THOMPSON RIVERS UNIVERSITY

Environment & Sustainability

Internal Review

2012-2013

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Preamble

This report is a component of a systematic self-assessment process for each service division at Thompson Rivers University. This self-assessment report for the Office of Environment & Sustainability includes the following sections:

- An overview of the Office and its major activities.
- Identification of leading universities in the field of sustainability and why they are considered leaders.
- A discussion of the TRU's progress relative to the leading university benchmarks.
- An assessment of where the sustainability programme is today.
- An action plan, with appropriate benchmarks, which outlines where the Office should be in three years and a realistic action plan.

1.0 Division Overview

The Office of Environment and Sustainability was created in early 2009 with the hiring of the Director, Environment and Sustainability. As part of the review process for the department-initiated TRU Environmental Policy, the department came to be known as the Office of Environment and Sustainability. This designation is consistent with other institutions. The Office operates in four focus areas:

1) **Policy**

   Develop policies to support TRU's strategic goal of being the University of Choice for Environmental Sustainability. An example of this is the aforementioned Environmental Policy, Board Policy 23-0.

2) **Operations**

   Develop and implement energy and other resource conservation projects on campus to reduce greenhouse gas emissions and operating costs. An example of this is the major energy retrofit which is reducing annual energy costs by more than $150,000 per year.

3) **Community Engagement**

   Work with internal departments, stakeholders, regional, national, and international groups to foster environmental sustainability through ongoing liaison, provision of expertise, and support of special services. The Office works with the City of Kamloops and local NGOs including the Kamloops chapter of the BC Sustainable Energy Association. The Director also chairs the higher education sector group addressing climate issues and represents the sector on the provincial Carbon Neutral Committee.

4) **Education**

   Foster and coordinate new ideas for sustainability programming at TRU and identify materials and resources to supplement, expand, or replace existing programming. The Office works closely with the Board/Senate appointed Environmental Advisory Committee (EAC) on issues relating to academic education. The Office has supported the development of the Environmental Leadership student certificate and made a presentation in cooperation with the EAC during the development of the TRU Academic Plan.

Breadth of Reach

The Office has a broad mandate encompassing behaviour change initiatives designed for staff, students, and faculty members along with conservation projects in water, energy, waste, and transportation management. The Office acts as a support mechanism for the Environmental Advisory Committee—a committee jointly appointed by the Board and Senate which advises Administration, the Board of Governors, and Senate on sustainability matters. The Office supports the Campus Sustainability Action Plan, which guides campus sustainability in line with the Strategic Plan of the university. Furthermore the Office organizes and coordinates notable events, supports student sustainability groups, and conducts rigorous reporting each year for the provincial government and every three years for the Association for the Advancement of Sustainability in Higher Education.

Major Activities in 2012-2013

Campus Planning

Both the Campus Master Plan and the TRU Strategic Plan will be updated over the coming year. These two documents are important pillars for the activities of the Office; therefore a substantial amount of time and effort will be devoted to the process of updating these two documents from an environment and sustainability perspective.

Fund Development

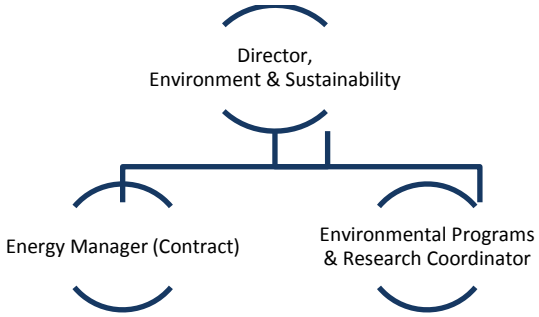
The Office will be responsible for administering two new sustainability funds. The Sustainability Grant Fund will receive $100,000 per year from parking funds and will be available to students, faculty and staff to fund sustainability initiatives on a one-time basis. The Sustainability Revolving Fund will provide loans for energy or other resource reduction projects where there is an economically significant capital return. The initial funds for the Revolving Fund came from the savings incurred from a major 1.2 million dollar energy project. The annual project savings will be shared between the Fund and the University.

Beverage Container Formal Review

The Office will be conducting a campus-wide beverage container review to commence in January 2013. This review will examine possible drink container solutions including an analysis for each the following: environmental and sustainability impact, economic and financial impact, choice, health and safety and contractual limitations and implications. The process will be transparent and open to all members of the TRU community including students, faculty, staff and suppliers.

A detailed outline of current and past Office activities is provided in Appendix I: Initiatives Outline.

Organizational Structure



Director, Environment & Sustainability

The Director is responsible for the formation of policy, coordinating, developing, planning, managing, monitoring, and evaluating the energy, vehicle emissions, water and waste management systems, climate change programs, and educational and information programs. The position is responsible for shaping institutional policy and implementing specific environmental directives mandated by legislation or outlined in *TRU's Strategic Plan.*

Energy Manager

The Energy Manager (EM) oversees the reduction of energy use and Green House Gas (GHG) emissions through technical changes, as well as through behavior change initiatives. Responsibilities include the development of a Strategic Energy Management Plan (SEMP) to establish energy reduction targets and the identification of energy reduction projects to meet established targets. The EM conducts technical and financial analysis for each project in order to prioritize projects based on maximizing energy savings per dollar invested. Over the past 3+ years the EM has implemented $1.5 million worth of projects resulting in over $150,000 in annual energy savings and the reduction of 400 t of CO2 emissions per year. The EM is responsible for the key phases of the current energy reduction projects including writing RFPs, project management, monitoring and verification of savings and securing incentives. The EM also manages the Workplace Conservation Initiatives (WCA) on campus that educates and engages staff and faculty around energy conservation.

Environmental Programs & Research Coordinator

The Environmental Programs and Research Coordinator conducts research into campus, community, national and international sustainability issues, organizes and supports campus and community events, maintains databases and develops communications within TRU and the broader community. The position is responsible for community and campus outreach work and managing various programs such as electric bike rentals and all website and social media communications.

2.0 Leading Universities

There are two generally accepted sources which allow for the comparison of Canadian universities in the realm of sustainability. The most comprehensive is the Sustainability Tracking, Assessment and Rating System (STARS) of the Association for the Advancement of Sustainability in Higher Education (AASHE). STARS is a comprehensive self-assessment of over 100 items including all teaching, operational and administrative activities. An overview of the STARS points rating thresholds is provided below.

Rating	Minimum Score Required
STARS Reporter	No scores are made public
STARS Bronze	25
STARS Silver	45
STARS Gold	65
STARS Platinum	85

The second source is the Canadian University Report Card which is based upon annual student opinion surveys. The 'Environmental Commitment' indicator is the most relevant metric for the purposes of comparing sustainability. This rating measures student perception of the level of environmental commitment demonstrated at their institution and ranges from a D to A+.

The National Survey on Student Engagement (NSSE) is a third indicator used in higher education benchmarking. Unfortunately the NSSE indicators do not yet include anything specifically for sustainability or environmental commitment. As a result we are unable to utilize this tool in the benchmarking process.

For purposes of benchmarking we consider the leading Canadian institutions in the field of environmental sustainability to be:

The University of British Columbia

Overall Leadership

The University of Northern British Columbia

Marketing Communications

The University of Victoria

Operations

Dalhousie University

Academic Programming

Overall Leadership - The University of British Columbia

STARS:

Gold

Canadian University Report 2013:

B+

The University of British Columbia is widely regarded as the overall sustainability leader in the country; however the size and resources of the institution make it too different from TRU for a direct comparison. It excels in physical operations, being the first to establish an energy dashboard to allow for the visualization of savings. The recently constructed Centre for Interactive Research on Sustainability (CIRS) was built to such high standards that it now provides energy and water to adjacent buildings. They have also adopted an integrated structure with operations and academic functions within the same organizational unit. The core sustainability structure is funded by a formula related to energy savings initiatives.

Notable UBC successes

- A university-wide sustainability strategy endorsed by the President has integrated sustainability into all aspects of the university.
- A new piloted approach to electric vehicle charging stations does not require physical contact between the operator or the vehicle and the electric charger.
- The Centre for Interactive Research on Sustainability – a high performance building dedicated to collaboration and outreach on urban sustainability. CIRS is used as a 'living laboratory' to demonstrate leading edge research and design.

UBC has a wide-reaching sustainability program, with over 20 staff members directly involved in campus operational and academic sustainability along with many more faculty members researching within the field. The sheer size of the sustainability programme is impressive and useful for researching best practices, although not a good fit as a direct benchmark comparison for Thompson Rivers University with a much smaller budget and staff base. However some aspects of the UBC approach, for example the energy dashboard are also being used at TRU.

