

THE UNIVERSITY OF BRITISH COLUMBIA



Institute for Resources and Environment

#436E - 2206 East Mall
Vancouver, B.C. Canada V6T 1Z3

Tel: (604) 822-9249
Fax: (604) 822-9250



Date: April 16, 2004

To: Dr. Herbert Rosengarten
Executive Director, President's Office

From: The Sustainability Indicators Project
Dr. Les Lavkulich, Director, IRES
Dr. Freda Pagani, Director, Campus Sustainability Office
Heather Scholefield, Campus Sustainability Office
Leslie Stephenson, Assistant Director, IRES
Dr. Hans Schreier, IRES
Lydia Teh, MSc Student, RMES
Yasuhiko Ogushi, MSc Student, RMES
Jane Lister, PhD Student, RMES

Re: UBC Sustainability Framework & TREK 2010

Recognizing that sustainability is a critical issue facing human societies in the 21st century, there is tremendous opportunity for UBC to develop and communicate its global commitment and contribution to sustainability research and teaching, as well as to demonstrate leadership in minimizing the ecological impact of its plant operations and administrative facilities.

Over the past four months (January-April, 2004) our Sustainability Indicators group-- comprised of IRES faculty, RMES students and Campus Sustainability Office staff-- have been meeting on a weekly basis to discuss UBC's sustainability vision and the development of a UBC Sustainability Framework.

The objectives of our group were specifically to:

1. Understand UBC's sustainability priorities;
2. Establish a manageable set (10-15) of key sustainability indicators and measures for UBC;
3. Design a UBC sustainability framework; and
4. Provide recommendations for the integration of sustainability within the UBC TREK 2010 vision.

The results of the group's discussions are synthesized in two of the attached documents for your information and consideration:

- *UBC Sustainability Framework*
(Indicators and measures for addressing sustainability at UBC – through existing policies and programs and integration into TREK 2010)

Suggested UBC sustainability indicators include: material intensity, green procurement, labor practices, stakeholder satisfaction, citizenship, social capital, community relations, stakeholder participation, and UBC's ecological footprint.

- *Strengthening Sustainability in TREK 2010*
(Line-by-line suggestions for enhancing sustainability theme in TREK 2010.)

We are pleased that the TREK 2010 Green Paper identifies sustainability as a priority for UBC and commend the integration of sustainability themes within each of the five pillars. As discussed in the attached documents, three key points emerged from our discussions with respect to further strengthening the integration of sustainability within UBC's policies and practices:

1. *Ecological Sustainability*

The need to state within TREK 2010, UBC's commitment to minimizing its ecological footprint and the potential negative ecological impact of its plant operations and administrative facilities.

2. *Transparency & Accountability*

The need to state within TREK 2010, UBC's commitment to transparency, accountability and the continual improvement of its sustainability objectives as demonstrated through the maintenance of a management system for the implementation, tracking and reporting of the overall TREK 2010 vision.

3. *Sustainability Leadership*

The opportunity to highlight UBC's tremendous potential in providing community sustainability leadership, as well as to promote our current global leadership in sustainability research.

Thank you very much for your interest in our group's discussions and suggestions. We hope you find the attached documents helpful in establishing our TREK 2010 vision.

Attachments:

1. UBC Sustainability Framework
2. Strengthening Sustainability in TREK 2010
3. 'Ecology' (Draft) CSO document
4. Inspirations & Aspirations brochure

INTERNATIONALIZATION

In a world that is increasingly interdependent, we share a common responsibility to protect and conserve natural resources, promote global health and well-being, and foster international co-operation. UBC is already part of a growing network of learning that encompasses the globe. Our commitment to being a responsible, transparent and accountable global citizen is demonstrated by our established international partnerships and strengthened through the encouraged development of new relationships such as exchange programs and educational consortia. We encourage research projects that link UBC faculty and students with their peers around the world, including projects that address global threats to health, safety, economic opportunity, human rights, and environmental integrity.

The University is committed to broadening global awareness both on and off the campus through innovative programs and educational outreach in a variety of formats. We shall also seek to make the concept of global citizenship an integral part of undergraduate learning through its introduction into our core programs. We shall build on the work of our First Nations House of Learning to increase understanding of aboriginal cultures in other parts of the world, and bring scholars from many different cultures to UBC.

GOALS AND STRATEGIES:**Develop global awareness through degree programs, public lectures, and conferences.**

- Wherever possible, include "global content" in programs to ensure that students are presented with global issues, concerns, and solutions as part of their regular disciplinary or professional studies.
- Promote UBC's sustainability initiatives and research to the international community in order to foster the establishment of a network of experts that can address sustainability issues at a global scale.
- Establish an annual seminar/lecture/conference series on global citizenship, to be held at the Chan Centre and Robson Square.
- Encourage UBC participation and hosting of international sustainability conferences.

