

**SENATE MEETING
PUBLIC SESSION
MINUTES**

September 26, 2012

3:30 – 5:30 PM

Senate Chambers (Room 1079 Administration Building)

Present:

E. Annis, R. Brouwer, C. Carriere, D. Casperson, L. Copeland, J. Crosina, R. Currie-Wood, B. Deo, S. Green, K. Guest, L. Handfield, T. Hanschen (Secretary of Senate), K. Hutchings (Vice Chair), G. Iwama (Chair), E. Korkmaz, C. Lee (Acting Dean, Graduate Programs), D. Macknak, D. McDonald, C. Myers (Recording), K. Mytting, M. Nitz, C. Nolin, D. Ryan, J. Safaei Boroojeny, P. Sanborn, A. Stroet, R. Tallman, S. Wagner, B. Wang, T. Whitcombe, S. Zahir

Regrets:

M. Dale, M. Green, K. Kuo, D. Leighton-Stephens, B. Murray, G. Payne (Acting Vice President, Research), R. Robinson, K. Walske, J. Young

Absent:

M. Archie, F. Islam, D. Nyce, C. Silva, W. Younas

The meeting commenced at 3:30 p.m. Dr. Iwama welcomed a new undergraduate student Senator, Ms. Chantal Carriere, as well as the new acting University Librarian, Ms. Lynn Copeland.

1.0 **S-201209.01**
Approval of the Agenda

Deo

That the agenda for the September 26, 2012 Public Session of Senate be approved as presented.

It was requested that the motions under the report of the Senate Committee on Academic Policy and Planning be reordered so that motion S-201209.06 could be dealt with prior to motion S-201209.04. As there were no objections to this request, the motion to approve the agenda, as amended, was CARRIED.

2.0 **S-201209.02**
Approval of Senate Minutes

Casperson

That the minutes of the August 22, 2012 Public Session of Senate be approved as presented.

CARRIED.

3.0 **Business Arising from Previous Minutes of Senate**

No business arising was identified.

4.0 President's Report

Iwama

Dr. Iwama reported on several matters (report attached to these minutes as "Appendix I").

5.0 Report of the Provost

Dale

As Dr. Dale was unavailable to attend the Senate meeting, there was no report from the Provost.

6.0 Report of the Registrar

Hanschen

Mr. Hanschen reported on the academic dates discussion held at a previous Senate meeting, namely the distribution of classes and asymmetrical scheduling (report attached as "Appendix II").

7.0 Question Period

A Senator asked about the fundraising campaign Dr. Iwama had mentioned in his report, specifically whether the campaign had a theme. Dr. Iwama replied that they have some ideas to present to the UNBC community, and would like to emphasize sustaining vibrant communities, which is a theme that might be inclusive of the disciplines on campus and the nature of the University.

Dr. Iwama was asked if he could comment on the University Plan that was presented to the Board of Governors in August. Dr. Iwama responded that every year in August, the President and Vice Presidents meet, and one of the matters discussed is whether the University Plan needs to be updated. This year it was determined that no updates were required because the framework and objectives are still valid and relevant. However, every year the Action Plans under the portfolios of the Vice Presidents are updated. The updated Plans, which are inserted into the University Plan, are currently in production.

A question was asked about whether, given the tremendous economic activity in the north and the constraints in the government's ability to provide extra funding, University management has proactive plans to take advantage of that activity so the University can benefit from this situation. Dr. Iwama replied that he would like to have appropriate fora on campus to discuss such matters. He added that, during the Board trip to Kitimat and Terrace, a Board member was recounting the challenges faced by the young people in industries that come to their territories. It was suggested that graduate student housing and housing dedicated to specific First Nations could be created. Dr. Iwama would like to put these visions into place moving forward into the fundraising campaign.

A question was asked about the University Librarian position, namely whether and why the position had no set term. Concern was expressed that, unlike decanal positions, for instance, without a set term there is no mechanism for review partway through the term. Dr. Iwama explained that a Dean's position is rooted in a faculty position, while the Librarian's position is not. It was questioned whether this matter might be revisited by the selection committee. A member of the selection committee responded that Dr. Dale had spoken of making changes to the terms and conditions for the position to make it more like a Dean's position. Any changes in this regard would need to be approved by Senate. Dr. Iwama indicated that clarity would be provided by Dr. Dale upon his return.

Action: Dr. Dale to provide Senators with information about the term for the University Librarian position.

With regard to enrolments, a Senator asked if it was known why additional applications had not resulted in greater enrolment numbers and what plans were in place for increasing enrolment. In response, it was noted that enrolments at the College of New Caledonia were in decline and that UNBC continues to work in digital media and with advertising campaigns in Calgary and Toronto to promote UNBC strategically. Ms. Amanda Hancock, representing Senator Gouger, was invited to comment, and she added that "on the spot" application processing had contributed to an increase in applications.

A Senator asked whether the position of Dean of Student Success and Enrolment Management would be filled permanently, to which Dr. Iwama responded it would be and that Dr. Dale could provide further information in this regard. The Senator also asked whether the position of Assistant Provost would be filled. Dr. Iwama replied that it would not, as the term was ended and the decanal position was revived. He added that Dr. Dale could also speak to this matter.

Action: Dr. Dale to provide Senators with information about the positions of Dean of Student Success and Enrolment Management, and Assistant Provost.

A question was raised about whether another date had been selected for the joint meeting of the Board of Governors and Senate. Dr. Iwama replied that another date had not yet been considered, and asked Senators whether they were interested in meeting in December or at another time when Board members would be at UNBC. A Senator indicated that the fundraising campaign would be a good topic for discussion by the two bodies.

Enrolment numbers were requested, and Dr. Iwama responded that Dr. Dale could provide these at the next meeting of Senate.

Action: Dr. Dale to provide Senators with enrolment numbers at the next meeting of Senate.

A Senator asked whether student retention was still an issue, and if an exit survey had been devised. Dr. Iwama responded that admissions from local high schools had decreased this year while the number of transfer students from other institutions increased. Mr. Hanschen added that more continuing students are registered this year and there are slightly fewer new students. More students have been retained this year compared with last year.

The timing of the budget process this year was asked about, and Dr. Iwama responded that the process would begin earlier this year. He added that the budget schedule / calendar was available and could likely be provided to Senate at their next meeting.

Action: That a report on the status of the budget process be provided at the next meeting of Senate.

8.0 **S-201209.03**

Approval of Motions on the Consent Agenda (*no material*)

Ryan

That the motions on the consent agenda, except for those removed for placement on the regular agenda, be approved as presented.

It was requested that motion S-201209.06 be moved from the Consent agenda to the Regular agenda.

CARRIED.

9.0 **Committee Reports**

9.1 **Senate Committee on Academic Policy and Planning**

Dale

In the absence of Dr. Dale, Dean Ryan delivered the report from this committee.

“For Approval” Items:

S-201209.06

Approval of New Course — NURS 329-1

Hutchings

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the new course NURS 329-1 Third Year Objective Structured Clinical Examination be approved as proposed.

Proposed semester of first offering: May 2013

CARRIED.

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

This course requires students to successfully complete a number of Objective Structured Clinical Examination (OSCE) scenarios as a prerequisite to commencing NURS 330-4 Extended Clinical Practicum II. An OSCE is a method of evaluation used to measure whether specific practice performance expectations are met, and to evaluate students' clinical judgment and integration of theory and practice in standardized situations of simulated patient care. Thirty-six hours of nursing laboratory practice must be completed within eight months of undertaking the OSCE. Lab hours must be approved by an instructor.

Prerequisites: all required 300-level nursing courses in the NCBNP

S-201209.04

Changes to the “Qualification for Degree” Section in the Northern Collaborative Baccalaureate Nursing Program

Casperson

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the changes to the Qualification for Degree section in the Northern Collaborative Baccalaureate Nursing Program, on page 171 of the 2012-2013 undergraduate calendar, be approved as proposed.

Effective date: September 2012

CARRIED.

