes institutions with active committees, offices, or officers charged by the administration or governing body to coordinate diversity, equity, inclusion and human rights work on campus.

Part 1:

Institution has a diversity and equity committee, office and/or officer (or the equivalent) tasked by the administration or governing body to advise on and implement policies, programs, and trainings related to diversity, equity, inclusion and human rights on campus. The committee, office and/or officer may focus on students and/or employees.

Part 2:

Institution' makes cultural competence and diversity trainings and activities available to students, staff, and/or faculty.

Scoring:

Part 1:

Institutions earn 1 point for having a committee, office or officer that meets the criteria outlined above and focuses on both students and employees diversity. Partial points are available if the committee, office and/or officer focuses on students or employees, but not both. For example, an institution with a diversity and equity office that focuses solely on student diversity would earn 0.5 points (half of the points available for Part 1 of this credit).

Part 2:

Table 41:

Groups	Estimated proportion of each group that participated in cultural competence and diversity trainings and activities during the previous three years (points available)	Points earned
Student	**All (0.33)** **Most (0.22)** **Some (0.11)**	
Staff	**All (0.33)** **Most (0.22)** **Some (0.11)**	
Faculty	**All (0.33)** **Most (0.22)** **Some (0.11)**	
Total points		**Upto 1**

3.6.5. Assessing Diversity and Equity:

Credit rationale and criteria:

This credit recognizes institutions that systemically assess diversity and equity on campus. Fostering an inclusive and welcoming campus culture is important to ensuring the academic and social success of all campus community members.

Institution has engaged in a structured assessment process during the previous three years to improve diversity, equity, and inclusion on campus. The assessment addresses:

- Campus climate by engaging stakeholders to assess the attitudes, perceptions and experiences of underrepresented groups;
- Student outcomes related to diversity, equity and success; and/or
- Employee outcomes related to diversity and equity.

Scoring:

Table 42:

Assessment attribute	Points earned
Addresses campus climate by engaging stakeholders to assess the attitudes, perceptions and experiences of underrepresented groups	**.25**
Addresses student outcomes related to diversity, equity and success	**.25**
Addresses employee outcomes related to diversity and equity	**.125**
Results are shared with the campus community	**.125**
Results (or a summary of the results) are publicly posted	**.125**
Total points	

3.6.6. Support for Underrepresented Groups:

Credit rationale and criteria:

This credit recognizes institutions that have programs in place to support underrepresented groups and foster a more diverse and inclusive campus community.

Institution has one or more of the following policies, programs or initiatives to support underrepresented groups and foster a more diverse and inclusive campus community:

- A publicly posted non-discrimination statement.
- A discrimination response protocol or committee (sometimes called a bias response team) to respond to and support those who have experienced or witnessed a bias incident, act of discrimination or hate crime.
- Programs specifically designed to recruit students, staff and/or faculty from underrepresented groups.
- Mentoring, counseling, peer support, academic support, or other programs to support students, staff and/or faculty from underrepresented groups.
- Programs that specifically aim to support and prepare students from underrepresented groups for careers as faculty members

Scoring:

Table 43:

Criteria	Points available	Points earned
A publicly posted non-discrimination statement	**.25**	
A discrimination response protocol or committee.	**.75**	
Programs specifically designed to recruit students, staff and/or faculty from underrepresented groups.	**Students: 0.083 points** **Staff: 0.083 points** **Faculty: 0.083 points**	
Mentoring, counseling, peer support, academic support, or other programs to support students, staff and/or faculty from underrepresented groups.	**Students: 0.25 points** **Staff: 0.25 points** **Faculty: 0.25 points**	
Programs that specifically aim to support and prepare students from underrepresented groups for careers as faculty members	**1**	
Total points		

3.6.7. Affordability and Access:

Credit rationale and criteria:

This credit recognizes institutions that are implementing strategies to improve their accessibility and affordability. Achieving a college degree is a valuable tool in addressing inequity, but in order for higher education to help society move toward greater equity, schools must be accessible to low-income populations and non-traditional students.

