Pacific Institute for Climate Solutions
Knowledge. Insight. Action.

Sustainable Communities Workshop

May 5-6, 2010

Final Workshop Report

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Pacific Institute for Climate Solutions
Sustainable Communities Workshop, May 5-6, 2010

Executive Summary

This document summarizes the results of the Sustainable Communities Workshop held in Vancouver by the Pacific Institute for Climate Solutions (PICS), on May 5 and 6, 2010. The event convened 35 people from diverse fields in academia, government, business, and the not-for-profit sector in order to generate responses to the question: What should the PICS research agenda on sustainable communities include? There was broad agreement that a research approach should aim to integrate the concepts of "just sustainability", "movement fusion", "paradigm shift", "nudge theory", "joined up thinking", and behavioural change. The group offered suggestions to ensure that the research *process* is innovative, participatory, and responsive to need, and that it will deliver practical solutions. Suggested research questions focused on the following five areas: (1) Reframing sustainability and climate change to promote or enable behaviour change and paradigm shift; (2) Identifying gaps in and building on already existing data, infrastructure, systems, regulations, and processes; (3) Building capacity for sustainability, from designers to communities to government; (4) Defining metrics for sustainability success; and (5) Identifying and addressing barriers to change that may be jurisdictional, political, legal, fiscal/financial, institutional, or cultural.

It was clear from the diversity of engaged participants at the workshop, that considerable research and mobilization activities are already taking place at multiple scales around the province. This presents both a challenge and an opportunity to PICS in designing its sustainable communities agenda: a challenge to ensure that its activities *add value* to the existing body of knowledge and discourse surrounding climate change; an opportunity to *engage and mobilize* existing actors and research efforts. To that end, PICS must design a research framework and mobilization agenda for its sustainable communities pillar that accounts for existing work, identifies strategic research gaps, and coordinates existing networks of actors and associations. Like all good sustainable community planning processes, participants also encouraged PICS to act on some early "wins" to help build the momentum and reach of the initiative.

Summaries of conference presentations, and general and group discussions are included in appendices.

Pacific Institute for Climate Solutions
Sustainable Communities Workshop, May 5-6, 2010

Introduction

This document summarizes results of the Sustainable Communities Workshop held in Vancouver by the Pacific Institute for Climate Solutions, on May 5 and 6, 2010. The workshop convened 35 people from fields such as architecture, anthropology, atmospheric science, business, communication, community and regional planning, geography, interactive arts and technology, psychology, sociology, sustainable resource management, transportation, and urban studies. Also present were representatives from the City of Vancouver; BC Hydro; the Canadian Centre for Policy Alternatives; the Centre for Indigenous Environmental Resources; and the provincial ministries of Environment (Climate Action Secretariat), Citizens' Services, Housing and Social Development.

The challenge placed before this wide-ranging group was to help PICS complete its five-pillared research agenda, by identifying a set of research priorities and questions on the theme of sustainable communities. All conference participants had previously read and reflected upon the PICS white paper titled *Infrastructure & Communities: The Path to Sustainable Communities*.

This document presents the results of that endeavour, identifying key themes, suggesting an approach to research, and outlining five areas of research focus.

Appendix A contains a synthesis of notes taken by six people throughout the day on May 6. Although not a verbatim transcript, it captures the essence of remarks by PICS director Tom Pedersen, guest Dr. Julian Agyeman, conference organizer Dr. Mark Roseland and others, and of general post-plenary discussions.

During the afternoon, conference participants broke into smaller groups for focused discussion on PICS research priorities. Each group was asked to present the results to the larger group. These table discussions and the resulting presentations are recapped in Appendix B, which is constructed from notes taken by participants in each of the smaller groups.

Background

BC is blessed with a wide variety of energy resources, a relatively progressive carbon tax regulatory regime, and high general awareness of the climate change challenge. Despite evidence of great progress in energy efficiency and relative stability in emissions, however, BC's emissions are expected to rise. Although a portion of this is expected to result from industrial emissions such as the development of shale gas in northern B.C., more than half of the province's emissions are generated by buildings (residential and commercial) and transportation—most of which is commuting. This PICS conference focused

participants' attention on these sources, asking: What should the PICS sustainable communities research agenda include?