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strike through~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

Qualification for Degree

It is the responsibility of the student to ensure that his/her degree or certificate requirements are met. Graduation requirements are found in the Regulations and Policies section of this Calendar. To fulfill the requirements of graduation, the student must:

- attain a minimum Cumulative GPA of 2.33 (C+) on all courses used for credit towards the degree or certificate
- attain a minimum passing grade of (P) in NURS 220-5, NURS 329-1 and NURS 330-5-4, as applicable to the specific program
- obtain a minimum passing grade of 2.00 (C) in the following courses, or their equivalents, as applicable to the specific program. *Note: Students enrolling in any required course must have completed all prerequisites with a grade of (C) or better, or if NURS 220-5, NURS 329-1 or NURS 330-5-4 is the prerequisite, a passing grade of (P) is required:*
 - all NURS courses, including NURS electives
 - all mandatory HHSC courses
 - ANTH 213-3
 - STAT 240-3
 - POLS 403-3
- complete all requirements for the appropriate program as follows:
 - NCBNP BScN within eight years, starting with the first semester of registration in a NURS course in the NCBNP at UNBC or one of its collaborative partner institutions
 - Post-Diploma BScN within eight years, starting with the first semester of registration in a NURS course in the Post-Diploma BScN at UNBC
 - Certificate program within six years, starting with the first semester of registration in a NURS course in the Certificate program at UNBC.

S-201209.05

Changes to Program Requirements — Northern Collaborative Baccalaureate Nursing Program
Zahir

That, on the recommendation of the Senate Committee on Academic Policy and Planning, the change to the 300-level requirements for the NCBNP, on page 173 of the 2012-2013 undergraduate calendar, be approved as proposed.

Effective date: September 2012

CARRIED.

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strike through~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

300 Level

- NURS 304-3 Introduction to Nursing Knowledge
- NURS 306-3 Introduction to Epidemiology
- NURS 308-3 Ethics and Law in Nursing
- NURS 317-5.5 Nursing Theory and Practice: Maternity
- NURS 318-5.5 Nursing Theory and Practice: Pediatrics
- NURS 323-5.5 Nursing Theory and Practice: Older Adult
- NURS 326-5.5 Nursing Theory and Practice: Mental Health
- NURS 329-1 Third-Year Objective Structured Clinical Examination
- NURS 330-~~5~~-4 Extended Clinical Practicum II

“For Information” Items:

SCAPP201209.06

Change to Credit Hours — NURS 330-5

Ryan

That the change to the credit hours for NURS 330-5, on page 261 of the 2012-2013 undergraduate calendar, be approved as proposed.

Effective date: September 2012

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strike through~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

NURS 330-~~5~~4 Extended Clinical Practicum II This course provides the opportunity for consolidated clinical nursing practice with clients who have multiple health care needs. Previous clinical practice experience is considered when determining placement. The practicum occurs in various health care settings in northern BC.

Prerequisites: ~~all required 300-level nursing courses in the NCBNP~~ NURS 329-1

Precluded: NURS 320-5

SCAPP201209.07

Approval of 2012 Annual Report

Ryan

That the 2012 Annual Report (September 1, 2011 to August 31, 2012) from the Senate Committee on Academic Policy and Planning be approved by the Committee and forwarded to Senate for information.

Effective date: September 5, 2012

CARRIED (consent agenda).

A Senator commented about the number of vacancies on SCAPP, and Dean Ryan suggested that Dr. Dale could provide Senators with further information in this regard.

In the absence of both Co-Chairs, Dr. Iwama delivered the report from this committee.

“For Approval” Items:

S-201209.07

Changes to Program Requirements — English MA

Hutchings

That, on the recommendation of the Senate Committee on Research and Graduate Studies, the change(s) to the number of credit hours for the English MA thesis and to the total number of credit hours for the English MA program, on pages 73-74 of the 2012/2013 graduate calendar, be approved as proposed.

Effective date: September 2012

CARRIED.

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~strikethrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

Requirements

The course of study is composed of a minimum total of ~~27~~ 30 credit hours of work. First, students are required to complete five courses totaling 15 credit hours, including [ENGL 690-3](#), Bibliography, the mandatory course in research methodologies; [ENGL 700-3](#), the mandatory course in Literature, Culture and Place; and three elective courses. In the required courses, students have the opportunity to engage in close intellectual dialogue and debate with fellow graduate students and professors, thereby cultivating the productive collegial relationships crucial to the development of a dynamic graduate student culture. With the exception of [ENGL 699-3](#) (Advanced Independent Study in Literature, which faculty members supervise on an individual basis), all courses are offered as seminar courses. The three elective courses conform to pedagogical models followed by all 600-level courses listed in the UNBC Graduate Calendar. Second, students are required to produce both a detailed thesis proposal and bibliography at the beginning of their second year of study, and to defend, in a formal oral examination, a ~~12~~ 15 credit-hour thesis of approximately 100 pages in length.

Creative Writing Thesis Option

Although UNBC does not offer degrees in Creative Writing, the English Program offers MA candidates the opportunity to complete a ~~12~~ 15 credit-hour creative thesis in lieu of an academic thesis. Successful applicants who wish to pursue this option are admitted on the same basis and must fulfill the same course and thesis requirements as other English MA candidates. Permission to undertake a creative thesis is at the discretion of the department. An applicant interested in the creative thesis option must include, in addition to their application for admission to the MA, a proposal for a creative thesis and an 8-10-page sample of previous creative work consisting of one or more of the following: original poetry or prose such as a short story or novel excerpt; a dramatic script or screenplay; or a combination of these genres. Both published and unpublished work are considered for the purpose of the application. The proposal should outline the form, scope, and subject matter of the Creative Writing thesis. In addition, students must demonstrate some critical and theoretical awareness of the approach they plan to take for the creative thesis; and, for applicants admitted to the program, the finished thesis must include an introduction of no fewer than 15 pages delineating this critical

and theoretical awareness. Because of the high standards expected for the creative project and the Department's limited faculty resources in the area of creative writing, a limited number of students will be permitted to undertake this alternative. Therefore, admission to the MA program in English does not guarantee permission to write a creative thesis.

Required Courses

ENGL 690-3	Bibliography
ENGL 700-3	Studies in Literature, Culture and Place

Required Thesis

ENGL 799-15	<u>English</u> MA Thesis
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"For Information" Items:

SCRGS201209.02

Changes to Course Description and Credit Hours — ENGL 799-12

Ryan

That the change(s) to the course description and course credit hours for ENGL 799-12 English MA Thesis, on page 117 of the 2012/2013 graduate calendar, be approved as proposed.

Effective date: September 2012

CARRIED (consent agenda).

Details of the approved calendar text are as follows (for revisions, deleted text indicated by ~~striketrough~~, new text indicated by underline, and [commentary, where included, in Courier New font within square brackets]):

ENGLISH 799-15 English MA Thesis Under the guidance of a supervisor, students are required to produce and defend an academic thesis of approximately 100 pages in length. At the discretion of the Department, students may complete a creative thesis that meets the requirements outlined in the English (MA program) section of the Graduate Calendar. The thesis is intended to require approximately 12 months of full-time work.

9.3 Senate Committee on Nominations

Zahir

9.3.1 Nominations and Election of Vice Chair of Senate

The Chair called for nominations from the floor. Senator Nolin was nominated by Senator Hutchings. There being no further nominations, Senator Nolin was elected, by acclamation, as Vice Chair of Senate.

Dr. Iwama thanked both Senator Hutchings for serving admirably as Vice Chair of Senate for the past two years and Senator Nolin for her willingness to assume the Vice Chair position for the coming year.

"For Approval" Items:

Chair of the Senate Committee on Nominations, Senator Zahir, requested Senators' indulgence to add two names to the lists below:

- 1) Senator Whitcombe to be added under motion S-201209.08 as a Faculty Senator to serve on the Senate Committee on Academic Policy and Planning for a term ending March 31, 2015.
- 2) Undergraduate Student Senator Rob Currie-Wood to be added to the list of "Senators Elected for Terms of Office Commencing Immediately" in the items presented for information.

As there was no objection to adding these names, they were included in the lists below.

S-201209.08

Membership Changes to Senate Committees

Ryan

That, on the recommendation of the Senate Committee on Nominations, and barring further nominations from the floor of Senate, the following candidates, who have met all eligibility requirements to serve on Senate committees as indicated, be appointed as proposed.

Effective date: Immediately upon approval by Senate

SENATE OR SENATE COMMITTEE POSITION TO BE FILLED
(except as otherwise noted, all terms begin immediately)

CANDIDATE

Senate Committee on Admissions and Degrees
Faculty Member (until March 31, 2015)

Kristen Guest

Senate Committee on Academic Policy and Planning
Faculty Senator (until March 31, 2015)

Todd Whitcombe

Steering Committee of Senate
Student Senator (until March 31, 2013)

Chantal Carriere

Senate Committee on Regional Policy and Inter-Institutional Relations
Student Senator (until March 31, 2013)

Chantal Carriere

Three times, the Chair called for further nominations. There being no further nominations forthcoming, the motion was CARRIED.