Part 1:

Institution has policies and programs in place to make it accessible and affordable to low-income students and/or to support non-traditional students. Such policies and programs may include, but are not limited to, the following:

- Policies and programs to minimize the cost of attendance for low-income students
- Programs to equip the institution's faculty and staff to better serve students from low-income backgrounds
- Programs to guide and prepare students and families from low-income backgrounds for higher education (e.g. U.S. federal TRIO programs)
- Scholarships provided specifically for low-income students

- Targeted outreach to recruit students from low-income backgrounds
- Scholarships provided specifically for part-time students
- An on-site child care facility, a partnership with a local facility, and/or subsidies or financial support to help meet the child care needs of students

Part 2:

Institution documents its accessibility and affordability to low-income students as demonstrated by one or more of the following indicators:

- The percentage of entering students that are low-income or eligible for need-based aid (e.g. the percentage of students receiving Pell Grants as reported in the U.S. IPEDS Student Financial Aid component or the percentage of students receiving Canada Student Grants for Students from Low- Income Families)
- The graduation/success rate for low-income students or students receiving need-based aid
- On average, the percentage of need met for students who were awarded any need-based aid (e.g. as reported to the U.S. Common Data Set initiative, item H2)
- The percentage of students graduating without interest-bearing student loan debt or for whom no out of- pocket tuition is required (i.e. the percentage of graduates who have not taken out interest-bearing loans)

Scoring:

Part 1: An institution earns the maximum of 1 point available for Part 1 of this credit by having policies and programs in place to make it accessible and affordable to low-income students and to support non-traditional students.

Partial points are available. For example, an institution that has policies and programs in place to support nontraditional students but not low-income students, would earn 0.5 points (half of the points available for Part 1).

Part 2:

Table 44:

Accessibility/affordability indicator	Percentage (0-100)	Multiply	Factor	Equals	Points earned
The percentage of entering students that are low income or eligible for need-based aid		*	.01	=	
The graduation/success rate for low-income students or students receiving need-based aid		*	.01	=	
On average, the percentage of need met for students who were awarded any need-based aid		*	.01	=	
The percentage of students graduating with no interest-bearing student loan debt or for whom no out-of-pocket tuition is required		*	.01	=	
Total points					Upto 3

3.6.8. Committee on Investor Responsibility:

Credit rationale and criteria:

This credit recognizes institutions with an established and active committee on investor responsibility (CIR) with multi-stakeholder representation. Establishing a CIR provides a structure for fostering dialogue on investment decisions, and can help campuses make responsible investment decisions that promote sustainability. Drawing CIR membership from multiple sectors of the campus community provides educational experiences for involved students, faculty, alumni, and staff. In addition, a multi-stakeholder CIR is consistent with the sustainability principle of shared governance.

Institution has a formally established and active committee on investor responsibility (CIR) or equivalent body that makes recommendations to fund decision-makers on socially and environmentally responsible investment opportunities across asset classes, including proxy voting (if the institution engages in proxy voting). The body has multi-stakeholder representation, which means its membership includes faculty, staff, and/or students (and may also include alumni, trustees, and/or other parties).

Scoring:

Table 45:

Institution has a formally established and active CIR that includes representatives of the following stakeholder groups:	Points available	Points earned
Stuff	**.5**	
Faculty	**.5**	
Students	**1**	
Total points		**Upto 2**

3.6.9. Sustainable investment:

Credit rationale and criteria:

This credit recognizes institutions that use their investment power to promote sustainability. There are a variety of approaches an institution can take toward sustainable investment, including making positive investments that promote sustainability and engaging with companies in which they already hold investments. Positive investing supports socially and environmentally responsible practices and the development of sustainable products and services.

