PUBLIC ENGAGEMENT IN UBC's CLIMATE ACTION PLAN

by
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PROFESSIONAL PROJECT FOR
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AND
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CLIMATE ACTION PLAN

by
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This professional project report characterizes and analyzes community engagement in UBC's Integrated Climate Action Framework (ICAF). The UBC Sustainability Office requested that this study:

1. Document and classify the past and current processes of consultation in the ICAF.
2. Provide recommendations for future engagement activities based on an accurate and rigorous analysis.
3. Present these recommendations in an accessible and user-friendly way.

In this report I introduce the ICAF structure and the 12 community engagement mechanisms employed by the UBS Sustainability Office (SO) from June 2007 to December 2008 (Chapter 3). I then map the engagement mechanisms onto the Spectrum of Public Engagement. Based on this mapping, I further synthesize the 12 ICAF engagement mechanisms into six avenues for campus community engagement in the ICAF (Chapter 4).

SIX ACTIVE AVENUES FOR PUBLIC ENGAGEMENT IN THE ICAF

1. INFORMATION
- In-person presentations by the Sustainability Office (SO) staff (summer 2007 -present)
- Discussion Paper: Leadership and the Climate Agenda (February 26, 2008)
- Climate Action website (September 2008 - present)
  - Introduces the ICAF planning framework and the working committees
- Climate Action Symposium (October 2, 2008)
  - 185 attendees were informed about climate action at UBC, the history of action on sustainability, and current UBC research and practice on climate

2. RESEARCH
- Student research on the ICAF through Social, Ecological, Economic Development Studies (SEEDS) Projects (summer 2007 - present)
- In-house consultants (fall 2007 & summer 2008)
- 2006 GHG inventory (fall 2007)
- Draft vision statement and ICAF structure (summer 2008)

3. CONSULTATION EVENTS
- Round table discussions (spring 2008)
  - Invited the campus community to share their input on transportation, infrastructure, education and food

4. WORKING COMMITTEES
- Multi-stakeholder committees
  - President's Advisory Council on Sustainability (PAC-S) (spring 2008 – present)
  - Operations and Administration Working Group of the PAC-S (spring 2008 – present)
  - Climate Action Partnership Steering Committee (summer 2007 – spring 2008)
- Expert committees
  - Technical Advisory Committee, Risk Assessment Task Force, Utilities Management Committee, Alternative Energy Committee and Energy Management Committee

5. ADVISORS
- Formal
  - Off-campus advisors on the PAC-S Advisory Panel (forthcoming)
- Informal
  - On-campus advisors are a source of information for the SO staff (summer 2007 – present)

6. PARTNERSHIPS
- Formal
  - BC Campus Climate Network and the AMS (spring 2008 - present)
- Informal
  - UBC Business Units are going to develop emissions reduction plans which will be aggregated into UBC's Climate Action Strategy (forthcoming)

THREE TOOLS TO ANALYZE AND EVALUATE PUBLIC ENGAGEMENT IN THE ICAF

I evaluated public engagement in the ICAF using three approaches: the Checklist for Successful Sustainability Project Development at UBC (Chapter 5), the Checklist of UBC Climate Stakeholders (Chapter 6) and three questions on effective community engagement (Chapter 7).

TOOL 1: CHECKLIST FOR SUCCESSFUL SUSTAINABILITY PROJECT DEVELOPMENT AT UBC

Description: Using key informant interviews plus reports on the Energy Management Plan and the Sustainable Transportation Plan, I identified nine lessons for successful community engagement in sustainability planning at UBC. I then compiled these lessons into a checklist. This checklist is designed for the SO and other groups engaged in sustainability planning on campus to easily assess whether their engagement process is applying the lessons learned from past sustainability planning processes.

Findings: The ICAF engagement process is applying six of nine the lessons gleaned from the success identified in the checklist:

1. piggy-backing on existing UBC priorities,
2. engaging on- and off-campus stakeholders,
3. conducting pilot projects,
4. building support among top decision-makers,
5. sharing credit for successes, and
6. leveraging successes to benefit other universities and colleges.

TOOL 2: CHECKLIST OF UBC CLIMATE STAKEHOLDERS

Description: Using key informant interviews and the list of stakeholders engaged in the Sustainable Transportation Plan, I identified high and low priority stakeholders in climate and sustainability planning at UBC. I compiled these stakeholders into a checklist. This checklist is designed for the SO and other groups engaged in sustainability planning at UBC to easily assess if their planning process is engaging the key sustainability stakeholders on campus.

Findings: Using the checklist I found that the ICAF is engaging seven of nine high priority stakeholders and six of 15 low priority stakeholders. High priority stakeholders engaged in the ICAF:

1. Alma Mater Society (AMS)
2. UBC Properties Trust
3. Faculty members with issue specific expertise (climate change, planning, etc.)
4. Campus and Community Planning
5. UBC Supply Management
6. TREK Program
7. Treasurer

TOOL 3: ASSESSING EFFECTIVE COMMUNITY ENGAGEMENT

Description: Rowe and Frewer (2005) identify two key criteria by which members of the public judge effective community engagement: fairness and competence. Based on these criteria, I created three questions to consider whether the ICAF is effectively engaging the community:

- What steps were taken to ensure competence in the engagement process?
- How do the sponsors demonstrate a real intent to listen to the public?
- How was the engagement process designed to be fair?

Findings: I found the process to be fair in the UBC context. Better tracking of participation would help to ensure more diverse stakeholders are represented. The SO has made considerable efforts to integrate public input into the climate action planning process, but there is stillroom for improvement. Closing the consultation loop by reporting back to the campus community on how their input has been used to shape the ICAF needs to be a priority. This will increase the transparency of the process and enhance the perceived competence of the Sustainability Office (SO).

SUMMARY OF RECOMMENDATIONS FOR PUBLIC ENGAGEMENT IN THE ICAF IN ORDER OF PRIORITY

1. Close the consultation loop. Ensure community input is integrated into the ICAF and report back to participants on how their input is used.

2. Communicate more broadly and regularly about the ICAF.

3. Explore and develop creative financing models for implementing the ICAF.

4. Bundle ecologically significant projects with money-making projects.

5. Prioritize engaging the VP administration & finance, neighbouring community associations, the Graduate Student Society and the campus unions.

6. Leverage partnerships with the AMS, UBC Common Energy and UBC Utilities to create climate pilot projects.

7. Create an email list of campus community members interested in or working on climate change.

8. Continue building the climate action website as a key source of information on how the campus community can get involved in the ICAF.

9. Give specific attention to ensuring consultation events and engagement activities are accessible and engage representatives from non-traditional stakeholders and groups affected by climate change

10. Break down silos within the ICAF itself by holding regular (bi-annual) joint meetings of all committee members and participants.

AAPS	Association of Administrative and Professional Staff
AMS	Alma Mater Society (Undergraduate Student Union)
AVP	Associate Vice-President
BC	British Columbia
BoG	Board of Governors
CCP	Campus and Community Planning
CMS	Climate Monitoring System
CUPE	Canadian Union of Public Employees
eCO$_2$	Carbon Dioxide equivalent
EMP	Energy Management Plan
FTE	Full Time Equivalent
GHG	Greenhouse Gas
GSS	Graduate Student Society
IAP2	International Association for Public Participation
ICAF	Integrated Climate Action Framework
IPCC	Intergovernmental Panel on Climate Change
IUOE	International Union of Operating Engineers
MOU	Memorandum of Understanding
OAWG	Operations and Administration Working Group
OCP	Official Community Plan
PAC-S	President's Advisory Council on Sustainability
SCARP	School of Community and Regional Planning
SEEDS	Social, Ecological, Economic Development Studies
SO	Sustainability Office
SOV	Single Occupant Vehicles
STP	Strategic Transportation Plan
SUCH	Schools, Universities, Colleges and Hospitals
TAC	Technical Advisory Committee
UBC	University of British Columbia
UBC-O	University of British Columbia Okanagan
UBC-V	University of British Columbia Vancouver
UNA	University Neighbourhood Association
UVic	University of Victoria
VP	Vice President
WRI	World Resource Institute

TABLES

FIGURES

Once upon a time there was a kingdom called UBC in the beautiful land of British Columbia. For many years the people of this kingdom lived peacefully. Then there came a mounting danger, the evil Climate Change monster entered the land. This evil monster turned the once lush forests to match sticks, it chased away and ate up the wildlife. It even sucked the water from the British Columbians' fields and pastures, destroyed their homes. UBC's king Toope and the emperor of the land, Lord Campbell, both knew in their wisdom that if they did not defend themselves and their people, the evil climate change monster would destroy their lands eat them all up!

Now, the kingdom had many lords within it, each with their own people, lands and laws. Although the king could decree they must prepare to face this climate change monster, he knew that they hated taking orders and would often resist orders given from on high.

So, the king drew to him his best advisors to develop a plan. One advisor was very wise and old. He told of other monsters that had attacked the kingdom, the reinforcements they made and the way they inspired the lords to act. One advisor was very worldly. He had travelled far and wide and had seen how other kingdoms had protected themselves and rallied their lords to fight the climate change monster. A third advisor worked closely with the lords and the people and beseeched the king to invite them all to a round table to make the plan together. The Court scientist, who knew the most about the climate change monster, having studied it for many years, piped up:

"This is not enough. The old ways and reinforcements cannot stop this monster! It is bigger and badder than anything we've ever faced before. Yes, we must do all the things my brethren say, but we must do more, or we will surely perish." Finally, the Man at Arms spoke up, "Your Highness, we have made some preparations. They are not enough, but some Lords are involved and we have a small infantry of good men and women ready to stand up against this monster now and fight."

So the king thanked his advisors and he sent them away. Then he sat in his tower and he thought and he thought and he thought for seven days and seven nights. Finally, emerged from his tower, returned to his advisors and said this:

"We must do more to protect ourselves from this monster. Gather the lords, that I may call on them to join me at a round table. I will hear their stories and ideas. Together we will shape my plan. We must all prepare – each his fiefdom and his home. I too will prepare, by gathering an army and providing reinforcements, tools, materials, provisions and plans. We must not only reinforce our kingdom to keep the monster out, we must also prepare to fight the monster in case of attack.

"Finally when this is done, we must send out our storytellers to share the news with all the other kingdoms in the land. This will please the emperor and, god willing, help to save other kingdoms as well. But first the storytellers must start in our own land. They must travel throughout the land and tell the people what I have decreed. The storytellers will begin to prepare them for the changes that are to come."

And so it was that the people of UBC began preparing themselves to tackle the threat of climate change.

PROVINCIAL MANDATE FOR CARBON NEUTRALITY

Across British Columbia (BC), the early signs of climate change are already apparent. Some of the most serious local climate change impacts include the destruction of 46% of BC's total merchantable pine between 1998 and 2007 due to the northern expansion of the mountain pine beetles' habitable range (Walton et al, 2008). The Western Spruce Budworm has also seen a sharp increase in infestation levels since 2000. In 2007, the budworm had infested 847,344 hectares of BC forests (Natural Resources Canada, 2008). Spruce budworms flourish in warmer conditions, and the decade from 1998 to 2007 was the hottest on record, with eight of the ten (8/10) hottest years ever recorded (World Meteorological Organization, 2007). Droughts across the Okanagan region are reducing the agricultural productivity of the region. Three extreme storms in the winter of 2006/7 also destroyed 10,000 trees in Vancouver's Stanley Park (Vancouver Parks Board, 2007), two of these were hundred year storm events.

In November 2007 the BC provincial government passed the Greenhouse Gas Reduction Target Act which mandated that all public ministries, schools, universities, colleges, hospitals (SUCH sector), and Crown corporations be **carbon neutral** by 2010, and all municipalities be carbon neutral by 2012 (Ministry of Environment & Office of the Premier, 2007). This Act is part of a suite of policy and regulatory tools designed to reduce BC's public sector emissions to 33 percent below 2007 levels by 2020. BC's targets are the most ambitious provincial or state-level climate change regulation in North America. The provincial government is sending clear signals to public sector bodies and institutions that reducing emissions must become part of business as usual.

If they achieve this provincial mandate, public sector institutions will achieve an eight percent (8%) reduction below 1990 levels of greenhouse gas (GHG) pollution by 2010. This will make BC's public sector compliant with Canada's emissions reduction commitments in the first commitment period of the Kyoto Protocol (2008-2012). More importantly, these initiatives put BC on track towards the levels of worldwide emission reductions that are scientifically relevant to stop dangerous climate change. The Intergovernmental Panel on Climate Change calls for a 50% to 85% reduction in GHG emissions by 2050 to avoid dangerous climate change (IPCC, 2007).

History of Sustainability Leadership

Universities, and particularly the University of British Columbia (UBC), can play a unique leadership role in achieving carbon neutrality. As a leading research university, UBC houses a variety of academics who are part of the global community of thinkers and research leaders on climate change. UBC's campus community includes the 'experts' on the science, risks and impacts of climate change. Sustainability is part of UBC's mission statement and identified as a one of the university's greatest strengths by the campus community members (UBC Strategic Plan, 2008). UBC is a recognized leader in campus sustainability and climate action. Since 1997, when UBC passed its Sustainability Policy (Policy #5), several large-scale and pioneering energy saving initiatives were implemented to improve the efficiency of operations. Some examples of these initiatives include:

- hiring the province's first Energy Manager -now a model for universities and other public institutions (Wark, 2008)
- EcoTREK- a $38.8 million dollar, self-financing lighting and energy retrofit programme (Sustainability Office, 2007b)
- the UPASS student bus pass programme whereby all students on campus pay $22 per month for unlimited public transit (UPASS, 2008)
- over 400 courses with sustainability content in a variety of disciplines and levels (UBC Sustainability Office, 2007a)

Internal and external proponents of campus sustainability have celebrated these initiatives. Looking only at the year 2008, UBC's sustainability efforts were recognized through a variety of awards and honourable mentions including:

- Ranked in the top three of the most sustainable schools in North America (top Canadian school) by the Sustainable Endowments Institute of Cambridge, Massachusetts
- Just Desserts Award for SEEDS program from the AMS/GSS
- Helen McCrea Award for SEEDS program from the Campus Advisory Board on Student Development
- National first prize for quality and productivity of the ECOTrek program from the Canadian Association of University Business Officers
- Five Green Globes from the Building Owners and Managers Association of Canada for the Fipke Centre's design
- WorkLife BC Award of Merit from the Ministry of Children and Family Development for UBC Okanagan
- Finalist for BC Hydro's PowerSmart Award for builder/developer of the year for UBC Properties Trust (UBC Sustainability Office, 2008c)

These awards and honourable mentions are just one indication of how UBC's focus on campus sustainability throughout the last decade has positioned the university as a North American leader.

The UBC Integrated Climate Action Framework (ICAF)

In response to the variety of regulatory and moral imperatives introduced above, the UBC Sustainability Office (SO) launched the Integrated Climate Action Framework (ICAF) in July 2007. The ICAF includes a vision statement, an emissions inventory, a climate action strategy, a risk assessment, and a climate management system. The campus community has been engaged at a variety of levels in all of these elements except the climate management system, which does not yet exist. Taken together, the ICAF is seeking to hold emissions at 2007 levels until 2010 and further reduce those emissions to 33 percent below 2007 levels by 2020.

Public Engagement in the ICAF

This study was requested by the UBC Sustainability Office in order to:

1. Document and classify the past and current processes of consultation in the ICAF
2. Provide recommendations for future engagement activities based on an accurate and rigorous analysis
3. Present these recommendations in a palatable way (for recommendations are useless if they cannot be implemented)

This report characterizes and assesses public engagement in the Integrated Climate Action Framework (ICAF). Based on this analysis, I recommend next-steps for campus community engagement in the framework. This project focuses specifically on community engagement in the planning and inventorying processes. It is intended to complement work already underway to measure and reduce UBC's GHG emissions in the ICAF, but does not focus directly on this technical aspect of the ICAF. Community engagement in the planning process helps to generate public support, develop realistic management processes, and establish systems that support successful implementation of these plans (Rosener, 1982; Rowe & Frewer, 2000; Rowe & Frewer, 2005; Smith, Nell & Prystupa, 1997; Stewart, Dennis & Ely, 1984; Wiedemann & Femers, 1993). Engagement helps to build a consensus among community members on what they want to achieve through plans and policy (Boothroyd, 1991). Public engagement can also help to reduce resistance to change, by building awareness of the key trade-offs, considerations, priorities and timelines (Evans et al, 2005; Linstead, 1997).