Marketing - The University of Northern British Columbia

STARS:

Silver

Canadian University Report 2013:

A

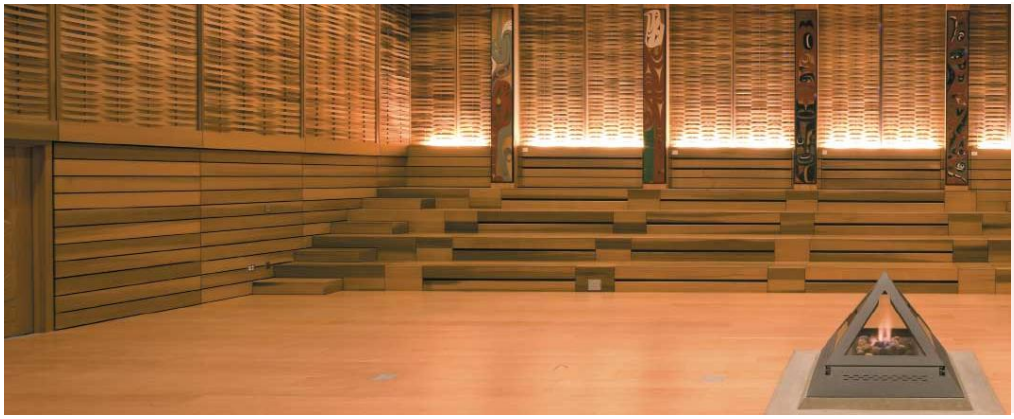
UNBC excels in marketing and communication of their sustainability efforts to a broader audience, both nationally and internationally. This focus on communications has resulted in considerable positive acclaim in the field of environmental sustainability.

Notable UNBC successes

- A bioenergy plant comprised of a wood pellet system and a biomass gasification system heats all core campus buildings and a write up of the project earned UNBC the 2010 AASHE Award for Best Campus Sustainability Case Study in North America, sharing the honour with a project by Harvard University.
- An excellent marketing strategy of framing UNBC as a sustainable institution and trademarking it as "Canada's Green University" has resulted in broad recognition, including recently being named One of Canada's Greenest employers; one of only four Canadian universities to make the list (the others listed were University of Alberta, Toronto, and McGill).

UNBC's high score on Environmental Commitment within the Canadian University Report Rankings, the highest of our reference group, shows the results of a substantial focus on increasing student awareness of sustainability initiatives. This strong communication link between the sustainability programme and marketing department is a useful framework for TRU to consider pursuing in our own efforts to increase student awareness of TRU's sustainability programme. It would be useful to have it as a priority in the new marketing approach at TRU in order to attract more students who are increasingly choosing their university, in part, on sustainability criteria. Research shows that a significant percentage of students decide on which university to attend based on both the sustainability related content in their intended program, as well as how green a university is operationally.

Operations - The University of Victoria



STARS:

Not Yet Reported

Canadian University Report 2013:

B+

The University of Victoria has been very successful in operational initiatives within transportation demand management, water management, purchasing policies, and research support. Due to its size and similar level of sustainability office staffing, UVic is a useful comparator for Thompson Rivers University.

Notable UVic successes

- Strong engagement work with a highly successful Sustainability Action Team program that empowers staff, faculty, and students to spearhead campus sustainability initiatives.

- One of Canada's first campuses to serve entirely organic and fair trade certified coffee in all cafés and dining rooms.

- 'Zero-waste' event guidelines and a portable water filling station help raise visibility of sustainability at all major campus events.

- Strict purchasing policies utilizing a triple-bottom line framework and focus on purchasing local, organic, or fair trade goods whenever possible.

The University of Victoria has a Campus Sustainability Action Plan much like TRU's plan and regularly reports on the progress of sustainability goals. With a larger staff size (3 full time staff), the University of Victoria has been able to spearhead more initiatives on their campus. In comparison TRU is still working on a more effective sustainable purchasing policy and is generally not as advanced in the operational area as UVic with the exception of energy.

Academic Programming - Dalhousie University

STARS:

Silver

Canadian University Report 2013:

B+

Dalhousie has taken a unique two-pronged approach to environmental sustainability that is clearly communicated with prospective students as well as the general public. In 2008, Dalhousie created a College of Sustainability (the first of its kind in Canada) which houses a number of academic programs—most notably the undergraduate Environment, Sustainability, and Society program (ESS). The ESS program was the sixth most popular of 26 majors offered by the Faculty of Arts and Social Sciences at Dalhousie University for full-time students in 2009, just one year after introduction.[1] It was recently short-listed for a *World Innovation Summit for Education Prize.*

Notable Dalhousie successes

- The aforementioned College of Sustainability which integrates all disciplines taught at Dalhousie into a unique Environment, Sustainability, and Society undergraduate degree.
- Sustainable design principles that apply to all new development on campus.
- The WeCar car share venture provides two vehicles on campus or use by students, staff, and faculty of Dalhousie for a small yearly fee and hourly rental rate.
- Aramark, the university's food service provider, is able to source 31% of its food supply from local maritime areas.

Compared to Dalhousie, Thompson Rivers University is only beginning to identify academic programming. TRU is creating a new Environmental Leadership Certificate and has programmes where sustainability is featured (Natural Resource Sciences Environmental Masters, Adventure Tourism, etc.). There is opportunity for TRU to capitalize on its academic sustainability programming in a similar fashion as Dalhousie. The Office made a presentation in cooperation with the EAC to implement a similar programme at TRU but while sustainability is well recognized in the Academic Plan there is no progress towards a Dalhousie or alternative type programme.

[1] Source: http://older.unews.ca/story/item/sustainability-program-exploding-in-popularity-at-dal/

Thompson Rivers University Sustainability Programme

STARS:

Silver

Canadian University Report 2013:

B

Thompson Rivers University has made considerable progress since the creation of the Office in 2009. In merely two years TRU had already earned a silver rating in the most comprehensive university sustainability tracking system currently available and raised its CUR ranking from a D to B-. Within Canada, only UBC has managed to earn a higher rating under the STARS system. In fact, many other university sustainability programs have yet to achieve a ranking, including the University of Victoria as well as the majority of TRU's peer group institutions. The majority of the comparator group are either unranked or ranked lower than Thompson Rivers.

Although the office is still young, the sustainability programme at TRU holds a strong position relative to other Canadian universities in general and its peer group. There are however, challenges including the fact that TRU sustainability initiatives are not well known on campus and it is lacking a "flag ship" visibility component. Operationally most of the focus has been in energy and this needs to broaden to include water conservation and other areas. By and large departments and individuals cooperate well with office-led initiatives but substantial additional progress requires the Office to engage with the campus in a different fashion, not primarily as the initiator of projects but as the facilitator and coordinator of initiatives championed by other members of the campus community.

Financial Contribution

TRU has received $1.2 million dollars from BC Hydro in funding over the past three years for energy projects and salaries related to those projects. The Office has also secured $500,000 in additional funding from various other funds. Retrofit projects are now providing an annual savings of $150,000 to TRU and have resulted in 10-12% reductions in overall energy use—even while taking into account the additional load of the new House of Learning building. The actual dollar value to TRU will grow much faster than inflation as the BC Utility Board approved increases in BC Hydro rates come into effect over time. See Appendix II for a detailed year-by-year breakdown of financial contributions.

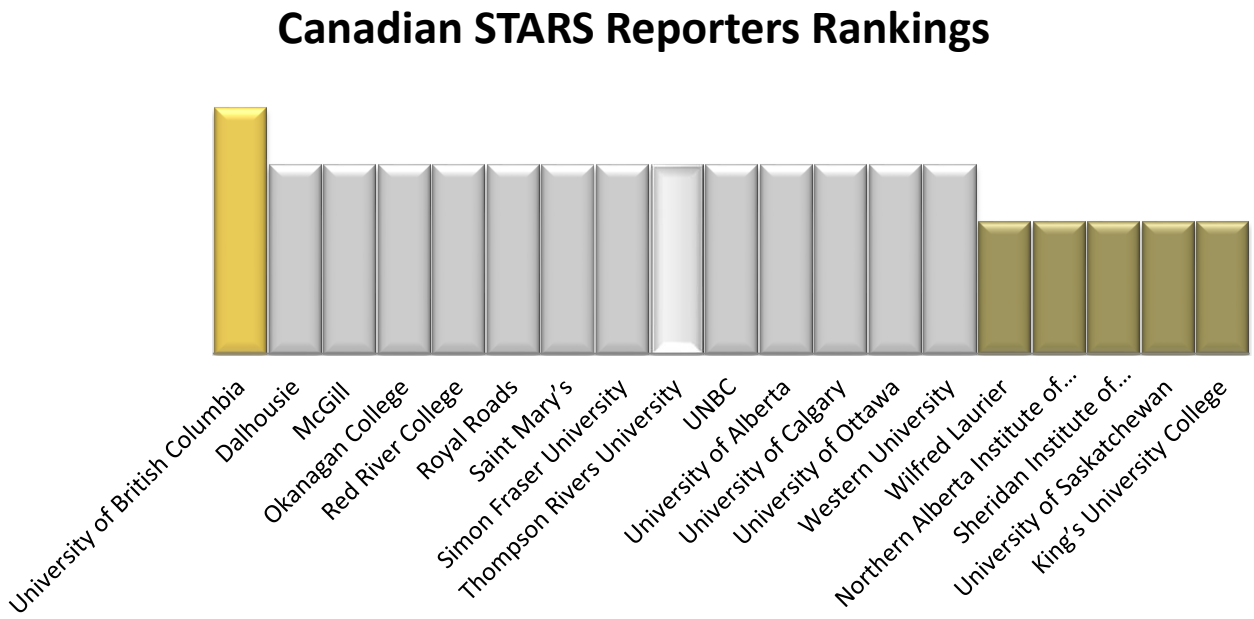
Benchmarking – AASHE STARS and Canadian University Report