Option 1:

Institution invests in one or more of the following:

- Sustainable industries (e.g. renewable energy or sustainable forestry). This may include any investment directly in an entire industry sector as well as holdings of companies whose entire business is sustainable (e.g. a manufacturer of wind turbines).
- Businesses selected for exemplary sustainability performance (e.g. using criteria specified in a sustainable investment policy). This includes investments made, at least in part, because of a company's social or environmental performance. Existing stock in a company that happens to have socially or environmentally responsible practices should not be included unless the investment decision was based, at least in part, on the company's sustainability performance.
- Sustainability investment funds (e.g. a renewable energy or impact investment fund). This may include any fund with a mission of investing in a sustainable sector or industry

(or multiple sectors), as well as any fund that is focused on purchasing bonds with sustainable goals.

- Community development financial institutions (CDFI) or the equivalent (including funds that invest primarily in CDFIs or the equivalent).
- Socially responsible mutual funds with positive screens (or the equivalent). Investment in a socially responsible fund with only negative screens (i.e. one that excludes egregious offenders or certain industries, such as tobacco or weapons manufacturing) does not count for Option 1.
- Green revolving loan funds that are funded from the endowment

Option 2:

Institution has the following practices:

- Has a publicly available sustainable investment policy (e.g. to consider the social and/or environmental impacts of investment decisions in addition to financial considerations)
- Uses its sustainable investment policy to select and guide investment managers
- Has engaged in proxy voting to promote sustainability, either by its CIR or other committee or through the use of guidelines, during the previous three years
- Has filed or co-filed one or more shareholder resolutions that address sustainability or submitted one or more letters about social or environmental responsibility to a company in which it holds investments, during the previous three years
- Has a publicly available investment policy with negative screens, for example to prohibit investment in an industry (e.g. tobacco or weapons manufacturing) or participate in a divestment effort (e.g. targeting fossil fuel production or human rights violations)
- Engages in policy advocacy by participating in investor networks (e.g. Principles for Responsible Investment, Investor Network on Climate Risk, Interfaith Center on Corporate Responsibility) and/or engages in inter-organizational collaborations to share best practices

Scoring:

Option 1:

Table 46:

Factor	Multiply	Value of positive sustainability investments	Divide	Total value of the investment pool	Equals	Points under option 1
$6^{2/3}$	*		/		=	

Option 2:

Table 47:

Points earned under Option 1: Positive sustainability investment	Add	Points earned under Option 2: Investor engagement	Equal	Total points
Upto 4	+	Upto 2	=	Upto 4

3.6.10. Investment disclosure:

Credit rationale and criteria:

This credit recognizes institutions that regularly make their investment holdings publicly available. The transparency ensured by public disclosure acts as an important accountability mechanism and as a learning tool for students and other stakeholders.

Institution makes a snapshot of its investment holdings available to the public, including the amount invested in each fund and/or company and proxy voting records. The snapshot of holdings is updated at least once per year. Institutions for which investments are handled by the university system, a separate foundation of the institution and/or a management company contracted by the institution should report on the combined activities of those entities.

Scoring:

Table 48:

Level of detail disclosed	Factor	Multiply	Percentage of the total investment pool included in the public snapshot at each level of detail (0-100)	Equals	Points earned
Specific funds/companies and proxy voting record (if applicable)	.01	*		=	
Specific funds/companies, but not proxy voting record	.0075	*		=	
Investment managers and/or basic portfolio composition (i.e. asset classes), but not specific funds or companies	0	*		=	
Total points					Upto 1

3.6.11. Employee compensation:

Credit rationale and criteria:

Part 1:

More than 75 percent of the institution's employees receive a basic living wage for one adult (benefits excluded).

Part 2:

Institution is able to verify that more than 75 percent of the employees of contractors that work on-site as part of regular and ongoing campus operations receive a basic living wage for one adult (benefits excluded).

Part 3:

Total compensation provided to the institution's lowest paid regular employee or pay grade meets or exceeds the local living wage for one adult.

