Kwantlen Polytechnic University
Measures of Environmental Sustainability
As Evaluated to June 30, 2015

KPU's Environmental Sustainability Committee was tasked with developing a metric to quantify KPU's progress and performance in support of Vision 2018's commitment to:

- Continue to enhance environmental sustainability efforts on campus.
- Integrate sustainability into the core curriculum across disciplines

The committee chose to use AASHE's Sustainability Tracking, Assessment & Rating System (STARS) which is used throughout North America with some offshore institutions participating. AASHE describe STARS as:

> *Sustainability Tracking, Assessment & Rating System™ (STARS®) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance. 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.*

STARS 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 international 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.*

The credits included in STARS span the breadth of higher education sustainability and include performance indicators and criteria organized into four categories: Academics, Engagement, Operations, and Planning & Administration. See Appendix (1) for the full listing of all potential credits available. See Appendix (2) for the credit checklist.

Completing a full STARS review is an extensive process that other institutions have identified as taking several weeks to complete. While having a full review completed to benchmark KPU to other post-secondary institutions would be helpful for future planning the current staffing to support KPU's sustainability initiatives does not make a full review viable.

The Environmental Sustainability Committee chose to start the process of evaluating three measures with the goal that each year additional measures can be added.   It is anticipated that as the rating system is used there will be opportunities identified to collect data in a manner that will more easily make it available for the STARS process. For example one of the three measures chosen for tracking is "Waste Diversion". The measure requires tonnage of various items diverted. Currently this information is not available, though in future a process can be developed so that this information is readily available. The three measures chosen include:

EN3:   Student Life

OP23:   Waste Diversion

PA2:   Sustainability Planning

These three measures provide a breadth of review and do not include the energy conservation measures for which we have a robust program in place.

The rating was calculated June 2015 and achieved 4 out of a maximum of 9 points. The greatest challenge was that data is not all available and information is not all compiled within the categories chosen. It is anticipated that continued progress is more viable now that a measurement tool is in place. The following are the detailed requirements for each measure. KPU's progress is identified in *italics.*

EN 3: Student Life

2 points available   **Points Achieved   1.5**

A. Credit Rationale
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.

B. Criteria
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

Multiple programs and initiatives may be reported for each category and each category may include institution-governed and/or student-governed programs.

C. Applicability
This credit applies to all institutions.

D. 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.

E. Reporting Fields

Required
- An indication of whether the institution has one or more programs or initiatives in each the following categories:

- Active student groups focused on sustainability
  - *The Chip & Shannon Wilson School of Design students have a Green Builders Group*
  - *Sustainable Agriculture*
  - *Kwantlen Student Association*
  - *School of Horticulture students have groups within each program area*
  - *Numerous other student groups*

- Gardens, farms, community supported agriculture (CSA) or fishery programs, or urban agriculture projects where students are able to gain experience in organic agriculture and/or sustainable food systems
  - *Urban Farm at the Richmond campus*
  - *Westerman Campus Garden (KSA initiative)*
  - *Multiple School of Horticulture projects*
  - *Harvest box to students/staff twice a month (all 4 campuses)*

- Student-run enterprises that include sustainability as part of their mission statement or stated purpose (e.g. cafés through which students gain sustainable business skills)
  - *Grass Roots Café*

- Sustainable investment funds, green revolving funds or microfinance initiatives through which students can develop socially, environmentally and fiscally responsible investment skills
  - *Green Revolving Fund though not yet available for student initiatives*
  - *KSA are looking to establish a fund*

- Conferences, speaker series, symposia or similar events related to sustainability that have students as the intended audience
  - *Dr. John Giesy, Eco toxicologist, lecture at the Langley Campus as part of the Royal Society of Canada Romanowski Lecture Series: Toxicological Evaluation of Perfluorooctane in the Environment: Anatomy of an Environmental Issue*
  - *Green Wednesdays*
  - *ecoDays (weeklong event)*
  - *Food Matters 2015*
  - *National Campus Sustainability Day multi-campus events*

- Cultural arts events, installations or performances related to sustainability that have students as the intended audience
  - *None currently documented*
  - *Margaret Atwood and Gwyn Dyer dialogue*

- Wilderness or outdoors programs (e.g. that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles
  - *Active KSA outdoor recreation activities*
  - *Shoreline cleanup*