For Information of Senate:

Senators Elected for Terms of Office Commencing Immediately:

Student Senators (until March 31, 2013):

Chantal Carriere (Undergraduate) (by acclamation)
Rob Currie-Wood (Undergraduate) (by acclamation)

Senate Vacancies:

One Faculty Senator — CASHS (until March 31, 2014; Senator Kitchenham sabbatical)
One Student Senator (until March 31, 2013; Senator Hickey resignation — now replaced by Senator Currie-Wood)

Membership of the SCAPP and SCRGS Subcommittee on Curriculum and Calendar (to be reported at the September meeting of Senate each year in accordance with the Committee's terms of reference):

Dr. George Iwama	President (<i>ex officio</i>)
Dr. Mark Dale	Provost (<i>ex officio</i>)
Dr. Kevin Hutchings	Faculty Senator, designate of Dean of CASHS
Dr. David Casperson	Faculty Senator, designate of Dean of CSAM
Dr. Brent Murray	Faculty Senator, designate of Dean of Graduate Programs
Ms. Heather Empey	Designate of the University Librarian
Mr. Troy Hanschen	Secretary of Senate (non-voting)

10.0 Other Business

10.1 Presentation — *Green University Planning Committee: Overview and How to Increase Participation*

Palazuelos

Mr. Palazuelos provided Senators with a presentation regarding the Green University Planning Committee (attached to these minutes as "Appendix III"). He responded to questions after the presentation, and agreed to provide Senators with a copy of the UNBC Sustainability Report (also attached to these minutes as part of Appendix III).

11.0 Information *(no material)*

No items for information were provided.

**12.0 S-201209.09
Adjournment**

Hutchings
That the Senate meeting be adjourned.
CARRIED.

The meeting ended at 4:50 p.m.

APPENDIX I

President's Report Senate meeting of September 26, 2012 Prepared by Charlene Myers

Dr. Iwama reported on the recent annual regional Board meeting, which this year was held in Kitimat and Terrace. Substantial topics were discussed at the meeting and attendees were scheduled to tour the Rio Tinto Alcan, but that tour was subsequently cancelled. However, Dr. Iwama noted that much expansion was taking place around Rio Tinto Alcan. The Northwest is currently experiencing expansion projects in the amount of approximately 33 billion dollars. The Board met with the Mayor and Council of Kitimat and some elected members in Terrace. Despite the economic boom, there are still people out of work in the area because companies fly in workers. When the Eurocan mill closed a few years ago, the situation in Kitimat was dire, but it is a very active time there now.

At the meeting, the Board gave approval to move ahead with a fundraising campaign. There will be continued consultation with the Colleges regarding fundraising priorities. Dr. Iwama added that those spearheading the campaign will do their best to do what the University community thinks is important to do. He and the Vice Presidents would appreciate hearing from Senators their thoughts on how to best make use of consultations and go to supporters to ask for their help.

The annual meeting of the Vancouver Advisory Council was also held recently. The Council consists of people who are friends of UNBC that reside in Vancouver. They are leaders of industry and even sport, including Ms. Charmaine Crooks. Mr. Peter Bentley chairs the Council, Mr. John Sheridan with Ballard Power Systems is a member, and other such leaders who are members of the Council are avid supporters of UNBC. The Council is pleased to know they can support UNBC more specifically by attempting to help open doors for sources of funding that perhaps we can pursue for our priorities.

With regard to enrolment, Dr. Iwama reported that we are holding our own but expected better. We had in excess of 500 more applications/admissions, but those did not convert to the same number of additional registrations. Dr. Iwama added he is consulting with the Registrar about opening registration earlier next year to see if that helps. He also thanked everyone for their efforts over the last year to increase enrolments. Finally, Dr. Iwama added that the current initiatives to increase enrolment will remain and that he will also continue to listen to suggestions on how to improve enrolment.

The first course offering has begun in conjunction with Gakushuin Women's College in Tokyo, using the high definition video classroom. This entire project was funded by someone in Tokyo, reproducing one of our video classrooms over there. Dr. Jacqueline Holler is teaching a Women's/Gender Studies course, the first such course to be offered to a private women's college there. The class contains 25 students here and 15 students there and is going very well. It is an interesting venture that may make possible the provision of UNBC curricula abroad and may encourage UNBC students to travel a bit more on exchange. The travel agency providing the travel for this initiative has asked whether UNBC might consider expanding this offering to other institutions and other countries. There are many factors to be considered, such as time zone differences and scheduling matters.

Much energy continues to be expended on addressing the government's plan to find 1% savings in sector operating funds next year and an additional 1.5% in the following year. A template was provided to institutions whereby they are to seek savings related to procurement. UNBC has already been looking for ways to save, including participating in purchases jointly with other institutions. The first phase of data collection is now complete, which will be analyzed by Deloitte. There are two levels of committees in this initiative, the Steering Committee on which Vice President Bray sits and the Executive Committee on which Dr. Iwama is a member. A meeting is scheduled for October 15, at which time Dr. Iwama presumes an initial look at the data will be undertaken. Dr. Iwama indicated he would keep Senators informed of

developments with regard to this initiative. The Research Universities' Council of BC is honing a narrative that expresses the institutions' priorities in three areas, namely access for qualified students, affordability for students, and sustained support for research. The Council is trying to send a strong message to the provincial government that a balanced approach is necessary; technological training is needed but so too is professional and university training.

APPENDIX II

Registrar's Report to Senate September 26, 2012

I have a very brief report today that focuses on two items:

1. The start of the September semester went very well, with the usual flurry of activity. We had a very active add/drop period, and ran a smooth de-registration process. The coordinated efforts of Finance, Athletics, Financial Aid & Awards, and the Registrar's Office are paying off in this regard. We're also going through our usual scheduling updates and room changes, but overall the process is going smoothly.
2. At the last Senate meeting's "Quasi Committee of the Whole", I was asked to bring a couple of items forward. One being the distribution of our classes over the course of our semesters, which I'm hoping to bring to the October meeting of Senate. The other item was a detailed assessment of "Asymmetrical Scheduling". As this is a very detailed process, I would like to bring this forward to the Scheduling Committee for research and review.

Green University Planning Committee (GUPC): How to Foster Communication, Participation and Action



UNBC Senate
September 26, 2012

Alvaro Palazuelos BA, MA NRES
UNBC Sustainability Manager



What is the GUPC?

An advisory and policy development body with respect to all sustainability initiatives.

The GUPC meets monthly with the aim to:

- Make UNBC a more environmentally, socially and economically sustainable campus, under the guidance of the “UNBC Green Strategy”.
- Engender a ‘culture of sustainability’ in the UNBC community.
- Make the UNBC campuses models of sustainability for communities and organizations in Northern British Columbia.
- Improve on our national and international reputation for excellence in teaching and research in the area of sustainability.



Who is in the GUPC and why?

- UNBC President and Vice Chancellor
- VP Academic and Provost
- VP External Relations
- VP Finance
- VP Research
- Deans of CASHS and CSAM
- Purchasing, Contract and Risk Management Representative
- Director of Facilities
- Faculty Representatives from CASHS and CSAM
- Regional Campuses Representative
- Northern Undergraduate Student Society (NUGSS) Representative
- Undergraduate Student Representative
- Northern BC Graduate Student Society (NBCGSS) Representative
- First Nations Representative
- Alumni Representative
- CUPE Representative
- Renewable Energy Academic Advisor
- Public Interest Research Group (PGPIRG) Representative
- Energy Technician
- Pacific Institute for Climate Solutions (PICS) Coordinator
- Sustainability Manager



GUPC Subcommittees

- Energy
- Carbon Neutrality
- Teaching
- Research
- Food
- Green Fund
- Green Day
- Transit and Transportation working group



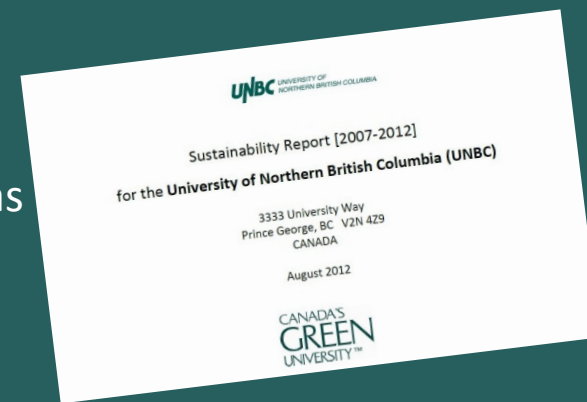
Green University Strategy

Green University Strategy Phase 1 (March 2009)

- Guided Sustainability initiatives during the period from 2009-2011.