Include regular part-time and full-time workers. Newly hired, entry-level employees may be excluded from Part 3 during the first six months of employment. Institutions may choose to include or omit student workers.

Scoring:

Table 49:

Part of the credit	Points available for institutions without regular on-site contractors	Points available for institutions with regular on-site contractors
Part 1	**1.5**	**.75**
Part 2	**0**	**.75**
Part 3	**1.5**	**1.5**
Total points available	**3**	**3**

Part 1:

Points Earned = A × [(B – 75) / 25]

A = Points available for Part 1 (1 or 0.75; see above)

B = Percentage of all employees that earn a basic living wage for one adult (0-100)

Part 2:

Points Earned = 0.75 × [(A – 75) / 25]

A = Percentage of employees of contractors that work on-site as part of regular and ongoing campus operations that receive a basic living wage for one adult (0-100)

Part 3:

Table 50:

Total compensation provided to the institution's lowest paid regular employee or pay grade meets or exceeds:	Points earned
A basic living wage for one adult	**.3**
125 percent of the basic living wage for one adult	**.6**
150 percent of the basic living wage for one adult	**.9**
175 percent of the basic living wage for one adult	**1.2**
200 percent of the basic living wage for one adult	**1.5**

3.6.12. Assessing employee satisfaction:

Credit rationale and criteria:

This credit recognizes institutions that support the engagement of their employees by conducting a regular survey or other evaluation.

Institution conducts a survey or other evaluation that allows for anonymous feedback to measure employee satisfaction and engagement. The survey or equivalent may be conducted institution-wide or may be done by individual departments or divisions. The evaluation addresses (but is not limited to) the following areas:

- Job satisfaction
- Learning and advancement opportunities
- Work culture and work/life balance

Scoring:

Institutions earn the maximum of 1 point available for this credit by conducting an assessment of employee satisfaction and engagement that meets the criteria outlined above and that covers all employees (directly or by representative sample). Incremental points are available based on the percentage of employees assessed. For example, an institution that regularly assesses the satisfaction of all faculty members (who compose ⅓ of all employees), but does not assess staff (who compose ⅔ of employees) would earn ⅓ point (⅓ of the points available for this credit).

An institution that conducts an assessment using a representative sample earns points based on the total population from which the sample is drawn. For example, an institution that conducts an assessment with a sample that is representative of the entire employee population would earn the maximum of 1 point available for this credit. Likewise, an institution that that conducts an assessment with a sample that is representative of 50 percent of its total employee population would earn 0.5 points (half of the points available for this credit).

An institution that conducts an assessment of an unrepresentative portion of the employee population earns points based on the actual number of employees assessed. For example, an institution that conducts a mandatory survey of all non-supervisory staff (60 percent of the total employee population) would earn 0.6 points (60 percent of the points available for this credit).

3.6.13. Wellness program:

Credit rationale and criteria:

This credit recognizes institutions that support the wellbeing of their employees and students. Providing wellness programs and related services can enhance the health and wellbeing of the entire campus community.

Institution has a wellness and/or employee assistance program that makes available counseling, referral, and wellbeing services to all students, staff, and/or faculty members.

Scoring:

Institutions earn the maximum of 1 point available for this credit for making counseling, referral, and wellbeing services available to all members of the campus community. Partial points are available based on the number of groups for whom the institution makes wellness services available. For example, an institution that makes wellness services available to all members of 2 of the groups listed would earn ⅔ point (⅔ of the points available for the credit).

3.6.14. Workplace health and safety:

Credit rationale and criteria:

This credit recognizes institutions that help ensure the health and safety of their employees. Institutions that reduce workplace injuries and occupational disease cases help ensure that all employees have a safe working environment.

Part 1:

Institution has reduced its total number of reportable workplace injuries and occupational disease cases per full-time equivalent (FTE) employee compared to a baseline.

Part 2:

Institution has fewer than 6 reportable workplace injuries and occupational disease cases annually per 100 fulltime equivalent (FTE) employees.