Increase learning opportunities abroad.

- Explore opportunities for community service learning through student, staff and faculty exchanges with similarly disposed institutions abroad.
- Expand student exchange programs, and develop sustaining funding to encourage greater involvement by UBC students, aiming for participation by five percent of the student body.
- Increase UBC involvement in overseas partnerships and consortia.
- Establish working partnerships with groups in developing countries to address local problems in health, agriculture, social infrastructure, education, and other areas of sustainability.
- Extend and strengthen our involvement in international consortia like APRU and Universitas 21 through faculty, staff and student exchanges.

Expand the international presence at UBC.

- Continue to increase enrolment of students through the International Student Initiative, with a goal of enrolling 15% of the undergraduate body from abroad.
- Develop a plan to establish a Global Learning and Citizenship Centre at UBC.
- Seek the creation of more UBC-International student residences like Tec de Monterrey-UBC House.

Draw upon the interests and expertise of UBC Alumni.

- Invite alumni to assist students in community service, mentoring, and career counseling.
- Encourage alumni to work closely with Government Relations on advocacy for the University.
- Encourage alumni to work closely with the Development Office on fundraising strategies.

Build good relations between the University, the University Town, and the external community through consultation and collaboration.

- Develop the University Town as a model of an engaged, sustainable community.
- Demonstrate community leadership by implementing innovative sustainability programs and technologies to minimize the university's ecological footprint.
- Organize regular consultations with the Point Grey campus and external communities about developments in the Official Community Plan and the University Town.

Ensure accountability, transparency and continual improvement of the university's TREK 2010 commitments through the maintenance of a management system to ensure the implementation and ongoing fair and accurate tracking and reporting of TREK achievements.

- Prepare and communicate an annual operational timetable for achieving TREK 2010 vision.
 - Conduct an annual review of operational timetable achievements and opportunities for improvement.
-

COMMUNITY

While committed to its role as a global university, UBC recognizes its responsibilities to the citizens of Vancouver and British Columbia. UBC is committed to transparency in all of our affairs and recognize our accountability to the communities that support us. We seek ways of responding to their needs and concerns through our research, through educational outreach, and through partnerships that bring mutual benefit. We invite our alumni to participate more fully in our affairs, and to contribute their expertise and experience to career counseling, fundraising, advocacy, and new educational opportunities for current students.

UBC is committed to building on its downtown presence by extending the educational programming already offered at Robson Square, Great Northern Way and the Learning Exchange; by developing Community Service Learning courses and programs; by promoting more joint programming with other provincial post-secondary institutions; and by offering new programs that meet the needs of communities and life-long learners throughout British Columbia. UBC will also develop more opportunities for local communities to make use of UBC facilities and contribute actively to learning and research.

GOALS AND STRATEGIES:**Develop more opportunities for community involvement and collaboration.**

- Create community-university groups to identify possible areas for joint activity in such matters as local health and education needs.
- Develop Community Service Learning programs, whereby experience in the field will complement academic study or be integrated with academic credit courses, and aim for participation in such programs by at least 10% of our students.
- Develop plans for greater volunteer opportunities for members of faculty and staff.
- Introduce a Community Engagement Awareness Week, analogous to Research Awareness Week, to recognize student, faculty, and staff achievement in this area.

Encourage greater connection between UBC and the external community.

- Study ways of increasing community access to UBC's many academic, cultural, and recreational offerings.
- Establish outreach centres like the Learning Exchange in other parts of the province, acting independently or in collaboration with other post-secondary institutions.
- Make resources available for more public lectures and forums at venues like the Chan Centre and Robson Square.
- Develop and publish annually a register of outreach activities to communicate the nature and scope of UBC's public involvement.

Demonstrate UBC's commitment to minimising its ecological impact by inviting communities to participate in on-campus biodiversity and ecosystem protection programs.

- Invite community members to participate in experimental landscape projects (e.g. wetland management, etc.)
- Invite community members to participate in biodiversity inventory programs (e.g. bird counting).
- Provide public lectures and events to raise public awareness

Expand UBC's links and collaborations with First Nations.

- Invite First Nations bands to share their culture and traditions with our students and with the general public through newly-developed credit and non-credit programs.
- Continue to develop appropriate outreach programming to meet the learning, social, and recreational needs of Aboriginal communities.
- Explore ways and means of developing a closer relationship between UBC and the Musqueam First Nation.