- o Sustainability-related themes chosen for themed semesters, years, or first-year experiences (e.g. this could take the form of choosing a sustainability-related book for common reading)
  - ▪ *-In development is a Sustainability-focused First year Cohort*

- o 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)
  - ▪ *Sustainable KSA Lunch & Learn – Green Cleaners*

- o Sustainability-focused student employment opportunities offered by the institution
  - ▪ *Not yet though have in past hired students for ecoDays and a summer Co-op student to research and document all sustainability activities at KPU.*

- o Graduation pledges through which students pledge to consider social and environmental responsibility in future job and other decisions
  - ▪ *Not done*

- o Other co-curricular sustainability programs and initiatives (please specify)
  - ▪ *Lots occurring – not recorded*

- ▪ An affirmation that the submitted information is accurate to the best of a responsible party's knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once it is submitted and available to the public.

Conditional

Required for each category for which the institution is reporting a program or initiative:
- ▪ A brief description of the programs or initiatives, including whether or not they are <u>student-governed</u>

F. Measurement

Timeframe

Report on currently available programs and on events that occurred during the three years prior to the anticipated date of submission.

Sampling and Data Standards

Not applicable

OP 23: Waste Diversion

3 points available **Points Achieved** **1**

A. Credit Rationale
This credit recognizes institutions that are diverting materials from landfills and incinerators and conserving resources by recycling and composting.

B. Criteria
Institution diverts materials from the landfill or incinerator by recycling, composting, reusing, donating, or re-selling.

This credit includes on-campus dining services operated by the institution or the institution's primary on-site contractor.

This credit does not include construction, demolition, electronic, hazardous, special (e.g. coal ash), universal and non-regulated chemical waste, which are covered in *OP 24: Construction and Demolition Waste Diversion and OP 25: Hazardous Waste Management*.

C. Applicability
This credit applies to all institutions

D. Scoring
Institutions earn the maximum 3 points for this credit by diverting all <u>waste</u> from the landfill or incinerator. Incremental points are awarded based on the percentage of waste that is diverted. For example, an institution that diverts 50 percent of its waste would earn 1.5 points (half of the points available for this credit).

Enter values as indicated below to calculate points earned for this credit						
Points will be calculated automatically when data are entered in the STARS online Reporting Tool						
Factor	*Multiply*	**Materials Reused, Recycled, or Otherwise Diverted**	*Divide*	**Total Amount of Waste Generated (Diverted + Disposed)**	*Equals*	**Total Points Earned**
3	×	_____	÷	_____	=	

KPU does not yet have the data. Commit to begin gathering data in the coming year.

Scoring Example: Waste Diversion

Last year Example College:
- Recycled 500 tons of materials
- Composted 50 tons of materials
- Disposed of 450 tons of materials in a landfill

Materials recycled, donated or otherwise diverted = 500 + 50 = **550**

Factor	*Multiply*	Materials Reused, Recycled, or Otherwise Diverted	*Divide*	Total Amount of Waste Generated (Diverted + Disposed)	*Equals*	Total Points
3	×	550	÷	1,000	=	**1.65**

E. Reporting Fields

Required
- Materials diverted (recycled, composted, reused, donated, re-sold, or otherwise diverted from the landfill or incinerator) (short tons/metric tons)
  - *Materials are recycled, reused, re-sold or otherwise diverted from the landfill. At this time quantities are not available. Items diverted include:*

    - *Batteries*
    - *Computers & Electronics*
    - *Corrugated Cardboard*
    - *Fluorescent Lamps & Ballasts*
    - *Furniture*
    - *Glass*
    - *Hard Cover Books*
    - *Hazardous Wastes (e.g. Mercury)*

    - *Kitchen Oils & Fats*
    - *Lab Chemicals*
    - *Masonry Debris*
    - *Metal*
    - *Pallets*
    - *Paper (All Types)*

- *Plastic*
- *Printer & Toner Cartridges*
- *Shop Oil Interceptors*
- *Used Antifreeze*
- *Used Oil & Oil Filters*
- *Used Tires*
- *Used clothing, kitchen items, housewares, electronics, small appliances at all four campuses*

- Materials disposed in a solid waste landfill or incinerator (short tons/metric tons)
- An affirmation that the submitted information is accurate to the best of a responsible party's knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once submitted and available to the public.

F. Measurement

Timeframe
Report the most recent waste generation and diversion data available.