This credit includes employees of contractors working on-site for whom the institution is liable for workplace safety, for example workers for whom the institution is mandated to report injuries and disease cases by a health and safety authority such as the U.S. Occupational Health and

Safety Administration (OSHA) or the Canadian Center for Occupational Health and Safety (CCOHS).

Scoring:

Part 1:

Points Earned = 1 × { [(A/B) – (C/D)] / (A/B) }

A = Number of reportable workplace injuries and occupational disease cases, baseline year

B = Full-time equivalent of employees, baseline year (FTE)

C= Number of reportable workplace injuries and occupational disease cases, performance year

D= Full-time equivalent of employees, performance year (FTE)

Part 2:

Points Earned = 1 × { [0.06 – (A / B)] / 0.06 }

A = Number of reportable workplace injuries and occupational disease cases, performance year

B = Full-time equivalent of employees, performance year (FTE)

Chapter 4: Results and discussions

4.1: General:

Results are calculated using the tables and formulas described in the methodology section. For some data questionnaire surveys were conducted. Some data needed a visit to the site and some required case study of previous years.

4.2. Academics:

4.2.1. Curriculum:

Table 51:

Topic	Total points available	Obtained points
Academic courses	**14**	**4.985**
Learning outcomes	**8**	**8**
Undergraduate program	**3**	**1.5**
Graduate program	**3**	**1.5**
Immersive experience	**2**	**0**
Sustainability literacy assessment	**4**	**0**
Incentives for developing courses	**2**	**2**
Campus as a living laboratory	**4**	**2**
Total	**40**	**20.31**

Discussions:

IUT can increase its sustainability attributes in curriculum by adopting the following measures:

- Offering community based internships
- Arranging study abroad program
- Assessing what the students have learnt about sustainability
- Teaching the students to build an eco-friendly smart home
- Consuming campus grown foods

4.2.2. Research:

Table 52:

Topic	Total points available	Obtained points
Research and scholarship	**12**	**7.3**
Support for research	**4**	**1**
Open access to research	**2**	**0**
Total	**18**	**8.3**

Discussions:

IUT can improve in this section by adopting the following measures:

- Creating a website where faculties, students and mass people will have access to the research already conducted and being conducted.
- Pre-selected sustainability related research topics by the university administration
- Encouraging researchers to work on sustainability

4.3. Engagement:

4.3.1. Campus engagement:

Table 53:

Topic	Total points available	Obtained points
Student educators program	**4**	**0**
Student orientation	**2**	**0**
Student life	**2**	**.25**
Outreach material and publication	**2**	**.5**
Outreach campaign	**4**	**0**
Assessing sustainability culture	**1**	**0**
Employee educators program	**3**	**0**
Employee orientation	**1**	**0**
Staff professional development	**2**	**.25**
Total	**21**	**1**

Discussions:

IUT can adopt the following measures to improve:

- Conducting peer to peer research
- Arranging a tour at the first day at campus for the students and staffs
- Informal knowledge about sustainability outside classroom
- Using social media to enhance sustainability
- Newsletter
- Hall vs hall sustainability competition

4.3.2. Public engagement:

Table 54:

Topic	Total points available	Obtained points
Community partnership	**3**	**0**
Inter-campus collaboration	**3**	**1.5**
Continuing education	**5**	**0**
Community service	**5**	**0**
Participation in public policy	**2**	**1**
Trademark licensing	**2**	**0**
Total	**20**	**1.5**

Discussion:

The following measures can be fruitful:

- Partnering in strategic planning and decision making
- Increasing collaboration with other universities to discuss sustainability
- Providing extra certificate for students who play good role in increasing campus sustainability
- Engaging students in community services
- Introducing trademark licensing (e.g. apparel carrying the seal o IUT will be considered safe to consume/use)

4.4. Operation:

4.4.1. Air and climate:

Table 55:

Topic	Total points available	Obtained points
Greenhouse gas emission	**10**	**0**
Outdoor air quality	**1**	**0**
Total	**11**	**0**

Discussions:

IUT have a lot to do in this regard. It is a must for IUT to select a baseline year and set a target to reduce significant amount of greenhouse gas emission within a targeted year.