RESEARCH

In the face of growing challenges such as global warming, poverty, human rights abuses, viral diseases, and illiteracy, people everywhere have come to recognize the vital importance of securing a sustainable and equitable future, and striving for a tolerant and just society. Nothing will contribute more to improving the condition of life and our ability to achieve social harmony than the discovery, dissemination and application of new knowledge. UBC is committed to maximum transparency and accountability consistent with good governance in sharing the results of its research endeavours. UBC acknowledges the responsibility of its researchers through free inquiry in all disciplines and professions to develop innovative solutions, paradigms and technologies that reconcile the demands of global development in natural resource, health and commercial sectors with the finite capacities of our biosphere. Original basic research and applied scholarship will help to enhance the quality of life for all.

GOALS AND STRATEGIES:**Support the development of outstanding research in all fields and disciplines.**

- Continue to build excellence in both disciplinary and interdisciplinary research through enhanced funding support, improved infrastructure, and appropriate recognition.
- Place more emphasis on the research cluster concept, and provide resources to aid Faculties in its implementation.
- Engage UBC's operations and the University Town in pilot research projects to refine new approaches and technologies that may contribute to a more sustainable future.
- Increase resources for the Library so that it may better support UBC researchers.

Encourage local, regional, and international research partnerships and exchanges.

- Collaborate with local and regional communities on problems of mutual interest in such areas as sustainability, health care, transportation, immigration, and cultural and social development.
- Actively seek partnerships with foreign universities and international research networks.
- Plan the creation of a Visiting Indigenous Scholar program, to bring outstanding aboriginal researchers to UBC from around the world.
- Engage UBC's operations and the University Town in pilot research projects to refine new approaches and technologies that may contribute to a more sustainable future.

Review recruitment and retention of graduate students.

- Increase support and recognition of graduate students and post-doctoral fellows.
- Devise strategies to recruit outstanding PhD students in all fields and disciplines.
- Improve ratio of undergraduates to graduate students from 5:1 to 4:1.

Increase research funding from all sectors.

- Devise strategies to ensure greater success in obtaining federal funding for research.
- Persuade the provincial government to participate more fully in the research enterprise.
- Invite the private sector to contribute more actively to UBC research through grants and fellowships.

Ensure that the public is well informed about UBC research.

- Bring the results of research to public notice on a regular basis, and educate the public about the benefits of investing in research.

LEARNING

By promoting excellence at every level, we shall help our students to become leaders in their chosen fields, achieve their personal and professional goals, and contribute effectively to the well-being of our society. The key is to provide UBC students with the best possible educational experience, founded on the principles of ecological sustainability, and responsive and transparent governance outlined in our vision and mission statements. Our students will develop an understanding of their responsibilities as members of a global society, including the need to live in harmony with nature and their fellow human beings. They will discover the value of pushing boundaries and taking risks in search of new knowledge and unconventional ideas. Such goals will have an impact on our admission standards, curricular offerings, and graduation requirements.

GOALS AND STRATEGIES:

Foster a sense of ecological and social awareness and global responsibility through changes or additions to the curriculum.

- Through the creation of new courses and programs, the augmentation of existing courses, or modified promotion/graduation requirements, ensure that our students develop a greater awareness of their responsibilities as global citizens and of the issues surrounding ecological, social, and economic sustainability.
- **Strengthen learning by providing avenues to participate in ecologically sustainable initiatives, including field trips and community projects.**
- Encourage our students to learn more about our First Nations heritage through courses in First Nations culture and history.

Review the methods by which learning is delivered, including scheduling of courses and the structure of undergraduate programs.

- Encourage Faculties to continue developing innovative approaches that expose undergraduates to research-based and experiential learning.
- Make the big small wherever possible: provide individualized services and experiences to students within Faculty-based or program-based communities.
- Review the issue of class size, with a view to enhancing students' engagement in their learning.
- Using the e-strategy framework, develop new technologies to aid in learning and in the delivery of instruction in a variety of modes and contexts.

Ensure that all academic programs meet the highest standards of excellence.

- Institute regular Faculty-based reviews of learning methodologies in all disciplines to ensure maintenance of the highest standards.
- Ensure that all first-year students have some exposure in lab or classroom to senior faculty members and researchers in their preferred discipline.
- Develop new programs to assist new faculty and graduate students in all disciplines to develop strong instructional skills.
- Renew our commitment to help students in all disciplines develop good analytic and communication skills.
- Recognize Interdisciplinarity as a key principle in academic planning at the undergraduate, as well as the graduate level.
- Explore new avenues in professional and interprofessional education.