Key Themes

Several key themes emerged from the keynote speech by Dr. Julian Agyeman and the ensuing discussions, and there was broad agreement among participants that they should be integrated into all research on sustainable communities.

Just sustainability

Primary among these was the concept of "just sustainability": the recognition that sustainability and social equity are inextricably linked. On a per capita basis, the world's wealthiest countries produce the majority of greenhouse gas emissions, consume the most resources, and have available the most options to mitigate and adapt to climate change. Conversely, the worst impacts of climate change will be suffered by the world's poorest and most vulnerable populations. "Just sustainability" also invites us to consider what would be a fair per capita allotment of resources, sufficient to guarantee all human populations a reasonable quality of life within ecosystem limits.

Movement fusion

In "just sustainability", advocates for the environment and social justice — groups which had often found themselves separated by class and race — are finding new common ground. As the climate change narrative expands to include social and moral dimensions, it resonates among diverse groups of people. This offers rich possibilities for "movement fusion": the building of broad coalitions that see all of the benefits of sustainability, and that derive power, creativity and resilience from their diversity.

Paradigm shift

Experience in other jurisdictions shows that significant progress towards sustainability can and does occur over decades, through incremental policy change (as happened in Copenhagen). Alternatively, rapid advances can be achieved through voluntary adoption of a new paradigm (as is currently happening in cities such as London and San Francisco). But the urgency of climate change suggests that paradigm shift is preferable. How, then, should that be achieved?

Behaviour change

Paradigm shift does not happen exclusively through regulation, because without significant public buy-in, regulations meet with apathy or intransigence. This suggests that climate change is not merely a technical problem; it is a human behavioural problem. What would bring about behavioural change on the scale

that is necessary to move BC toward sustainability? What needs to happen to help people embrace change as obvious, positive, and pragmatic? How does design, of built infrastructure and of communities, relate to behaviour?

Nudge theory

One possible answer may be found in the work of Richard Thaler and Cass Sunstein, who argue that people can be "nudged" into making better decisions when choice architectures make socially desirable behaviour easier: for example, the U-Pass program entices many students to choose public transit over car ownership. How else might "nudges" serve the goal of sustainable communities?

Joined-up thinking

A key is to be found in "joined-up thinking", that is, the capacity to co-ordinate all elements of a system in service of a common goal. In the quest for sustainability in BC, this would involve growing our capacity to align the designs and practices of our institutions to facilitate a coherent, effective response to climate change. It would require viewing the problem of sustainability from multiple viewpoints (for example, equity, economy, culture, age, locale) and scales (space and time).

Research Approach

PICS is facing a complex challenge with limited research resources — but it also enjoys the advantage of being unconstrained by traditional research funding formats. At the same time, it should integrate the six themes identified above. This underscores the importance for PICS of enabling research that is responsive, practical, socially inclusive, and action-oriented. It must integrate the "hard" and "soft" sciences, and considering that much relevant research and practice is already underway, strive for a high level of co-ordination between research projects.

Consequently, we urge PICS to give as much consideration to the *process* of research as to the framing of research questions. For maximum impact, the research process must speak to the day-to-day realities of British Columbians, build capacity and energy literacy at all levels, and facilitate integrated "systems" thinking. To that end, PICS should focus on projects that substantively display at least some of the following characteristics:

• builds capacity in local communities
• positions researchers to support, track, and evaluate climate change and sustainability research and processes already underway in BC (such as the U-Pass program, the City of Vancouver's Climate Smart workshops, and the Union of BC Municipalities member surveys under development by the provincial ministries of Environment and Community and Development)