In Chapter 2, I explain my research methodology, methods and analytical approach, which draw on past sustainability planning processes at UBC, literature and tools on public participation and interviews with key informants within the UBC campus community. In Chapter 3, I introduce the ICAF and the public engagement mechanisms that are underway or have already taken place. In Chapter 4, I map these community engagement mechanisms onto the Spectrum of Public Engagement and cluster mechanisms by their level of public impact to synthesize the engagement mechanisms into six distinct avenues for community engagement. In chapters 5, 6 and 7, I analyze the ICAF community engagement process in terms of consistency with past sustainability planning processes, effective engagement of relevant stakeholders, and effectiveness of the engagement process. I first examine successes and lessons in public engagement identified by leaders in two successful sustainability plans at UBC: the Energy Management Plan and the Sustainable Transportation Plan. These lessons for the ICAF engagement process are summarized in the *Checklist for Successful Sustainability Project Development at UBC*. Next, I identify key stakeholders that should be engaged in climate action planning on campus, which are summarized in the *Checklist of UBC Climate Stakeholders*. Thirdly, I test the engagement mechanisms for fairness and competence. Based on this analysis I present 10 recommendations for building on successes and improving future community engagement in the ICAF moving forward.

CHAPTER 2: METHODOLOGY

METHODOLOGY

My project was developed using a Mixed-Methods methodology, which combines a literature review of academic and grey literature with key informant interviews, of current and past members of the UBC campus community. Given that stopping climate change is both an operational and behavioural challenge, and that no single body of research on climate action planning exists, this method was considered appropriate.

DATA COLLECTION & ANALYSIS

There were three focus areas in the data collection for this project. I began with a literature review focused on best practices in conducting and evaluating climate action planning and community engagement processes. Secondly I conducted interviews with key informants within the UBC community, seeking to identify best practices, lessons and insight on how to effectively engage the campus community in sustainability planning and action. Finally, I researched two case studies on successful sustainability plans at UBC to supplement and fill out information gathered through the key informant interviews.

The analysis and recommendations presented in this report are drawn from theoretical sources on community engagement and case studies of successful sustainability plans at UBC. This approach is intended to at once maintain best practice in public consultation at UBC and also to improve those activities by applying academic theory on the subject. Given that UBC is an academic institution, focused on research and teaching, an academic model was considered relevant and appropriate for evaluating public engagement.

My literature review focused primarily on academic articles, published books available through the UBC library, and publically available articles published through credible sources on the Internet. Although I found a wide variety of information, most of it was not directly relevant to my research topics or was not of sufficient detail to be used to set criteria to evaluate community engagement in the ICAF. No resources were identified that offered matrices or tools to evaluate public engagement. Neither were any examples or models for engagement in public participation identified. For this reason, I built my own analytical models for characterizing community engagement in this project, applying and achieving best practices, and evaluating the effectiveness of the engagement process so far. The literature review provided theory on defining and evaluating community engagement. This theory was applied in this project to categorize and evaluate community engagement in UBC's Integrated Climate Action Framework (ICAF).

Information on the two case studies of successful sustainability initiatives at UBC was gathered from a literature review of publically available records and reports plus the information gathered in key informant interviews. The two case studies are of the Energy Management Plan (1998) and the Sustainable Transportation Plan (1999). These two examples were selected because they recurred the most frequently as examples in the key informant interviews' accounts of successful sustainability projects. Key informant interview subjects identified what approaches, opportunities or characteristics made these plans successful in both terms of successful implementation and significant environmental impact. These insights are compiled into two checklists, one of campus

stakeholders in sustainability and one on successful strategies for effective community engagement in a sustainability management plan. Other insights, more broadly relevant to creating effective sustainability management plans also came up during the unstructured interviews. I have attempted to include these, as possible, in the text, but they are beyond the scope of this study. However, there are opportunities for further study of the financing approaches and ongoing management systems that led to successful implementation of the plans.

In the initial project design I intended to examine case studies from municipal and business contexts of a similar site or scale. Cross-sectoral case studies were included in the original scope in the hopes of cross-pollinating ideas. Unfortunately, no sufficient information on suitable case studies was found in an initial academic literature search and online document search. I made the choice to limit the case studies to successes at UBC, since the interview subjects and literature were more easily accessible through the Sustainability Office (SO) and other UBC offices and given that the unit of study for this project is UBC.

Key informant interviews were conducted with current and past staff, faculty and students at UBC. The interview subjects were selected based on a list of informants provided by the UBC SO, and then supplemented using a popcorn style method, where interview subjects were asked to recommend other people to be interviewed. A full list of key informant interview subjects is included in Appendix 1. Sample interview questions are included in Appendix 2. These sample interview questions were used to spark and guide the unstructured interviews. Probing questions were also asked further delving into

1. information specifically relating to the case studies and the keys to their successful development and engagement of the community.
2. understanding the Integrated Climate Action Framewor including understanding the reporting and accountability structure of the plan, its content and scope, as well as the process for engaging campus community members in its development.

Data was gathered using notes taken during the interview and supplemented by re-listening to interview recordings. The notes were focused specifically on identifying stakeholders and keys to success, which were synthesized into the checklists.

To ensure confidentiality, key informants are grouped into a single category (respondents) to identify stakeholders in Chapter 6.

LIMITATIONS & RISKS

Although several articles bemoan the lack of consistent evaluation criteria for public engagement, and although in my research I did not find any evaluation criteria or models to apply to the ICAF, this may still be a gap and failing in the research.

There may be flaws in the application of the theoretical model for characterizing and evaluating community engagement to the practical case of the UBC ICAF. Although attention is given to clearly walking through the development and application of both the Spectrum of Public Engagement and the criteria for effective engagement, these models may not capture all relevant elements in understanding and assessing community engagement.

There is a risk that the key informants did not provide accurate or complete information. Each interview subject will present events from their perspective and may not know all relevant information. The majority of interview subjects were suggested by the Sustainability Office (SO) staff, and have some connection or affiliation with that office.

There may be others who were not interviewed who have a very different perspective on how sustainability advances at UBC or what stakeholders should be engaged in reducing emissions on campus. However, this is considered to be a low risk as the SO is a reliable source and has been the primary body working on sustainability within UBC's administrative and operational structure since 1998.

To protect confidentiality in the stakeholder section of the report (Chapter 6), key informant were grouped into a single category—respondents. As a result, the reader cannot develop an understanding of how experienced or knowledgeable each respondent is on this subject. However, this was considered an acceptable limitation when balanced with meeting the commitment to protect confidentiality, which was explicitly given to the key informants (both verbally and in the consent form).

Ethical Considerations

This project was subject to ethical review by the University's Research and Ethics Board, as is required under the Tri-Council Policy Statement on Ethical Conduct of research involving human subjects. Through review this research project was found to be minimal risk. Interview subjects were asked to sign a consent form before being interviewed. A sample consent form is included in Appendix 3.

Project Partners

The UBC Sustainability Office (SO) is the client for this professional project. This project is also part of the SO's SEEDS Program (Social, Ecological, Economic Development Studies), which supports student research on campus sustainability by facilitating partnerships between staff, students and faculty. This project will be included in the SEEDS library.

The SO is taking the lead in developing the UBC Integrated Climate Action Framework. Liz Ferris, the Coordinator of Climate Action at UBC, is the second reader and a key advisor for this project.

Introduction

The Integrated Climate Action Framework (ICAF) grew out of the confluence of internal calls for action on climate change combined with an external mandate from the provincial government for universities to freeze emissions at 2007 levels.

The internal momentum came first in July 2007, when the UBC Sustainability Office (SO) hired a coordinator of student engagement, which later became the coordinator of climate action. This position was created in response to interest from within the campus community, especially the student group UBC Common Energy, who wanted to work with the Sustainability Office (SO) to achieve the goals of having UBC do more to solve the climate crisis than we do to cause it. Common Energy defines this goal as 'beyond climate-neutral' (Common Energy, 2008). When UBC President Stephen Toope signed the *University and College Presidents' Climate Change Statement of Action for Canada*, this demonstrated support and commitment to action on reducing GHG emissions from the top of the decision-making hierarchy. UBC was among the first cosigners of this Statement of Action, along with presidents from Simon Fraser University, University of Victoria, Royal Roads University, University of Northern British Columbia and Thompson Rivers University. As signatories to this statement of action they each commit to:

- Initiate the development of a comprehensive plan to reduce greenhouse gases by creating a planning body.
- By creating a planning body that includes students, staff, faculty, researchers, administrators and other partners to set emissions reduction targets in accordance with each institution's jurisdiction.
- Within one year of signing this document, complete a comprehensive inventory of all greenhouse gas emissions on each campus.
- Within two years of signing this document, set targets and develop an institutional climate action plan that engages each institution's research, education and operations in a comprehensive strategy that catalyzes solutions for climate change.
- While the comprehensive plan is being created, immediately implement selected tangible actions to reduce greenhouse gas emissions.
- Make action plans, inventories and periodic progress reports publicly available for review and comment.
- Work cooperatively with governments, civil society, the business community and other institutions of higher learning to contribute to global climate change actions in recognition of our responsibility for equitable solutions. (UBC, 2008, p.1).

Externally, the British Columbia provincial government passed the *Greenhouse Gas Reduction Target Act* in November 2007. This Act sets the goal of reducing BC's greenhouse gas (GHG) emissions to 33 percent below 2007 levels by 2020. To meet this goal, the Act mandates all public sector organizations to be carbon neutral by 2010 and all municipalities to be carbon neutral by 2012 (Ministry of Environment & Office of the Premier, 2007). After 2010, ministries, Crown corporations, as well as schools, universities, colleges and health authorities (SUCH sector) will need to offset any GHG emissions that exceed 2007 levels through the Pacific Carbon Trust. The Pacific Carbon Trust charges $25/tonne for carbon offsets and invests the money in emissions reduction activities in BC (Pacific Carbon Trust, 2008).

STRUCTURE

During the summer 2008, the ICAF design was finalized during and includes five components:
- vision statement
- emission inventory
- climate action strategies
- climate adaptation and resiliency risk assessment
- climate management system

1. VISION

A vision statement was drafted during the summer of 2008, and will be available for public comment in March 2009. The draft vision statement has four key pillars:

1. achieve and move from the current definition of 'carbon neutral' as defined by the Province of British Columbia to a state that is 'beyond climate neutral' in the long term;
2. become the world's first net positive energy and water campus;
3. embody a resilient and sustainable mode of development;
4. serve as a proactive and global leader on issues of climate change and sustainability as they relate to the function of major research and learning institutions (UBC Sustainability Office, 2008d, p.1).

2. EMISSIONS INVENTORY

During fall 2007 the SO convened the Technical Advisory Committee (TAC) made up of operational, academic and student experts. The TAC set the parameters for a GHG emissions inventory of the UBC-Vancouver (UBC-V) and Okanagan (UBC-O) campuses. After much deliberation, the TAC advised that the 2006 GHG Emissions Inventory use the World Resource Institute's (WRI) GHG Protocol Corporate Standard, which is an industry standard and defines three scopes of emissions:

Scope 1 is from sources the university owns or controls.

Scope 2 is emissions generated to produce energy or electricity the university consumes.

Scope 3 is all emissions not directly controlled by the university, which includes commuting, business travel, waste disposal, embodied energy of products among others (World Resource Institute, 2008).

The UBC Sustainability Office (SO) started developing the scope of the campus GHG emissions inventory several months before the provincial government mandated or defined the parameters for carbon neutrality. In the end, the UBC inventory to the WRI standard is a broader scope than the provincial government definition of carbon neutrality, which includes only scopes 1 and 2.

SUMMARY OF FINDINGS: 2006 GREENHOUSE GAS EMISSIONS INVENTORY

The 2006 GHG inventory included scope 1, 2 and 3 emissions from both UBC-V and UBC-O and the total emissions for both campuses are summarized in Table 1 and Figure 1.

TABLE 1: TOTAL UBC EMISSIONS FOR 2006

UBC Emissions Source (Vancouver + Okanagan)	Emissions (tonnes eCO$_2$)
Scope 1	
Natural gas	66,417
Oil	454
Animals	1,510
Fleet & Fuel	2,171
Scope 2	
Electricity	23,348
Scope 3	
Paper	1,091
Flights	13,635
Commuting	23,658
Waste	-1,065
Fertilizer	149
Total UBC Emissions	**144,443**

(UBC Sustainability Office, 2008c)

FIGURE 1: TOTAL UBC GHG EMISSIONS FOR 2006 (TONNES eCO2)
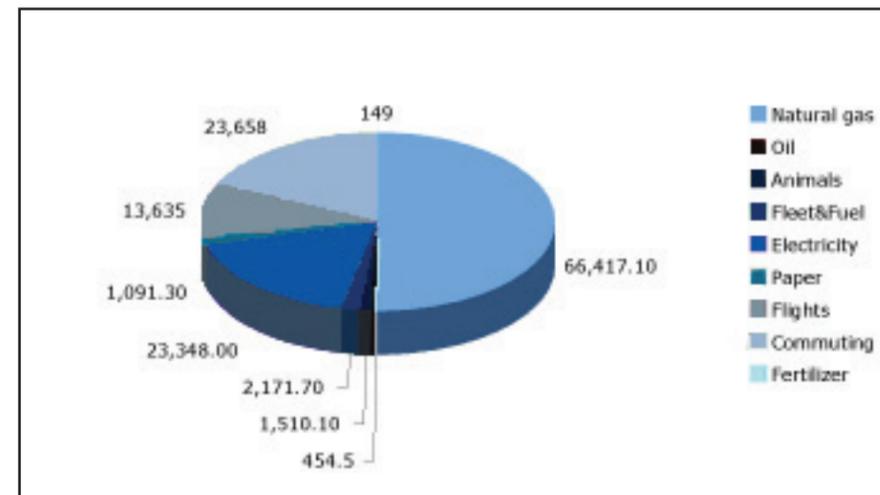
(Adapted from UBC Sustainability Office, 2008c)

3. Climate Action Strategies

The Climate Action Strategies will be developed at the business unit and departmental levels, with support from the Sustainability Office (SO). Taken together, these will make up UBC's Climate Action Strategy for both the UBC-V and UBC-O campuses and their implementation will be supported by the Climate Monitoring System (CMS). The TAC will evaluate the technical feasibility of the plans (Ferris, 2008a).

At the time of writing, no examples were yet available of business unit level strategies nor were examples available of how the SO and TAC will work with these units to support the design and implementation.

4. Climate Adaptation and Resiliency Risk Assessment

The Risk Assessment Task Force was convened in the fall 2008. The Task Force's mandate is to develop a report to identify the anticipated impacts of climate change on the UBC Point Grey Campus between 2010 and 2100. They will identify strategies to improve UBC's resilience and mitigate risks associated with climate change, focused on adaptation (Ferris, 2008a). Their results are expected in 2009.

5. Climate Management System (CMS)

The Climate Management System (CMS) has not yet been developed. It is intended to establish the processes and procedures to monitor, target and periodically report on UBC's GHG emissions levels and progress towards the climate vision. This system will draw on the work of the Alternative Energy, Energy Management and Utility Management Committees, but is not yet in place (Henderson, 2008).