PEOPLE AND PLACE

Believing in the importance of an educated citizenry that contributes positively to the well-being and improvement of all, UBC will reflect the values of a civil society in our selection and recognition of faculty and staff, in our recruitment of students with a strong sense of the value of civic engagement, in our relations with the aboriginal communities of our region, and in the facilities we provide that will make it possible for everyone to live, work, and study here in the most supportive environment possible. This will entail equity in employment practices, a respect for social diversity, attention to the conservation of resources, and transparent and accountable business practices in the conduct of our daily affairs.

GOALS AND STRATEGIES:**Review our admissions processes and policies, to ensure that UBC remains accessible to all qualified domestic students.**

- Review our broad-based admission and student financial aid policies, to ensure that the University is accessible to a wide diversity of qualified students.
- In support of increased access and diversity, develop new programs at Robson Square and Great Northern Way, and seek new opportunities in other parts of British Columbia.

Review rewards and incentives for both faculty and staff.

- Strengthen retention strategies for staff through more incentives like access to UBC courses and facilities, personal and professional development opportunities, and flexible scheduling.
- Review criteria for promotion and tenure to include greater recognition for outstanding teaching, civic involvement, and development of new learning technologies.
- Work towards a more ethnically diverse faculty and staff complement, to reflect the increasing diversity in our student population.

Develop plans for the recruitment and retention of aboriginal students.

- Continue to work with BC First Nations communities to develop programs that will assist increasing numbers of First Nations youth to come to UBC in both undergraduate and graduate programs.

Provide the best possible environment for all members of the campus community.

- Continually review and enhance the quality of UBC's physical environment—its buildings, landscape, and academic facilities—to ensure the campus community has the best and most sustainable surroundings in which to live, work, and play.
- Develop a Code of Conduct that documents the values UBC seeks to instill through the educational experience it provides.
- Provide more inclusive and extensive social and recreational opportunities for faculty, staff and students to meet and mingle.
- Promote health in the UBC community through such events as an annual "Health and Wellness Day."

Minimize the ecological footprint of the University by reducing the negative ecological impact of its plant and administrative operations.

- Through energy, water, other resources, land and air quality management policies that minimize our impact on the environment and biodiversity, and through programs that promote the reduction, reuse and recycling of resources in all UBC operations.
- Practice green procurement to minimize the ecological impact and ensure social accountability of UBC purchasing decisions.

A MESSAGE FROM THE PRESIDENT

As we approach the centennial of UBC's foundation under the University Act of 1908, it is time both to reflect on our past accomplishments and to look ahead to the kind of university that we want to build for future generations. When the first Trek document was published in 1998, our goal was plain enough: "to be the best university in Canada." In one sense, such a goal is unreachable, since—as we discovered—no-one can agree on what being "the best" means, in the complex environment of higher education. Nevertheless, that ambition, embedded in our promise to provide students with an outstanding and distinctive education, pushed us to try for the highest standards in learning and research, within the shaping framework of a new Academic Plan.

Six years later, we still want to be "the best"—however that term is to be interpreted—with the difference that today we want to be placed in a much broader, global context. Many of the goals we set ourselves in 1998 have been reached, or are within our grasp; now it is time to reassess those goals, and take account of the changes that have occurred inside and outside the University.

In October 2003 we circulated a discussion paper, "The Future of Trek & UBC's Long-Term Planning," which included a questionnaire and an invitation to offer suggestions about the next stage of the University's strategic planning. Hundreds of responses were received, from students, staff, faculty members and alumni, as well as from interested members of the general public. Among those responses, a number of recurring themes and concerns emerged, and a common note was struck, that may be summarized as follows:

As a major research-intensive public university, UBC has a responsibility to provide learning and research programs of the highest intellectual quality that will contribute to educating global citizens, promote a sustainable and equitable future, and further the goals of a civil society.

Underlying these themes is the recognition that universities have an increasingly important role to play in society, not only as educators of our future leaders, but also as active participants in the search for solutions to the political, economic, and environmental problems of our time. In the words of Dr. Margo Fryer, Director of the UBC Learning Exchange, "It may be time to strengthen the discourse on academic responsibility—the other side of the coin of academic freedom."

In the document that follows we have sought to incorporate the advice we received as guiding principles embedded in our goals and strategies. If there is one goal to which we should dedicate ourselves above all others, it is to make UBC a leader and a driving force in the world-wide effort to create a positive and healthy relationship between human beings, the societies in which we live, and the natural environment upon which we all depend.