- studies examples of successful community engagement and planning, distilling transferable principles and exploring opportunities for broader diffusion
- maintains academic rigour while utilizing innovative models of research and dissemination of results
- is participatory and action-oriented, responding to needs articulated at the community level and involving communities in the formulation of research problems, research design, execution, and evaluation
- promises observable, measurable impacts in the short- and medium terms
- takes an integrated approach, considering impacts in terms of the environment, economy and social equity
- emphasizes or enables co-ordination among and cooperation between jurisdictions, institutions, communities, regions, and economic sectors
- articulates clear connections to existing policies and suggests alternatives
- counters the tendency towards stable residential/urban bias by viewing problems and strategies through the lenses of BC's diverse communities, including those which are aboriginal, mobile, suburban, rural, and remote: for example, what does "smart growth" mean in communities with stable or declining populations and no shortage of space? What engages highly mobile youth into community planning for sustainability?
- encourages collaboration between researchers across disciplinary boundaries
- forges stronger connections between researchers in post-secondary institutions, abundant local expertise in communities, practitioners, non-government organizations, local government, small and medium enterprises, and the informal sector
- considers the most appropriate unit of analysis: individual, community, neighbourhood, or perhaps something else
- clearly defines and explains our choice of scales: for example, by age, location, ethnicity, time, space
- considers whether the data to answer questions is already available

Furthermore, PICS should design a mechanism that not only ensures maximum integration of its research projects, but which also provides for ongoing sharing of results where these would be most needed.

Research Priorities

Reframing sustainability

Regulations that promote GHG-reducing behaviour will only be as potent as the degree to which they enjoy public buy-in. PICS must therefore explore ways to sell one of the toughest "goods" of all: behaviour change. This suggests research that integrates insights from psychology, anthropology, social marketing and communications with those of design and planning.

Examples of relevant questions include:

- How might sustainability and the climate change narrative in BC be productively reframed to:

(a) resonate in hearts and minds of many different "publics": for example, it can be variously linked to creation of green jobs, enhanced energy security, prevention of the conditions which produce environmental refugees
(b) bring the challenge of climate change home: make it a "local" issue, in whatever sense that is understood
(c) make the right choices *normative*, attractive, easy and obvious rather than *alternative*, as has been accomplished with non-smoking spaces, urban recycling
(d) be viewed as a pragmatic assumption of control of a problem — the opposite of giving up
(e) be understood as having quality-of-life outcomes that are positive (health or economic co-benefits) or neutral (for example, carbon *offsets* rather than carbon taxes)

• How does behaviour change relate to culture change, and how do these fit together in relation to sustainable communities?
• How can the conversation be productively refocused in BC so that:
(a) the connection between sustainability and social equity, and the importance of justice and equality to climate-change solutions, is made clear
(b) the sense of exceptionalism that frequently underlies discourse on overpopulation is supplanted by the understanding that human rights reasonably include fair, sustainable per capita allocations of critical resources — and that such rights also entail responsibilities
(c) "their" carbon emissions, to the extent that they come from supplying our demands, become recognized as "our" problem
(d) the question, *Is what we have/do sufficient?* becomes at least as important as, *How efficient is it?*
(e) demand management is considered as critical as waste management

• How might anticipated events, such as retirement of major energy infrastructure, or unanticipated events, such as climate-induced natural disasters, serve as opportunities for education and implementation of sustainability?
• How might we think about "nudge theory" in terms of action on climate change in BC, including nudges already in place and those which offer potential areas for small and big nudges? What are the "pain points" and most powerful incentives of diverse groups?

Retro-Activity

There is a strong relationship between built environments and human behaviour. One conference-goer astutely observed that "the climate change problem isn't one we can just design our way out of. It's not a new community problem; it's a retro-fit problem."