Association for the Advancement of Sustainability in Higher Education Sustainability Tracking and Reporting System (STARS)

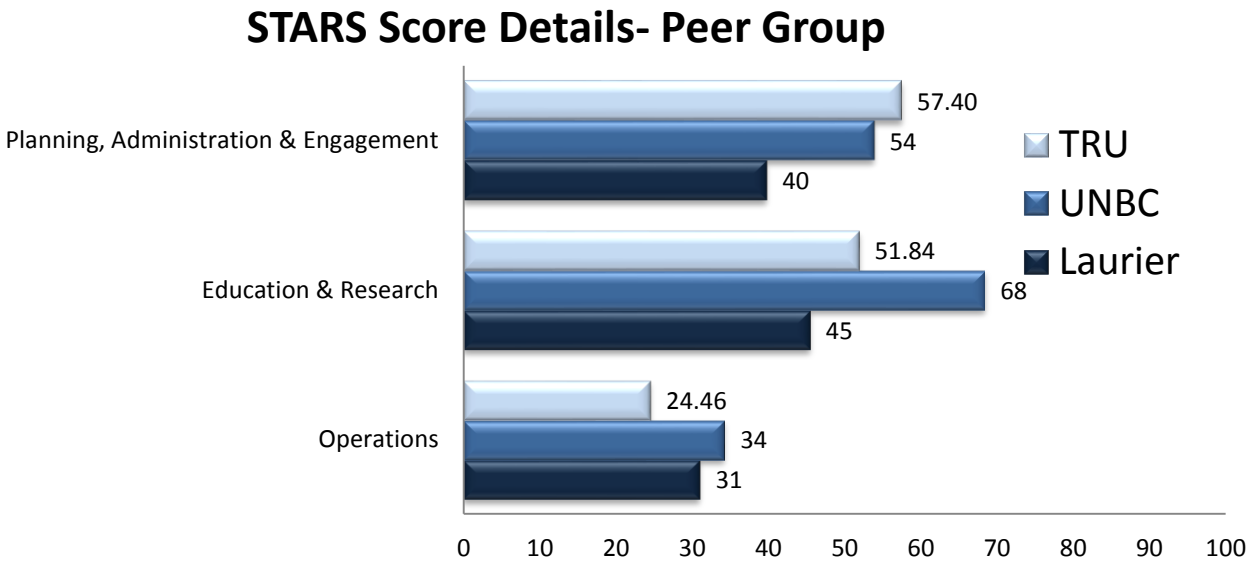
AASHE STARS is a transparent, self-reporting framework for colleges and universities to gauge relative progress towards sustainability. It is extensive and takes approximately three person-months of effort to complete. Universities rate their work on over 100 criteria listed under the following categories:

Education & Research;
Operations;
Planning, Administration & Engagement, and
Innovation

Thompson Rivers University participated in the STARS ranking for the first time in December 2011. TRU earned a Silver rating with an overall score of 48.57 amongst all four categories. Only two peer group universities also participate in the STARS ranking – Wilfred Laurier and UNBC. Below is a graph of all Canadian universities who have reported to STARS and their relative ratings (Gold, Silver, and Bronze).



Wilfred Laurier received a Bronze under STARS and UNBC received Silver. Within the STARS ranking system TRU is clearly positioned well above its peer group and is much more comparable to institutions such as Dalhousie, McGill, University of Alberta, and University of Calgary – organizations with typically much larger budgets and staff base. This is a strong indicator of our sustainability programme efficacy.



The above chart provides a more specific breakdown of 3 main categories that make up the STARS ranking framework. A fourth category, Innovation, is omitted as it only consists of 4 credits and most universities manage to earn all 4 credits, including TRU. Each university's percentage score in the category is labelled.

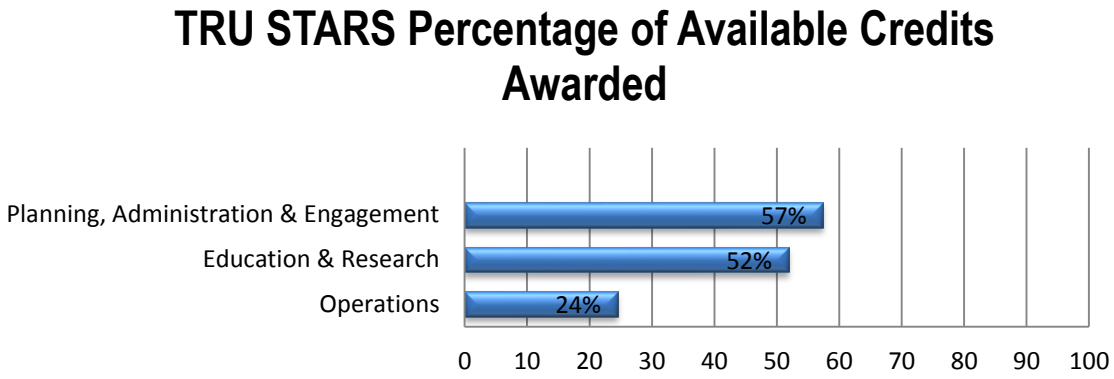
TRU is a leader within the Planning, Administration, & Engagement category, performing better than both UNBC and Wilfred Laurier. TRU also shows strong scores within Education and Research, outperforming Laurier on that indicator.

There is room for improvement within the Operations category for all universities—this is reflective of the fact that many criteria in this category require a base year be created during the first reporting cycle. This has resulted in many institutions being unable to capture all of their energy retrofit improvements until the second reporting cycle. As a result, TRU's and all other universities scores are expected to increase with the second reporting cycle.

The next two sections will outline TRU's areas of strength and areas for improvement in the STARS framework.

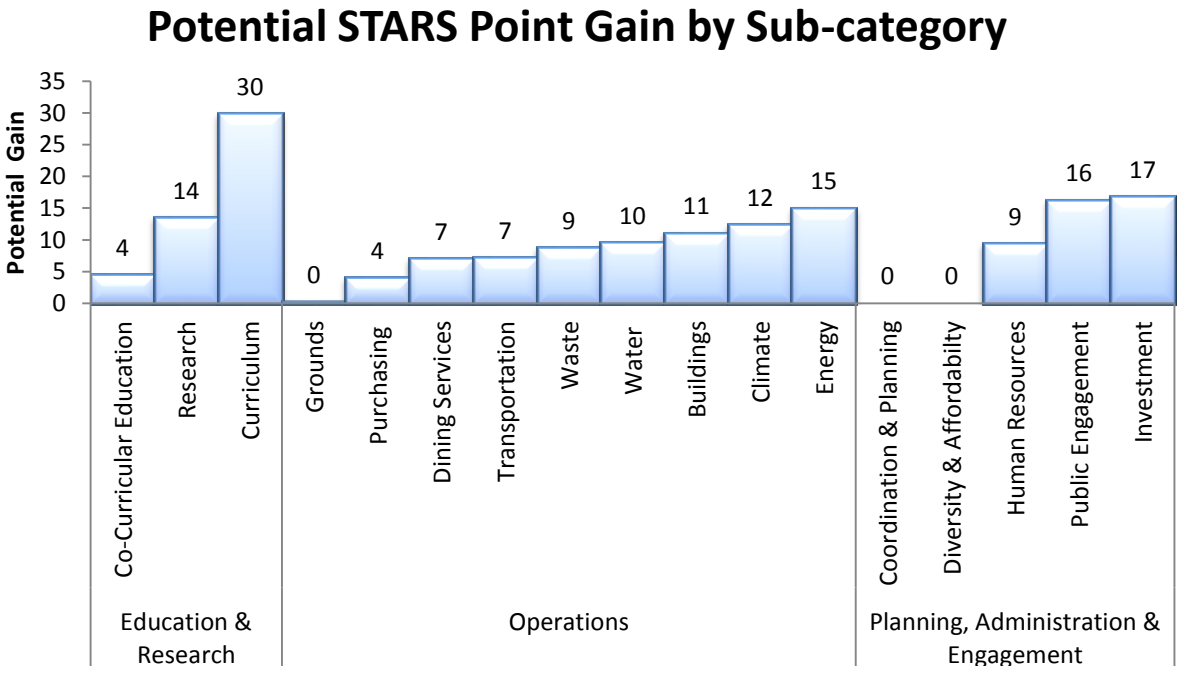
Areas of Strength

Planning, Administration & Engagement garnered the highest score for TRU with 57% of available credits obtained. All possible Innovation category credits were also awarded (not pictured). More information on TRU's innovation category credits is available in Appendix IV.



Areas of Improvement

There is room for improvement under all categories; however the highest potential gain is within Operations and Education & Research. TRU could potentially earn 48 credits under Education & Research, 75 total credits under Operations, and 42 under Planning, Admin, & Engagement. The following graph outlines the sub-categories with the greatest potential for improvement in terms of point gains. The points are a useful surrogate for general performance and translate reasonably well. For example TRU has already achieved all of the points available for coordination and planning and diversity and affordability. Using the points as one indicator is a useful way to be objective in the analysis of the strengths and weaknesses within TRU's sustainability programme.