Martha C. Piper
President

**Strengthening Sustainability in TREK2010:
Suggestions for TREK2010 GREEN PAPER**

The following document contains suggestions for integrating sustainability into the TREK vision. The suggestions are a result of the combined effort of the Campus Sustainability Office, and IRES faculty and students. Our fundamental interest is for a sustainability commitment to cut across all five TREK 2010 pillars with specific objectives woven into each. Modifications and additions to the current format of TREK2010 Green Paper have thus been made where we feel there are gaps in addressing sustainability, or where concepts of sustainability can be strengthened.

Suggested modifications and additions are in this font.

TREK2010 GREEN PAPER

VISION

The University of British Columbia, aspiring to be one of the world's best universities, will prepare students to become exceptional global citizens, promote the values of a civil and sustainable society, and conduct outstanding research to serve the people of British Columbia, Canada, and the world.

MISSION

The University of British Columbia will provide its students, faculty, and staff with the best possible resources and conditions for learning and research, and create a working environment dedicated to excellence, equity, and mutual respect. **It is committed to conducting its affairs with integrity, honesty and fairness at all times and to ensuring accountability and transparency in the governance and communication of its activities.** It will cooperate with government, business, and industry, as well as with other educational institutions and the general community, to create new knowledge, prepare its students for fulfilling careers, and improve the quality of life through leading-edge research. The graduates of UBC will have developed strong analytical, problem-solving and critical thinking abilities; they will have excellent research and communication skills; they will be knowledgeable, flexible, and innovative. As responsible members of society, the graduates of UBC will value diversity, work with and for their communities, and be agents for positive change. They will acknowledge their obligations as global citizens, and strive to secure a sustainable and equitable future for all.

RMES 500C Sustainability Indicators

Sustainability Indicators		Sustainability Measures	Relevance to TREK2010 Green Paper	UBC Sustainability Policies/Programs
Outcome Goal	Process Indicator			
Stakeholder satisfaction	Labour practice	Employee turnover rates Employee satisfaction survey Number of strikes	<p>PEOPLE</p> <ul style="list-style-type: none"> • Principle • Goals and strategy <p>“Review rewards and incentives for both faculty and staff” “Provide the best possible environment for all members of the campus community.”</p>	<ul style="list-style-type: none"> • Other programs under I&A-Place paper-Conserve resources-material intensity, water • Programs under I&A : People-Improve human health & safety
Citizenship				
Social capital	R&D Innovation	Healthy communities (suite of measures) Financial viability # of R&D related to sustainability Budgets of R&D related to sustainability	<p>RESEARCH</p> <ul style="list-style-type: none"> • Principle • Goals and strategy <p>“Support the development of outstanding research in all fields and disciplines” “Encourage local, regional, and international research partnerships and exchanges.”</p>	<ul style="list-style-type: none"> • Programs under I&A-People-Develop a vibrant community at UBC-Economic benefits • Programs under I&A-Process-Ensure economic viability, Enable progress
Stakeholder satisfaction	Community relations	Alumni donations PAIR surveys (exit surveys) # of academic, cultural or recreational offering to communities	<p>PEOPLE (for faculty/staff/students) LEARNING (for students/alumni) COMMUNITY</p> <ul style="list-style-type: none"> • Principle • All Goals and strategy 	<ul style="list-style-type: none"> • Programs under I&A-People-Develop a vibrant community at UBC, Learning in the community • Programs under I&A-Process-Open process
Stakeholder satisfaction	Stakeholder participation	Visits to campus (external visitors) Voting rates in UBC elections Volunteer rates	<p>PEOPLE</p> <ul style="list-style-type: none"> • Principle • Goals and strategy <p>“Review our admissions processes and policies...” “Review rewards and incentives...” “Develop plans for the recruitment...” COMMUNITY</p> <ul style="list-style-type: none"> • Principle • All Goals and strategy 	<p>Faculty</p> <ul style="list-style-type: none"> • CSO sustainability coordinator program <p>Students</p> <ul style="list-style-type: none"> • CSO residence sustainability coordinator program • CSO sustainability circle • UBC sustainability pledge • SEEDS program <p>Other</p> <ul style="list-style-type: none"> • Programs under I&A-Process-Open process
Civil society				

UBC SUSTAINABILITY FRAMEWORK - Identified indicators, measures, relevant items in TREK2010 Green Paper and existing policies/programs

The sustainability of an organization concerns the integrated consideration of three criteria: social acceptability, economic viability, and ecological impact. The following table provides a framework of indicators, measures and supporting policies and programs that demonstrate UBC's sustainability commitment.