CHARACTERIZING CAMPUS COMMUNITY ENGAGEMENT

To date there have been a variety of opportunities for community stakeholders to shape the ICAF planning process. However, these mechanisms do not yet fit into a clear structure or framework of engagement. This lack of structure is at once a strength and a weakness of the ICAF. The benefit of what the SO staff call an 'emergent process' is that it allowed the vision and structure of the framework to grow and evolve as administrative buy-in increased. It also means that the scope and approach of the framework has responded to the input gathered from key stakeholders and community members involved in the process. On the other hand, the draw back of this process is that it has not been transparent. There has not been clear or regular communication about ICAF progress, nor a clear articulation of mechanisms and forums for community input. Neither has their been clear or regular communication about how community input is translated into the plan. The purpose of this section is to introduce the 12 community engagement mechanisms that occurred in the first 18 months of the ICAF. These engagement mechanisms are presented in chronological order. For a timeline of community engagement initiatives in the ICAF to date see Appendix 4.

1. SEEDS Projects (Social, Ecological, Economic Development Studies) (April 2007 – Present)

Through SEEDS projects, student researchers work with a staff and a faculty member to conduct academic research on campus sustainability issues for course credit. The first SEEDS project that fed into the development of the ICAF was completed in April 2007 by Jordan Best and Liz Ferris. This project sparked the initial hiring of a student engagement coordinator. To date, five reports by UBC undergraduate students have been posted in the SEEDS Project library that contribute directly to the ICAF in the areas of energy, transportation, food, and GHG inventory. Project titles include:

- Carbon Neutrality & UBC: A First Glance (Best & Ferris, 2007)
- climate management system UBC Food Systems Project: Moving UBC Food Outlets Beyond Climate Neutral (Allyn et al, 2008)
- Greenhouse Gas Emissions Analysis of Future UBC Transportation Options (Louie, Wan & Ying, 2008)
- UBC Food Systems Project: Climate Action Partnership - Moving UBC Beyond Climate Neutral (Miles et al, 2008)
- Energy and Climate Change at the University of British Columbia (Zirnhelt, 2008)

2. Climate Action Partnership Steering Committee (July 2007 – spring 2008)

The Climate Action Partnership Steering Committee was the oversight body the development of the ICAF and reported to the Sustainability Advisory Committee. Committee membership included the AMS, GSS, UBC Common Energy, interested faculty champions and interested individuals. Committee responsibilities included:

- overseeing the implementation of a participatory planning process and creating a work plan to implement the ICAF
- overseeing the development of an integrated climate management strategy for UBC (now the ICAF)
- supporting the implementation of the Climate Action Framework across university operations and practices
- advising on strategic priorities to advance leadership on climate through campus research, teaching and learning and operations
- evaluating and recalibrating the Climate Action Framework as needed (UBC Sustainability Office, 2008b)

When sustainability reporting and administration was restructured in March 2008, this group was replaced by the Operations and Administration Working Group (OAWG) of the President's Advisory Council on Sustainability (PAC-S) as the oversight body for the ICAF.

3. Informal Advisors (Summer 2007 – Present)

A variety of faculty members, staff and students are engaged as informal advisors to SO staff working on the ICAF. These advisors are go-to people for SO staff, with expertise in areas such as climate change science, community engagement, media and communications. Informal advisors have not made an official commitment to work on the ICAF or contribute to regular meetings but act as ad hoc resource people. For a partial list of SO climate advisors see Appendix 5.

4. In-Person Presentations (Summer 2007 – Present)

In the first year of the project the majority of communication about the process and progress of the ICAF was done through in-person presentations. For over a year, both Liz Ferris (coordinator of student engagement, then coordinator of climate action) and Charlene Easton (director of sustainability) did presentations to stakeholders across the university including to a variety of committees, departments, units, groups and issue leaders. These presentations focused on explaining the vision and process of the ICAF and then inviting these bodies or individuals to contribute through committees, student research, round table discussions, working committees, as advisors or through partnerships.

**5. Expert Committees
(Fall 2007 – Present)**
The first expert committee to be formed was the Technical Advisory Committee (TAC), which created the initial scope and parameters for the GHG inventory. There are now five active expert committees:
- Technical Advisory (TAC)
- Energy Management
- Alternative Energy
- Utilities Management
- Risk Assessment Task Force

These committees pull together faculty, staff, students and other community members with specific expertise in one of the five committee's areas. The Technical Advisory Committee and Risk Assessment Task Force are contributing directly to the creation of the UBC GHG inventory and campus risk assessment. The Utilities, Alternative Energy and Energy Management Committees are working on specific emissions reduction projects for the campus (steam plant retrofit, real-time building metering, developing alternative supply-side energy and managing energy demand). There is limited student involvement on these committees, with one PhD student on the Technical Advisory Committee, and 2 students on the Risk Assessment Task Force. As of fall 2008, the expert committees have become sub-committees of the OAWG. A full list of expert committee membership was not available to include in this report.

Although there was no formal selection process for the working committees, I observed some clear regularities in the selection process. The SO has invited community members to join the ICAF working committees if they met one of three key criteria:
- They are **big polluters**
  - They hold positions or are part of an academic department or business unit responsible for a significant quantity of UBC's GHG emissions.
- They have **relevant expertise**
  - Their expertise may be scientific, operational, managerial, related to risk assessment, process development or implementation in the UBC context.
- They are **interested champions**
  - They are individuals who want to champion climate action within their department, unit or jurisdiction.

When community members do not meet one of these criteria, they are invited to participate through one of the other engagement mechanisms.

**6. On-Campus Consultants
(Fall 2007 – Summer 2008)**
In-house research informed the ICAF through contracts with on-campus researchers. One post-doctoral fellow conducted the 2006 GHG Inventory of UBC-Vancouver and UBC-Okanagan's emissions. Another PhD student created the scope document for the ICAF, including the table of contents and the draft vision statement. In-house research is significantly cheaper than hiring external consultants and by drawing from within the campus community there is more familiarity with the campus stakeholders, decision-making structure, culture, governance, etc.

**7. Discussion Paper
(February 2008)**
An official report on the ICAF was prepared and released by the Sustainability Office: *Discussion Paper, Leadership and the Climate Agenda* (Sustainability Office, 2008a). This report:
- presents a general overview of the rationale for climate action at UBC
- reviews of the history of emissions reduction initiative at UBC
- summarizes the preliminary results of the 2006 greenhouse gas (GHG) emissions inventory for UBC
- presents the plan for emissions management
- identifies some proposed projects to advance climate action on campus

This document was circulated to top decision-makers at the university and is publicly available on the SO website, though no forums for community feedback or discussion are identified.

**8. President's Advisory Council on Sustainability (PAC-S) and its Working Groups
(Spring 2008 – Present)**
The **President's Advisory Council on Sustainability (PAC-S)** is a multi-stakeholder committee that reports directly to the UBC president. This new advisory committee was created out of the restructuring of sustainability reporting and management at UBC in early 2008. The PAC-S may offer a more direct link with the president and result in an increased commitment to sustainability on campus, but it met for the first time in summer 2008, so it is too early at the time of writing this report to assess the effectiveness of the PAC-S. The PAC-S members are top-level decision-makers from across UBC's many units and departments. For a full list of PAC-S members see Appendix 6.

Sustainability related decisions now go through the President's Advisory Council on Sustainability and its working groups:
- Academic Planning
- Advisory Panel
- Communications
- Research & Community Partnerships
- Operations and Administration
- UBC-Okanagan (UBC-O)
- Development (OAWG, 2008)

The **Operations and Administration Working Group (OAWG)** is mandated to:
> assess, evaluate and set strategic priorities and to guide, support and advise the UBC community on the realization of a comprehensive sustainable campus. The 'Campus as a Living Laboratory' provides the focus for the application of sustainability initiatives to the real conditions in an adaptive and reflective manner and engages the campus community and the relevant stakeholders in the process OAWG, 2008, p.1).

The OAWG is now the decision-making body for the ICAF, which is one of its top four priorities for 2008/9. Its membership was selected based on
> professional competence and functional responsibility in the areas of 1) sustainability and the academic enterprise; 2) sustainability and campus operations and community; 3) sustainability and the workplace; and 4) sustainability and global leadership; 5) sustainability and the student experience," (OAWG, 2008).

The OAWG is chaired by UBC's director of sustainability, Charlene Easton. For a full list of working group members see Appendix 7.

The **Advisory Panel** is chaired by Dr. James Tansey from the Sauder School of Business. The Advisory Panel will include 15 to 20 people, but the membership is not yet finalized. Invitations were sent out to sustainability experts external to UBC in November 2008. The intention is to include both local sustainability leaders and international representatives. The role of this group is to provide annual direction and feedback on UBC's Sustainability Strategy, including the Integrated Climate Action Framework (Tansey, 2008).

9. ROUND TABLES
(MARCH – MAY 2008)

Four round table discussions (or policy discussions) on climate change were held in the spring 2008. These focused on transportation, infrastructure (policy discussion), education and food. These round tables used a World Café model (see Appendix 8 for description of World Café model). The UBC SO partnered with the UBC TREK Program, Campus and Community Planning, UBC Common Energy and Agricultural Sciences 450: Land, Food and Community (taught by Dr. Alejandro Rojas in the Faculty of Land and Food Systems) to deliver each of the round tables. The partners took on promoting, advertising and inviting participants to attend the events. As a result, the level of advertising and promotion varied significantly between events, as did the number of participants.

10. PARTNERSHIPS
(SPRING 2008 AND UPCOMING)

The SO is involved in two formal partnerships with student groups. The SO is partially funding the implementation of the Alma Mater Society's (AMS) Lighter Footprint Strategy, which sets specific sustainability targets and creates a framework for implementing the AMS Sustainability Policy. The SO also co-fundraised for the goBEYOND Project as part of the BC Campus Climate Network. goBEYOND engages students to
- take challenges to reduce their emissions
- build climate change education into curriculum
- create a space for youth engage in carbon neutral planning
- increase youth capacity through training, tools, and mentorship

The first phase of goBEYOND (June – December 2008) is focused on three campuses: UBC, the University of Victoria (UVic), and Thompson Rivers University (BC Campus Climate Network, 2008).

By 2009 the SO hopes to have informal partnerships with all of UBC's top emitting business units and departments to create individualized, unit-level emissions reduction plans. Decision-makers have already been informally engaged from:
- Campus and Community Planning
- UBC Utilities
- Plant Operations (fleets)
- UBC TREK Program
- Supply Management
- UBC Food Services
- Housing & Conferences
- Athletics and Recreation
- Continuing Education (Ferris, 2008b)

Unlike formal partnerships described above, the SO has not yet signed partnership agreements or created Memoranda of Understanding (MOU) with the business units. Instead the SO is seeking to support business units to create and implement their own emissions reduction plans with support and assistance from the SO or their consultants.

11. CLIMATE ACTION WEBSITE (WWW.SUSTAIN.UBC.CA/CLIMATE.HTML)
(SEPTEMBER 2008)

The climate website initially provided a concise explanation of the ICAF structure. This was an important step in increasing the accessibility and transparency of the planning process. A more complete website, including consultation events, background information and interactive functions was launched in March 2009.

12. CLIMATE ACTION SYMPOSIUM
(OCTOBER 2, 2008)

The SO co-hosted the UBC Climate Action Symposium with the Office of the Provost/VP Academic. This one-day event profiled a selection of UBC academic research and operational initiatives relevant to climate change and provided some opportunities for informal networking and community-building. Over 185 people attended the symposium, (69 student, 22 alumni & community members, 22 faculty, 46 staff, and 26 presenters). There were four panel discussions:
- Scientific and Knowledge Foundations on Climate Change,
- Accelerating Solutions to Climate Change,
- Using the UBC Campus as a Living Lab for Climate Solutions and
- Moving from Climate Science to Policy.

As a result of the symposium a list of over 300 campus community members interested in climate action was collected.

SUMMARY

This Chapter introduces the Integrated Climate Action Framework (ICAF), which is the subject of this study. First the five components of the ICAF were introduced:
- vision
- emissions inventory
- climate action strategies
- climate adaptation and resiliency risk assessment
- the climate management system

Next, the 12 engagement mechanisms utilized in the ICAF were introduced and described in chronological order:
1. SEEDS projects
2. Climate Action Partnership Steering Committee
3. informal advisors
4. in-person presentations
5. expert committees
6. on-campus consultants
7. *Discussion Paper*
8. President's Advisory Council on Sustainability and its Working Groups
9. round table discussions
10. formal partnerships
11. website
12. symposium

CLIMATE

ACTION

PLANNING
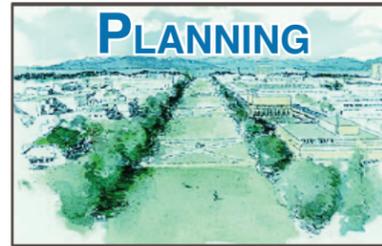
INTRODUCTION

This chapter clarifies and defines terminology of public engagement used in this report. It introduces the Spectrum of Public Engagement, which maps communication, consultation and participation in terms of information flow and level of public impact on decision-making. The 12 engagement mechanisms from Chapter 3 are then mapped onto the spectrum to clarify what types of engagement (communication, consultation or participation) have been available to the campus community during the first 18 months of the UBC Integrated Climate Action Framework. Based on this mapping, six clusters of engagement activities are identified.

TERMINOLOGY: DEFINING PUBLIC ENGAGEMENT

A common complaint among academics studying community engagement is the lack of clear terminology and confused use of key terms, such as 'engagement', 'involvement', 'participation' and 'consultation' (Beierle & Clayford, 2002; Dorcey & McDaniels, 2001; Rosener, 1982; Rowe & Frewer, 2005). The definitions adopted here are drawn directly from the work of Rowe & Frewer (2005), who are seeking, through a series of publications, to define common terminology within the field of public engagement. Rowe and Frewer propose the use of **public engagement** as their preferred overarching term for involvement of the public in planning and decision-making. Public engagement includes three categories: public **communication**, public **consultation**, and public **participation**. These categories are distinguished based on the flow of information between **participants** and **sponsors** (those commissioning the engagement exercise). The information flow model is summarized in figure 2. Rowe and Frewer (2005) explain that *"[i]n public communication*, information is conveyed from the sponsors of the initiative to the public" (emphasis the authors', Rowe & Frewer, 2005, p. 254) whereas

> [i]n *public consultation*, information is conveyed from members of the public to the sponsors of the initiative, following a process *initiated* by the sponsor. Significantly, no *formal* dialogue exists between individual members of the public and the sponsors" (emphasis the authors', Rowe & Frewer, 2005, p.255).

Finally, they distinguish that

> [i]n *public participation*, information is exchanged between members of the public and the sponsors. That is, there is some degree of dialogue in the process that takes place (usually in a group setting). (…) Rather than simple, raw opinions being conveyed to the sponsors, the act of dialogue and negotiation serves to transform opinions in the members of both parties (sponsors and public participants) (emphasis the authors', Rowe & Frewer, 2005, p.255-6).

FIGURE 2: INFORMATION FLOW IN THREE TYPES OF PUBLIC ENGAGEMENT

COMMUNICATIONS	Sponsor	← Information	Public Representative
CONSULTATION	Sponsor	Information →	Public Representative
PARTICIPATION	Sponsor	Information →	Public Representative
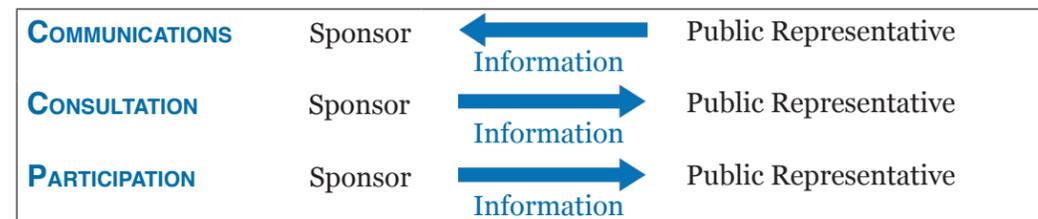
(Rowe and Frewer, 2005, p.255)

SPECTRUM OF PUBLIC ENGAGEMENT

The Spectrum of Public Participation (Figure 3) focuses on the degree of public impact, rather than the direction of information flow (International Association for Public Participation [IAP2], 2007). The IAP2's spectrum uses a similar characterization of engagement to that of Rowe and Frewer, but offers finer grain of analysis of the 'participation' type of engagement.