UNBC Sustainability Report

- A report on sustainability initiatives and accomplishments since UNBC was trademarked as CANADA'S GREEN UNIVERSITY



Green University Strategy Phase 2

COMING SOON!



How can we improve the communication between the GUPC and the UNBC community in order to foster participation and action?



Sustainability Report [2007-2012]
for the **University of Northern British Columbia (UNBC)**

3333 University Way
Prince George, BC V2N 4Z9
CANADA

August 2012



Background

This document is UNBC's first sustainability report. The accomplishments and activities presented here span the years from 2007 to 2012. The report begins with the year 2007 because that was the year in which a series of events firmly tipped UNBC toward sustainability leadership. In July 2007, the Green University Planning Committee (GUPC), a multi-stakeholder advisory body made up of representatives from all sectors of the university community, was established. One month later, UNBC assumed the trademark of "Canada's Green University™".

This first *UNBC Sustainability Report* is a record of the major developments that occurred in the area of sustainability over the past 5 years. These activities span a broad spectrum including improvements in waste management, water and energy conservation, 'green' transportation, carbon emission reductions, 'green' teaching and research, sustainability behavioral campaigns, 'green' operations, and sustainability of administration, campus life, buildings and facilities.

The number and variety of activities and achievements in the area of sustainability during this first five-year interval are a testament to the level of commitment at UNBC to greater sustainability by its vibrant and creative community of faculty, staff and students.

1. CANADA'S GREEN UNIVERSITY

In 2007 we set ourselves on a course towards a more environmentally responsible existence, and with each passing year the need to push forward with these efforts becomes more apparent. On a global scale the cost and finite limit to the fossil fuel reserves, the increased consumption by an exploding middle class, and the effects of climate change, have highlighted the importance of sustainability, developing renewable sources of energy, and our need as a human society to find a better path.

It is often said that UNBC is a community unto itself. We are in fact similar in size to many communities in northern BC, and as such we have an opportunity to offer our location as a working example of sustainable living, in a climate similar to the communities we model. We have equal opportunity to strengthen our ties with the larger community of Prince George through engagement on issues of sustainability and the environment.

Since first declaring ourselves to be Canada's Green University™, UNBC has begun to be recognized for our efforts in sustainability. This is a priority that is articulated in our University Plan. In recent years, and gaining momentum with each passing year, many students, faculty, and staff at UNBC have been active participants in creating a greener, more sustainable university. Although we are still in the early days of our effort to make our campus truly green, our successes have been recognized on several fronts:

- First place for the top campus sustainability project in North America in 2010 by the American Association for Sustainability in Higher Education,
- The Environmental Stewardship award for 2011 from the Clean Energy Association of BC,
- Voted #1 in Canada by students for environmental commitment in 2011, and
- One of Canada's Greenest Employers, 2012.

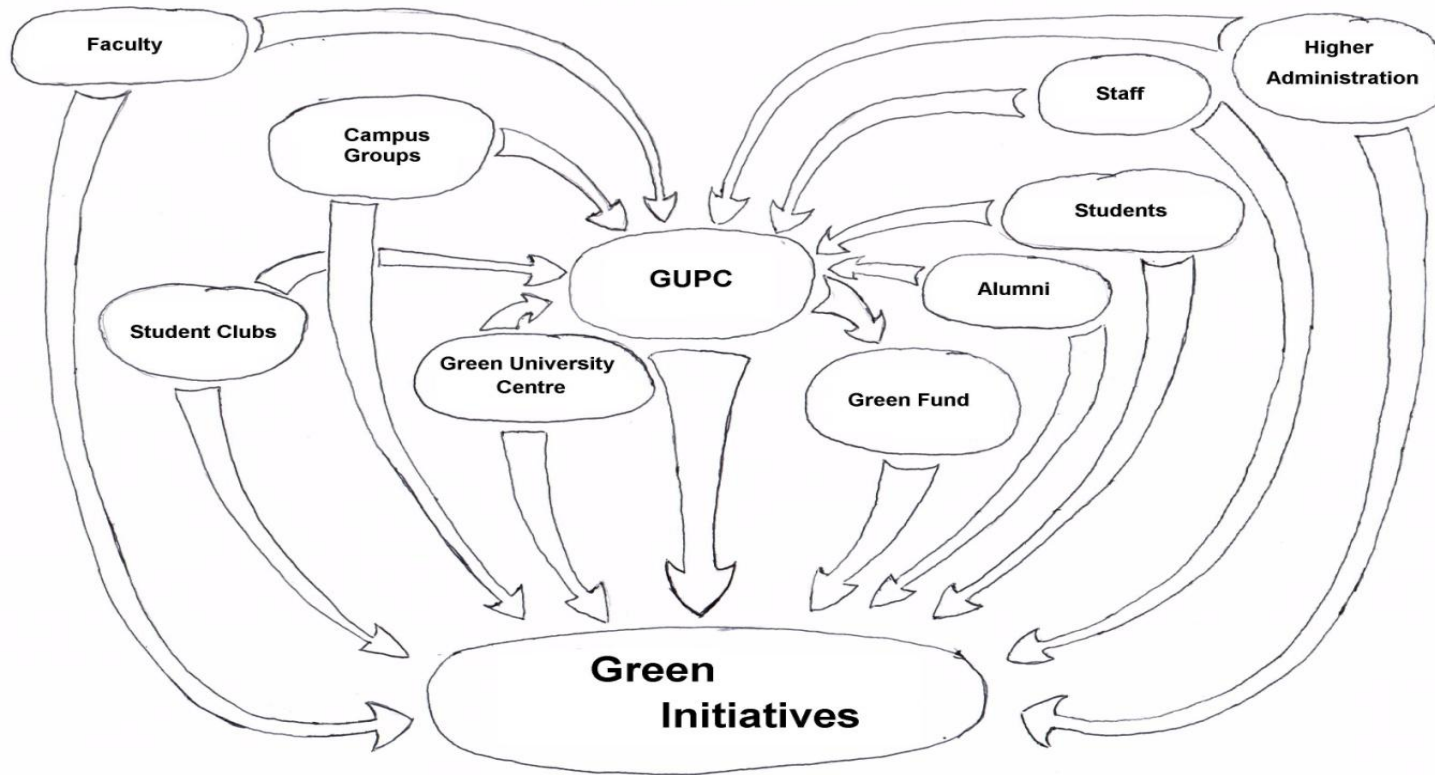
We can take pride as we reflect on the progress made on campus by so many participants in our Green journey, and look forward together to the progress we will make in the years to come.

Dr. George Iwama,
UNBC President and Vice Chancellor.



Dr. George Iwama hosting the monthly event "Green Coffee with George", an hour that UNBC's president destines every month to discussing sustainability issues with members of the UNBC community.

2. How Does Sustainability Happen at UNBC?



¹ "GUPC" stands for Green University Planning Committee

Green University Planning Committee (GUPC)

The Green University Planning Committee (GUPC) was formed in July 2007 to provide a forum for the advancement and implementation of sustainability at UNBC. The GUPC acts as an advisory and policy development body with respect to all initiatives at UNBC that will contribute to the goal of being recognized as Canada's Green University™. The GUPC meets monthly with the aim to:

- Make UNBC a more environmentally, socially and economically sustainable campus, under the guidance of the "UNBC Green Strategy".
- Engender a 'culture of sustainability' in the UNBC community.
- Make the UNBC campuses models of sustainability for communities and organizations in northern British Columbia.
- Improve on our national and international reputation for excellence in teaching and research in the area of sustainability.

The current GUPC membership attempts to reflect the diversity of the UNBC community and includes the following members:

- UNBC President and Vice Chancellor
- VP Academic and Provost
- VP External Relations
- VP Finance
- VP Research
- Facilities Director
- Deans of the College of Arts, Social and Health Sciences (CASHS) and College of Science and Management (CSAM)
- Purchasing, contract and risk management representative

- Faculty representatives from CASHS and CSAM
- Regional campuses representative
- Northern Undergraduate Student Society (NUGSS) representative
- Undergraduate student representative
- UNBC Northern BC Graduate Student Society (NBCGSS) representative
- UNBC Alumni representative
- UNBC Staff representative
- Renewable Energy Academic Advisor
- Prince George Public Interest Research Group (PGPIRG) representative
- UNBC Energy Manager
- Pacific Institute for Climate Solutions (PICS) UNBC Campus Coordinator
- UNBC Sustainability Manager

3. More About *Canada's Green University*TM

Sustainability Reporting



UNBC completed its first Sustainability Tracking, Assessment and Rating System (STARS) report in the summer of 2011. STARS provides a standardized method for assessing, tracking and rating sustainability at academic institutions.