The framework was compiled through a joint faculty, student and Campus Sustainability Office initiative¹.

A project goal was to design a set of UBC sustainability indicators which are meaningful, understandable, identifiable, measurable, attainable and integrative with TREK 2010 and other programs at UBC. The framework below includes in the first three columns the sustainability goals, indicators and measures identified by the group. Column 4 identifies the TREK pillar, principles and goals that are relevant to the indicators and measures. The final column itemizes the existing, relevant UBC sustainability policies and programs.

Please note that further to information in column 4 regarding TREK relevance, the Sustainability Indicators project group prepared a document under separate cover ("Strengthening Sustainability in TREK 2010") which summarizes specific recommendations on integrating sustainability within the TREK 2010 vision.

Sustainability Indicators		Sustainability Measures	Relevance to TREK2010 Green Paper	UBC Sustainability Policies/Programs
Outcome Goal	Process Indicator			
Minimize material intensity	3Rs Green procurement	Material intensity (paper use, waste, pollution) % of green-procured goods and services	TREK does not currently address material intensity.	<ul style="list-style-type: none"> CSO Paper reduction programs UBC Waste Management recycling program UBC Supply Management Environmental Procurement Plan Other programs listed under I&A²-Place-Conserve resources Programs under I&A-People-Develop a vibrant community at UBC-Equity Programs under Ecology draft paper³: Conserve resources, material intensity, water
Decrease ecological footprint	Reduce, Reuse, Recycle (3Rs)	Consumption of energy, water and key resources	TREK does not currently address resource conservation.	<ul style="list-style-type: none"> CSO Energy management program CSO Green building program UBC Waste Management recycling program UBC TREK program

¹ Directed studies RMES 500C sustainability indicators SEEDS project conducted January 2004 - April 2004. Facilitated by Dr. Les Lavkulich (Director IRES), Freda Pagani (CSO) and Heather Scholtefeld (CSO) with the participation of RMES students (Jane Lister, Lydia Teh, Yasuhiko Ogushi,) and Dr. Hans Schreier (IRES) and Leslie Stephenson (Assistant Director, IRES).

² I&A : Inspirations & Aspirations brochure itemizing the many and varied ways in which sustainability is practiced at UBC - created by the CSO.

<http://www.sustain.ubc.ca/framework.html>

³ Ecology : A draft revision (not for circulation) of the ecological ('place') aspect of the Inspirations & Aspirations brochure - prepared by the CSO.

Please replace the old with this

Outcome Goal	Sustainability Indicators		Sustainability Measures	Relevance to TREK2010 Green Paper	UBC Sustainability Policies/Programs
	Process Indicator	Product Indicator			
Stakeholder satisfaction Citizenship		Labour practice	Employee turnover rates Employee satisfaction survey Number of strikes		<ul style="list-style-type: none"> UBC TREK program Other programs under I&A: -Place paper- Conserve resources-material intensity, water Programs under I&A: -People- Improve human health & safety
Social capital	R&D Innovation		Healthy communities (suite of measures) Financial viability # of R&D related to sustainability Budgets of R&D related to sustainability	<p>PEOPLE</p> <ul style="list-style-type: none"> Principle Goals and strategy "Review rewards and incentives for both faculty and staff" "Provide the best possible environment for all members of the campus community." <p>RESEARCH</p> <ul style="list-style-type: none"> Principle Goals and strategy "Support the development of outstanding research in all fields and disciplines" "Encourage local, regional, and international research partnerships and exchanges." 	<ul style="list-style-type: none"> Programs under I&A: -People- Develop a vibrant community at UBC-Economic benefits Programs under I&A: -Process- Ensure economic viability, Enable progress
Stakeholder satisfaction	Community relations		Alumni donations PAIR surveys (exit surveys) # of academic, cultural or recreational offerings to communities	<p>PEOPLE (for faculty/staff/students) LEARNING (for students/alumni) COMMUNITY</p> <ul style="list-style-type: none"> Principle All Goals and strategy 	<ul style="list-style-type: none"> Programs under I&A: -People- Develop a vibrant community at UBC, Learning in the community Programs under I&A: -Process- Open process
Stakeholder satisfaction Civil society	Stakeholder participation		Visits to campus (external visitors) Voting rates in UBC elections Volunteer rates	<p>PEOPLE</p> <ul style="list-style-type: none"> Principle Goals and strategy "Review our admissions processes and policies..." "Review rewards and incentives..." "Develop plans for the recruitment..." <p>COMMUNITY</p> <ul style="list-style-type: none"> Principle All Goals and strategy 	<p>Faculty</p> <ul style="list-style-type: none"> CSO sustainability coordinator program <p>Students</p> <ul style="list-style-type: none"> CSO residence sustainability coordinator program CSO sustainability circle UBC sustainability pledge SEEDS program <p>Other</p> <ul style="list-style-type: none"> Programs under I&A: -Process-