FIGURE 3: SPECTRUM OF PUBLIC PARTICIPATION

Increasing level of public impact →

	Inform	Consult	Involve	Collaborate	Empower
Public Participation Goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives and opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that the public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Techniques	• Fact sheets • Web sites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberative Polling	• Citizen advisory committees • Participatory decision-making • Consensus-building • Participatory decision-making	• Citizen juries • Ballots • Delegated decision

International Association for Public Participation (2007)

It is interesting to note that as information flow moves from one-directional to two-directional, there is greater degree of public impact. The IAP2's further disaggregation of participation is useful in categorizing engagement since it illustrates that even within a two-directional information flow the final decision-making power can either stay with the sponsor or be delegated to community representatives.

To map the ICAF engagement mechanisms in this report, I combined the IAP2 spectrum with Rowe and Frewer's terminology and information flow model to create the Spectrum of Public Engagement (Figure 4). I use this hybrid spectrum later in this chapter to map stakeholder involvement in the 12 ICAF engagement mechanisms from Chapter 3. The Public Engagement Spectrum was selected to categorize ICAF engagement to date because of its compatibility with the Rowe & Frewer terminology, its practicality in categorizing engagement mechanisms and its accessibility.

FIGURE 4: SPECTRUM OF PUBLIC ENGAGEMENT

Types of Engagement	Communication	Consultation	Participation		
Information Flow	Sponsor → Public	Sponsor ←→ Public	Sponsor ←→ Public		
Participation Goal	Inform	Consult	Involve	Collaborate	Empower
Level of Public Impact			Increasing →		
ICAF Engagement Mechanisms					

Adapted from IAP2, 2007 and Rowe & Frewer (2005)

ICAF AND THE SPECTRUM OF PUBLIC ENGAGEMENT

To understand where the Sustainability Office's 12 engagement mechanisms fit into the Spectrum of Public Engagement, they have been mapped onto the spectrum (see Figure 5).

FIGURE 5: ICAF ENGAGEMENT MECHANISMS APPLIED TO SPECTRUM OF PUBLIC ENGAGEMENT

Types of Engagement	Communication	Consultation	Participation		
Information Flow	Sponsor → Public	Sponsor ←→ Public	Sponsor ←→ Public		
Participation Goal	Inform	Consult	Involve	Collaborate	Empower
Level of Public Impact		Increasing →			
Climate Plan Engagement Mechanisms	• Presentations • Report • Symposium • Website	• Round Tables • SEEDS		• PAC-S Advisory Committee • Informal advisors • On campus consultants	• Partnerships • Expert Committees • PAC-S & OAWG • Climate Action Partnership Steering Committee

Adapted from IAP2 (2007) and Rowe & Frewer (2005)

Categorizing

Communication

From June 2007 to August 2008, there were two main modes for communicating the ICAF: in-person presentations and the *Discussion Paper*. For **in-person presentations**, the direction of information flow is clearly from the sponsor to the community members, stakeholders and decision-makers. Although some opportunities did exist for comments or questions, there were limited opportunities for public influence on the ICAF through this mechanism.

The ***Discussion Paper*** is a general overview of the rationale for climate action at UBC and is available for download on the UBC Sustainability Office website (www.sustain.ubc.ca). No channels were specified for responding to the plan as laid out and no formal opportunities were provided to discuss the content. For this reason, the direction of information flow on the *Discussion Paper* was unidirectional and the opportunities for public impact were limited.

Since September 2008, there has been a dramatic increase in the volume of communications about the ICAF. The **climate website** was launched in September 2008, which now provides a concise explanation of the ICAF structure (www.sustain.ubc.ca/climate.html). This is an important step in increasing the accessibility and transparency of the planning process.

The UBC **Climate Action Symposium** provided a current overview of the ICAF process, UBC's history of climate and sustainability action, and an introduction to some of the climate-related academic research currently underway on campus through four panel presentations. Some opportunities for networking and dialogue among participants arose during meals and breaks, but as the agenda was very full these were limited. As such, the symposium was a communications event, with information flow from the SO and the presenters to participants. No formal dialogue or feedback sessions were held in plenary, though some discussion did occur in the panel discussions. At the symposium, keynote presentations were video recorded, PowerPoint presentations from the panels were collected and a climate blog was created. All of this material is now publicly available on the climate action website.

Upcoming

In the summer 2008 the SO hired Junxion Strategies to develop a communications strategy for climate action at UBC. The results of this contract are still pending, but this strategy is intended to help target communication to reach diverse campus stakeholders and clarify key messages on climate action at UBC. The results of this contract can be expected to further clarify and increase the regularity of communications on climate action.

Though the draft 2006 GHG Inventory was completed in early 2008, it has not yet been publicly released. This delay in release was caused by a lag in response from the volunteer members of the Technical Advisory Committee to sign off on the final report.

Consultation

The four **round tables** gathered information from the campus community on transportation, infrastructure (policy workshop), education and food. Each round table was co-hosted with a partner group on campus: TREK Program, Campus and Community Planning, UBC Common Energy and the Agricultural Sciences 450 in the Faculty of Land and Food Systems. Though the participant lists were not available for this project, I attended three of the round tables and noted that participants included students, staff, faculty, decision-makers and community members. The round tables both informed and consulted participants. Each began with a short (20-30 minute) presentation on progress on the ICAF so far, where information was flowing from the sponsor to the

participants. Participants then discussed specific questions in a World Café format (see Appendix 8 for more information on the World Café model). Comments were recorded by note takers and reported back to the whole group at the end of the session. Notes were submitted to the sponsors. Since the round tables took place the SO has not closed the consultation loop and informed participants about how their input fed into the ICAF.

Five student projects conducted research for the ICAF and are posted in the **SEEDS** library (Best & Ferris, 2007; Zirnhelt, 2008; Louie, Wan & Ying, 2008; Miles et al, 2008; Allyn et al, 2008). This is clearly consultation, since the direction of information flow is from the students to the SO. However, given that each SEEDS project has a staff supervisor, there may be some aspect of participatory engagement through dialogue on the project content and process. These projects do not document how, or if, staff input shaped the projects, so for this reason they are characterized as consultation. Neither is there any tracking of how or if the results of these projects are used in the development of ICAF.

Participation

ICAF has been most actively engaging the UBC community at the participatory end of the engagement spectrum (collaborating and empowering). Mechanisms for participating in the project include

- advisors
- partnerships
- expert committees
- on-campus consultants
- PAC-S and its working groups
- Climate Action Partnership steering committee

Each of these mechanisms creates an opportunity for dialogue (two-way information flows) and avenues for stakeholders to shape all levels of the ICAF.

There has not yet been any activity in the 'involve' portion of the engagement spectrum. Opportunities for involvement are forthcoming with public sessions to gather community input on the draft ICAF vision and plan structure in spring 2009.

Summary

Based on the clusters of activities within the Spectrum of Public Engagement, I suggest the UBC SO is offering six ways for the campus community to engage on the ICAF:

- **Information**: presentations, discussion paper, climate action website, Climate Action Symposium
- **Research**: SEEDS & on-campus consultants
- **Consultation Events**: round table discussions
- **Working Committees**: expert committees, PAC-S and its working groups, Climate Action Partnership steering committee
- **Advisors**: formal & informal
- **Partnerships**: UBC business units, goBEYOND, AMS

DISCUSSION

ICAF engagement activity was concentrated at the participatory end of the engagement spectrum (collaborating and empowering). For this reason I characterize the community engagement in the ICAF as participatory. Students, faculty and staff are involved in working committees, as advisors, in partnerships and in the multi-stakeholder PAC-S and OAWG. Through the expert committees faculty and staff with expertise on climate are shaping the scope and approach of the ICAF. The working committees offer productive, focused and action-oriented forums for campus experts to funnel their energies into the ICAF, receive regular updates and network and build community with other concerned champions on campus.

In the first 18 months of community engagement in the ICAF there was activity in each of the communication, consultation and participation sections of the spectrum. To date there have been no activities in the 'involve' sub-section of participation, however forthcoming opportunities include consultation on the draft vision statement and feedback on draft 1 of the plan in early 2009.

Communications about the ICAF have dramatically increased in quantity and accessibility since September 2008, with the launch of the climate action website. Much more information is now publicly available to interested community members on the planning process than when this study began in the spring 2008. The climate action website has the potential to be a key communications tool for promoting upcoming engagement activities and reporting on how community input is being integrated into the ICAF.

The Climate Action Symposium in October 2008 was a significant communications event and the posted materials help to increase the transparency of the planning process.

The round tables created four consultation opportunities open to the campus community in the spring of 2008. Students had a chance to contribute through SEEDS projects. Accountability to participants could be improved by closing the loop of consultation and reporting back on how feedback gathered through the round tables and SEEDS projects was integrated into the ICAF outline or vision.

RECOMMENDATIONS

- Continue building the climate action website as a key source of information on the ICAF. Some elements that would increase transparency of the ICAF process include
    - information on how to get involved through the six existing engagement clusters and upcoming consultation events
    - hyperlink to SEEDS projects on the ICAF
- Create a climate email list compiled from emails collected at:
    - round tables
    - Climate Action Symposium
    - working committees
- Close the consultation loop, by reporting on how community input is affecting the ICAF. Focus on reaching participants in:
    - upcoming vision statement consultation
    - upcoming draft 1 consultation
    - past round tables
    - past members of the disbanded Steering Committee
- Communicate more broadly and regularly about the ICAF by increasing communications capacity in the SO by:
    - hiring new communications staff
    - hiring consultants or contractors on communications
    - recruiting and managing volunteers to do communications

INTRODUCTION

This chapter introduces two case studies of sustainability plans at UBC - the Energy Management Plan and the Sustainable Transportation Plan – and identifies what approaches to community engagement buoyed their success. It then identifies lessons that can be applied to the ICAF process. These lessons are synthesized in a *Checklist for Successful Sustainability Project Development at UBC* (Figure 6). This checklist is used to test which lessons have been applied in the ICAF planning process and to identify opportunities for improvement moving forward.

LEARNING FROM PAST UBC SUSTAINABILITY PLANNING PROCESSES

UBC has a ten-year history of sustainability planning and project implementation on campus. Pioneering UBC initiatives, such as the Energy Management Plan and the Strategic Transportation Plan, blazed a trail for other Canadian universities. Based on interviews with participants in the development of these plan, several lessons were identified on how to build support for sustainability initiatives at UBC and how to help create viable, implementable sustainability projects. These examples were selected because they played a key role in advancing sustainability, reducing emissions on campus and were the most often referenced by interview subjects.

ENERGY MANAGEMENT PLAN
SUMMARY
The Energy Management Plan was launched in 1998 and had two main components: Electrek (focused on lighting) and Ecotrek (focused on heating, ventilation and air conditioning [HVAC]). These two projects upgraded the lighting and HVAC systems for core buildings on the Vancouver campus (funded and operated by UBC), but excluded ancillary buildings (housing, parking & security, athletics & recreation) and tenants (UBC Hospital, Forintek, BC Research, NRC, TRIUMF, and the Hampton Place residential development). The EMP involved a $38.8 million up-front investment to do the retrofit. The cost savings from the lighting and HVAC retrofits were funneled back into deferred maintenance, funding the UBC Sustainability Office (SO), and paying back the cost of the project (UBC Sustainability Office, 2007b).

SUCCESSES AND LESSONS LEARNED
Securing this funding required extensive lobbying of and **relationship building with decision-makers**, since the pay-back period for the investment was 11 years and it was the first project of its kind in Canada. To gain support, the EMP was designed to **piggyback on an existing university priority**: addressing deferred maintenance on core buildings. Project advocates built a wider and more diverse support base by aligning the EMP project goals with an existing administrative priority (Marques, 2008; Pagani, 2008).

The EMP **bundled** ecologically relevant project elements that were revenue negative with money-making project elements, to improve the overall ecological impact (e.g., upgrading the boilers to achieve an 85% reduction in NOx combined with a lighting upgrade) (Marques, 2008; Pagani, 2008).

Project advocates actively addressed the concerns of decision makers and built relationships to secure the funding through regular communication, building and presenting a strong case, launching and evaluating **pilot projects**, and capitalizing on funding opportunities. The first step was to convince the VP administration & finance to support the project and to address his concerns about taking on financial risk. Freda Pagani worked to build a relationship with the VP and presented him with the results of three pilot projects and a series of analyses to demonstrate how the project could pay for itself. The tipping point ultimately came in 1998/9 when a spike in natural gas prices resulted in a doubling of campus energy costs. This increased volatility showed the VP that there was risk associated with not acting (Pagani, 2008; UBC Sustainability Office, 2007b). Once the VP administration & finance was convinced, Dr. Pagani and other advocates still had to convince the president and the Board of Governors (BoG) to approve the project. A financing opportunity serendipitously presented itself: at the time the BoG was looking to invest bonds in new projects. However, since the EMP had a longer payback period, it still took a recommendation from a private sector committee to have the financing for EcoTrek approved (Pagani, 2008). By listening to decision-makers' concerns, building a strong case, and working multiple angles they were able to secure the **financing** to go ahead with the project.

One of the secondary outcomes of the EcoTrek Program was the *Sustainability Coordinators Program*, based on Doug Mackenzie-Moore's theories on community-based social marketing. Community-based social marketing involves

> identifying barriers to a sustainable behavior, designing a strategy that utilizes behavior change tools, piloting the strategy with a small segment of a community, and finally, evaluating the impact of the program once it has been implemented across a community (Mackenzie-Moore, 2008).

The sustainability coordinators are staff members working in departments and units across the university to identify challenges and barriers to sustainable behaviour in their own workplaces. They are supported to address those barriers by the SO, which provides guides, materials, training and troubleshooting. Solutions to new challenges can be piloted in a single department then applied elsewhere, as appropriate. Though there are some ecological benefits to this program, the main outcome is **community building** and enhancing social sustainability on campus (Pagani, 2008).

One final element that contributed to the success of EcoTrek was the willingness of project leaders to **share and give away the credit** for the project successes. This humility helped the project to advance and succeed in the university environment (Pagani, 2008).

LESSONS
- piggy-back on existing university priorities
- find creative financing models
- bundle cost saving measures with ecologically significant projects
- initiate and track pilot projects
- build support among top decision-makers
- build a community of support for behaviour change
- share the credit for successes

STRATEGIC TRANSPORTATION PLAN (STP)
SUMMARY
The Strategic Transportation Plan was created to help secure approval of the Official Community Plan (OCP) from the Greater Vancouver Regional District (GVRD). To make space for increased traffic from the new neighbourhoods, approval of the OCP was contingent on reducing and limiting single occupant vehicles (SOV) trips to campus by 20% and increasing transit ridership by 20% (Atkins, 2008).

The UBC Strategic Transportation Plan (STP) outlined nine key planning and engagement elements to meet this goal:
- Actively engage the 35 plus on- and off-campus stakeholder groups through the Transportation Advisory Committee and other forums.
- Hire a director of transportation planning.
- Conduct annual traffic monitoring starting with a baseline in fall 1997.
- Communicate with the campus community.
- Create partnerships to deliver diverse pilot projects (e.g. bike racks on the 99 B-line, the Bike Co-op, the Bike Kitchen).
- Analyze pilot projects.
- Present an outline of the STP to the BoG.
- Publicly release the draft plan and present the draft to individual stakeholder groups.
- Seek approval of the final draft by the BoG (UBC TREK Program, 1999).

The cornerstone of the STP was the UPASS Program – an unlimited 3-zone bus pass that is collectively purchased by all full-time UBC students through student fees (equivalent to $22/month).

The UPASS was implemented in 2 phases:
1. September to April, academic year (2003/4)
2. Summer (2005)

The STP significantly reduced transportation volumes and GHG emissions. Even with a 32% increase in the daytime population at UBC from 1997 to 2007, the suite of STP programs (which include the UPASS, parking stall reductions, parking fee increases, an education campaign and program, bike lane infrastructure increases and transit service improvements) has resulted in a 14% reduction in SOV trips to campus and a 185% increase in transit ridership (UBC TREK Program, 2008). This is the equivalent reduction of 16,000 tonnes of GHG per year (Jolly, 2008).