Sampling and Data Standards
Waste figures measured in volume may be converted to weight using the conversion factors provided by the U.S. Environmental Protection Agency and the College and University Recycling Council (used for the U.S. RecycleMania competition) or the conversion factors provided by the United Nations Environment Programme (UNEP).

To the extent possible, include all waste that was generated by the institution and/or the institution's primary on-site dining services contractor when reporting for this credit. Construction, demolition, electronic, hazardous, special (e.g. coal ash), universal and non- regulated chemical waste, which is covered in OP *24: Construction and Demolition Waste Diversion and OP 25: Hazardous Waste Management,* is excluded. If data for the entire campus and/or entire year are not available, institutions may use a representative sample.

PA 2: Sustainability Planning

4 points available   **Points Achieved**   **1.5**

A. Credit Rationale

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 (and required for) the attainment of its sustainability goals. Including sustainability at a high level in the institution's strategic plan and other guiding documents also signals an institution's commitment to sustainability and may help infuse an ethic of environmental, fiscal and social responsibility throughout the campus community.

B. Criteria

Institution has current and formal plans to advance sustainability. The plan(s) cover one or more of the following areas:

- ✓ Curriculum
  - o Hi Level
- ✓ Research (or other scholarship appropriate for the institution)
  - o Hi Level
- ▪ Campus Engagement
- ▪ Public Engagement
- ✓ Air & Climate
- ✓ Buildings
  - o Hi Level
- ▪ Dining Services/Food

- ✓ Energy
  - o Extensive
- ▪ Grounds
  - o In contract
- ▪ Purchasing
- ▪ Transportation
- ▪ Waste
- ▪ Water
- ▪ Diversity & Affordability
- ▪ Health, Wellbeing & Work
- ▪ Investment
- ▪ Other

The plan(s) may include <u>measurable objectives</u> with corresponding strategies and timeframes to achieve the objectives.

The criteria may be met by any combination of <u>formally adopted</u> plans, for example:
- ▪ <u>Strategic plan</u> or equivalent guiding document
- ▪ Campus master plan or physical campus plan
- ▪ Sustainability plan
- ▪ Climate action plan
- ▪ Human resources strategic plan
- ▪ Diversity plan

For institutions that are a part of a larger system, plans developed at the system level are eligible for this credit.

C. Applicability

This credit applies to all institutions.

D. Scoring

Institutions earn 1/6 point for each of the areas listed for which they have formally adopted plans and an additional 1/6 point if the plans include at least one measurable objective with corresponding strategies and timeframes. A maximum of 4 points is available for this credit.

Scoring Example: Sustainability Planning

Example University has several formally adopted plans that address sustainability: a strategic plan, a physical campus plan, a climate action plan and a diversity plan. Collectively, the plans cover **10** specific sustainability areas:

- Curriculum -
- Research
- Air & Climate
- Buildings
- Energy
- Grounds
- Transportation
- Waste
- Water
- Diversity & Affordability

The plans include at least one measurable objective with corresponding strategies and timeframes for **5** of those areas.

Points earned = (0.167 × **10** subject areas) + (0.167 × **5** measurable objectives)

$$= 1.67 + 0.835$$

$$= \textbf{2.5} \text{ points}$$

E. Reporting Fields

Required

- An indication of whether the institution has formally adopted plans to advance sustainability covering the following areas:

KPU's Vision 2018 provides an overarching guide. Plans at some level of develop exist as indicated below in italics.

- Curriculum *High level plan*
- Research (or other scholarship appropriate for the institution) *high level plan*
- Campus Engagement
- Public Engagement
- Air & Climate *Plan in place with targets*
- Buildings *Hi-level plan*
- Dining Services/Food
- Energy *Extensive Plan with targets*

- Grounds *In Contract*
- Purchasing
- Transportation
- Waste
- Water
- Diversity & Affordability
- Health, Wellbeing & Work
- Investment
- Other (please specify)

- An affirmation that the submitted information is accurate to the best of a responsible party's knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once submitted and available to the public.