**UBC SUSTAINABILITY FRAMEWORK -
Identified indicators, measures, relevant items in TREK2010 Green Paper and existing programs**

The sustainability of an organization concerns the integrated consideration of three criteria: social acceptability; economic viability; and ecological impact. The following table provides a framework of indicators, measures and supporting policies and programs that demonstrate UBC's sustainability commitment.

The framework was compiled through a joint faculty, student and Campus Sustainability Office initiative¹.

A project goal was to design a set of UBC sustainability indicators which are meaningful, understandable, identifiable, measurable, attainable and integrative with TREK 2010 and other programs at UBC. The framework below includes in the first three columns the sustainability goals, indicators and measures identified by the group. Column 4 identifies the TREK pillar, principles and goals that are relevant to the indicators and measures. The final column itemizes the existing, relevant UBC sustainability policies and programs.

Please note that further to information in column 4 regarding TREK relevance, the Sustainability Indicators project group prepared a document under separate cover ("Strengthening Sustainability in TREK 2010") which summarizes specific recommendations on integrating sustainability within the TREK 2010 vision.

Sustainability Indicators		Sustainability Measures	Relevance to TREK2010 Green Paper	UBC Sustainability Policies/Programs
Outcome Goal	Process Indicator			
Minimize material intensity	Reduce, Reuse, Recycle (3Rs) Green procurement	Material intensity (paper use, waste, pollution) % of green-procured goods and services	TREK does not currently address material intensity.	<ul style="list-style-type: none"> CSO Paper reduction programs UBC Waste Management recycling program UBC Supply Management Environmental Procurement Plan Other programs listed under I&A²: <ul style="list-style-type: none"> -Place-Conserve resources Programs under I&A: -People-Develop a vibrant community at UBC-Equity Programs under Ecology draft paper³: Conserve resources, material intensity, water CSO Energy management program CSO Green building program UBC Waste Management
Decrease ecological footprint	Reduce, Reuse, Recycle (3Rs)	Consumption of energy, water and key resources	TREK does not currently address resource conservation.	

¹ Directed studies RMES 500C sustainability indicators SEEDS project conducted January 2004 - April 2004. Facilitated by Dr. Les Lavkulich (Director IRES), Freda Pagani (CSO) and Heather Scholefield (CSO) with the participation of RMES students (Jane Lister, Lydia Teh, Yasuhiko Ogrushi,) and Dr. Hans Schreier (IRES) and Leslie Stephenson (Assistant Director, IRES).

² I&A : Inspirations & Aspirations brochure itemizing the many and varied ways in which sustainability is practiced at UBC - created by the CSO.
<http://www.sustain.ubc.ca/framework.html>

³ Ecology : A draft revision (not for circulation) of the ecological ('place') section of a UBC Sustainability Strategy. Based on the objectives of the Inspirations & Aspirations brochure - prepared by the CSO.

RME'S 500C Sustainability Indicators
0044/13/2004

4/15/2004/15/2

Outcome Goal	Sustainability Indicators Process Indicator	Sustainability Measures	Relevance to TREP2010 Green Paper	UBC Sustainability Policies/Programs
				Open process



Ecology

DRAFT

TREK 2000 envisions UBC as "safe, clean, livable and environmentally friendly." In creating a working blueprint for a sustainable community, the university is protecting its natural heritage, conserving resources and reducing pollution while building a foundation for the future.