SUCCESSES AND LESSONS LEARNED
The first step in UPASS development was to bring Translink to the negotiating table. UPASS advocates succeeded in doing so by including UPASS negotiation in the Memorandum of Understanding (MOU) between UBC and the GVRD as a condition for approving the OCP. **Piggy-backing on this existing university priority,** the MOU created a leverage point for UBC (through the GVRD) to bring Translink to the table to discuss and negotiate a UPASS program (Atkins, 2008).

On- and off-campus partners took the lead on developing and implementing **pilot projects**. Significant attention was also given to **engaging these stakeholders** in the planning through the Transportation Advisory Committee (UBC TREK Program, 1999).

Each phase involved negotiations among Translink, UBC administration and the Alma Mater Society (AMS). Though the negotiation process is not publicly documented, Holly Foxcroft (the VP external for the AMS for 2004/5) offered insight into the process. Foxcroft, who was the key AMS negotiator for the summer UPASS, saw the successful expansion of the program as having three key elements:
- UBC and AMS solidarity in negotiating with Translink
- AMS taking a position in the student referendum
- strong student support

She attributed student and AMS support to students growing accustomed to the UPASS, which had already become a regular part of student life in 2005. Between 2002 (the last year pre-UPASS) to 2004/5 (the second year of the UPASS) there was an 88% increase in transit ridership (UBC TREK Program, 2003 & 2005). This shows the value of phasing in large project implementation, since early successes can build familiarity and support (Foxcroft, 2008). Geoff Atkins, the AVP of Land and Building Services, identified Foxcroft as a key student champion in the success of the UPASS. She saw the opportunity of expanding the UPASS to the summer session and then advocated and worked to see it happen. He sees engaging student champions as a key to successful collaboration with students and building campus-wide buy-in to sustainability projects (Atkins, 2008).

LESSONS
- piggy-back on existing university priorities
- engage partners to share costs or initiate pilot projects
- engage on- and off- campus stakeholders
- phase-in project implementation to build support
- engage and support student champions

Based on the lessons learned from the EMT and the STP, I propose the following checklist for successful sustainability project development at UBC.

FIGURE 6: CHECKLIST FOR SUCCESSFUL SUSTAINABILITY PROJECT DEVELOPMENT AT UBC

Has the ICAF engagement process…	3: Yes 2: In progress 1: No N/A: Not Applicable	Explain
piggy-backed on existing university priorities?		
identified creative financing models?		
bundled cost saving measures with ecologically significant (but more costly) projects?		
engaged partners to share costs or initiate pilot projects?		
built support among top decision-makers?		
shared the credit for successes?		
engaged on- and off-campus stakeholders?		
phased in large projects?		
engage and support student champions?		

ANALYSIS

I apply the *Checklist for Successful Sustainability Project Development at UBC* in Figure 7 to identify where this process is applying the lessons learned from past sustainability planning processes on effective community and where opportunities exist to increase the effectiveness of the engagement process.

FIGURE 7: CHECKLIST FOR SUCCESSFUL SUSTAINABILITY PROJECT DEVELOPMENT AT UBC APPLIED TO THE ICAF

Has the ICAF engagement process…	3: Yes 2: In progress 1: No N/A: Not Applicable	Explain
piggy-backed on existing university priorities?	3	With the provincial mandate for universities to be carbon neutral by 2010, UBC risks incurring a $2.25 million per year liability for carbon emissions if no action is taken to reduce GHG emissions. The gas tax is an additional liability.
identified creative financing models?	1	• None have yet been identified. • Two interviewees suggested selling heat to neighbouring residential communities (Marques, 2008; Anteweiler, 2008).
bundled cost saving measures with ecologically significant (but more costly) projects?	N/A	The plans have not yet been created. With each business unit creating their own strategy it will be important for the SO to work with them to create a plan that is horizontally integrated across departments and breaks down silos so that interdepartmental initiatives can achieve increased ecological significance.
engaged partners to share costs or initiate pilot projects?	2	• The AMS and Common Energy are undertaking projects, but these could be better promoted and shaped to create concrete pilot projects that model climate action short term. • The natural gas boiler replacement is a major project that will address UBC's biggest source of GHG emissions.

Has the ICAF engagement process…	3: Yes 2: In progress 1: No N/A: Not Applicable	Explain
built support among top decision-makers?	2	• The Climate Action Symposium engaged the provost/VP academic as the masters of ceremonies and the president as the opening speaker. • The Operations and Administration Working Group (OAWG) and the President's Advisory Council on Sustainability (PAC-S) offer key forums for reaching relevant decision-makers on campus. Through these groups the SO staff should seek to understand what (if any) concerns or resistance to the ICAF plan exist and to address these concerns through the plan
shared the credit for successes?	2	There is room for improvement in this area. Through the Climate Action Symposium and the working committee many academics and staff across the university are involved in the ICAF. The profile of these leaders could be increased to promote their work by creating opportunities for them to act as spokespeople for the project and actively crediting them in all communications.
engaged on- and off-campus stakeholders?	3	seven of nine high priority and six of 15 low priority stakeholders are engaged (figure 8 below).
phased in large projects?	N/A	Project implementation has not yet begun.
engage and support student champions?	2	The UBC SO has partnered with the goBEYOND project and the AMS to support student leadership on climate.

DISCUSSION

The ICAF has already applied many of the lessons from previous sustainability planning processes on campus, including:

- piggy-backing on the current priority of reducing GHG emissions to limit the $2.5 million liability under the provincial mandate to be carbon neutral by 2010.
- actively engaging on- and off-campus stakeholders (discussed in Tool 2 below).

The SO has begun making progress in:

- partnering with:
  - the AMS, UBC Common Energy - though these partnerships could be better leveraged to increase the profile of the ICAF on campus through pilot projects
  - UBC Utilities - to plan the steam plant retrofit
  - business units and departments through Climate Action Strategies
- building support among decision-makers, through the OAWG and the PAC-S
- sharing the credit for ICAF initiatives
- engaging student champions through the existing partnerships with the AMS Lighter Footprint Strategy and BC Campus Climate Network. Opportunities exist to further engage and empower student climate champions

RECOMMENDATIONS

The SO could still:

- explore and develop creative financing models for implementing the ICAF
- bundle ecologically significant projects with money-making projects
- phase in large projects

FURTHER RESEARCH

Further research could seek to develop a practice for public engagement in planning processes at UBC. In addition to the plans introduced here, such research may also consider the community engagement in Inspirations and Aspirations: Sustainability Strategy, The People Plan, The UBC Campus Plan, The UBC Strategic Plan and The Official Community Plan.

INTRODUCTION

Dorcey and McDaniels (2001) note that

> in certain instances 'stakeholder involvement' is differentiated from 'citizen involvement', by limiting the former to only those who have a specific interest in the issue as opposed to being generally interested as citizens,
> (Dorcey & McDaniels, 2001, p.250).

In this chapter I examine stakeholder involvement in the Integrated Climate Action Framework (ICAF), as distinct from citizen engagement. I saw this focus as consistent with the approach to engagement taken by the UBC Sustainability Office (SO). In this chapter I create a checklist of key stakeholders that should be engaged in the ICAF. This list is based on stakeholder groups identified during key informant interviews and the list of stakeholder groups identified in the UBC Strategic Transportation Plan Advisory Committee (UBC TREK Program, 1999). I aggregate these stakeholders into a Checklist of UBC Climate Stakeholders (Figure 8), which is used to determine which stakeholders have already been engaged in the ICAF and identify gaps in the engagement process. Stakeholders are considered high priority in the checklist if they were identified by both sources. They are considered low priority in the checklist if they were only identified by one source.

For the sake of simplicity, stakeholders are organized as sub-groups of **students**, **employees** and **residents**.

KEY INFORMANT INTERVIEWS

Not all key informants identified UBC climate stakeholders during the interview session. Of the 15 key informants, nine did identify campus stakeholders. In addition, one of the four informational interview subjects identified stakeholders. In total, 10 of the 19 interview subjects that identified climate stakeholders on campus. To protect confidentiality, interview subjects are clumped into a single group: respondents.

STRATEGIC TRANSPORTATION PLAN

To compliment the stakeholder identification from interview subjects, this section draws from the list of over 35 on- and off-campus stakeholders involved in shaping the development and implementation of the Strategic Transportation Plan [1997-1999]. A full list of Transportation Advisory Committee members is included in Appendix 9.

STUDENTS

Students are by far the largest group on campus, with 37,589 full time equivalent (FTE) students at UBC-Vancouver (UBC-V), 30,589 undergraduate and 6,780 graduate (UBC PAIR, 2008b). They are also the most transient; most spend two to five years on campus before graduating and moving on. As a result, there is limited institutional memory of previous changes and planning processes within this group.

In March and April 2007 student researchers Best and Ferris (2007) surveyed 400 UBC students to assess their knowledge and concern about climate change and their support for climate neutrality as a goal at UBC. Best and Ferris surveyed students in several locations on campus. Participating students answered thirteen questions, nine of which used a 5-point hedonic scale. Some weaknesses arise with the survey methodology, including uncertainty about the randomizing of the sample, lack of statistical analysis

of the margin of error within the survey, and some bias towards greater concern about climate change in the hedonic scales. However, even with these weaknesses, Best and Ferris' survey is the only current assessment of UBC students' concern about climate change and their findings are instructive on student support for climate action, even if they are not statistically conclusive. They found that 71% of students surveyed considered climate change to be an important, very important or extremely important issue. Of students surveyed, 64% said responsibility for action on climate change should be shared among students, university administration and the government. When asked about UBC's action on climate change 69% responded that UBC had done nothing, a small amount or a moderate amount of work on climate change, while 23% of respondents did not know. This points to a need to inform students about what UBC has done in the past and is doing currently on climate change issues both academically and operationally. For a full list of survey questions and a summary of results see Best and Ferris, 2007, pp.44-45.

Both the **Alma Mater Society (AMS)**, the undergraduate student union, and the **Graduate Student Society (GSS)** are elected by the student body and represent the students in most dealings with the university administration.

Identifying Stakeholders: Key Informant Interviews
The AMS was identified as a key stakeholder in advancing sustainability by four of ten respondents.

Identifying Stakeholders: Strategic Transportation Plan Stakeholder List
The student representatives on the UBC Transportation Advisory Committee included five members affiliated with the AMS (one member of the AMS Executive, three members of the AMS External Commission on Transportation, and one member of the AMS Bike Co-op) and one representative from the GSS.

Employees

There are 10,753 staff working on UBC campus as:
- 892 decision-makers, including administrators, managers and supervisors.
- 7,006 staff, including skilled crafts and trade workers, technicians, non-academic professionals, administrative and clerical staff, sales and service personnel and manual workers.
- 2,691 faculty, including tenured, tenure track and sessional staff conducting research and/or teaching (UBC PAIR, 2008a).

Identifying Stakeholders: Key Informant Interviews
Top-level decision-makers were identified as essential stakeholders to engage by five of ten respondents. Respondents felt that priority should be given to engaging:
- the president (two respondents)
- the vice-president (VP) administration & finance (two respondents)
- Board of Governors (BoG) (five respondents)
- the treasurer (two respondents)
- the Senate (one respondent)
- the deans (two respondents)

Energy & planning focused staff work with campus buildings and infrastructure. These staff have the most practical working knowledge of how buildings and infrastructure (steam, water, roads, electrical, etc.) operate and how improvements could be made to their efficiency to save power. Although these staff have limited time to invest in the planning process, their knowledge of how the university operates, ability to identify inefficiencies and opportunities and role in implementing change is critical to

the success of any climate change plan. Specifically, respondents identified important subgroups to be engaged in:
- Land and Building Services (one respondent)
- Campus and Community Planning (one respondent)
- Purchasing (one respondent)
- the TREK Program (two respondents)

UBC Properties Trust is

a market oriented private company wholly owned by the University of British Columbia. It was established in 1988 with a mission to acquire, develop and manage real estate assets for the benefit of the University (UBC Properties Trust, 2008b).

The new development of the university neighbourhoods have generated substantial revenue for the endowment by awarding 99 year leases to residents. The university neighbourhood developments have created significant changes to the character of UBC's endowment lands, which impacts sustainability in a variety of ways, including the neighbourhoods' carbon footprint. The university neighbourhood is not part of UBC's emissions profile, but its exclusion was considered a fundamentally important omission that must be included in climate change planning by three of ten respondents. These respondents emphasized the participation of UBC Properties Trust as an essential stakeholder to be brought to the table.

Faculty with relevant expertise both in the areas of climate change and institutional change, are a large stakeholder group at UBC. Relevant knowledge includes climate change science, technology, policy, public engagement/participation, facilitation and a variety of other relevant skills to climate action planning. Faculty members were recommended for further interviews for this project by one of ten respondents.

Identifying Stakeholders: Strategic Transportation Plan Stakeholder List
Only one top-decision maker was part of the UBC Transportation Advisory Committee, the treasurer from UBC Finance. However, the Strategic Transportation Plan was submitted to the BoG for comments on the outline and approval of the final draft. Staff representatives were included from
- three unions:
  - Association of Administrative and Professional Staff (AAPS),
  - Canadian Union of Public Employees (CUPE) Local 2950, and
  - International Union of Operating Engineers (IUOE) Local 882
- UBC Registrar
- UBC Parking Services
- UBC Housing & Conferences
- UBC Book Store
- UBC Legal Council
- UBC Purchasing
- UBC Health, Safety and Environment
- UBC Public Affairs
- UBC Properties Inc (now UBC Properties Trust)
- Campus and Community Planning

Faculty members from the School of Community and Regional Planning (SCARP), Geography and Engineering were members of the advisory committee.

RESIDENTS

Under UBC's Comprehensive Community Plan six new neighbourhoods are planned on UBC's endowment lands as part of the University Town development. These neighbourhoods will contribute 6,867 new housing units and an estimated 12,460 new residents to the campus community by 2021 (UBC Campus and Community Planning, 2000). The 2006 occupancy survey found that 65% of suites are occupied by at least one UBC staff, faculty or student. There are also a significant, though undocumented, number of UBC alumni who live in the University Town (Moore, 2008).

Although located on UBC's endowment lands, the University Town is not included in the 2006 GHG Emissions Inventory, because it is regulated by Metro Vancouver (Henderson, 2008; UBC Properties Trust, 2008a).

IDENTIFYING STAKEHOLDERS: KEY INFORMANT INTERVIEWS

Three of 10 respondents identified the **University Neighbourhood Association (UNA)** as a key stakeholder. The UNA represents all of the residents of the University Town and would be an ideal body through which to engage the community members. Further research could identify specific approaches to engaging this association.

External agencies with relevant expertise were identified as stakeholders by three of 10 respondents: Translink (one respondent), Canada Green Building Council (one respondent), and on-campus vendors (one respondent).

IDENTIFYING STAKEHOLDERS: STRATEGIC TRANSPORTATION PLAN STAKEHOLDER LIST

The Transportation Advisory Committee included representatives from:
- Nine Community/Neighbourhood Associations:
  - West Point Grey Steering Group
  - South West Marine Drive Homeowners' Association
  - BC Coalition of Motorcyclists
  - Wreck Beach Preservation Society
  - Fraser River Coalition
  - Dunbar Residents' Association
  - University Endowment Lands Resident Association
  - NW Property Owners Association
  - Point Grey Residents' Association
- City of Vancouver
  - Truck engineering
  - Bicycle engineering
  - Transit engineering
  - Strategic Planning
- Greater Vancouver Regional District (GVRD)
  - Strategic Planning
  - GVRD Parks
- Ministry of Transportation and Highways
  - Planning and Development
- University Endowment Lands
  - Electoral Area "A" Director
  - UEL Manager
  - Public Works
- BC Transit/Translink
  - Planning
  - Strategic Planning
  - Bicycle Planning
  - Van Pool Program
  - Rideshare

Although not mentioned by any respondents or consulted as part of the STP, it is my opinion that the Friends of the UBC Farm should also be included as a stakeholder in the ICAF. This UBC club is working to save the 16 acres of UBC Farm, which are currently slated for development as part of the next phase of residential development in South Campus. Given the controversy over the use and development of this land, it is my opinion that, for the sake of fairness, all parties (the University Neighbourhood Association, UBC Properties Trust and the Friends of the UBC Farm) should be included in shaping the climate action plan. This is a highly mobilized group with a large supporter base on campus and in the community.