Canadian University Report Peer Group Comparison

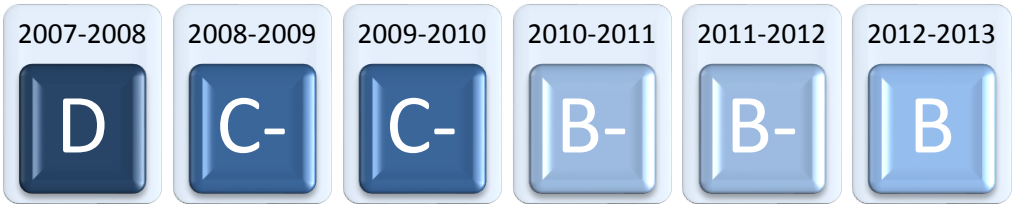
Below is a table of all peer group institutions, with Dalhousie and UBC included. The table provides the Canadian University Report 2013 ranking under 'Environmental Commitment'; STARS ranking if available; and sustainability staff size as of December 2012. It quickly becomes apparent that the two approaches are measuring different things – number of initiatives versus student perception of environmental commitment. For example the high CUR rating goes to a university that received Silver under the STARS framework, while the Gold STARS ranking for UBC is accompanied by a B+ under CUR 2013.

Institution	CUR 2013	STARS	Sustainability Staff Size
University of Northern British Columbia	A	Silver	2 FT + Energy Manager* + Interns
Trent University	A	-	1 FT + Interns
University of Winnipeg	A	-	2 FT + Interns
University of Victoria	A-	-	3 FT + Energy Manager + Interns
Bishop's University	A-	-	0 FT + Interns
University of British Columbia	B+	Gold	20+ FT + Energy Manager + Interns
Dalhousie University	B+	Silver	8 FT + Interns
Lakehead University	B+	-	2 FT
Cape Breton University	B+	-	0 FT
Thompson Rivers University	**B**	**Silver**	**2 FT + Energy Manager**
Wilfred Laurier University	B	Bronze	1 FT + Interns
University of Lethbridge	B	-	0 FT
University of the Fraser Valley	B*	-	2 FT
Laurentian University	B-	-	0 FT
University of Regina	C	-	0 FT
Bishop's University	A-	-	0 FT + Interns

*Note: Athabasca, Teluq, and UOIT from the peer group comparator list were excluded as they are primarily distance learning institutions that are not relevant comparisons from a sustainability perspective. UBC and Dalhousie are included for the purposes of comparison only. Energy Manager is a BC-only position. Intern indicates student intern positions. *2012 rating used for University of the Fraser Valley.*

TRU's current CUR rating of B is a significant improvement from previous years but still only on the lower side of the middle of the ranking. TRU's Environmental Commitment indicator received the lowest possible rating in 2008 prior to the creation of the Office, and has been improving steadily since but this is an area which clearly needs to be improved.

CUR Ratings for TRU Over Time



3.0 Assessment

3.1 Policy

Present Status

Policy advancement is an area of strength for the Office. Planning, Administration & Engagement is TRU's highest score in the STARS ranking system, ahead of UNBC and Wilfred Laurier. TRU is one of just a few Canadian universities that have placed environmental sustainability as a key component in both the institutional Strategic and Academic Plans. The institutional Environmental Policy has been the main policy initiative to date. It has been carefully crafted to give overall guidance to several important areas which can now be made more sustainable under this framework document. For example, gains have been made in TRU's purchasing practices with the inclusion of green criteria as appropriate in Request for Proposals. The Office also leads all British Columbia universities in terms of involvement and representation on carbon neutral provincial committees—the Director is co-chair of the BC Carbon Neutral-Advanced Education Committee and serves as a sector representative for the provincial Carbon Neutral Committee.

Challenges

The policy development process at TRU is lengthy and arduous. Originally the plan was to follow up the environmental policy with an energy policy, waste policy, purchasing policy, etc. Recognizing that the policy review and approval process is a lengthy one, the Environmental Policy was subsequently written as a framework or enabling policy practices and protocols which allow for initiatives across several areas related to TRU's environmental and sustainability strategic goals.

The second challenge is to ensure that the requirements of the general policy are being carried out in all of the relevant areas. Even where managers are supportive, which is often the case; there is a substantial amount of time and effort being spent reviewing and supporting documents and decisions. The challenge will be met when there is a more systematic and predictable system in place to implement the overall Board Policy.

The ultimate challenge is to have environment and sustainability policy considerations embedded in all management decisions at TRU.

Opportunity

Policy advancement opportunities have been identified in the following:

- Review of Campus Master Plan
  - Opportunity to highlight sustainability as an integral component in the Master Plan and ensure its integration into all aspects of future campus development.

- Update of the Strategic Plan
  - The update will allow for issues which may not have been considered in the original to be put forward as well as reflect progress made under the guidance of the original Strategic Plan.

- Implementation of Academic Plan.
  - Expand educational sustainability opportunities with the implementation of the Academic Plan.

- Renewal of Campus Sustainability Action Plan
  - Currently under review by the Environmental Advisory Committee and will be renewed during the 2012-2013 academic year. Concepts developed can be used as input into Strategic Plan process.

3.2 Operations

Present Status

The Office is making progress in terms of operational sustainability. A particular area of strength is energy use reductions: initial measurements have shown savings in excess of $150,000 yearly resulting from the $1.5 million energy retrofit. A new Sustainability Grant Fund created from the parking fee increases will help fund more operational projects on campus. Transportation will continue to improve with the implementation of the recommendations in the Transportation Demand Management Study. Waste is generally good with a campus-wide mixed recycling program as well as coffee-ground composting in all food outlets on campus. However there are areas including on-campus composting, water conservation and biodiversity protection which have not yet been addressed.

Challenges

Implementation of environmental and sustainability initiatives requires existing practices to be re-examined and revised and changes to be made which enrich the university generally. Not everyone welcomes the change and in some cases the issue becomes what is in it for me. If an individual or a department does not gain a direct benefit, particularly when budgets are tight they may not be willing to accept change readily. Others of course will. TRU's IT department is constantly making "green" changes and is always on the lookout for more. Similarly the Bookstore offers a range of green products. The strategic challenge is to find a mix of education, support and perhaps even incentives to get more buy-in to the broader TRU initiatives.

There are also substantial what might be determined "cultural" barriers to change. Because of the participatory nature of campus life, some individuals feel that they have individual veto power over change and some administrative departments will reverse a decision to avoid complaints without investigation of the complaint. In one case the Office was involved with a person who complained about being negatively affected by a change in temperature when no such change had occurred. When asked about it the individual said they had heard a rumour the temperature had changed and complained on that alone. The need to balance the very legitimate requirements of individual expectations of a comfortable environment and the need to set that environment up for individuals with opposing definitions of comfortable is part of a larger issue of entitlement which needs to be resolved over time.

The mix of older and newer operating systems presents challenges in that initiatives have to be tailored to individual buildings and systems. This also makes the more broadly based options such as a central heating plan more complex and costly.

An additional challenge is to manage expectations and at the same time introduce initiatives in other areas such as water conservation. The Office receives a new "good idea" from someone on campus, a supplier, government or a professional organization almost on a daily basis. Only a limited number can be done so it is a challenge to make sure that the priorities are well understood to encourage proposals which relate to those challenges. At the same time it is necessary to be open for an idea which, although not related to a priority has enough merit to be implemented on its own.

Opportunity

Operational advancement opportunities have been identified in the following areas:

- Sustainable Revolving and Sustainability Grant Funds
    - These funds will increase the depth and breadth of projects on campus, opening up funds for other important operational activities such as transportation, waste, and water use.

    - The transparent participatory process for fund selection will provide for broader "ownership" of operational improvements.

- Energy Specialist
    - Creation of a gas specialist position will open up more opportunities to reduce greenhouse gas emissions, thereby saving Carbon Neutral required offsets as well as avoid costs.

- Energy Manager
    - Continue to source subsidies, grants, and incentive programs and continue with existing energy management programs. Energy Manager (EM).

    - The EM establishes protocols with facilities regarding energy retro-fits and complaints. Complaints resulting in temporary over rides of controls related to energy reduction are directed to Energy Manager and the EM works with facilities staff to address complaint and remove over ride.

- The EM works with Facilities and Procurement Department to review energy related equipment purchases. Purchasing guidelines for equipment using significant amounts of energy should be include projected energy costs, maintenance costs and possible incentives to determine the total life cycle cost of equipment.

3.3 Community Engagement

Present Status

The Office has established good relations with both on and off-campus partners. The Office experiences a high level of cooperation with TRU's Students Union as well as the student environmental club, TRU Eco. Partnerships within the community for Bike to Work Week and collaboration with the BC Sustainable Energy Association, the Fraser Basin Council and the City of Kamloops are also well developed. TRU demonstrates provincial leadership with the Director serving as Chair of the Carbon Neutral Committee Advanced Education Sector. A recent marketing analysis has revealed that there is opportunity in working more on increasing awareness of the sustainability programme in the general student population.

Challenges

A student body that is less engaged than average due to TRU's characteristic of being a commuter campus is a significant impediment to the Office programme. Until the campus has enough campus life to attract students to stay on campus between classes, all programming, including those from Environment & Sustainability will unfortunately suffer.