Reduce Pollution	Conserve Resources	Protect Ecosystems
<p style="text-align: center;">AIR</p> <p>GREENHOUSE GASES</p> <p>⊙ Reduce CO₂ emissions by 10% 1999-2005. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Reduce energy consumption per square foot in core and ancillary buildings through ECOTrek retrofits (LBS) - Reduce single occupant vehicle trips (LBS) - 50% of new residents to live/work at UBC. (OCP/UBC Properties) - House at least 25% of full-time undergraduates on campus (Housing/UBC Properties) - Convert at least 20% of LBS vehicle fleet to super ultra low emission vehicles (SULEV) standard by 2010. (LBS) - Use fly ash concrete in construction. (UBC Properties) <p>AIR QUALITY</p> <p>⊙ Reduce NO_x emissions by 90% (less than half of compliance levels) by 2005. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Install new burners and economizers through ECOTrek (LBS) <p style="text-align: center;">WATER</p> <p>STORMWATER QUALITY</p> <p>⊙ Establish stormwater quality targets. (LBS/HSE)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <p>Stormwater Quality Subcommittee (of EPAC) to:</p> <ol style="list-style-type: none"> 1) Determine water quality criteria and targets 2) Establish Best Management Practices 3) Monitor Stormwater quality (LBS/HSE) <p>STORMWATER MANAGEMENT</p> <p>⊙ Develop individual stormwater management plans for each of the Neighborhood Plans. (LBS/UBC Properties)</p> <p>⊙ Provide bio-filtration through wetland areas in the open space system where stormwater is collected and discharged. (LBS/UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - OCP/CCP planning process. (LBS/UBC Properties) <p>HYDROLOGY</p> <p>⊙ Establish a protective zone adjacent to cliffs where infiltration is not permitted. (LBS/UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Analyze results of the Hydrology Study and integrate recommendations into neighborhood and campus plans. (LBS/UBC Properties) <p>WASTEWATER QUANTITY</p> <p>⊙ Reduce wastewater in all core & ancillary buildings by 30% 1999-2010. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Reduce wastewater through ECOTrek retrofits. (LBS) - Install water efficient fixture in new buildings. (UBC Properties) <p style="text-align: center;">WASTE</p> <p>QUANTITY</p> <p>⊙ Reduce construction waste to landfill by 30% per project. (UBC Properties)</p> <p>⊙ Divert 55% of annual operational waste from landfill by 2010. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Construction Waste Management Plan and EAP (UBC Properties) - Install on-site composter. (LBS) <p>HAZARDOUS WASTE</p> <p>⊙ **Use stakeholder consultation process to set targets for reduction in hazardous wastes. (LBS/HSE/Faculty)</p>	<p style="text-align: center;">ENERGY</p> <p>REDUCTIONS</p> <p>⊙ Reduce energy consumption per square foot in core buildings by 20% 1999-2005.</p> <p>⊙ Reduce energy consumption per square foot in all core and ancillary buildings by 30% 1999-2010. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Building retrofits as part of ECOTREK. (LBS) <p>EFFICIENCY</p> <p>⊙ New buildings to be at least 25% more energy efficient than Model National Energy Code. (LBS)</p> <p>⊙ **Need energy guidelines for rental and market housing (EAP). (UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Technical Guidelines require new buildings to be at least 25% more energy efficient than the Model National Energy Code. (LBS) <p>RENEWABLE</p> <p>⊙ 10% of electricity in all core and ancillary buildings will be from "green" (renewable) sources by 2010. (LBS)</p> <p>⊙ **Need target for residential and market housing. (UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Purchase BC Hydro Green Energy Certificates (LBS) - Develop renewable energy sources for the campus. (LBS) - Integrated photovoltaic technology in new electrical engineering building. (UBC Properties) <p style="text-align: center;">WATER</p> <p>QUANTITY</p> <p>⊙ Reduce water use in core buildings by 20% 1999-2005.</p> <p>⊙ Reduce water consumption by 30% in all core and ancillary buildings 1999-2010. (LBS)</p> <p>⊙ **Target for residential and market housing (EAP). (UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Building retrofits through ECOTrek (LBS) - Install sprinkler systems with rain sensors, low-flow plumbing fixtures for new buildings. (UBC Properties) <p style="text-align: center;">MATERIAL INTENSITY</p> <p>QUANTITY</p> <p>⊙ Reduce material use by 10% 1999-2005. (LBS)</p> <p>⊙ Reduce paper use by 10% 1999-2005. (LBS)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - Increase building life cycle through FIMP. (LBS) - Recycle furnishing and equipment as feasible. (LBS) - Manage scientific equipment (\$10K+) for re-use. (Supply Management) - Sell used textbooks. (Bookstore) - Eliminate paper forms/letters and envelopes through on-line administration. (IT Services) 	<p style="text-align: center;">LAND</p> <p>PROTECTION</p> <p>⊙ Minimize potential impacts from development of UBC land with respect to habitat areas in Pacific Spirit Park. (LBS/UBC Properties)</p> <p>⊙ Maintain the overall number of trees on campus. (LBS/UBC Properties)</p> <p>⊙ Incorporate one demonstration project into each Neighborhood Plan. (LBS/UBC Properties)</p> <p>ACTION PLAN TO ACHIEVE TARGET:</p> <ul style="list-style-type: none"> - OCP/CCP planning process. (LBS/UBC Properties)

**Target needs to be set