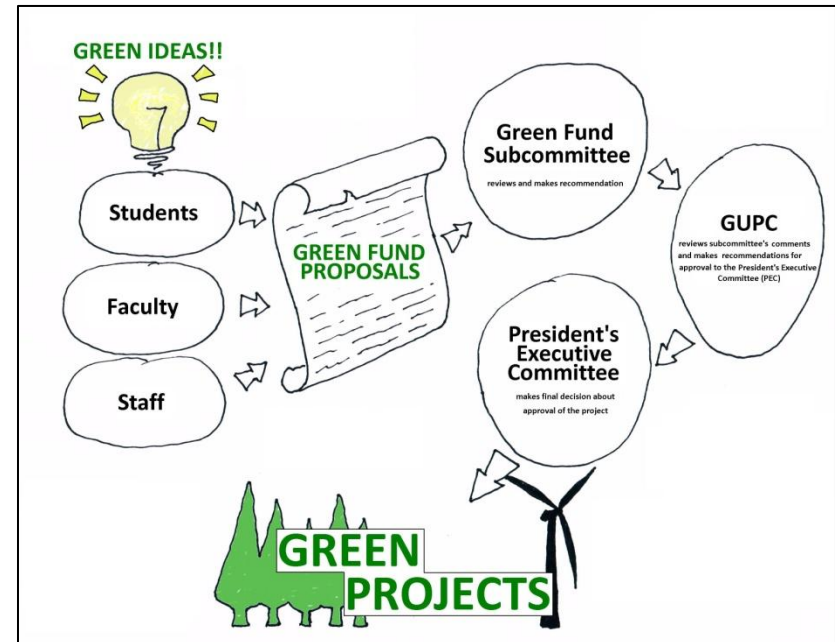
This system assesses sustainability in four distinct areas: Education & Research; Operations; Planning, Administration & Engagement; and Innovation. UNBC achieved a Silver rating in STARS.

STARS data were made public on the AASHE website in August 2011, providing an accessible and comprehensive source of information about sustainability at UNBC. The purpose of this Phase I report is to document the key initiatives taken by UNBC to address the primary objectives and goals identified in the Green University Strategy - Phase I of 2009.

Green Fund

In 2009, a Green Fund was created to fund a sustainability manager position at UNBC and to provide Green Grants for sustainability initiatives. The money comes from a levy on parking fees – itself an attempt to encourage the use of alternative (non-automobile) transportation to and from the campus. All members of the UNBC community - students, faculty, and staff – can submit project proposals to the green fund.

Between May 2010 and August 2012, there have been seven Green Fund proposal intakes; three every year since the first intake in May 2010. In all, 39 proposals have been submitted to date, with 11 being successful and receiving funds for their implementation.



Successful Green Fund Projects to date are:

1. *Prince George Public Interest Research Group (PGPIRG) and UNBC Compost Program:* The PGPIRG-UNBC compost program (est. 1995) is a critical component of sustainable waste management and student engagement at UNBC. This project involved 1) purchasing new compost collection receptacles to match the campus recycling bins, 2) purchasing a large hopper for temporary indoor storage of compostable material and 3) building eight external composting bins made from “Pincrete”, a UNBC invention that makes use of waste wood (Completed May 2011).



2. *UNBC Sustainable Residence Community Project:* This project implemented a Student Residence Building recycling program and incorporated green programming into residence life. Specifically, the Green Fund grant was used to purchase in-suite recycling receptacles and support a comprehensive educational campaign, including two students hired as Green Residence Assistants (Green RAs). (Completed July 2011)

3. *Thirsty Moose Pub LED Lighting Retrofit:* NUGSS and The Thirsty Moose Pub replaced nearly all of the



incandescent lighting in the Pub with ‘dimnable’ LED lighting. This retrofit has reduced the Pub’s energy consumption for lighting by up to 90%. Demonstrating sustainable practices in a student space will continue to promote a culture of sustainability at UNBC. (Completed August 2011)

4. *Greening UNBC Nursing Labs:* This project proposed to provide a lab waste management education module to all healthcare students by developing a lab learning module and initiating plastics and paper recycling in nursing labs, where none currently exists. This project involves three regional campuses (PG, Terrace and Quesnel) working together to enhance sustainable waste management in UNBC Nursing labs, and to educate and promote waste reduction among UNBC Nursing professionals. (In-progress)

5. *Establishing a Vision for the UNBC-PGPIRG Compost Program:* This project responded to the need for developing a more comprehensive composting program at UNBC. By bringing together various stakeholders in a one-day workshop, this project: 1) developed a set of recommendations and identified sources of funding for expanding the compost program at UNBC, and 2) identified opportunities for research and teaching around this topic. (Completed December 2011)

6. *UNBC Wind Energy Potential:* This project addressed the primary goal of The University Plan, 2010 “to be a leader in renewable energy”. This project 1) quantified wind profile data and 2) identified the best candidate sustainable energy sources and technologies for the UNBC campus. (Completed September 2011)

7. *Electric Vehicle*: In partnership with the City of Prince George, BC Northern Health, and the Fraser-Fort George Regional District, UNBC is purchasing an electric vehicle that will be shared by these four institutions. Each organization will have access to the car for three months every year starting September 2012 and will appraise the practicality of electric vehicle use in Prince George. (In-progress)

8. *SGU-NUGSS Geodesic Dome Greenhouse*: The student club, Students for a Green University, will build a Geodesic Dome Greenhouse in September 2012 which will enable them to grow food locally for an extended period



of time throughout the year. By doing so, UNBC students will be closing the loop on organic waste production by using UNBC compost to grow produce for the student run UNBC pub. (In-progress)

9. *Eco-Childcare Audit and Action report*: The UNBC childcare centre will be undertaking an audit of their facilities and operations to make them more environmentally friendly. The audit will start in September 2012. (In-progress)



10. *Campus Food Strategy Group Conference*: The Campus Food Strategy

Group is organizing a series of conferences to bring together representatives from different universities to develop Campus Food Strategies that promote both food security and sustainability in the life cycle of food consumed in the Canadian campuses. The UNBC Green Fund will financially support part of the expenditures of UNBC's student representative to attend one of the Campus Food Strategy Conferences.

11. *University Farmers' Market Website Design and Marketing*: After a successful first year of operations, the University Farmer's Market decided to improve its communications by reconstructing its website and by helping vendors target their products better to a University audience. Two student positions will be funded to fill these needs: a website designer and a marketing student.

Green University Centre

The Green University Centre (GUC) at UNBC was officially opened in March 2011. The UNBC GUC hosts three full-time employees who work on different aspects of sustainability on campus and in the broader BC communities of the north: the UNBC Energy Manager, the UNBC PICS Campus Coordinator, and the UNBC Sustainability Manager.

The GUC has become a hub for sustainability information and activity on campus. Its central location (just off of the Wintergarden) facilitates interaction with all members of the UNBC

community. The three employees of the GUC work to further sustainability by promoting projects that help the university:

- improve its waste management;
- reduce water and energy consumption;
- reduce greenhouse gas emissions;
- promote environmentally friendly behavior across the UNBC community;
- promote a culture of sustainability.

In March 2012, two LCD monitors were installed outside of the Green University Centre to display sustainability initiatives and activities occurring at UNBC. In April 2012 the GUC started a recycling program for batteries, printer cartridges, and cell phones.

Annual Green Day

'Green Day' events have been held once a year during the winter semester since 2007 to communicate what *Canada's Green University*TM 'is about' to the UNBC community, UNBC alumni and off-campus communities and institutions of central and northern BC. It has become an ever more popular event each year; engaging (and we believe inspiring) the communities that we are a part of through a sharing of ideas and information, helping us all to become a part of the solution for long-term sustainability. Annual Green Days at UNBC, facilitated by a Green Day Subcommittee of the GUPC, are now a permanent and growing piece of the green knowledge puzzle at UNBC.

4. Green Teaching

Environmental and sustainability education is at the core of our mission. Coursework with environmental content is present in almost every academic program at UNBC. The proportion of students enrolled in one of the 21 academic programs which have a focus on sustainability at UNBC is about 20 times that of the national average. The STARS report lists 202 courses with sustainability content.