Community groups often want to co-sponsor events with the Office. The Office contribution often involves providing meeting space. The current system for space allocation is not reliable or timely enough to meet this requirement. This issue is not only related to sustainability but to other campus events.

The Office will engage in broadly based sustainability initiatives such as climate change through participation in events such as the annual 350.org event in Kamloops. The Office does not get involved in supporting or opposing individual projects. The challenge is to make sure that in working with community groups that the Office has accurate information on the focus and intent of each opportunity to assess whether or not the Office should be involved.

The campus and community understanding of the sustainability activities at TRU is quite limited and the Office needs to better disseminate information with respect to existing and new initiatives.

The literature and TRU-based studies clearly show that there are an increasing number of students who chose their university based upon the institutions activities in the field of sustainability. In spite of this, the recruitment units at TRU have failed to take advantage or even recognize sustainability in their programmes.

Opportunity

The Office commissioned an external review of its marketing practices. There is now the opportunity to implement the recommendations of the departmental marketing analysis. The Office of Environment and Sustainability should consider collaborating with recruitment to add a sustainability-awareness component to their recruitment campaigns to fully inform prospective students with a keen interest in sustainability. The students from outlying communities who have regional options, as well as those students who have short listed TRU, should be fully informed about TRU's expanding sustainability initiatives and track record. Students surveyed at TRU articulated that TRU is "doing a lot" in terms of initiatives, and felt that TRU is "walking the talk," but TRU should also think about "talking the walk"; that is, TRU should more actively promote the number of successful initiatives to date.

- A "Talk the Walk" campaign will inform students currently attending TRU about sustainability initiatives, and serve to increase TRU's standing in the annual National Survey of Student Engagement (NSSE) report; this, in turn, could be used by prospective students to research (and rank) the sustainability track record of Canadian institutions they are considering attending.

- Opportunities exist to catch students at key times in their studies, for example those in residence when they first move in, during orientations, etc.

- Develop a structured way for students participate. The new sustainability fund will provide this opportunity.

- There are significant opportunities on campus to work with already established groups to spread the department reach.

- A new building occupant engagement pilot project will make energy efficiency more user friendly on campus.

- Work with marketing department to advertise TRU's sustainability successes and services. An additional benefit of working with marketing department is that it would improve scores such as NSSE, CUR, and STARS.

- Work with the newly appointed Director of Marketing to see that sustainability initiatives are highlighted as appropriate in marketing initiatives.

- Identify opportunities for TRU to get awards for sustainability initiatives.

3.4 Education

Present Status

As an administrative unit the Office is primarily focussed on operational and community issues but does have the opportunity to support activities through its involvement in the EAC and by invitation in other initiatives. Thompson Rivers University currently offers a number of environmentally related programs and has many faculty members who are engaged in related research, although it has so far largely gone undocumented and unadvertised. Working for the Sustainability Office, Andrew Pillar created a sustainability research inventory which can be used and updated in the future (Appendix VII).

Challenges

The division between operations and academics is quite clear at TRU at a time when other universities including UBC have moved to an integrated model with both operational and academic initiatives under the same structure. This has occurred because studies have shown that students which put a priority on sustainability as a factor in university selection require the chosen institution to have both operational and academic programming in place.

Opportunity

- The new Environmental Leadership credential will increase and encourage the development of more related educational opportunities.

- Inclusion of sustainability as one of the four foundations of the Academic Master Plan should help improve performance in this area.

- An educational component included in the BuiltSpace pilot project, initiated by the Office will educate building occupants of all of the energy efficient features within their buildings of which they are currently unaware.

4.0 Three Year Outcomes

The outcomes for the next three years are:

1) Broadening the involvement and ownership of the environment and sustainability initiatives using the revolving and grant funds as an incentive for broader participation.

2) Supporting the university marketing and recruitment efforts by ensuring that the success stories at TRU are available to the growing number of students who will have sustainability considerations weighted heavily in their choice of institution.

3) Continuing the successful energy reduction programme to provide financial and other benefits to TRU on a predictable ongoing basis.

The benchmarks are based upon these outcomes. Involvement will be benchmarked against the percentage of funds available that are used in projects generated by members of the TRU community. Support for marketing and recruitment will be benchmarked against stand alone or integrated marketing and recruitment campaigns which have environment and sustainability as a key component. The energy benchmark will continue to be energy reductions and subsequent financial savings to the university.

Three-year Action Plan

Year 1 (2012-2013)

These areas of focus and action items will be taken in conjunction with the routine activities and the Beverage Container Review identified in Appendix V: Office Work Plan 2012-2013 which is a detailed work activity plan for this period

1) Fund Management

Two new financial support programs will be implemented during the coming year. Therefore there will be an initial focus on providing the necessary support to have these two funds receive formal approval followed by start-up activities.

Actions

- Develop a communication plan to ensure that it is well known that the funds are available and the criteria and application process are understood and accessible to the broad TRU community.
- Support projects in the 2012-2013 fiscal year equivalent to a minimum of 60 % of the Grant Fund and 90% of the Revolving Funds available including carry forward from 2011-2012 in the Grant Fund and 2010-2011, 2011-2012 for the Revolving Fund.

2) Support of TRU Marketing and Recruitment

There is a new marketing structure in place at TRU.

Actions

- The Director will meet with the new Marketing Director; bring to her attention the Presidents direction that a marketing plan should be created to take advantage of TRU's Silver STARS rating. The Director and staff will provide whatever supporting materials necessary to develop and implement the plan.
- The Director will meet with the Director of Recruitment with the objective of developing a similar cooperative approach for the recruitment area.

- References to sustainability in key university documents are one indicator which students use to choose a sustainability oriented university; therefore the Director will provide input into the Campus Master Plan and Strategic Plan renewal to ensure that environment and sustainability issues are appropriately referenced.

3) Energy

Over the past 3 years TRU has reduced energy use and related costs and GHG emissions by ~11 percent. In addition to $150,000 in annual savings, the projects have avoided significant maintenance costs by replacing $500,000 worth of ballasts and lamps and decreasing run times on motors etc. The next 3 year target will see a further reduction to 9 percent to achieve a 20 percent overall reduction from the 2010 baseline.

Actions

- The current year will focus on gas savings with the addition of the Energy Specialist and by maximizing on incentives for regularly scheduled gas related equipment replacement.

- In addition, ongoing and completed projects in 2012-2013 will achieve a 2.5 % reduction in electricity and gas.

Year 2 (2013-2014)

1) Fund Management

The funds will be in the second year of operation therefore the emphasis will be on ensuring that there is a higher level of take-up of available funding.

Actions

- Develop a report and communications plan to ensure that the fund allocations in the first year of operation are understood and to remind the broader TRU community that the funds continue to be available.

- Support projects in the 2013-2014 fiscal year equivalent to a minimum of 75 % of the Grant Fund and 90% of the Revolving Funds available for disbursement.

2) Marketing and Recruitment

The Office will continue to support marketing sand recruitment building upon the two plans developed the previous year.

Actions

- Participate in the development of at least one marketing initiative which has a substantial component of environment and sustainability.

- Participate in at least one recruitment event or campaign which has a substantial focus on environment and sustainability.

3) Energy

The Continuous Optimization Program will provide the majority of the 6.5 percent savings in 2013-2014 and 2014-2015. Additional savings will be generated through projects funded by the revolving energy fund, and regular scheduled energy related equipment replacement. The 20 percent target will amount to approximately $300,000 in annual savings; eliminate 800 tons of GHG emissions, plus significant avoided costs due to reduced maintenance.

Actions

- Ongoing and completed projects in 2013-2014 will achieve a 3.5 % reduction in electricity and gas.

Year 3 (2014-2015) Focus Areas

1) Fund Management

The funds will be in their third year of operation therefore the benchmark will be broadened. It will continue to include take-up as an indicator of campus involvement and ownership. Fund performance will be reviewed against the broader campus guidance documents to ensure that the impact of the funding is supporting the documented priorities of the university.

Actions

- Support projects in the 2014-2015 equivalent to a minimum of 90% of the Grant Fund and 95% of the Revolving Funds available.
- Review all projects funded to date against the relative priorities in the Campus Master Plan, the updated Strategic Plan and the Academic Plan.

2) Marketing and Recruitment

Actions

- Work with the Director of Marketing on her annual marketing plan to identify marketing initiatives which would be suitable platforms to market the environment and sustainability activities at TRU. Supply any information or other resources to implement those initiatives.
- Work with the Director of Recruitment to develop a major recruitment initiative or campaign focussed on environment and sustainability. Supply the information or other resources necessary to support the initiative.

3) Energy

Actions

- Ongoing and completed projects in 2014-2015 will achieve a 3 % reduction in electricity and gas.

5.0 Appendices

Appendix I: Initiatives Summary 2011-2012

Policy

Environmental Policy

The Environmental Policy was approved by the university senate on May 24, 2012 strengthening TRU's commitment to environmental sustainability. The policy is now used in several areas of the university operations including purchasing.