Accordingly, PICS should focus research resources not only on the relationship of new built environments to appropriate action on climate change, but also on capturing more value from assets we have. Exemplary questions include:

- Where are the gaps in regulation of current buildings and new construction practices, and how can these be addressed?
- Much data which could powerfully illustrate the economic, social, and environmental case for sustainable communities is disaggregated across disciplines, and stored in ways which limit their utility and accessibility. How can this be reviewed and redesigned?
- How could research demonstrate the business case and portability of progressive energy systems such as North Vancouver's Lonsdale Energy Corporation or Revelstoke's district energy system?
- How can retrofitting be made more attractive than new development?
- How can we ensure that retrofitting practices go far enough to meet long-term GHG-reducing targets?
- How does design of our built environments relate to behaviour change and to the creation of sustainable communities?
- Our food systems are deeply connected to our lifestyles, relationships, security, and land and energy use. How can these be powered up, as agents of transformative change?
- Recognizing the connection between social innovation and paradigm shift, how can we identify, support, and distill transferable insights from social innovators? Where are the successful social entrepreneurs and sustainability champions, how can we recognize and support them, what can we learn from them, and how can their innovations be diffused more broadly?
- Schools, universities, colleges and hospitals are typically large, credible, well-established and characterized by high-density use. How can they be mobilized as catalysts of change in energy use? For example, what opportunities exist for schools, universities, colleges and hospitals to coordinate with local governments to implement district energy systems?

Capacity-Building

Capacity is at least as critical as physical assets and useable data. PICS should therefore consider questions such as:

- What does "joined up thinking" look like in BC in terms of climate change, justice and sustainable community development?
- If we drew on the best of local government modelling, outreach and engagement tools underway now in BC, what would the most efficacious community energy and greenhouse gas reduction toolkit look like?
- What are the legislative and procedural challenges to, and opportunities for encouraging collaboration "intra" local governments, coordination of their data needs, and diffusion of emerging best practices (such as Carbon Neutral Kootenays and inter-municipal climate action working groups of Campbell River and the Fraser Valley)?
- What would model policies and bylaws look like if designed with BC local governments' best practices (as described on www.toolkit.bc.ca) in mind?
- What governance changes may be required to optimize effective collaboration on climate action among municipalities throughout regional districts? What tools and processes are needed to build energy literacy

(understanding of local to international implications of energy-related decisions) at the community level, while policy is being made?

- How can we identify and seize opportunities for broader engagement in sustainability-promoting planning or behaviour through "movement fusion"?
- Can GIS be used to map potential community-based energy resources in BC, including the buttons that must be pressed (who you must go to and/or what must happen) to move these forward?
- How can "cultural competency" and awareness of "nudge theory" be cultivated among designers and planners?
- Where are planning processes that successfully engage a broad range of people and substantially enhance sustainability at the community level? What can we learn from them?
- How can planning, implementation and investment capacity be developed among local government and public sector organizations?
- How can small and medium-sized enterprises be more effectively engaged in sustainability planning and change?

Defining Success

In a first for North America, BC has already co-ordinated a successful multi-agency effort (Community Energy and Emissions Inventory Reports) to develop comprehensive community profiles of GHG emissions and energy use. This critical baseline data will be updated regularly, continuing to inform local governments as they develop targets, policies and action on climate change. As important as a clear-eyed assessment of where we are presently at, are clear definitions of metrics of sustainability success. These must integrate the best scientific information available with community-level priorities. To aid this endeavour, PICS should support inquiries, processes and technologies that:

- Improve the scope and accuracy of predictive modelling of energy and emissions
- Involve communities in definition of desired endpoints and development of sustainability indicators that local people can buy into.
- Facilitate communication, visualization and real-time feedback of outcomes of alternative planning models in local contexts, making participation easy and intuitive
- Perform, collect and link sustainability case studies, and establish "living labs"; draft these into a powerful narrative of BC's approach to sustainability and consider optimal methods of dissemination

Identifying and Addressing Barriers to Change

Another conference participant remarked: "In many cases, there is no shortage of motivation. The real challenge is not one of providing incentives but of surmounting barriers." For PICS, the real challenge may be in identifying and offering practical solutions to barriers to GHG-reducing change at the local level. Appropriate areas of focus are:

- Jurisdictional: Starting at the local community level and working outward, where are the inconsistencies and contradictions in planning, policy and practice? They may occur within and between jurisdictions and at a variety of scales. How might they be addressed?
- Political: How might the contradiction between electoral and sustainability time scales be resolved? How might sustainability be divorced from politics altogether, enticing all political actors to take ownership and show leadership? How has this happened in other jurisdictions (Germany, for example) and why? How might sustainability become understood as the clean revolution that is waiting to happen and capable of lifting all boats?
- Legal: For example, how could laws serve to limit sprawl and promote green building? What role is there for the Community Charter?
- Fiscal/financial: For example, what financial tools are needed to help people capture economic benefit from their behavioural or monetary investments in sustainability? How might taxation (at all levels of government) more effectively serve the goal of sustainable communities?
- Institutional: Institutions such as local governments often suffer from limited capacity to synthesize existing research and lack of locally relevant expertise. How might this be addressed?
- Cultural: What are the challenges of engaging members of diverse cultural groups in sustainability? How might these be addressed?

Appendix A:
PICS Sustainable Communities
May 6 Workshop Notes

NOTE: The material in this appendix is NOT a transcript of the proceedings on May 6. It is a synthesis of notes taken by six people who were assigned to this task, with the understanding that such notes would produce general themes rather than a verbatim record. All remarks, especially those attributed to named speakers, should be read as rough approximations of what was said. They may contain errors and omissions on the part of note-takers.

Introductory remarks by Tom Pedersen, Director of PICS

About the climate change challenge

- We know that CO^2 is rising: today, it is 39% higher than it was in mid 1800s. How to change to curve down? A huge change is necessary.
- The Greenhouse Gamble, a project by the MIT Joint Program on the Science and Policy of Global Change, calculates the odds of temperature increases by 2100 based on what we do, or don't do, to limit carbon emissions. If we do nothing, odds are 1 in 11 (9 percent) that average temperatures will rise by 7 degrees Celsius by 2100. So far, we are doing less than nothing as global carbon emissions keep rising at rates beyond any previous expectation. The longer we wait to cut back carbon emissions, the higher future temperatures are likely to get.
- Gwynn Dyer expressed that, after embarking on his own investigation that involved speaking with many experts on climate change, his sense was that they shared a "barely suppressed sense of panic."
- In 2008 BC recognized "the fierce urgency of now", and produced the world's first legislated carbon tax. At $20 per tonne, it was and is revenue-neutral. In my view it is one-tenth of what it should be.
- The BC government has adopted a climate action plan which aims to reduce emissions 33% from 2007 levels by 2030, and legislated that public sector operations become carbon-neutral. It has also endowed PICS.

About PICS and our mission today

- What PICS is: a consortium of four universities (UVic, UBC, SFU, UNBC) with a mandate to work with experts to understand patterns and magnitude of climate change; evaluate the physical, economic, and social implications; assess options, develop solutions and communicate these to government, industry, and the general public.
- In April 2009 PICS identified four major themes or research "pillars": (a) the low-carbon emissions economy, (b) resilient ecosystems, (c) social mobilization, and (d) sustainable communities. A fifth theme has also emerged: carbon

management in BC's forests. We've now held workshops on the first three; today's workshop is the fourth theme.
- The goal of all of these workshops has been to develop BC-relevant (though not necessarily BC-centric) research questions.
- Our aim today is to produce set of key questions and issues that PICS can move forward on, on sustainable communities
- Some of what PICS has done to date: appointed inaugural director; researched wide range of topics, and produced white papers (nine to date), the weekly PICS news scan, and PICS briefing notes. The latter was launched this week in partnership with climate intelligence unit at UBC's Sauder School of Business. These 1,000 word explorations of key topics go to BC's Climate Action Secretariat among others. The first explored the potential of establishing green data servers, driven by renewable energy. PICS will soon be offering short courses to multiple constituencies: these include an upcoming two-hour course on climate change science which will be directed at journalists. PICS is also planning to deliver many lectures across BC, undertake a seminar series, webcast, and host public guest lectures with noted scholars (Julian Agyeman, for example). It has established a visiting fellows program to support visits of renowned scholars to universities. A co-op student program is also in place, and PICS enjoys close collaboration/productive working relationship with the BC government. We have held four of our five planned question-defining workshops.