Other Green Teaching projects included:

- A 'Green Teaching' workshop was held during the UNBC Teaching and Learning conference (September 2010). UNBC faculty, staff and students attended training at Sustainability Education Across the Province (SEAP) workshops in May of 2010 and 2011. UNBC will be hosting a SEAP transformative education workshop in Fall, 2012.
- In order to better assess sustainability related teaching at UNBC, a Green Teaching Subcommittee was created in May of 2011. This sub-committee compiled a list of sustainability-focused and -related courses for the Sustainability Tracking Assessment and Rating System report.
- 31 faculty participating in the goBeyond climate change teaching program, in which faculty dedicated a portion of their class time to talk and/or discuss about climate change.

5. Green Research

UNBC has earned a solid reputation for research relating to the environment and sustainability over its two decades of operation.

At UNBC we defined sustainability in research as a concept that addresses the human relationship to the environment, a relationship that has multiple dimensions. To qualify for inclusion as sustainability research at UNBC, the research must tackle the human relationship to the environment in one or more of its multiple dimensions. Sustainability research seeks to improve human and ecological well-being and as such is generally solutions oriented.

- Academic programs with sustainability research**
- Anthropology
 - Business
 - Economics
 - Ecosystem Science and Management
 - English
 - Environmental Science and Engineering
 - First Nations Studies
 - Geography
 - Health and Human Science
 - History
 - International Studies
 - Outdoor Recreation and Tourism
 - Political Science
 - Psychology

Faculty from at least 15 different academic programs have been involved in sustainability related research at UNBC. The STARS report identified 56 different faculty members who, during 2010/2011, conducted sustainability oriented research.

The UNBC Green Fund encourages sustainability-related research at the University. The following are examples of peer-reviewed publications that have resulted from this funding:

Smyth D, Fredeen AL, Wilkening K. Sustainability at *Canada's Green University*TM: The Greening of the University of Northern British Columbia. The International Journal of Environmental, Cultural, Economic and Social Sustainability (*in press*, 6/12)

Smyth D, Fredeen AL, Booth A. 2010. Reducing solid waste in higher education: the first step towards 'greening' a university campus. Resources, Conservation and Recycling. 54: 1007-1016.

Smyth DP, Fredeen AL, Booth A. 2009. Waste management and sustainability at 'Canada's Green University'TM. Ch.11, *In Sustainability at Universities - Opportunities, Challenges and Trends 2009* (ed. WH Filho). Peter Lang Publishing. Berlin. pp.133-152.

Future institutional support in both funding and documenting of 'Green Research' at UNBC will ensure that this valuable sector of the institutional enterprise continues to grow into the future.

Research Leadership in Sustainability

UNBC is very proud to be a partner in the Canada Research Chairs Program, intended to ensure that Canadian research and development is globally competitive. It is the objective of the federal government to help universities become centres of leading-

edge research and research training. To assist in accomplishing these aims, research professorships—Canada Research Chairs—have been established in universities across the country. Currently, a majority of CRCs at UNBC are conducting research that relates directly to sustainability of northern ecosystems and/or communities. Ultimately,

UNBC is also honored to host a BC Leadership Chair, as well as a number of Forest Renewal BC Endowed Chairs, and the Ian McTaggart Cowan Muskwa-Kechika Research Professor. The holders of these research chairs contribute to UNBC's success as a research-intensive university, but also ensure that our northern environments, resources and ecosystems will provide for generations of Canadians in the future.

6. Green Living

The Student Residences

The student residences house over 500 students. The habits developed during a student's time living in the on-campus student residences can potentially remain with them for the rest of their life. Therefore, promoting sustainable lifestyles in the student's households is of utmost importance. Some of the initiatives started since 2007 in the student residences include:

- The residence recycling program has been greatly expanded and two Green RAs have been employed since 2009.
- Student Housing named their 2010 theme "Clean and Green".
- T12 fluorescent lighting was replaced with T8 lighting at the Student Residences hallways. The outdoor, suite, and common area lighting were upgraded. The changes in the Student Residences lighting is anticipated to reduce electrical consumption by 265,000 kWh per year. This represents a 66% reduction in electrical consumption for lighting.
- In June 2012 two UNBC faculty were funded to quantify the volume of organic waste which is produced by the student residences. This research is part of the long term strategy to upgrade the compost facilities and compost collection system at UNBC.

Food

Food is becoming a topic of growing interest across the UNBC community. Some of the latest developments in the sustainable food systems are:

- Since the Fall 2011 semester, UNBC has hosted a University Farmer's market (UFM). The UFM has become an easy and accessible way for the university community to access locally grown foods and crafted products.
- Local Food days were held in 2010 and 2011. For the 2012/2013 academic year two local food days are being planned.
- The PG PIRG Garden employs two undergraduate students during the spring and summer semesters to grow local fruits and vegetables to be consumed by the UNBC community.
- A Geodesic Dome Greenhouse project proposed by NUGSS and 'Students for a Green University' has been granted funding from the Green Fund, Pacific Institute for Climate Solutions and Integris Credit Union. The Geodesic Dome Greenhouse will be constructed in September 2012.
- A Food Subcommittee of the Green University Planning Committee was created in May 2012 with the purpose of furthering the efforts around food security and local food production, as well as to coordinate the activities developed by the different campus groups working on food issues.

Transportation

In its Green University Strategy – Phase 1, UNBC identified the need to reduce the number of cars, particularly single-occupant vehicles, used to transport UNBC employees, students and visitors to and from the campus every day. Annual Green Day vehicle counts have been made by the UNBC SGU since 2008 and highlight the high number of single occupancy vehicles used to get to and from the campus. Efforts to reduce UNBC's commuter and business travel environmental impacts has resulted in the following:

- outfitting of several new video teleconference rooms. This helps reduce the need for traveling to conferences and lectures.
- Implementing a U-Pass program in which students receive unlimited access to public transit. The U-Pass is paid from mandatory fees levied on all students. This program was voted in by both Undergraduate and Graduate students in 2008.
- Encouraged biking (as well as walking and jogging). For this purpose, showers have been built in two of our buildings, while sheltered storage for bikes is provided at different locations around the Prince George Campus.

7. Buildings and Facilities

Our Buildings

The Green Strategy, Phase 1 identified the need to ensure all future UNBC buildings meet and exceed the LEED Gold standard. The only building built since that date is the Bioenergy facility, which is pursuing LEED Gold certification.

The UNBC Masterplan (2008) identifies UNBC's preference to showcase wood and local building materials for the design of its buildings.

Energy

Since 2009 UNBC has made significant efforts to reduce its energy consumption. Some of the initiatives taken include:

- The 2010 University Plan, which identifies leadership in renewable energy as one of its most important and ambitious goals.
- An Energy Audit was completed by MCW Custom Energy Solutions in May 2009.
- An Energy Manager was hired in June 2010 to explore additional opportunities for renewable energy and reduced consumption.
- A Wind Energy Feasibility study was developed and completed in the fall of 2011.

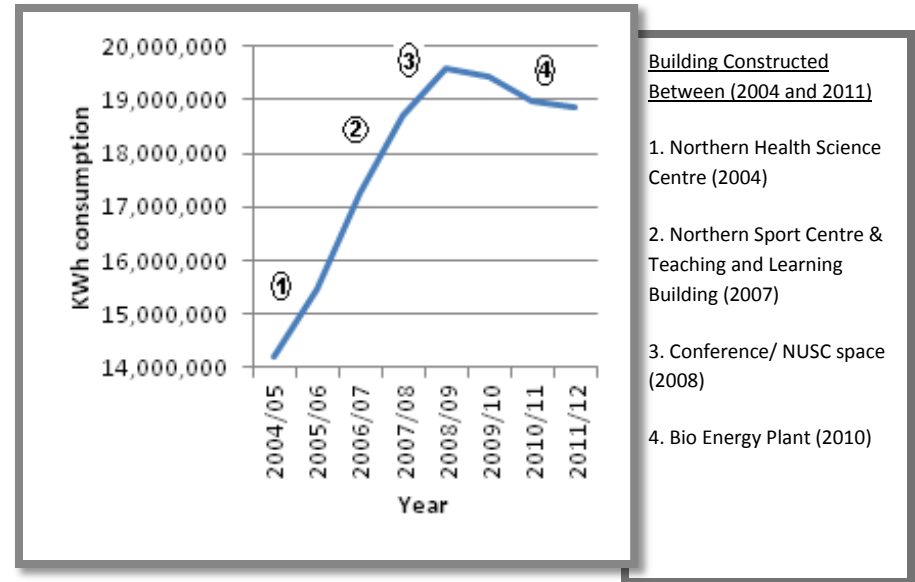


Figure 1. Electricity Consumption by Year and Buildings Built Between 2004 and 2012