FIGURE 8: CHECKLIST OF CLIMATE STAKEHOLDERS AT UBC

Stakeholders	Yes ✔ / No ✘	Explain
High Priority		
AMS		
Treasurer		
VP administration & finance		
UBC Properties Trust		
Faculty with issue specific expertise (climate change, planning, etc.)		
Campus and Community Planning		
Supply Management		
TREK Program		
Community associations		
Low Priority		
GSS		
President		
Land and Building Services		
Board of Governors (BoG)		
Unions		
Registrar		
Housing & Conferences		
Book Store		
Legal Council		
Health, Safety and Environment		
Public Affairs		
City of Vancouver /Greater Vancouver Regional District (GVRD)		
Relevant Provincial Ministries		
University Endowment Lands		
External Agencies (BC Transit/ Translink/Green Building Council/ vendors)		

ANALYSIS

A key part of fair and inclusive engagement process is bringing all of the key stakeholders to the table. In this section I consider which stakeholder groups have been engaged in the ICAF so far using the Checklist of UBC Stakeholders. The purpose of this analysis is to identify whether any key stakeholders are still missing from the climate action community engagement process.

FIGURE 9: CHECKLIST OF UBC CAMPUS STAKEHOLDERS APPLIED TO THE ICAF

Stakeholders	Yes ☑ / No ✗	Explain
High Priority		
AMS	☑	OAWG (VP Finance) Lighter Footprint (partner) Symposium (presenter)
Treasurer	☑	OAWG
VP Administration & Finance	✗	
UBC Properties Trust	☑	OAWG (President & CEO) Unit-based Strategies (partner)
Faculty with issue specific expertise (climate change or planning)	☑	Multiple representatives on Expert Committees (TAC, Utilities, Energy, Risk Assessment) Multi-Stakeholder (PAC-S, OAWG) Symposium (19 presenters) Advisors (formal & informal)
Campus and Community Planning	☑	OAWG (Associate VP) Infrastructure Round Table (partner) Unit-based Strategies (informal partner)
Supply Management	☑	OAWG (Director) Unit-based Strategies (informal partner)
TREK Program	☑	Advisor (Director) Transportation Round Table (partner)
Community Associations	✗	
Low Priority		
GSS	✗	OAWG (President proposed) Disbanded Steering Committee (President)
President	☑	Symposium (opening speaker) PAC-S reports to him
Land and Building Services	☑	Multiple representatives on Expert Committees (TAC, Utilities, Energy, Risk Assessment) OAWG (Director of Sustainability, Director of Utilities, Director of Plant Operations) Symposium (3 presenters) Advisors (informal)
Board of Governors (BoG)	✗	

Stakeholders	Yes ☑ / No ✗	Explain
Unions	✗	
Registrar	✗	
Housing & Conferences	☑	OAWG (Executive Director)
Book Store	✗	
Legal Council	✗	
Health, Safety and Environment	✗	
Public Affairs	☑	Informal Advisor (Communications Coordinator)
City of Vancouver /Greater Vancouver Regional District (GVRD)	✗	
Relevant Provincial Ministries	☑	Symposium (1 presenter, Climate Action Secretariat)
University Endowment Lands	✗	
External Agencies	☑	Symposium (1 presenter, BC Hydro)

HIGH PRIORITY STAKEHOLDERS

Seven of nine high priority stakeholder groups are already engaged in the ICAF:
- the AMS
- the treasurer
- UBC Properties Trust
- faculty with issue-specific expertise (climate change or planning)
- Campus and Community Planning
- UBC Supply Management
- TREK Program.

The VP finance is not yet engaged in the ICAF. He (or a member of his office) could be a key ally in identifying innovative financing models for the ICAF.

Community/neighbourhood associations were actively involved in the STP, but may not have as significant a role to play in the ICAF, since the framework scope excludes the university neighbourhoods. However, the emission resulting from new construction on the endowment lands were identified by three of ten respondents as an important emissions source on the university lands and questioned the exclusion. An opportunity identified by three of ten interviewees was to involve the University Neighbourhood Association (UNA) or other nearby neighbourhoods in discussions on purchasing heat from the university (three respondents). Given the draft ICAF vision of making UBC a net positive energy producing campus, this will need to be done by selling renewable energy. The neighbourhoods are a natural market for selling additional heat or power, but will need to be involved in the planning process.

LOW PRIORITY STAKEHOLDERS

Seven of the 15 stakeholders identified by either interview subjects or the STP are already engaged in the ICAF planning process:

- the president
- Land and Building Services
- Housing and Conferences
- the bookstore
- Public Affairs
- relevant provincial ministries
- external agencies

Although not currently engaged in the ICAF, the GSS is targeted for membership in the OAWG and the GSS president was part of the now disbanded Steering Committee.

The BoG is clearly a key ally for the ICAF since they are the final approving body for the plan. Though the plan is not yet completed is not ready to go to the BoG for approval, it would be useful to start building support on the BoG soon as possible.

Unions are not yet involved in the ICAF, but their involvement should be considered. As the Climate Management System will seek to increase the focus on energy management and emissions reduction across the university's many departments and units, it may involve changes to job descriptions, or shifting of responsibilities. Any change of this type will need to involve the unions.

Legal Council, Health, Safety & Environment, the University Endowment Lands and the City of Vancouver may be relevant allies in the development of pilot projects, bringing project successes to other universities and colleges in Metro Vancouver and rolling out the Climate Action Strategies. However, for the time being they are a lower priority.

In my opinion, one of the nine unengaged stakeholders identified in the STP is not relevant to the ICAF planning process: the office of the registrar. I suggest it is not relevant because the office of the registrar is not generating significant quantities of emissions on campus nor is its participation critical to mobilizing a large constituency for behaviour change.

Although not included in the checklist, it is my opinion that the Friends of the Farm should be engaged given that it is a stakeholder in the current controversy over the development of the Farm, which is designated as a future housing reserve in the Official Community Plan (OCP). The other key stakeholders in the debate are UBC Properties Trust and the University Neighbourhood Association (UNA), both of which are high priority stakeholders in the checklist.

RESULTS

The ICAF is very successful in terms of stakeholder engagement. In its first 16 months seven of nine high priority stakeholders are already engaged:

- AMS
- UBC Properties Trust
- faculty with issue specific expertise (climate change, planning, etc.)
- Campus and Community Planning
- UBC Supply Management
- TREK Program
- the treasurer

The two high priority stakeholders not yet engaged are:

- VP administration & finance
- community/neighbourhood associations

In addition, seven of 15 low priority stakeholders have been engaged. Of the secondary stakeholders not yet engaged, the GSS is the highest priority and the wheels are already in motion to engage them through the OAWG. Unions are also a high priority.

RECOMMENDATIONS

Prioritize engaging the VP administration & finance, neighbouring community associations, unions and the GSS.

Two stakeholders identified that a key opportunity to achieve the ICAF vision of being a net positive energy producer is through joint infrastructure ventures with the neighbourhood (e.g., selling campus generated renewable heat through an extended district energy system). I also recommend that the Friends of the UBC Farm be included in the ICAF engagement process, as the other key stakeholders in the debate (UBC Properties Trust and the University Neighbourhood Association) are already engaged and are identified as high priority stakeholders in the checklist.

FURTHER RESEARCH

Further research could focus on creating a comprehensive climate change community profile for UBC. Such a community profile could identify which sub-groups within students, employees and residents are most knowledgeable about (or interested in) climate change, what groups on campus are most impacted by climate change, and which are most likely to resist climate action. This profile could also consider drivers and barriers to action and strategies for targeted outreach and communication to community sub-groups.
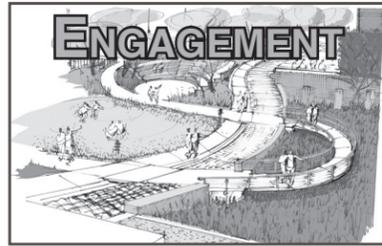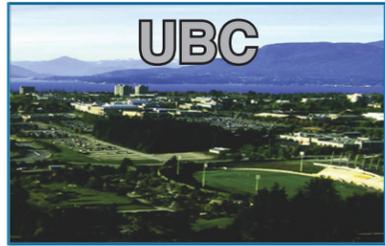
Chapter 7: Assessing Effectiveness

Introduction

In this Chapter I assess the effectiveness of public engagement in the Integrated Climate Action Framework (ICAF) by applying Rowe and Frewer (2005)'s determinants of effective public engagement. I apply their theory of effective engagement by answering three questions:

- What steps were taken to ensure competence in the engagement process?
- How do the sponsors demonstrate a real intent to listen to the public?
- How was the engagement process designed to be fair?

Effective Engagement: Fair and Competent

One gap that persists in the community engagement literature is the lack of common and agreed upon criteria, methods and tools for assessing effectiveness of community engagement processes (Beierle & Clayford, 2002; Dorcey & McDaniels, 2001; Rosener, 1982; Rowe & Frewer, 2005). This is further complicated by the fact that success is arguably in the eye of the beholder. Participants' perceptions of consultation may be different from the sponsors' plans and criteria for strong public engagement. Rowe and Frewer (2005) examined what determines participants' perception of effective community engagement and found that two key determinants were **fairness** and **competence**.

Fairness relates to

concepts of public acceptability, equity, democracy, representativeness, transparency, and influence, among others. This concept concerns the *perceptions* of those involved in the engagement exercise (...) and whether they believe that the exercise has been honestly conducted with serious intent to collect the views of an appropriate sample of the affected population and to act on those views (emphasis added, Rowe & Frewer, 2005, p.262).

To create a fair engagement process involves careful design and an honest intent to listen to the public. An effective way to improve fairness is by focusing on accountability to the public. Dr. Nancy Knight, the AVP of campus and community planning (CCP) at UBC, emphasizes the importance of accountability in public engagement. She suggests the use of accountability frameworks to close the loop of consultation. This means regular communication about how community members can get involved and how information gathered through consultation is integrated into the final product (Knight, 2008). She focuses on the importance of communication and careful reporting, highlighting the need for a constant cycle of collecting, analyzing and reporting on engagement to the public (the consultation loop). However, a fair process cannot be created through accountability mechanisms alone. Fundamental to the public assessment of fairness is whether they perceive an honest intent on the part of the sponsor to listen to input given and integrate that input into the final plan (Dorcey & McDaniels, 2001; Rowe & Frewer, 2005). For example, although CCP has put in place a clear plan for public engagement in the Campus Plan, with regular, careful reporting and clear accountability mechanisms, the campus planning process is still dogged by critiques that it is not fair. Some participants do not believe that there is true intent to listen to the issues brought up in consultation processes and integrate those comments into the final plan (Makortoff, 2008). Flexibility in the process to allow public priorities and concerns to shape the ICAF will help avoid the perception that public engagement is tokenistic. Building trust by clearly communicating how public input has shaped the process can be a long, but worthwhile, process.

The second key determinant of successful community engagement is **competence**, which is closely linked to efficiency. Rowe and Frewer define competence as "*maximizing the relevant information (knowledge and/or opinions) from the maximum number of relevant sources and transferring this efficiently to the appropriate receivers*" (emphasis the authors', Rowe and Frewer, 2005, p.263). Returning to the Spectrum of Public Engagement (Figure 4), we see that for each of the communication, consultation and participation types of engagement, the direction of information flow varies (sponsor to participants, participants to sponsor, interchange of information between participants and sponsor), but the measure of competence - maximum relevant information flow with minimal information loss - is the same. Finding an acceptable balance between responding to public input and accurately synthesizing and communicating that information in a timely way, can be challenging. The challenge is greater when engagement is participatory and more time intensive, since there is a greater commitment to implement the direction set by the community. Skilled facilitation, careful planning to make efficient use of participants' time and clear communication about how public input is integrated into the planning process all help to increase competence (Kaner, 2007; Rowe & Frewer, 2005).

Based on Rowe and Frewer's (2005) definitions of fairness and competence, I suggest three questions for assessing fairness and competence in the community engagement process for the UBC Integrated Climate Action Framework (ICAF), which I answer below:

- What steps were taken to ensure competence in the engagement process?
- How do the sponsors demonstrate a real intent to listen to the public?
- How was the engagement process designed to be fair?

Analysis

What steps were taken to ensure competence in the engagement process?
Competent public engagement must efficiently communicate the maximum quantity and quality of relevant information from the maximum number of relevant sources to the relevant recipients. The ICAF's six avenues for engagement (Information, Research, Consultation Events, Working Committees, Advisors and Partnerships), presented in Chapter 4, have been relatively isolated from each other. There has never been a general meeting of all committees, nor are there liaisons between committees. The SO staff are involved in all of the expert committees and share information within their own staff team. This information is communicated informally to committee members as deemed appropriate. The ICAF engagement process would benefit from more deliberate reporting and information sharing across the spectrum of public engagement. This would be facilitated through more systematic processing and categorizing of information gathered through each of the 12 engagement mechanisms and would help to identify what information is relevant for each working committee. However, increased staff capacity is necessary to synthesize and present that information to the committees in a timely manner.

According to Liz Ferris, the coordinator of climate action for the UBC Sustainability Office, input gathered from the round tables and through SEEDS research projects has been included in the draft ICAF vision (Ferris, 2008a). However, again there is no tracking of how input was coded, synthesized or analyzed to this end, nor was any reporting or public communication on how or if input gathered from the public through rounds tables or SEEDS projects shaped the plan. The loop of consultation has not yet been closed. Competence could be improved in planning, delivery and reporting on the results of the 12 engagement mechanisms.

HOW DO THE SPONSORS DEMONSTRATE A REAL INTENT TO LISTEN TO THE PUBLIC?
SO staff are very receptive to stakeholder input and have stated that comments are integrated into the vision and reworking of the ICAF structure to fill gaps identified by the working committees (Ferris, 2008a). In the first year of the project, the scope, emissions reduction targets, ICAF structure and community engagement plan were all developed based on input from across the six avenues for engagement. Although the accountability and reporting on how public input shaped these changes could be improved by documenting and publicly reporting, the ICAF process and vision have changed substantially since the project began in July 2007 and these changes are attributed to public input by SO staff (Ferris, 2008a). Although reporting can, and should, be improved moving forward, overall the SO has demonstrated considerable patience and flexibility through the ICAF planning process, especially when compared to other UBC planning processes.

Access to information and opportunities to shape the ICAF planning process have not been equal for all members of the campus community. Engagement mechanisms at the 'communication' end of the engagement spectrum have been open to the whole campus community, especially since the fall of 2008 when the website was launched and the climate action symposium was hosted. Participants in 'consultation' events have self-selected, as the process required taking the initiative to attend and register (round tables) or participate (SEEDS). Opportunities to 'participate' are open to stakeholders with control over significant emissions, relevant expertise and interest in doing unit level reduction plans. This is most likely because the SO (like this report) is focused on stakeholder engagement, rather than citizen engagement (Dorcey & McDaniels, 2001). So, although there is a real intent to listen, the focus on stakeholder engagement means that those with control over resources and emissions sources have more access to influence the decision-making process at the consultation and participation ends of the engagement spectrum.

HOW WAS THE ENGAGEMENT PROCESS DESIGNED TO BE FAIR?
According to Rowe & Frewer (2005) fairness relates to "public acceptability, equity, democracy, representativeness, transparency, and influence" (p.262).