On sustainable communities

- BCGHG Emissions have been roughly stable but are expected to rise as shale gas in northeastern BC has been given the green light.
- Good news: Residential floor space, population has been going up, but energy demand has been relatively steady. This suggests we're getting more efficient and that emissions are more or less constant.
- Roughly half of GHG emissions come from transportation and residential/commercial sector. This is where we are focused in this workshop (as opposed to GHG from other sources: industry, agriculture, waste, electricity, net deforestation, fossil fuel). Approximately 37% of BC emissions come from transport sector. Light vehicles: cars, and trucks account for about half of this; most of this is related to commuting. Key question: How can we restructure communities so that this declines?

What distinguishes PICS

- PICS is a new model: independent; en route to becoming a credible, responsive, applied research think tank; draws on talent from BC universities. PICS is not a granting agency; it is a policy-oriented consortium focused on directed and applied research that is focused very firmly on solutions. Our collective task is urgent.
- PICS is putting up to $300 K annually into the sustainable communities initiative; we are hoping this will be leveraged by government.
- Today we want to identify 6 to 20 questions on what should be tackled now.

- PICS differs from SSHRC or NSRC. The key word to describe our research is *applied*. We come up with questions, then go after the talent to answer them. Our questions/work must be BC relevant.

Questions addressed to/answered by PICS Director Tom Pedersen
(with approximate times)

10:11 Question: How is PICS collaborating with government? Will PICS drive policy development?

Pedersen: We have a collaborative relationship with the BC government: we neither direct nor support policy. We can provide recommendations to government and inform good policy. Our role is to provide the foundation pieces. Government is coming to us for expertise; government can also choose to ignore us. When government or industry requests more information, PICS identifies the experts who can answer their questions. We turn to the community for help with solutions: for example, our white paper on venture capital for clean technology. The question came from BC's clean technology industry: Why can't we get venture capital for this? We are turning to business schools to help address this question. What are the answers? Tax incentives? We will see. Our obligation is to connect government with expertise that is not otherwise easily accessed.

Question: What is PICS' current level of connection to worlds of business and law?

Pedersen: This is under development. We have an external, blue-ribbon advisory committee of CEOs, largely but not entirely from the green technology sector. We haven't yet made good use of them. We will approach them for advice when we're ready after having written our strategic research plans. They are just one of constituencies we deal with. We expect this to happen next fall.

Question: Is PICS tracking responses to the carbon tax?

Pedersen: Anecdotally we are doing this. Thoughtful people who understand the challenge of climate change are very pleased; however, they agree that the tax is too small. Catalyst Paper, a pulp and paper company, has successfully adopted the carbon tax and reports that it has helped them change their business model. UBC is investing heavily in heat production from biomass, because of the carbon tax. Behaviour is starting to change. My criticism of the carbon tax is that it is too low. We should be looking at $200 to 300 per ton, not $15 to 20. If we did this, it would put gas prices at European levels.

Question: Is PICS obligated to government?

Pedersen: No. PICS is permanently endowed with funding and has no particular allegiance to any current government. PICS has an obligation to respond to the needs of the people/taxpayers of BC, not to governments. Governments come

and go; climate change will be an issue to centuries. We do have an obligation to steward this endowment wisely. We are convinced however that the current administration wants to do the right thing.

10:21 Question: How does PICS governance work?

Pedersen: PICS has a director plus a small staff at UVic; a coordinator on each of the four campuses: SFU, UBC, UVic, and UNBC who serve as distribution points for information. Our program committee which to a large degree stewards the research and makes substantive decisions. It includes 12 people, two representatives from each campus, members of Climate Action Secretariat, Environment Canada and others. The committee makes decisions with recommendations from PICS Executive Director. The executive committee comprises delegates plus presidents of research from each of the four universities. It makes decisions on things like budgeting. This structure works well… it's not a bureaucratic nightmare! PICS was set up only two years ago, and it is pleasing to see how well the institutions are cooperating. The program committee clearly sees itself as the PICS community, not one that is aligned with one university or another.

10:25 Question: Is PICS connected to the federal government? What institutional relationships is PICS building?