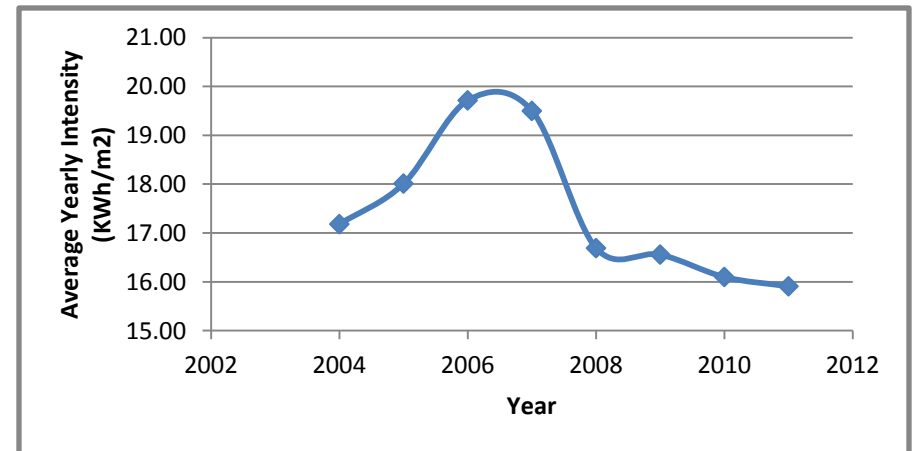


Figure 2. Average Electricity Intensity (kWh/m² of campus floor space)

- Replaced incandescent lighting with LED at the NUSC Event Space.
- A daylight sensor was installed in 2011 so that the atrium lighting can be turned off during daylight hours.
- T12 fluorescent lighting was replaced with T8 lighting at the Terrace Regional campus and at the Student Residences. The change in the Student Residences lighting is anticipated to reduce electrical consumption by 265,000 kWh per year. This is a 66% reduction in electrical consumption for this lighting.
- UNBC installed submeters for gas, electricity, heat, cooling, and domestic water.
- Incandescent lighting was replaced with LED lighting in the Prince George campus lecture theaters. These upgrades will see a 47% increase in light levels and an 85% reduction in energy consumption.
- Fans were installed for the projection booths in the Medical building to take advantage of free cooling during the night.
- The new Green University Center offices are equipped with LED lighting.
- Winter Garden lights were converted to Hi-Bay LED.
- The Thirsty Moose pub replaced its halogen and incandescent lighting with LED (See Green Fund Projects for more information).
- Electrical vault cooling equipment was replaced in the Administration building on September 2011. This system uses cool outdoor air rather than air-conditioning indoor air to keep the high voltage electrical gear cool through most of the year.

- UNBC installed highly efficient LED lights to showcase student art exhibits

The number of buildings and the total floor space of the buildings at the UNBC campuses increased significantly between 2004 and 2012 (66.251 m² in 2004, 98.826 m² in 2012). The additional 32.575 m² of floor space added in recent years explains the increased consumption of electricity and gas. Nevertheless, thanks to electricity reduction initiatives undertaken in the last five years, UNBC has decreased its energy consumption intensity (see Figure 2), indicating that the consumption of electricity per m² of floor space in all campuses has been significantly reduced.

Bioenergy

Bioenergy has become part of UNBC's identity. We have two bioenergy systems: a wood pellet system and the biomass gasification system.

Wood Pellet Project

In the spring of 2009, UNBC installed Canada's first university-owned wood pellet heating system. The project showcases the use of bioenergy as a sustainable, carbon-neutral energy source. With much higher energy efficiency than the previous fossil fuel-based heating system, this project has resulted in a savings of 140 tonnes CO₂e/year.

One of the project goals was to monitor and mitigate the stack emissions so as not to exacerbate Prince George's air quality problems. Third party emission tests revealed that the system produces particulate emissions at the same level as natural gas. Beyond its operational function, the facility serves as a valuable demonstration site for public education, with more than 700 political leaders, industry officials, and community residents visiting during the first year alone. This has shown Bioenergy to be an attractive alternative heating system in Canada's more than 650 forestry-reliant communities.

Biomass Gasification System

UNBC completed its bioenergy heating plant in March 2011. This is the first university owned and operated facility in Canada to use bioenergy from waste wood products to heat campus buildings. Since that time, and after resolving some unanticipated challenges, the plant is anticipated to exceed the performance target of reducing natural gas consumption by over 85%. The LEED Gold bio-energy plant, which uses innovative technology to convert bark, branches, sawdust and leftover wood products from nearby mills into a highly efficient means of heating campus buildings, is reducing greenhouse gas emissions at the university by 3,500-4,000 tonnes annually. That is the equivalent of taking 1,000 cars off the road every year.

Carbon Emissions Reductions

Since 2007, the year in which UNBC announced its commitment to be Canada's Green University, and in preparation for Carbon

Neutrality in the year 2010, UNBC has undertaken a variety of key actions with regards to reducing greenhouse gas emissions (GHG).

Greenhouse Gas Emissions:

In 2010, UNBC produced a total of 5,655.25 tonnes of "CO₂ equivalent" (CO₂e) from all sources covered by the province's Greenhouse Gas Reduction Targets Act. In order to become carbon neutral for 2010, UNBC purchased a total of \$142,175 worth of emissions offsets. Some of the actions taken to reduce Greenhouse Gas Emissions in 2010 were:

- Completed construction of the Bioenergy Plant
- Hired an Energy Manager to plan and implement energy efficiency projects
- Implemented energy retrofits around the campus (see energy section)
- Installed a high efficiency hot water boiler on the Terrace campus
- Purchased natural gas, electricity and water metering for all buildings located on the Prince George Campus
- Purchased SharePoint 2010 for filling documents electronically.

In 2011, UNBC produced a total of 3,508 tonnes of CO₂e from non-renewable sources, a 38% reduction from 2010 emissions. 2,349 tonnes of emissions still result from biomass use but offsets are not required for these emissions. The CO₂ released to the atmosphere during combustion of biomass is assumed to be the same quantity that is absorbed from the atmosphere during plant growth. For this reason, biomass is often considered "carbon neutral". The

Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories specify the separate reporting of CO₂ emissions from biomass combustion. In order to become carbon neutral for 2011, UNBC purchased a total of \$87,775 worth of emissions offsets, a \$54,400 financial savings to the university compared to its 2010 offset purchase.

Actions taken to reduce greenhouse gas emissions in 2011 include:

- Expanding UNBC's video conferencing capabilities including the purchase of a new portable video conference machine.
- Making use of the electric car charging station on campus
- Establishing a Carbon Neutral Sub-Committee of the GUPC in 2011 to establish reduction goals and identify reduction projects.
- Hosting a weekly farmers market on campus, allowing students living on campus to purchase food products without the need to commute to a supermarket.
- Replacing an old chiller with a new more efficient model.
- Updating our car pooling policy to generate more interest in the option.
- Increasing the number of webcast presentation on campus, reducing the number of people needing to drive to campus.
- Installing showers on campus to encourage walking or biking to work.
- Adding more indoor secure bike lockers to encourage biking to work.
- Implementing energy retrofits throughout the campus (see energy section).

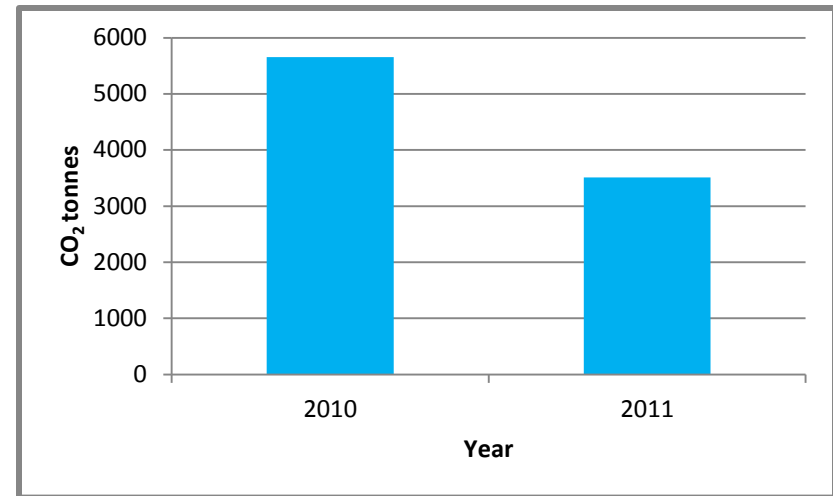


Figure 3. CO₂ emissions by year since UNBC became carbon neutral and began operating an on-campus bioenergy plant in 2011. Note that carbon neutrality is attained through the purchase of C-offsets.