Campus Sustainability Action Plan

The Campus Sustainability Action Plan was developed to 2012 to coincide with the TRU Strategic Plan and includes sections on the natural built and human components of the TRU environment. TRU's ecological footprint was the starting point for the initial CSAP which was developed by a stakeholder committee with representatives from the Alumni Association, the staff and faculty unions including both on campus and distance-learning faculty, the TRU Professional Association and the Student Union. It is currently undergoing a review and revision by the Environmental Advisory Committee and will be renewed this academic year.

Operations

Major Energy Projects

Campus-Wide Energy Retrofit

The 1.5 million dollar primary building retro-fit project was substantially complete March 31, 2011, coming in at $120,000 under budget.

Continuous Optimization

TRU is enrolled in BC Hydro's Continuous Optimization Program (COP). Under this program BC Hydro pays for a consultant, in essence, to fine tune the building electrical systems identifying project which will result in a two year or less payback period. The BC Centre for Open Learning is in the Implementation Phase, with an estimated $10,000 in annual savings expected to be realized. One of the measures identified is to use the heat generated from the computer bank in the building as an initial

heat source rather than a secondary source which means that "free" heat replaces bought heat on an optimal basis. An external consultant is currently conducting the Investigative Phase for 5 buildings: the Campus Activity Centre; Arts & Education; Science; International Building; and Trades and Technology. The House of learning will be entering the investigative phase soon.

Campus-Wide Metering

Ninety percent of the Kamloops campus buildings (23) now have Pulse Software installed. New meter points will be added in Fall 2012 to the Facilities building, the Independent Centre, the Research House, and the Aboriginal Center. A new House of Learning gas meter along with metering on the Campus activity Centre addition is planned for Fall 2012. The metering system provides for better monitoring of energy use and earlier intervention when an issue appears which reduces costs. It is an important tool in behavioural change initiatives since everyone at TRU has access to the Dashboard and can see what energy is being used in their building allowing meaningful competitions among buildings. Campus metering also allows for more accurate energy charge backs where appropriate.

Innovative Technology – WEMS

Installation of the Wireless Energy Management System in the Culinary Arts Building is currently underway, which uses wireless sensors to control the HVAC and lighting systems. This innovative wireless technology allows remote sensors to communicate with building automation systems and will be the first of its kind in North America.

Energy Revolving Fund & Founding Member of Billion Dollar Green Challenge

The new energy revolving fund will utilize savings from the $1.5 million energy retrofit to fund further energy projects on campus. The creation of this fund is tied in with TRU's founding partnership in the Billion Dollar Green Challenge, a North America-wide initiative sponsored by the Rockefeller Foundation to invest a combined total of one billion dollars in self-managed revolving funds that finance energy efficiency improvements.

New Energy Specialist Position

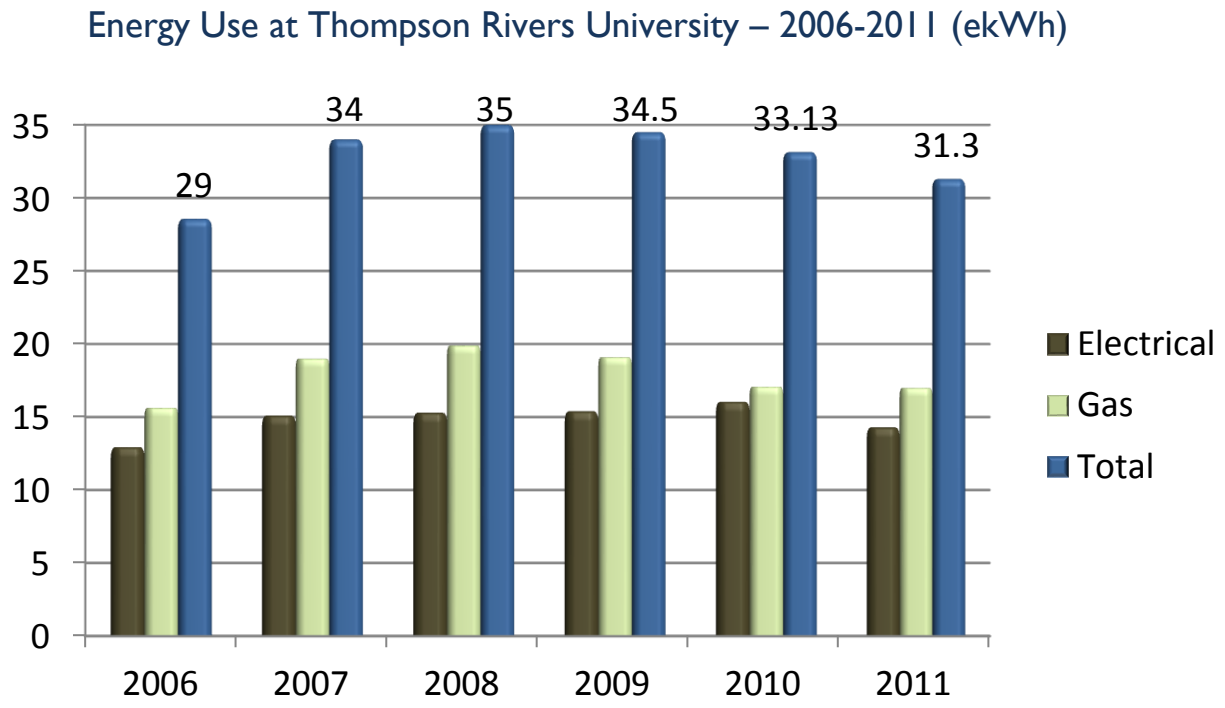
TRU was recently approved for a $60,000 Gas Specialist salary by Fortis BC. There is potential for yearly renewal of this funding. The new position will concentrate on gas savings which will bring more reductions and energy cost savings to the campus.

Electric Vehicle Charging Stations

$40,000 in funding for ten electric vehicle re-charging stations was recently approved for both the Kamloops (8) and Williams Lake (2) campuses.

Ventilation Control in Culinary Arts

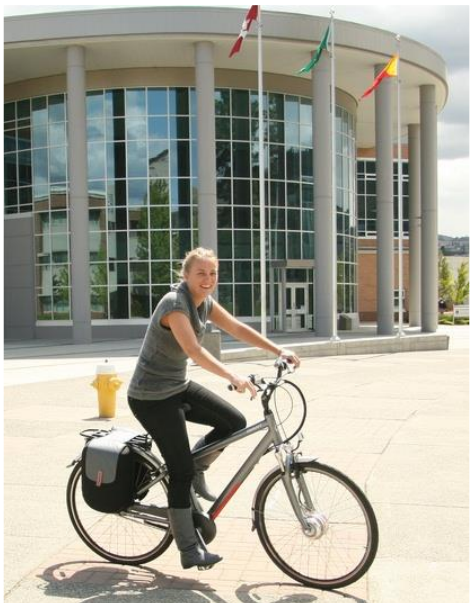
Demand ventilation controls in the Culinary Arts building are being installed to reduce the heating and cooling demand due to fume hoods running excessively.



Transportation

A comprehensive Transportation Demand Management Study was finalized in March 2012. The plan was sent to the Environmental Advisory Committee, the Parking Advisory Committee, and the department Student Advisory Committee for review and comments.

The Office will now focus on implementing the plan recommendations and consulting with campus stakeholders. The updating of the Campus Master Plan will provide an excellent opportunity to integrate the finding of the TDM in the short and longer term based upon emerging concepts including the "University Village "project. In the meantime the Office is providing opportunities for people to try out an electric bike and working with Facilities to develop better bike rack and repair facilities on campus.



An Electric Bike is available for free rental

Community

Fraser Basin Council

The Director is a member on the Thompson Okanagan committee for the Fraser Basin Council. This committee provides the opportunity for the Director to hear the concerns and current news from local region councillors and directors from the Nicola Valley, North & South Okanagan, Shuswap, Wells Gray Country, and Gold Country.

BC Sustainable Energy Association (BCSEA)

The Environmental Programs Coordinator sits as a steering committee member for the Kamloops Chapter of the BC Sustainable Energy Association. The Office regularly partners with BCSEA on events and speakers both within Kamloops and Thompson Rivers University. The most recent partnership was a speaker presentation from the Mayor of Okotoks, Alberta on the various energy efficient features of their community.

City Events – World Rivers Day and Clean Air Day

The Office partners with City of Kamloops staff on many public environmental events throughout the year. The Office recently participated in The Great Canadian Shoreline Cleanup/World Rivers day at Riverside Park on Saturday, September 29th and Clean Air Day on June 6th.

Bike to Work Week

TRU Environment & Sustainability was a sponsor for the event, providing prizes for the morning celebration stations and donating our blender bike for free smoothies. Bike to Work Week was a great success this year. Kamloops met and exceed its goal for teams with 108 registered, and 512 cyclists registered in total.

Other Partners

The Office partners with other organizations and individuals within the Kamloops community as the opportunities arise. The Office has developed a strong reputation within Kamloops as a positive influence for the community.

Education

Environmental Leadership Credential

Pending approval, the certificate is a one-credit post-graduation certificate that recognizes leadership in environmental sustainability acquired by students through their education and extra-curricular experience at TRU.