Conditional

Required for each area for which the institution is reporting formally adopted plans:

- A brief description of the plan(s)
- An indication of whether the plan(s) include at least one measurable objective with corresponding strategies and timeframes
  - *KPU has a Carbon Neutral Action Plan and a Strategic Energy Management Plan each of which are updated annually.*

Required for each area for which the institution is reporting formally adopted plans with measurable objectives, strategies and timeframes:

- A brief description of the measurable objectives, strategies and timeframes
- Accountable parties, offices or departments
  - *The Carbon Neutral Action Plan and the Strategic Energy Management Plan have specific measurable objectives, strategies and timeframes to achieve the objectives. See http://www.kpu.ca/sustainability for detailed information.*

Optional

- The institution's definition of sustainability (e.g. as included in a formally adopted plan)
- ✓ An indication of whether the institution's strategic plan or equivalent guiding document includes sustainability at a high level *Vision 2018*
- A brief description of how the institution's strategic plan or equivalent guiding document addresses sustainability
- ✓ The website URL where information about the institution's sustainability planning is available *http://www.kpu.ca/sustainability*

F. Measurement

Timeframe

Report on the institution's current and formally adopted plan(s). Draft documents are not eligible for this credit.

Sampling and Data Standards

Not applicable

APPENDIX 1

Table below outlines all the credits available. https://stars.aashe.org/pages/about/technical-manual.html

ACADEMICS (AC)	ENGAGEMENT (EN)	OPERATIONS (OP)	PLANNING & ADMIN. (PA)
Curriculum • AC 1: Academic Courses • AC 2: Learning Outcomes* • AC 3: Undergraduate Program* • AC 4: Graduate Program* • AC 5: Immersive Experience* • AC 6: Sustainability Literacy Assessment • AC 7: Incentives for Developing Courses • AC 8: Campus as a Living Laboratory* **Research** • AC 9: Academic Research* • AC 10: Support for Research* • AC 11: Access to Research*	**Campus Engagement** • EN 1: Student Educators Program • EN 2: Student Orientation* • EN 3: Student Life • EN 4: Outreach Materials and Publications • EN 5: Outreach Campaign • EN 6: Employee Educators Program • EN 7: Employee Orientation • EN 8: Staff Professional Development **Public Engagement** • EN 9: Community Partnerships • EN 10: Inter-Campus Collaboration • EN 11: Continuing Education* • EN 12: Community Service • EN 13: Community Stakeholder Engagement • EN 14: Participation in Public Policy	**Air & Climate** • OP 1: Greenhouse Gas Emissions • OP 2: Outdoor Air Quality **Buildings** • OP 3: Building Operations and Maintenance* • OP 4: Building Design and Construction* • OP 5: Indoor Air Quality **Dining Services** • OP 6: Food and Beverage Purchasing* • OP 7: Low Impact Dining* **Energy** • OP 8: Building Energy Consumption • OP 9: Clean and Renewable Energy **Grounds**	**Coordination, Planning & Governance** • PA 1: Sustainability Coordination • PA 2: Sustainability Planning • PA 3: Governance **Diversity & Affordability** • PA 4: Diversity and Equity Coordination • PA 5: Assessing Diversity and Equity • PA 6: Support for Underrepresented Groups • PA 7: Support for Future Faculty Diversity • PA 8: Affordability and Access **Health, Wellbeing & Work** • PA 9: Employee Compensation • PA 10: Assessing Employee Satisfaction • PA 11: Wellness Program

	• EN 15: Trademark Licensing* • EN 16: Hospital Network*	• OP 10: Landscape Management* • OP 11: Biodiversity* Purchasing • OP 12: Electronics Purchasing • OP 13: Cleaning Product Purchasing • OP 14: Office Paper Purchasing • OP 15: Inclusive and Local Purchasing • OP 16: Life Cycle Cost Analysis • OP 17: Guidelines for Business Partners Transportation • OP 18: Campus Fleet* • OP 19: Student Commute Modal Split* • OP 20: Employee Commute Modal Split • OP 21: Support for Sustainable Transportation Waste • OP 22: Waste Minimization • OP 23: Waste Diversion • OP 24: Construction and Demolition Waste Diversion*	• PA 12: Workplace Health and Safety Investment • PA 13: Committee on Investor Responsibility* • PA 14: Sustainable Investment* • PA 15: Investment Disclosure* **INNOVATION (IN)** • Innovation

		• OP 25: Hazardous Waste Management Water • OP 26: Water Use • OP 27: Rainwater Management • OP 28: Wastewater Management	