A large amount of the CO₂ emissions reductions achieved in 2011 were accomplished thanks to the opening of the Bioenergy plant. The bioenergy facility started its operations in November 2010 but did not become fully functional until May 2011. Therefore, if we take into consideration that the Bioenergy facility will be fully operational throughout the whole year in 2012, we can expect further significant reductions in CO₂e emissions to be achieved.

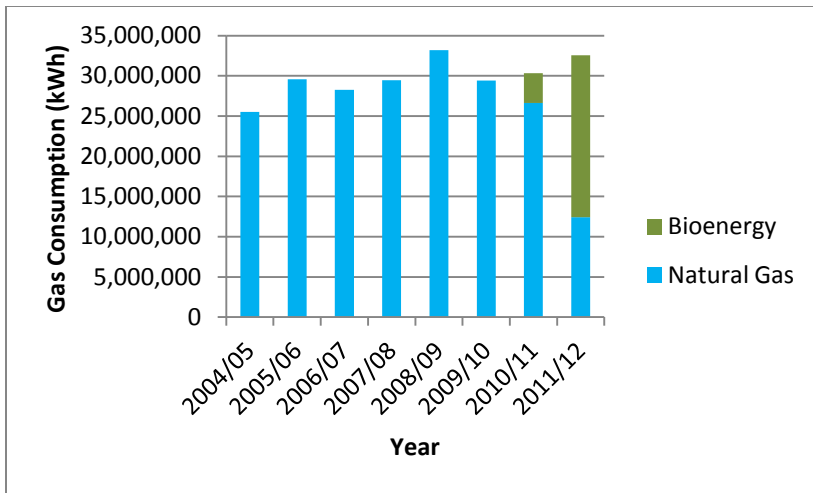


Figure 4. Heating demand by year at UNBC.

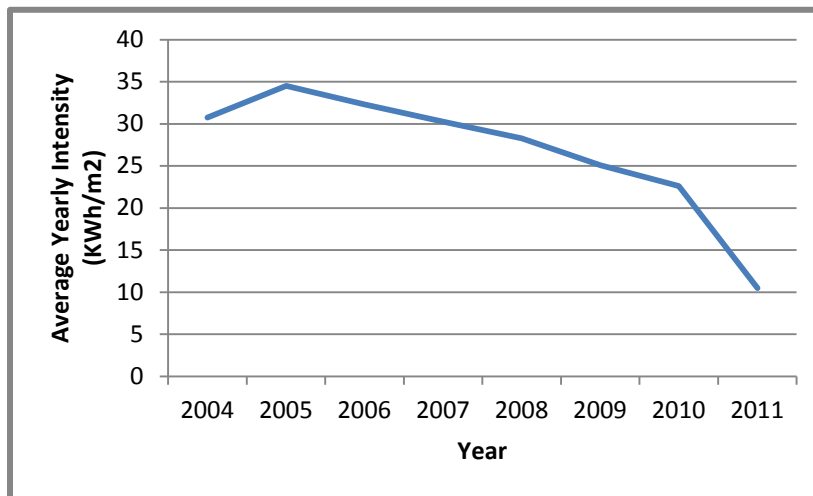


Figure 5. Average yearly intensity of Natural Gas consumed at UNBC (gas consumed per m² of campus buildings)

Figure 4 shows the gas consumption of UNBC, which is one of our biggest sources of GHG emissions. The Syn gas, or synthetic gas, is produced at the Bioenergy facility and is considered carbon neutral. Therefore, even though our total gas consumption stayed somewhat constant, the percentage of gas consumed that is considered a greenhouse gas was significantly reduced since 2010. Even more, the average intensity of natural gas (gas consumed per m² of surface of the buildings at the UNBC campuses) was reduced by two thirds between 2004 and 2012.

Water

Water is a precious resource for humanity and ecosystems; therefore, it is our responsibility to reduce water consumption whenever possible. The most significant reduction in water consumption was achieved with the upgrading of some of the chillers around campus.

The upgrade of the chiller in the Administration building reduced the campus water consumption by 11,000 m³ per year. This system uses cool outdoor air rather than air-conditioning indoor air to keep the high voltage electrical gear cool through most of the year. Other chillers have been upgraded in a similar fashion all over campus. The reductions in water consumption achieved at UNBC are, to a great extent, due to these upgrades.

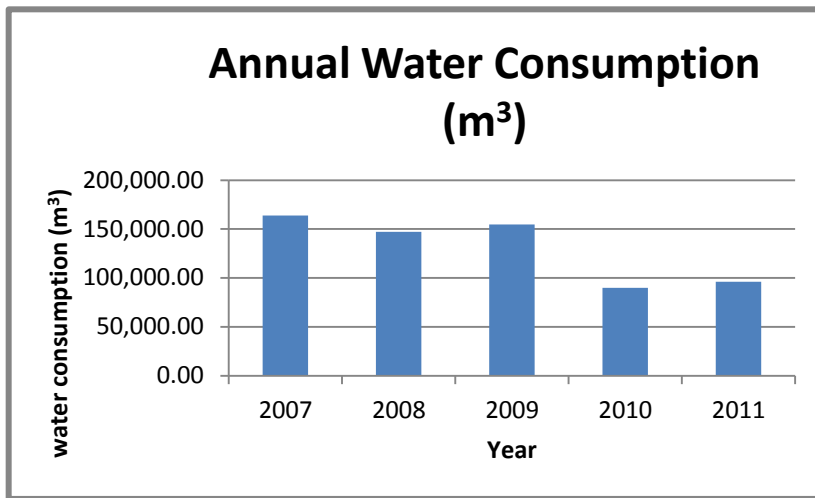


Figure 6. Water consumption by year at UNBC.

In order to promote responsible consumption of water, a water fountain was installed at the Green University Centre. In addition, water spouts were added to existing campus water fountains to facilitate filling of reusable water bottles.

Waste Management

The Green University Strategy, drafted in 2009, identified the need for UNBC to reduce its waste, and to recycle as much of the waste that could not be reduced. Since 2009, a large number of initiatives were undertaken to reduce the amount of waste produced by UNBC which ends up in a landfill. These initiatives include:

- PGPIRG's Compost Program received Green Fund grants to expand its efforts.

- PGPIRG received an addition grant to plan and host a 1-day visioning session for the fall 2011 to evaluate and recommend options for handling UNBC's compost waste stream.
- Retrofitted all old grey recycling bins to streamline acceptable materials with the new bins.
- Redistributed bins to cover a wider range of campus locations.
- Added plastics, glass and tin recycling.
- Expanded recycling to Residence and the Northern Sports Centre (NSC).
- A recycling program for batteries, light bulbs, printer cartridges and cell phones started at the Green University Centre in 2012.
- Facilities recycles fluorescent lamps. They extract the mercury and separate it from other materials so that the lamps can be recycled.
- UNBC is committed to purchasing lamps with low mercury content.
- Facilities collects and recycles metals and large batteries.
- Green RA's provide education and awareness about responsible waste management in the student residences.
- Events such as Bottled Water Free Day promote awareness of waste issues (e.g Bottled Water Free Day).
- The Registrar's Office has pledged to develop an all-electronic system for applications. This will help reduce paper consumption.

- Facilities Department purchased a cardboard baler to increase efficiency and decrease the environmental impact associated with recycling pick-up.
- The School of Nursing was awarded a Green Fund grant for a lab waste management project.
- UNBC is currently investigating the potential for duplex printing strategies in the library (i.e. charging less for double-sided printing).
- UNBC acquired new paper to be used for official UNBC letterhead, envelopes, and some promotional materials. The new UNBC paper is comprised of 17% fiber from Canfor Pulp's Northwood pulp mill in Prince George and 83% post-consumer recycled content.
- Public photocopiers default to duplex.

The Next Five Years...

UNBC is a relatively young university, one that only opened its doors on its main campus in 1994, and only five years old as *Canada's Green University*[™], but already a wealth of projects have been undertaken. Community members are committed to playing a part to create a culture of sustainability at UNBC. We're a work in progress – but our creativity, energy and enthusiasm for green continues to grow.