For this report my assessment of **acceptability** and **representativeness** is based on the engagement of stakeholders, as laid out in the stakeholder checklist (Figure 8). The ICAF has engaged seven of nine the high priority stakeholder and six of 15 low priority stakeholders from the stakeholder checklist. The ICAF development also applied most of the lessons drawn from the Energy Management Plan and the Strategic Transportation Plan, both of which enjoyed a high level of support within the campus community. This high level of stakeholder engagement, along with the absence of resistance to the process so far, leads me to conclude that engagement in the ICAF has been representative in the UBC context.

With the exception of the Symposium, I did not encounter any tracking of participant information for public events (affiliations, demographics, etc.). This creates a lack of data to assess whether participation in the ICAF's engagement mechanisms was **equitable** or **representative** relative to the full campus community. The environmental movement is recognized as being predominantly white and middle class (Gorrie, 2007). Since I participated in three round tables, the Climate Action Symposium, and the SEEDS project I anecdotally observed that most of the participants were white, and that the framing of the climate change problem and solutions were primarily technical and ecological. I did not observe any discussions of the inequitable concentration of climate impacts in poor communities and countries, nor the concentration of emissions from high-income communities and countries. Growing out of the environmental justice movement in the United States, climate justice focuses on the effects of air pollution and climate change on people, especially poor people and people of colour (CorpWatch US et al, 2002). The

policy and management solutions of climate justice groups (such as the Durban group in the international Kyoto Protocol negotiations) are often at odds with the solutions proposed by mainstream environmental groups. Climate change disproportionately affects poor people and people of colour, at the international, Canadian and local scales. These same people are consistently not involved in climate planning or policy making at the international or national levels. At UBC the ICAF appears to have engaged the usual suspects – environmental and operational experts. There has been no active outreach to representatives affected communities, such as neighbouring First Nations or students from the Alliance of Small Island States. UBC does not track ethnic or economic demographics, so identifying priority group for equitable and representative engagement within the campus community could be the focus of future research, along with a gap analysis of the stakeholder groups identified in this report.

There is a strong precedent for community involvement in campus and sustainability planning. Most stakeholders are not elected and do not represent or report back to any specific constituency group. An important exception are the two student unions (the Alma Mater Society [AMS] and the Graduate Student Society [GSS]), both of which are elected by the student body in open and contended elections. The AMS and the GSS representatives do sit on working committees. However, the majority of committee members are engaged for their technical expertise or jurisdiction over emissions sources. The ICAF is focused on stakeholder engagement, rather than representative engagement of all constituencies in the UBC community. Stakeholder engagement in planning cannot be equated with democracy. UBC is not a democratic institution and has no legal requirement to do consultation on campus development. Given the scope and focus of this report, I did not identify any appropriate measures for **democracy** in UBC Climate Action Planning. Future research could focus on how to ensure equitable representation and accountability to the community in a non-democratic institution (a university, business, corporation, etc.).

The working committees have been the most transparent in terms of how their input shapes the ICAF process. There are clear lines of communication (and overlap) between the committee members and decision-makers in their focus areas (technical, energy, risk assessment, and utilities). Although very effective, there has been no public reporting on how community input through the committees has shaped the ICAF. Though the process is effective, this demonstrates a lack of accountability to the public. Little attention has been given to communicating the process to the campus at large or to those participating in consultation activities. Transparency in the ICAF engagement process could be improved through increased reporting and communication.

RESULTS

Transparency and competence can be improved by creating accountability mechanisms in ICAF engagement and communication. This means clearly summarizing the engagement process to date, promoting upcoming opportunities for diverse stakeholders to get involved at a variety of levels and closing the consultation loop once input is gathered.

Upon considering the definition of fairness I conclude the ICAF has been quite fair, but there is room for improvement. It has been acceptable and representative participation from climate stakeholders in the planning process so far. I conclude that the SO has real intent to seek input from stakeholders, as is demonstrated through the concentration of engagement activities at the participatory end of the engagement spectrum. The campus community has influenced the content, structure and development process for the ICAF.

Equitable and representative participation of the campus community has not been tracked. Observation of event participants points to a need to focus outreach on community groups impacted by climate change. Broader engagement is likely to shift the focus and framing of both the problem of climate change and its solutions. Broader engagement increases the likelihood that the approaches and solutions to climate change adopted at UBC will be relevant to diverse socioeconomic and ethnic groups on and off campus. This may also increase the relevance to municipalities and institutions in other parts of the world, where the consequences of climate change are more immediate than at UBC.

UPCOMING

Moving forward with public consultation on the draft vision statement and draft 1 of the ICAF, the SO needs to define a clear methodology for how input will be integrated into the framework and how the SO will report back to the community. The SO has hired Junxion Strategy to develop a communications strategy for the ICAF, which has the potential to dramatically improve the transparency of the process.

RECOMMENDATIONS

- Prioritize clear, timely reporting for the upcoming community consultation for the draft vision and draft 1. This should include reports to the working committees.
- Give specific attention to ensure equitable and representative participation in consultation events and engagement activities.

CONCLUSIONS

Public engagement in the ICAF was assessed in terms of fairness and competence, the two criteria for effectiveness identified by Rowe and Frewer (2005). The assessment answered three questions:
- What steps were taken to ensure competence in the engagement process?
- How do the sponsors demonstrate a real intent to listen to the public?
- How was the engagement process designed to be fair?

Answering these questions I found that competence could be improved by focusing on establishing accountability mechanisms to ensure that input from consultation events is accurately captured and effectively communicated to the working committees and business units.

In the UBC context, engagement in the ICAF has been quite fair, but there is room for improvement. It has been acceptable and consistent with historical precedents of engagement, but access could still be more equitable.

The SO has demonstrated patience and flexibility through this process, integrating comments from stakeholders and reworking the ICAF structure to fill gaps identified by the working committees. The SO staff call this an 'emergent process'.

There is room for improvement in ensuring equitable and representative participation and increasing the transparency of the process by putting in place accountability mechanisms. The SO could increase transparency and competence of the ICAF engagement process by:
- closing the consultation loop and reporting back to participants on how their input in the upcoming consultations on the Vision Statement and Draft 1, and past participation in the round tables has shaped the ICAF
- promoting upcoming opportunities for involvement to diverse stakeholders on campus, especially targeting impacted communities

FURTHER RESEARCH

Further research opportunities identified in this chapter include:
- identifying priority groups for equitable and representative engagement within the campus community, along with a gap analysis of the stakeholder groups identified in this report.
- considering how to ensure equitable representation and accountability to the community in a non-democratic institution (a university, business, corporation, etc.).

Chapter 8: Recommendations & Conclusions

In this report I present, characterize and analyze community engagement in UBC's Integrated Climate Action Framework (ICAF). I begin by introducing the ICAF structure and 12 mechanisms for community engagement in the ICAF so far. I then map these engagement mechanisms onto the Spectrum of Public Engagement (Figure 5) and synthesizes them into six avenues for public engagement in the ICAF:

1. **Information**
   - in-person presentations by the Sustainability Office (SO) staff (summer 2007 - present)
   - the *Leadership and the Climate Agenda Discussion Paper* (February 26, 2008)
   - the Climate Action website (September 2008 - present)
     - introduces the ICAF planning framework and the working committees
   - the Climate Action Symposium (October 2, 2008)
     - 185 attendees informed about climate action at UBC, the history of action on sustainability, and current UBC research and practice on climate

2. **Research**
   - student research through Social, Ecological, Economic Development Studies (SEEDS) Projects (summer 2008 - present)
   - in-house consultants
     - 2006 GHG inventory (fall 2007)
     - draft vision statement (summer 2008)

3. **Consultation Events**
   - round table discussions
     - invited the campus community to share their input on transportation, infrastructure, education and food (spring 2008)

4. **Working Committees**
   - multi-stakeholder committees
     - President's Advisory Council on Sustainability (PAC-S) (spring 2008 – present)
     - the Operations and Administration Working Group (OAWG) of the PAC-S (summer 2008 – present)
     - Climate Action Partnership Steering Committee (July 2007 – spring 2008)
   - expert committees
     - Technical Advisory Committee, Risk Assessment Task Force, Utilities Management Committee, Alternative Energy Committee and Energy Management Committee (fall 2007 – present)

5. **Advisors**
   - formal
     - PAC-S Advisory Panel: off-campus advisors (forthcoming)
   - informal
     - on-campus advisors offer an information resource for the SO staff (summer 2007 – present)

6. **Partnerships**
   - formal
     - BC Campus Climate Network and the AMS (spring 2008 – present)
   - Informal
     - UBC Business Units to develop emissions reduction plans which will be aggregated into UBC's Climate Action Strategy (forthcoming)

Based on the analysis using the Spectrum of Public Engagement Spectrum I found that the greatest number of engagement mechanisms were concentrated at the participatory end of the spectrum. However, more people were engaged at the information end of the spectrum. There has been a high degree of public influence on decision-making, frequent opportunities for dialogue and two-way information flow and significant flexibility in the process to respond to input gathered from stakeholders. Given that the information sessions occurred relatively late in the process, while the participatory mechanisms have been in place all along, I conclude that the ICAF engagement process has been participatory.

Tool 1: Checklist for Successful Sustainability Project Development at UBC

In this report I compared the ICAF engagement process with two past sustainability planning processes using the *Checklist for Successful Sustainability Project Development at UBC*. I created this checklist based on lessons and successes learned from the Energy Management Plan and the Sustainable Transportation Plan. Based on this assessment I found that the ICAF planning process is applying six of the nine lessons learned from these previous processes planning for sustainability.

The SO is already:
- piggy-backing on the university priority of reducing its $2.5 million per annum offsetting cost that will come into effect in 2010
- engaging on- and off-campus stakeholders

The SO has begun making progress in:
- engaging partners in pilot projects, through the AMS and goBEYOND
- building support among top decision-makers by involving them in the symposium and the OAWG
- sharing the credit for successes by empowering committee members and business units to lead the ICAF work and act as spokespeople
- engaging student champions through the AMS partnership and the goBEYOND partnership

The SO can still
- phase in large projects
- identify creative financing models
- bundle cost saving measures with ecologically significant, but more costly, projects

Tool 2: Checklist of UBC Climate Stakeholders

In this report I considered what key stakeholders have been engaged in the development of the Climate Action Plan. I created a checklist of high and low priority stakeholder groups based on data from key informant interviews and the stakeholder list in the STP. Using this *Checklist of UBC Climate Stakeholders* I found that the ICAF is engaging seven of nine high priority stakeholders:
- AMS
- UBC Properties Trust
- Faculty with issue specific expertise (climate change, planning, etc.)
- Campus and Community Planning
- UBC Supply Management
- TREK Program
- Treasurer

The SO is also engaging six of 15 low priority stakeholders.

Based on the results of the checklist I recommend that they reach out to the VP administration & finance, the neighbouring community associations, the unions, and the GSS. Although not included in the checklist, it is my opinion that the Friends of the UBC Farm should also be engaged, as the other key stakeholders in the debate over the use of south campus lands are included as high priority stakeholders (the University Neighbourhood Association and UBC Properties Trust).

TOOL 3: ASSESSING EFFECTIVE COMMUNITY ENGAGEMENT

The effectiveness of the community engagement process was analyzed for fairness, intent and competence. The process was found to be fair in the UBC context, but tracking participation would help to ensure representativeness. Closing the loop on consultation needs to be a priority to increase the transparency of the process and increase the perceived competence of the SO. Opportunities to include climate change affected community members as stakeholders should also be considered.

FURTHER RESEARCH

Several opportunities for further research were identified throughout this report and synthesized at the end of each chapter. However, one key area of research has not yet been raised but is essential for the creation of a successful ICAF: the scientific relevance of the plan. Though the key focus of this report is analysis and recommendations on community engagement, the climate change plan must also be assessed for creating scientific relevant emissions reductions to fit the challenge of global climate change. The Intergovernmental Panel on Climate Change (IPCC)'s Special Report on Emissions Scenarios projects that global GHG emissions will increase by 25 to 90% CO2 equivalent (eCO2) between 2000 and 2030 (SRES, 2000). This is disturbing because the 2007 IPCC Fourth Assessment Report found the opposite trend, that a 50-80% reduction in GHG emissions by 2050 is necessary to avoid dangerous climate change. Current emissions trends both in Canada and worldwide are increasing and the projected consequences are severe. The success of the ICAF must also be assessed for whether they achieve scientifically relevant emissions reductions. As a leading research institution, UBC has an opportunity and a responsibility to evaluate the ICAF in terms of its ability to achieve scientifically significant reductions in GHG emissions in the short- and long-term.

SUMMARY OF RECOMMENDATIONS FOR PUBLIC ENGAGEMENT IN THE ICAF IN ORDER OF PRIORITY

Given my analysis I propose ten recommendations for improving, deepening and expanding public engagement in the ICAF, presented in order of priority:

1. Close the consultation loop, by reporting on how community input is integrated into the ICAF. Focus on:
   - upcoming vision statement consultation
   - upcoming draft 1 consultation
   - past Round Table participants

2. Increase capacity of the SO to communicate more broadly and regularly about the ICAF. This may require:
   - hiring new communications staff
   - hiring consultants or contractors focused on communications
   - recruiting and managing volunteers to do communications

3. Explore and develop creative financing models for implementing the ICAF.

4. Bundle ecologically significant projects with money making projects.

5. Prioritize engaging the VP administration & finance, neighbouring Community Associations, the GSS and the campus unions in the ICAF.

6. Leverage partnerships with the AMS, UBC Common Energy and Utilities to create climate pilot projects on campus and increase the on-the-ground visibility of the ICAF

7. Create a climate email list compiled from emails collected at:
   - round tables
   - Climate Action Symposium
   - working groups

8. Continue building the climate action website as a key source of information, including:
   - information on how to get involved through the six existing avenues for engagement and upcoming consultation events
   - hyperlinks to SEEDS projects on the ICAF

9. Give specific attention to ensuring equitable and representative participation of groups affected by climate change or non-traditional stakeholders in consultation events and engagement activities

10. Break down silos within the ICAF itself by holding regular (bi-annual) joint meetings of all participants.

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KEY INFORMANT INTERVIEW SUBJECTS

Key Informant Interviews	Position	Date
Werner Anteweiler	Associate Professor, Strategy and Business Economics Sauder School of Business	July 24, 2008
Geoff Atkins	Associate Vice President, Land and Building Services	June 9, 2008
Alice Cassidy	Associate Director, Teaching and Academic Growth	July 3, 2008
Group Interview Lisa Colby David Grigg Joe Stott	• Manager Policy Planning, Campus & Community Planning • Associate Director, Infrastructure & Services Planning, Campus & Community Planning • Director of Planning, Campus & Community Planning	July 2, 2008
Liz Ferris	Coordinator of Climate Action, UBC Sustainability Office	July 29,2008 November 7, 2008
Holly Foxcroft	VP External for the Alma Mater Society, 2003/4	August 6, 2008
Chad Hyson	Associate Director, Student Development	June 13, 2008
Nancy Knight	Associate Vice President Campus & Community Planning, Campus & Community Planning	June 12, 2008
Peter Nemetz	Professor, Strategy and Business Economics, Sauder School of Business	July 22, 2008
Jorge Marques	Former Energy Manager with the UBC Sustainability Office	July 8, 2008
Freda Pagani	Former Director, UBC Sustainability Office	July 9, 2008
Julie Stockton	Director, Organizational Development and Learning Human Resources	July 2, 2008
Victoria Wakefield	Manager, Logistics and Sustainability, Supply Management	June 5, 2008
Informational Interviews	**Position**	**Date**
Carol Jolly	Director of Transportation Trek, Land and Building Services	November 3, 2008
Orion Henderson	Manager of Climate Change and Energy, UBC Sustainability Office	October 30, 2008
Informational Interviews	**Position**	**Date**
Linda Moore	Associate Director, External Affairs, Campus and Community Planning	October 28, 2008
James Tansey	Associate Professor, Organizational Behaviour/HR Centre (W. Maurice Young) for Applied Ethics, Sauder School of Business	November 3, 2008

INTERVIEW QUESTIONS

1. In your opinion, who are the key stakeholder groups and individuals that should be engaged in generating effective climate change solutions at UBC?
2. What existing committees, offices, programs or positions should be involved climate action at UBC?
3. How was past progress on sustainability achieved at UBC?
4. What challenges or barriers did you face in bringing forward sustainability initiatives at UBC?
5. How do you think existing incentive structures or funding processes could be adjusted to encourage climate change action at UBC?
6. Who else do you suggest I interview for my research?