4.4.2. Buildings:

Table 56:

Topic	Total points available	Obtained points
Building operation and maintenance	**5**	**0**
Building design and construction	**3**	**.5**
Total	**8**	**.5**

Discussions:

Buildings should be certified under green building rating system; green cleaning measures should be adopted.

LEED, BREEAM, CASBEE etc. manual should be followed while constructing a building.

4.4.3. Energy:

Table 57:

Topic	Total points available	Obtained points
Building energy consumption	**6**	**0**
Clean and renewable energy	**4**	**0**
Total	**10**	**0**

Discussions:

A target year should be selected to reduce energy consumption compared to the baseline. Biomass heating, using natural resources as inputs in energy production is what needed to improve in this section.

4.4.4. Food and dining:

Table 58:

Topic	Total points available	Obtained points
Food and beverage purchasing	**6**	**2.43**
Sustainable dining	**2**	**.25**
Total	**8**	**2.68**

Discussions:

Huge boost in the sustainability attributes can be observed if IUT adopts the following measures:

- Sources food from a campus garden or farm
- Hosts sustainability-themed meals
- Engages in outreach efforts to support learning and research about sustainable food systems
- Donates food to feed people
- Informs customers about low impact food choices and sustainability practices through labeling and signage in dining halls

4.4.5. Grounds:

Table 59:

Topic	Total points available	Obtained points
Landscape management	**2**	**0**
Biodiversity	**2**	**0.5**
Total	**4**	**.5**

Discussions:

If IUT follows integrated paste management system and sets up organic land care standard, improvement is possible. It is also necessary to ensure safety of the endangered species in the campus area.

4.4.6. Purchasing:

Table 60:

Topic	Total points available	Points obtained
Sustainable procurement	**3**	**1**
Electronics purchasing	**1**	**0**
Cleaning and janitorial purchasing	**1**	**.25**
Office paper purchasing	**1**	**.25**
Total	**5**	**1**

Discussions:

- Provide support for local and disadvantaged business
- Buying EPEAT registered computers
- Green-seal cleaning products
- Nontoxic cleaning materials
- Buying papers from industries who recycle to products

4.4.7. Transportation:

Table 61:

Topic	Total points available	Points obtained
Camus fleet	**1**	**1**
Sustainable commute modal split	**2**	**1.6**
Employee commute	**2**	**1.8**
Support for sustainable transport	**2**	**.6**
Total	**7**	**5**

Discussion:

This is one part of the sustainability assessment that IUT can be satisfied of. The vehicles are run by CNG gas and movement in the campus is done mainly by foot. These two have helped a lot in this sector.

4.4.8. Waste:

Table 62:

Topic	Total points available	Points obtained
Waste management and diversion	**8**	**0**
Construction and demolition	**1**	**.2**
Hazardous waste management	**1**	**0**
Total	**10**	**.2**

Discussion:

Adopting the following measures can be helpful:

- Implementing source reduction strategies to reduce the total amount of waste generated
- Diverting materials from the landfill or incinerator by recycling, composting, donating or re-selling.
- Diverting non-hazardous construction and demolition waste from the landfill and/or incinerator

- Strategies in place to safely dispose of all hazardous, special (e.g. coal ash), universal, and non-regulated chemical waste and seeks to minimize the presence of these materials on campus
- Program in place to recycle, reuse, and/or refurbish electronic waste generated by the institution and/or its students

4.4.9. Water:

Table 63:

Topic	Total points available	Points obtained
Water use	**5**	**.5**
Rainwater management	**2**	**0**
Total	**7**	**.5**

Discussion:

IUT can enhance its sustainability attributes by the following measures:

- Reducing its potable water use per weighted campus user compared to a baseline
- Reducing its total water use
- Using green infrastructure and low impact development (LID) practices to help mitigate storm-water run-off impacts

4.5. Planning and administration:

4.5.1. Co-ordination and planning:

Table 64:

Topic	Total points available	Points obtained
Sustainability co-ordination	**1**	**1**
Sustainability planning	**4**	**.5**
Participatory governance	**3**	**0**
Total	**8**	**1.5**

Discussion:

The following steps can be helpful for IUT:

- Setting up at least one sustainability committee, office, and/or officer tasked by the administration or governing body to advise on and implement policies and programs related to sustainability on campus
- Having formally adopted plans that include measurable sustainability objectives
- Involving representatives of the students, faculties and staffs while making decision

4.5.2. Diversity and affordability:

Table 65:

Topic	Total points available	Points obtained
Diversity and equity co-ordination	**2**	**1**
Assessing diversity and equity	**1**	**.5**
Support for under-represented groups	**3**	**1.5**
Affordability and access	**4**	**2.6**
Total	**10**	**5.6**

Discussion:

IUT has good diversity and affordability. Renovation off the policies that IUT are aadopting now can be the key to increasing sustainability attributes in this sector.

4.5.3. Investment:

Table 66:

Topic	Total points available	Points obtained
Committee on investor response	**2**	**1**
Sustainable investment	**4**	**0**
Investment disclosure	**1**	**0**
Total	**7**	**1**

Discussion:

There is a lot to work in this sector. IUT can adopt the following measures:

- Forming a formally established and active committee on investor responsibility (CIR) or equivalent body that makes recommendations to fund decision-makers on socially and environmentally responsible investment opportunities across asset classes, including proxy voting
- Investing in industries who have the motto of producing things in a sustainable way
- Disclosing investment to increase transparency of the investments

4.5.4. Wellbeing and work:

Table 67:

Topic	Total points available	Points obtained
Employee compensation	**3**	**.5**
Assessing employee satisfaction	**1**	**.25**
Wellness program	**1**	**.5**
Workplace health and safety	**2**	**1**
Total	**7**	**2.25**

Discussion:

More improvement is required for satisfactory results. The steps suggested below can help:

- Assuring the more than 75 percent of the institution's employees receive a basic living wage for one adult
- Total compensation provided to the institution's lowest paid regular employee or pay grade meets or exceeds the local living wage for one adult.
- Assessing and reacting according to the job satisfaction, work culture and life balance of the employees
- Counseling, referral and wellbeing services among the employees

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

5.1. General:

This chapter includes the summary of the research findings based on discussions in Chapter 4. Moreover, recommendations and future works related to this investigation are also proposed in this chapter.

5.2. Conclusions:

After all the calculations, it has been found that, total points obtained by Islamic University of Technology (IUT) campus are, 27.

So this makes IUT a **"Bronze"** category campus.

From the points obtained, it can be said that IUT campus still has a lot to improve. But this campus has all the potentials that are required to become a gold category campus and it is not that tough. Enthusiasm among the students, faculty members and the staffs will be enough for this.

5.3. Recommendations:

University campuses are now a day considered as an individual city. So creating a sustainable campus can be the pivot to building a sustainable environment. So it should be made sure that here is no lack in the effort to make a campus sustainable and eventually making the environment sustainable.

Each and every member of a campus should be made aware of this and the authority should play a vital role in this regard.

5.4. Limitations and future works:

Though preliminary this study was planned to conduct by assessing the academic credentials of each departments, only the academic syllabus of Civil and Environmental Engineering department was considered. Besides some data were assumed so there might be a very little fluctuation between the derived points and the actual points.

This study can be extended in the future as well. Sustainability has 3 pillars- society, economics and environment. This study can be merged with the assessment of social and economic sustainability for further improvement of sustainable attributes.

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