BuiltSpace – Occupant Engagement

The Office has developed a pilot project with BuiltSpace, a private company to increase the awareness and involvement of building occupants in energy efficiency measures. Through Q&R codes and social media platforms, building occupants can communicate with each other about conservation measures. During energy related competitors and events (Earth Hour, International Sweater Day, and others) the network links occupants and creates a compelling social context that further motivates users to reduce consumption. The tool also allows occupants to inform TRU on what is working well or what isn't working well during the various initiatives and events. The pilot project is also being integrated into other ongoing campus initiatives including the LEED required building information program in HOL.

Workplace Conservation Awareness

Awareness campaign called the home/work energy challenge. It uses a combination of BC Hydro's 10% reduction reward challenge and on campus competitions to encourage building occupants to reduce energy use both where they live and where they work. In total the Office has about 50 faculty and staff signed up, and the Office is targeting 50 more in the second year of the program.

Campus-wide Sweater Day

Turning the temperatures down between 1-3 degrees campus-wide on Sweater Day resulted in an overall reduction of 20% in natural gas consumption for the day. The event was accompanied with tabling before and during the event for students, staff, and faculty and a tacky sweater contest run on the Office Facebook page.

Do it in the Dark Residence Challenge

An annual energy reduction competition held between the TRU Residence and On Campus Housing. In 2011/2012, the Director and Energy Manager held pancake breakfasts at the residences to encourage participation and increase campaign awareness.

Appendix II: Energy Project Matrix

Annual/Subsidy/Incentive Projects							
Project Information			Year				Totals
Name	Contributor	Description	2009-2010	2010-2011	2011-2012	2012-2013 (Projected)	Project Total
Energy Manager	BC Hydro	Salary	100,000	100,000	100,000	75,000	**$375,000**
Smart Bars	BC Hydro	Power saving bars	7,000				**$7,000**
Energy Retrofit	BC Hydro	Campus wide retro-fit	400,000				**$400,000**
PSECA Solar	PSECA	Solar water panels		300,000			**$300,000**
Continuous Optimization	BC Hydro	Trades, Science, A&E, CAC, IB		200,000	80,000	60,000	**$340,000**
Single-Focus Projects							
Project Information			Year				Totals
Name	Contributor	Description	2009-2010	2010-2011	2011-2012	2012-2013 (Projected)	Project Total
Electic Vehicle Charges	BC Government	10 charging stations				40,000	**$40,000**
Gas Specialist	Fortis	Salary				60,000	**$60,000**
BuiltSpace	BuiltSpace	Occupant Engagement			5700		**$5,700**
Culinary Arts Innovative Technologies	WEMS/Hydro	Wireless HVAC/Lighting			35,000		**$35,000**
Library Innovative Technologies	WEMS/Hydro	Wireless HVAC/Lighting			35,000		**$35,000**
		Yearly Total	**$507,000**	**$600,000**	**$255,700**	**$235,000**	**$1,597,700**

Appendix III: Canadian University STARS Rankings

Canadian STARS Reporters	Ranking	Score
University of British Columbia	Gold	65.09
University of Alberta	Silver	61.6
Royal Roads University	Silver	59.04
University of Ottawa	Silver	58.26
Dalhousie University	Silver	57.73
University of Northern BC	Silver	56.09
McGill University	Silver	56.03
Western University	Silver	52.11
University of Calgary	Silver	50.49
Red River College	Silver	49.7
Saint Mary's	Silver	48.98
Okanagan College	Silver	48.72
Thompson Rivers University	**Silver**	**48.57**
Simon Fraser University	Silver	47.73
Wilfred Laurier	Bronze	38.68
Northern Alberta Institute of Technology	Bronze	37.63
Sheridan Institute of Technology	Bronze	35.3
University of Saskatchewan	Bronze	34.79
King's University College	Bronze	29.67

Source: https://stars.aashe.org/

Appendix IV: TRU STARS Innovation Credits

Source: https://stars.aashe.org/institutions/thompson-rivers-university-bc/report/2011-12-19/#ec_9_40

Innovation 1 – YMCA Equilibrium Home

The Kamloops "Green Dream Home" team, which included students and faculty in TRU trade-entry and advanced technology programs, in partnership with the Home Builders, designed and built the eco-friendly home at Sun Rivers in Kamloops, and the "Green Dream Home" was sold to the Kamloops Y for their 2009 Dream Home fundraising project. The 3,000-square-foot home stands at 1858 Ironwood Terrace in Sun Rivers and is so loaded with energy-efficient features that the estimated net cost for a year's worth of electricity will be zero. Photovoltaic panels, evacuated tube solar collectors, geothermal heat pumps, drain water heat recovery, super-insulation, passive solar design, and passive ventilation are just some of the technologies and techniques that have been employed in the Green Dream Home in order to reduce the building's energy consumption to zero over the course of a year. Other features include a 2.5–cm-thick recycled rubber shingles to a living-room waterfall that balances interior humidity. The green design and stellar innovation make it one of the most technically complex and modern homes in existence.

Innovation 2 – Habitat for Humanity Program

Rather than disposing of building materials from renovations as waste, materials were donated by TRU, stripped by Habitat for Humanity, and resold resulting in $10,000 revenue to Habitat for Humanity.

Innovation 3 – Thompson-Shuswap Chef Farmer Collaborative

The Thompson-Shuswap Chef Farmer Collaborative (TSCFC) formed in 2010, with Ed Walker, Chef Instructor at Thompson Rivers University leading the charge. Although the inspiration for a chef's collaborative came from the Island Chefs' Collaborative operating out of Victoria, the TSCFC is the only Farmer- Chef collaborative to be operated in conjunction with a university chef training program

With the determination of a weed seed, Ed set about organizing a team that would eventually become the first board of the TSCFC. Within one year the TSCFC was launched.
Together, these folks have formed a non-profit society with a mission of connecting local farms with local restaurants, helping move locally grown food from seed to plate. The collaborative is also supporting farmers and food security organizations through grant programs.

Today, our membership is at more than sixty farmers and chefs. We have big plans and intend to bring awareness of the goodness of local food to our region through education, entertainment and most of all – edible delights.

Innovation 4 – Campus Sustainability Action Plan

The Campus Sustainability Action Plan was developed through the cooperation of TRU's Student, and Staff Unions, as well as the Faculty, Administrative, and Alumni Associations

Appendix V: Work Plan 2012-2013

Focus Areas for 2012-2013	
Campus Planning Campus Master Plan Strategic Plan	**Both the Campus Master Plan and the TRU Strategic Plan will be updated over the coming year. These two documents are important pillars for the activities of the office therefore a substantial amount of time and effort will be devoted to the process of updating these two documents from an environment and sustainability perspective.**
Fund Development Energy Revolving Fund Sustainability Fund	**Two new financial support programs will be implemented during the coming year. Therefore there will be a initial focus on providing the necessary support to have these two funds receive formal approval followed by start up activities.**
Plastic Bottle Review	**The Office will be conducting a campus-wide plastic bottle review to commence in January 2013. This review will examine possible drink containers solutions including an analysis for each the following: environmental and sustainability impact, economic and financial impact, choice, health and safety and contractual limitations and implications.**

Routine Activities 2012-2013

Policies

Activity	Key People	Target	Measurement	Timeline	Comments
Campus Sustainability Action Plan Update	Environmental Advisory Committee	Plan updated, finalized and released to campus community	Plan complete with new goals/targets created	June 30,2013	Support provided to EAC committees responsible for developing plan components
Campus Master Plan Update	Environmental Advisory Committee	Environmental Sustainability is reflected in all significant components of the Master Plan	Degree to which current and foreseeable sustainability issues are reflected in the analysis, strategic vision and recommendations.	December 31, 2013	Build upon the sustainable transportation, landscape and building height components of existing 2003 Master Plan.
Strategic Plan Update	Environmental Advisory Committee D. Crespin-Mueller Facilities L. Tabata	Strongly worded section on Environmental Sustainability	Environmental Sustainability a key component of the updated Strategic Plan	December 31,2013	
Environmental Policy	B. Munro	Ensure cooperatively implementing the environmental policy is followed starting with the key area of purchasing and food services.	Purchasing support completed Two additional departments completed	December 31, 2013	While many departments are supportive of implementing the Environmental Policy they need to develop the tools and systems to do so.