SAMPLE CONSENT FORM

Participant Consent Form
May 23, 2008

Planning for Implementation: Options for Participatory Climate Action Planning at UBC

You are invited to participate in a study entitled Planning for Implementation: Options for Participatory Climate Action Planning at UBC that is being conducted by Jeca Glor-Bell, Maged Senbel and William Rees.

Jeca Glor-Bell is a Masters Student in the School of Community and Regional Planning at the University of British Columbia and you may contact her if you have further questions by phone at 778-829-9797 or via email at jeca.glorbell@gmail.com.

As a graduate student, I must conduct research as part of the requirements for a degree in Community and Regional Planning. It is being conducted under the supervision of Dr. Maged Senbel (senbel@interchange.ubc.ca and 604-822-9158) and Dr. William Rees (wrees@interchange.ubc.ca and 604-822-2937)

Purpose and Objectives

The purpose of this research project is to create an options paper that lays out different approaches, tools and reasons for engaging the UBC campus community in developing the campus Climate Action Plan. The Climate Action Plan will be completed by December 2008. This options paper is meant to be a resource for the UBC Sustainability Office in determining and rolling out a process for campus-wide engagement, consultation and participation. The options for public engagement will draw from both academic theory and practical experience of university and municipal employees working on climate action. The options will build on the Round Table discussions already underway. Once completed, the options will include a time line for implementation and resource templates (surveys, questionnaires, workshop structures) and an executive summary of my findings for use and circulation by to the staff of the Sustainability Office and beyond as desired.

Importance of this Research

Research of this type is important because it complements and builds on the ongoing work of the UBC Sustainability Office. To date, their initiatives has focused primarily on achieving operational emissions reductions and compiling an inventory of past and current emissions reduction initiatives. Some campus community engagement has taken place through the issue specific Round Table discussions. This project will seek to fill two gaps in the current climate action planning process by first proposing options for campus community engagement and consultation and second suggesting approaches to embedding climate action into the operations, academics and governance structures of the university.

Participants Selection

You are being asked to participate in this study because of your experience working on advancing sustainability or climate change action (either on UBC campus or in a municipalities).

What is involved

If you agree to voluntarily participate in this research, your participation will include participating in a 30 minute face-to-face interview or phone interview with Jeca Glor-Bell. Where you will be asked to discuss lessons learned from past experience and opportunities for future climate action that you foresee. You will also be asked what opportunities and challenges you see for integrating climate action into the current operations, governance and incentive structures at UBC.

Inconvenience

Participation in this study may cause some inconvenience to you in taking the time to meet for the interview.

Risks

Participating in this study will mean that your experience may be shared in the final research report and circulated to members of the UBC Sustainability Office and beyond. Participating in the study may cause some emotional stress or anxiety because of the magnitude of the problem of climate change which is difficult to address and overcome.

Benefits

The potential benefits of your participation in this research include the opportunity to inform the community engagement process for the Climate Action Partnership and to contribute to the advancement of the University's mission statement

Voluntary Participation

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will be used only if you give permission, otherwise all audio and text files will be destroyed using security purging software.

Anonymity

Ideally the researchers would like to identify you and attribute comments and suggestions made in the interview to you. If at any time you would like for your comments to be off the record or anonymous, please feel free to say so and your wishes will be respected and your identity protected in the final report.

Confidentiality

If any confidential information is gathered it will be kept on a password protected computer and/or hard drive.

Dissemination of Results

It is anticipated that the results of this study will be shared with others in the following ways
- Project presentation
- Circulated within the UBC Sustainability Office Staff
- Made available through the SEEDS library online (www.sustain.ubc.ca/seedslibrary)
- If desired, the Sustainability Office may circulate the findings or executive summary to sustainability and climate leaders on campus
- Submitted to project advisor with Holland-Barrs Planning Group

DISPOSAL OF DATA

Data from this study will be stored at UBC for up to 5 years and then destroyed using security purging software.

CONTACTS

Individuals that may be contacted regarding this study include Jeca Glor-Bell (jeca.glorbell@gmail.com or 778-829-9797), Dr. Maged Senbel (senbel@interchange.ubc.ca and 604-822-9158) and Dr. William Rees (wrees@interchange.ubc.ca and 604-822-2937)

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the University of British Columbia's Office of Research Services (604-822-8595 or ors@ors.ubc.ca).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers.

_____   _____   _____

    Name of Participant   Signature   Date

A copy of this consent will be left with you, and a copy will be taken by the researcher.

TIMELINE OF ICAF ENGAGEMENT TO DATE

2007

SPRING (APRIL – MAY)
- SEEDS Project with initial GHG emissions inventory for the campus
- Climate Action & Student Engagement Coordinator Hired by UBC SO

SUMMER (JUNE – AUGUST)
- Steering Committee formed & Terms of Reference created
- Technical Advisory Committee formed & Terms of Reference
- July 30: Workshop @ Michael Smith Labs with key climate leaders on campus (mostly faculty) asking them to contribute to the structure and join the process through a committee or participate in a Round Table

FALL (SEPTEMBER – DECEMBER)
- November 20, mandate from Province for the SUCH sector to be carbon neutral by 2010
- Technical Advisory Committee: scoping GHG inventory

2008

WINTER (JANUARY – MARCH)
- GHG inventory for 2006 completed using World Resource Institute (WRI) scopes
- Student research papers in initial areas of scope for ICAF (SEEDS Projects)
- Formalize partnership with AMS to fund implementation of Lighter Footprint Strategy ($10,000)
- Feb. 26: Discussion Paper Released: *Leadership and the Climate Agenda* (UBC Sustainability Office, 2008a)
- March 13: President Toope signs the 'The University Presidents' Council of B.C. Climate Action Statement' (UBC, 2008), which he helped to create
- Food Round Table, Co-hosted with Land and Food Systems
- Transportation Round Table, Co-hosted with the UBC TREK Program
- Infrastructure Round Table, Co-hosted with Campus and Community Planning
- Presidents' Advisory Council on Sustainability is established

SPRING (APRIL – MAY)
- Education Round Table, Co-hosted with student group, UBC Common Energy

SUMMER (JUNE – AUGUST)
- June 23: First meeting of Risk Assessment Group
- August 26: First meeting of the OAWG

FALL (SEPTEMBER – NOVEMBER)
- Climate Action website launched on SO website
- October 2: Climate Action Symposium, 185 person informational event on climate action and research at UBC
- Pilot goBEYOND project launched at UBC, UVic and Thompson Rivers University
- Video, presentations and summary of Climate Action Symposium posted online

PENDING
- Full Report on the Greenhouse Gas Inventory 2006 posted online
- Climate Blog posted and active

PARTIAL LIST OF CLIMATE ADVISORS TO THE SUSTAINABILITY OFFICE

FACULTY
- Michelle Lamberson, Director Distance Education, Instructor Office of Learning Technology
- Les Lavkulich, Professor Emeritus, IRES, Institute for Resources, Environment and Sustainability
- Jean Marcus, Project Manager/SEER, Forestry Faculty
- John Metras, Director of Plant Operations, Land and Building Services
- Mark Monroe, Advisor to the AVP of Land & Building Services, Sessional Instructor, Strategy and Business Economics, Sauder School of Business
- William Rees, Professor of Community and Regional Planning and creator of the Ecological Footprint Model
- John Robinson, Professor, IRES / CIRS, Institute for Resources, Environment and Sustainability
- Jack Saddler, Dean and Professor of Forestry
- James Tansey, Associate Professor, Organizational Behaviour/HR Centre (W. Maurice Young) for Applied Ethics, Sauder School of Business
- Bob Woollard, Professor, Department of Family Practice

STAFF
- Geoff Atkins, Associate Vice President, Land and Building Services
- Leanne Bilodeau, Manager, Workplace Health and Sustainability, Human Resources - UBC Okanagan
- Peter Dauvergne, Senior Advisor to the President, Professor, Political Science and Canada Research Chair, President's Office
- Carole Jolly, Director Transportation TREK, Land and Building Services
- Aidan Kiernan, AVP, Operations, AVP Operations Office - UBC Okanagan
- William Koty, Director Applied Degrees, Continuing Studies
- Scott Macrae, Executive Director Public Affairs, External, Legal and Community Relations
- David Rankin, Associate Vice President, Business Operations, Supply Management
- Stephen Owen, Vice President, External, Legal and Community Relations
- Julie Wagemakers, Deputy Director, Liu Institute for Global Issues
- Basil Waugh, Communications Coordinator, Public Affairs, External, Legal and Community Relations
- Dave Woodson, Director, Utilities, Land and Building Services

STUDENT
- Chris Diplock, VP Finance for AMS
- Tarini Fernando
- Emma Hodgson
- Javier Landaeta

EXTERNAL
- Peter ter Weeme, Junxion Strategies

Members of the President's Advisory Council on Sustainability (PAC-S)

The members of this committee are all of the Chairs of the PAC-S Working Committees plus a representative from the President's Office and a representative from the Vice-President Research's Office and include:

- Alaa Abd El-Aziz (Chair, UBC-O Working Group)
- John Hepburn (co-Chair, Research & Community Partnerships)
- John Robinson (co-Chair, Research & Community Partnerships)
- Peter Dauvergne (Chair, Academic Planning)
- James Tansey (Chair, Advisory Panel)
- Tara MacKenzie (Chair, Development)
- Scott Macrae (Chair, Communications)
- Charlene Easton (Chair, Operations & Administration)
- Patricia Stevens, Director, Office of the President
- Terry Kellam, Director, Office of the Vice-President, Research

Members of Operations and Administration Working Group (OAWG) of the PAC-S

- Charlene Easton, UBC Director of Sustainability
- Julie Stockton Director, Organizational Development and Learning Human Resources
- Al Poettcker, President and CEO, UBC Properties Trust
- Aidan Kiernan, Associate VP Operations, UBC-Okanagan
- Nancy Knight, Associate VP Campus and Community Planning
- John Metras, Director, Plant Operations, Land and Building Services
- David Woodson, Director Utilities, Land and Building Services
- Peter Smailes, Treasurer, Treasury
- Andrew Parr and Larry Berglund for David Rankin, Associate VP Business Operations
- David Farrar, Provost and VP Academic
- Alaa Abd-El-Aziz, Provost, UBC-Okanagan
- Fred Fotis, Executive Director, Housing and Conferences
- Mona Maghsoodi, President, Graduate Student Society (proposed)
- Chris Diplock, VP Finance, Alma Mater Society
- Erica Frank, Professor, University Neighborhood Association (confirmed)
- Ian Burgess, Associate Vice-President, Finance Budget Office (confirmed)
- 3-4 Faculty Representatives
    - Les Lavkulich, Professor Emeritus, IRES
    - James Tansey, Sauder School of Business Assistant Professor, Organizational Behaviour/ HR (OAWG, 2008)

DESCRIPTION OF THE WORLD CAFÉ MODEL

The World Café is defined by its creators as a conversational process, but ultimately is a mechanism for framing community discussion and consultation. In this model separate tables are set up with separate discussion questions and each table has a facilitator and a note taker. A sponsor sets the context for the day, introduces the discussion topic and the World Café discussion methodology. Once the explanation is complete, community members self-select their table and discuss the specific question for that table together for a given period of time (in the case of the round tables, for 20 minutes). The groups then switch and mingle to find a new table with a new group answering a different question. In this way different group dynamics and perspectives come forward as different groups of people discuss each question. Key discussion themes are reported back to the full group at the end of the World Café, and notes were submitted to the round table sponsors (in this case the SO and its partners).

This model is intended to offer new insights into the discussion topics, foster learning and creative thinking and evoke collective intelligence (World Café, 2008).

STRATEGIC TRANSPORTATION PLAN ADVISORY COMMITTEE MEMBERS

(Reproduced from the Strategic Transportation Plan, by UBC TREK Program, 1999, p.2)

UBC Transportation Planning, also known as the UBC TREK Program Centre, compiled this report for the Associate Vice President of Land & Building Services. Many people have been involved in gathering and analyzing data, soliciting public input on issues and options, reviewing options and recommendations, and writing the final report. Over thirty-five on- and off-campus stakeholder groups have been represented through the UBC Transportation Advisory Committee, its associated Action Teams, and Bicycle, Pedestrian and Transit User Groups.

UBC TRANSPORTATION ADVISORY COMMITTEE MEMBERS

UBC TREK Program Centre
Gord Lovegrove, (TAC Chair) Director Transp. Planning
Shirley Mahood, TREK Secretary 1998/99
Melissa Rosen, TREK Secretary 1999
Jesse Sims, TREK Marketing Coordinator 1999

UBC Students
Maryann Adamec, kAMS Vice President
Graham Senft, AMS External Commission, Transportation 1998/99
Jesse Jackson, AMS External Commission, Transportaiton 1999/00
Darren Haines, AMS External Commission 1999/00
Beth Callister, GVTA PAC Rep
Ted Buehler, AMS Bike Co-op President
Ian Fisher, Chair of Transport 2000 BC
Andreas Siebert, Graduate Student Society

UBC Faculty
Dr. Peter Boothroyd, Community & Regional Planning
Dr. Ken Denike, Geography
Dr. Dave Dixon, Engineering
Dr. William Dunford, Engineering

City of Vancouver
Scott Edwards, Truck Engineering
Forrest Klotzbach, Bicycle Engineering
Lon LaClaire, Transit Engineering
Wayne Pledger, Strategic Planning

GVRD
Chris Demarco, Strategic Planniong
Greg Paris, GVRD

Community Associations
Gordon Dungate, West Point Grey Steering Group
Liz Haan, SW Marine Drive Homeowners' Association
Craig Heale, BC Coalition of Motorcyclists & Wreck Beach Preservation Society
Judy Williams, Wreck Beach Preservation Society and

Fraser River Coalition
Bernadette Kowey, Dunbar Residents' Association
Dr. Vlad Krajina, UEL Resident Association
Dick SCarth, NW Property Owners Association
Jack Turner, Point Grey Residents' Association

Ministry of Transportation & Highways
Katherine McCune, Planning & Development
Max Walker, Supervisor, Planning & Development

University Endowment Lands (UEL)
Erica Creighton, GVRD Electoral Area "A" Director
Bruce Stenning, UEL Manager
Eric Peterson, Public Works

BC Transit/TransLink
Martin Kobayakawa, Planning
Bill Lambert, Strategic Planning
Pat Ryan, Bicycle Planning
Clive Rock, Strategic Planning
Jack Bell Foundtation Car/Van Pool Program
Aran Cameron, UBC/JBF Rideshare Consultant 1998
Helen Cain, UBC/JBF Rideshare Consultant 1999
Brett Thompson UBC/JBF Rideshare Consultant 1999

UBC Staff
Janet Land, AAPS
Marilyn MacPherson, CUPE 2950
John Templeton, IUOE, Local 882

UBC Finance
Peter Smailes, Treasury

UBC Registrar
Gaylea Wong, Associate Registrar

UBC Parking Services
Debbie Harvie, Director, Bookstore, Parking & Campus Security

UBC TREK Program Centre
Gord Lovegrove, (TAC Chair) Director Transp. Planning
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Craig Heale, BC Coalition of Motorcyclists & Wreck Beach Preservation Society
Judy Williams, Wreck Beach Preservation Society and Fraser River Coalition

UBC Public Affairs
Stephen Forgacs, Communications Coordinator
Paula Martin, Associate Director

UBC Properties Inc.
Al Poettcker, President & CEO

UBC RCMP
Lloyde Plante, Staff Sergeant

Campus Planning and Development
David Grigg, Associate Director of Campus and Community Planning

TREK Conultants
Richard Drdul, U-TREK
Derek Hansen, Maps and Figures
Rosemary Teliatnick, Marketing and Communications

campus climate change inform participate sustainability engagement community UBC