APPENDIX (2)

http://www.aashe.org/files/documents/STARS/2.0/stars_2.0_credit_checklist_1.pdf

STARS 2.0 Credit Checklist

	Subcategory		Credit Number and Title	Points Available	Pursuing?		
					Yes	No	N/A
A C A D E M I C S	**Curriculum**	AC 1	Academic Courses	14			■
		AC 2	Learning Outcomes	8			
		AC 3	Undergraduate Program	3			
		AC 4	Graduate Program	3			
		AC 5	Immersive Experience	2			
		AC 6	Sustainability Literacy Assessment	4			■
		AC 7	Incentive for Developing Courses	2			
		AC 8	Campus as a Living Laboratory	4			
	Research	AC 9	Academic Research	12			
		AC 10	Support for Research	4			
		AC 11	Access to Research	2			
E N G A G E M E N T	**Campus Engagement**	EN 1	Student Educators Program	4			■
		EN 2	Student Orientation	2			
		EN 3	Student Life	2			■
		EN 4	Outreach Materials and Publications	2			■
		EN 5	Outreach Campaign	4			■
		EN 6	Employee Educators Program	3			■
		EN 7	Employee Orientation	1			■
		EN 8	Staff Professional Development	2			■
	Public Engagement	EN 9	Community Partnerships	3			■
		EN 10	Inter-Campus Collaboration	2			■
		EN 11	Continuing Education	5			
		EN 12	Community Service	5			■
		EN 13	Community Stakeholder Engagement	2			■
		EN 14	Participation in Public Policy	2			■
		EN 15	Trademark Licensing	2			■
		EN 16	Hospital Network	1			
O P E R A T I O N S	**Air & Climate**	OP 1	Greenhouse Gas Emissions	10			■
		OP 2	Outdoor Air Quality	1			
	Buildings	OP 3	Building Operations and Maintenance	4			
		OP 4	Building Design and Construction	3			
		OP 5	Indoor Air Quality	1			■
	Dining Services	OP 6	Food and Beverage Purchasing	4			
		OP 7	Low Impact Dining	3			
	Energy	OP 8	Building Energy Consumption	6			■
		OP 9	Clean and Renewable Energy	4			

APPENDIX (2) continued

	Subcategory		Credit Number and Title	Points Available	Pursuing?		
					Yes	No	N/A
O P E R A T I O N S	**Grounds**	OP 10	**Landscape Management**	2			
		OP 11	**Biodiversity**	1-2			
	Purchasing	OP 12	**Electronics Purchasing**	1			
		OP 13	**Cleaning Product Purchasing**	1			
		OP 14	**Office Paper Purchasing**	1			
		OP 15	**Inclusive and Local Purchasing**	1			
		OP 16	**Life Cycle Cost Analysis**	1			
		OP 17	**Guidelines for Business Partners**	1			
	Transportation	OP 18	**Campus Fleet**	1			
		OP 19	**Student Commute Modal Split**	2			
		OP 20	**Employee Commute Modal Split**	2			
		OP 21	**Support for Sustainable Transportation**	2			
	Waste	OP 22	**Waste Minimization**	5			
		OP 23	**Waste Diversion**	3			
		OP 24	**Construction and Demolition Waste Diversion**	1			
		OP 25	**Hazardous Waste Management**	1			
	Water	OP 26	**Water Use**	2-6			
		OP 27	**Rainwater Management**	2			
		OP 28	**Wastewater Management**	1			
P L A N N I N G & A D M I N	**Coordination, Planning & Governance**	PA 1	**Sustainability Coordination**	1			
		PA 2	**Sustainability Planning**	4			
		PA 3	Governance	3			
	Diversity & Affordability	PA 4	**Diversity and Equity Coordination**	2			
		PA 5	**Assessing Diversity and Equity**	1			
		PA 6	**Support for Underrepresented Groups**	2			
		PA 7	**Support for Future Faculty Diversity**	1			
		PA 8	**Affordability and Access**	4			
	Health, Wellbeing & Work	PA 9	**Employee Compensation**	3			
		PA 10	**Assessing Employee Satisfaction**	1			
		PA 11	**Wellness Program**	1			
		PA 12	**Workplace Health and Safety**	2			
	Investment	PA 13	**Committee on Investor Responsibility**	2			
		PA 14	**Sustainable Investment**	4			
		PA 15	**Investment Disclosure**	1			
I N	**Innovation**	IN 1	**Innovation 1**	+1			
		IN 2	**Innovation 2**	+1			
		IN 3	**Innovation 3**	+1			
		IN 4	**Innovation 4**	+1			