Operations

Energy

Activity	Key People	Target	Measurement	Timeline	Comments
Continuous Optimization	L. Tabata L. Chua BC Hydro	Continue moving the 7 buildings in the program through the investigative, implementation, and monitoring &verification phases.	Meet timeframes identified in Energy Manager Work Plan 2012-2013	December 31, 2013	Detailed information available in Energy Manager Work Plan 2012-2013
Energy Efficiency Projects	L. Tabata L. Chua BC Hydro	-Pulse – additional meters installed. -Ventilation Demand Controls installed. -Wireless Energy Management project complete. -Electric Vehicle Charging Stations purchased.	Meet timeframes identified in Energy Manager Work Plan 2012-2013.	December 31, 2013	Detailed information available in Energy Manager Work Plan 2012-2013
Energy Specialist	HR	Energy Specialist hired		Jan 31 2013	
Behaviour Change	TRU staff & students	-BuiltSpace Pilot Project complete. -Expand Workplace Conservation Awareness Campaign	Meet timeframes identified in Energy Manager Work Plan 2012-2013.	December 31, 2013	Detailed information available in Energy Manager Work Plan 2012-2013

Waste

Activity	Key People	Target	Measurement	Timeline	Comments
Composting	K. Scollon G. Read E. Walker	% of biodegradable campus waste composted	% Composted	December 31, 2013	There is continuing pressure to implement food composting but it is very costly
Recycling Tracking System	City of Kamloops	Implement tracking system to measure campus diversion rate	System created	June 30, 2013	

Public & Student Education

Student Recruitment

Activity	Key People	Target	Measurement	Timeline	Comments
Campus sustainability incorporated into Welcome Centre Materials & Tours	J. Keller	Campus environmental features/services incorporated into existing campus tours & recruitment materials	Amount of environmental education included in recruitment tools	June 30, 2014	Research shows that students, including those at TRU are using sustainability as a key factor in their decision. The STARS Silver rating and other information should be fully integrated into recruitment materials and presentations

General Awareness

Staff Orientation Presentations	Staff	Present at each staff orientation	# of orientations	Ongoing	
On-Campus Events/Campaigns	Faculty, Staff, Students	Raise awareness of current programs & initiatives	8 events/campaigns each year	Ongoing	
Student Meetings	Students	Meet with students individually Expand student advisory committee	# of meetings with students	Ongoing	A relatively small but growing activity some of which is formalized through initiatives such as the Mentor program
Student Residences	On-Campus Housing	Meet with RA's partner with residences on move in-out events and Earth Hour	3 Meetings & 3 events each year	Ongoing	The residences are an important point of contact for that part of the student population
Guest Lectures	Faculty	Guest lecture in classrooms	At least 4 lectures each year	Ongoing	
Presentations – Various Topics	Staff, Student, Faculty	Presentations about TRU sustainability programme	6 each year	Ongoing	
Web Page & Social Media	Public	Increase social media traffic & web page hits by 25%	# of hits	June 2014	Need to get the web page on the main TRU page
Marketing of programme	Public	Raise awareness of TRU's success in environmental benchmarks	-Score on CUR 'Environmental Commitment' Rank (A) -Local media coverage	November 2013	President Shaver asked Advancement to develop a marketing plan based on the Silver Stars rating but in never materialized. Work with the revised marketing structure to get Environment and Strategy fully integrated into TRU marketing.

Transportation

Activity	Key People	Target	Measurement	Timeline	Comments
TDM Study Consult & Implementation	Faculty, staff, students	Consultations done & Recommendations Implemented	# of recommendations implemented	March 31 2014	The TDM results will be used as input into the Strategic Plan as well as stand alone activities

Water

Water Meters	L. Tabata L. Nielsen	Install water meters to identify water overuse areas.	# of meters installed.	December 31, 2013	Water is the next priority resource use issue after energy on campus

Community

Participation

Activity	Key People	Target	Measurement	Timeline	Comments
Environmental Advisory Committee Participation	EAC members/faculty, staff, students	Active subcommittees	5 Active subcommittees	Sept 30, 2013	Now that the Coordinator position has been staffed this support activity has been regularized. However, there will be additional demand on resources in the coming year due to the revision of the Campus Sustainability Action Plan

Relationship with City of Kamloops

Activity	Key People	Target	Measurement	Timeline	Comments
Continue strong relationship with city	City Staff	Input on City Sustainability Plans Attend/present at all relevant city events	TRU issues included 4 events each year	Ongoing	Will try to expand this to include relevant contacts in the provincial MOE. Earlier efforts stalled because of staff changes in the MOE

Other Community Organizations

Activity	Key People	Target	Measurement	Timeline	Comments
Presence at local group meetings (ie. BC Sustainable Energy Association & Fraser Basin Council)	Local group chairs	Attend/present at local group meetings	At least 3 meetings/group each year	Ongoing	
Presence at local events	Local organizers	Speak at local events	# of speaking events	Ongoing	

Appendix VI: Research Inventory

TRU Sustainability Research Inventory 2010-11

The following is an inventory of Thompson Rivers University research faculty who conduct sustainability research at the University for the 2010-11 academic year*. The inventory was created via a combination of self-identification, and a thorough search of the TRU website.

Sustainability Research Definition:

"Sustainability research examines the ecological, economic, social, health and cultural forces affecting local and global sustainability. Research considered sustainable contributes to building solutions for societies by meeting the needs of the present without compromising those of the future. The knowledge creation, technical expertise, and awareness that results from this research aims to shed light on sustainability issues. Diverse methodologies can be used to achieve these outcomes, including multidisciplinary and interdisciplinary."

Departments with Sustainability Research:

Faculty of Arts
English & Modern Languages:
Geography
Journalism
Philosophy, History, & Politics
Psychology
Sociology & Anthropology
Visual & Performing Arts

School of Business & Economics
Economics
Master of Business Administration

Faculty of Human, Social, & Educational Development
Social Work

Faculty of Law
Law

School of Nursing
Nursing

Faculty of Science
Agriculture
Architecture, Digital Art, Electronics, and Engineering
Biological Science
Math
Master of Science
Natural Resource Science
Physical Science

School of Tourism
Management
Culinary Arts

School of Trades & Technology
Trades & Technology

Researcher	Department	Research
Will Garrett-Petts	English & Modern Languages	Quality of life and culture in small cities
Darryl Carlyle-Moses	Geography	Forest and Agricultural Hydrology & Meteorology
Gilles Viaud	Geography	Quality of life in small cities, Sustainable labour markets in small cities
Michael Campbell	Geography	GIS applications in Biogeography, Human-wildlife relations
Ross Nelson	Geography	Development in small cities in BC and Sweden
Tom Waldichuk	Geography	Rural-Urban Fringe, Agriculture in Japan
Shawn Thompson	Journalism	Endangered Orangutans: the effect of deforestation
Bruce Baugh	Phil, Hist, Politics	Walking, space, and place
Catherine Ortner	Psychology	Exposure to natural environments on psychological functioning
David Scheffel	Sociology & Anthropology	Ethnic micropolitics and poverty in Europe
Dawn Farough	Sociology & Anthropology	Social inequality, women and globalization
James Hoffman	Visual & Performing Arts	Community engagement in small cities, Postcolonial applications
Michael Mehta		Environmental Sociology
Jane Birkbeck	Social Work	Globalization and human rights, South Asia; workplace equity and equality of outcome
Julie Drolet	Social Work	Climate Change, disasters and Sustainable Development
Wendy Hulko	Social Work	Socio-cultural context of dimentia, Aboriginal and First Nations care capacity and wellness
Barbara Patterson	Nursing	Disease management in Aboriginal patients
Penny Powers	Nursing	Sustainability in hospitals
John Church	Agricultural Related	Sustainability and enhancement of the cattle industry
Jianzhong Gu	Arch DigiArt, Electron, Eng	Sustainable Buildings
Cynthia Ross Freidman	Biological Science	The preservation of forest ecosystems.
Jonathan Van Hamme	Biological Science	The development of biocatalysts to aid in the degradation of environmental pollutants
Louis Gosselin	Biological Science	The ecology of early juvenile marine invertebrates relating to population management in native and introduced species.
Lyn Baldwin	Biological Science	Natural and Anthropogenic disturbances affect plant communities and conservation
Narowarat Cheeptham	Biological Science	Microbial diversity and the search for useful natural and biochemical products, with an emphasis on antibacterial and antifungal compounds.
Lauch Fraser	Master of Science	Community Ecology
Dave Tomkins	Math	Global Warming and Decision Making
Don Noakes	Math	Impacts of salmon farms upon wild salmon
Roger Yu	Math	Applications of Graph Theory to conservation of wetlands
Brian Heise	Natural Resource Science	Effects of various land use practices on aquatic ecosystems, particularly streams
John Karakatsoulis	Natural Resource Science	Plant succession following human disturbance
Karl Larsen	Natural Resource Science	The ecology of mammals, reptiles and amphibians, particularly dispersal in juveniles and conservation
Kevin Bladon	Natural Resource Science	The effects of increased frequency and severity of natural and anthropogenic disturbances on hydrologic processes, water quantity, water quality, and aquatic ecology.
Kingsley Donkor	Physical Science	Chemometric techniques for identifying sources of pollution
Nelaine Mora-Diez	Physical Science	Computational physical organic chemistry and applications to environmental problems.
Sharon Brewer	Physical Science	Water quality monitoring, Environmental Chemistry
Hasnat Dewan	Economics	Sustainable Human Development, Environmental and Natural Resource Economics
Laura Lamb	Economics	Community Economic Development, Behavioural Economics related to Climate Change and evnvironmental policies
Peter Tsigaris	Economics	Environmental Economics
Robert Androkovich	Economics	Environmental and Natural Resource Economics, Land preservation
Andrew Fergus	MBA	Environmental Management and Sustainable Development
Ed Walker	Culinary Arts	100 mile diet
Robin Reid	Management	Sustainability Education and Engagement
Hank Bangma	Trades & Tech	Net zero homes
Marty Old	Trades & Tech	Solar plumbing
Steve Benoit	Trades & Tech	Solar panels
Sharon Mascher	Law	The sustainable use and management of resources, domestic legal frameworks to mitigate greenhouse gas emissions

*This list will be updated in the future. If you know of any TRU research faculty whose research meets the definition of sustainability above, or would like to suggest changes, please contact Andrew Pillar apillar@tru.ca