This has been slow in coming; PICS had two acting directors resign and no acting director until recently. We are starting just now to develop relationships nationally, especially with Environment Canada, and with NGOs working at the national level, ex. Suzuki Foundation, University of Ottawa. This will take a while. PICS is also developing links with groups in the UK and California. We are trying now to arrange meeting with Bruce Carsons, Canada School of Energy and the Environment in Calgary; Tyndall Centre for Climate Change Research in UK, and many others on our list.

(BREAK)

Approx 10:51

Brief remarks by Rob Woodbury, architect and professor At SFU's School of Interactive Arts and Technology, whose focus is on "design at the boundaries of change". Woodbury spoke briefly about Networks of Centres of Excellence:

One of these is GRAND (Graphics, Animation and New media (GRAND), announced by the federal government in January. This network includes 56 network investigators, over 40 collaborating researchers, and industrial partners from across the country. Its goal is to build bridges among participants to accelerate innovation in new media, animation, and electronic games. Industrial partners will be involved from the design stage, to ensure results are transferable to society to benefit Canada. Our research is mostly technology-

focused, linking technological innovation with pressing problems. We work with experts in all domains.

GRAND model is similar to that of PICS: We target and manage research, issue focused calls for proposals. We reward results and collaboration and see this as the way things have to go in the future.

GRAND's Human Centered Systems for Sustainable Living Project explore new technologies related to green buildings and alternative energy sources as well as information tools for encouraging energy conservation in more traditional residences. An example of collaborative, multi-disciplinary projects that GRAND supports is SFU West House, a state-of-the art, made-in-Vancouver laneway home that demonstrates how digital media together with green technologies can contribute to and enhance sustainable living. Stay tuned for more interesting work on sustainability.

10:55 Dr. Mark Roseland, introducing Dr. Julian Agyeman

Dr. Agyeman is Professor and Chair, Urban and Environmental Policy and Planning, Tufts University in Boston. He brings an international perspective. As founding editor and longtime co-editor of *Local Environments*, Julian has followed sustainable community research closely over the past 15+ years.

Remarks by Julian Agyeman

Julian's quick reprise of last night's presentation

I asked: How is *sustainability* understood, scientifically? What is *environmental justice*, and why is it separated from the discourse about sustainability? Is there a middle way between the two?

My answer: Yes. We can imagine a *just sustainability* that recognises and builds on synergies between environmental quality and human equality. I concluded that we can and must imagine a just sustainability. We need to work on human and environmental equality. There is a synergistic relationship between them, and realizing this enables us to ask better questions.

I discussed my content analysis of key local government websites with an explicit focus on sustainability and found that very few of them expressed an awareness of/ commitment to environmental justice.

Coalition-building is very important. Groups that wouldn't otherwise work together can find common ground in environmental justice: for example, the Clean Buses for Boston movement. There are opportunities for "movement fusion".

I've looked at requirements for this. These include concepts such as environmental space, resource allocation, spatial justice (ex. a per-capita

allocation of resources which is equitable and within ecosystem limits). Portland, Oregon's Regional Equity Atlas Project offers an example. GIS can be a powerful tool for mapping spatial justice/injustice.

We also need to see diversity as an advantage, rather than as a disadvantage. People everywhere want to feel more culturally competent. We need to move towards intercultural cities. Research shows that businesses that do this enjoy a advantage.

Julian Agyeman's initial response to the PICS Nov. 2008 discussion paper,
Infrastructure & Communities: The Path to Sustainable Communities

1) I saw Lawrence Frank (Bombardier Chair in Sustainable Transportation, University of British Columbia, Co-Author: Urban Sprawl and Public Health) speak for an hour about work he'd been doing in Seattle. He spoke about 59 minutes on urban redesign, one minute on behavioral change. What is the relationship between design innovation and behaviour change? What is the appropriate balance? What is relationship between design intervention and behaviour change? How do planners and policy makers understand and respond to this relationship? Have planners missed something by focusing on design over behaviour change? There is a whole literature out there about social marketing; we need to think more about this. We haven't yet got the balance right. It is easier to think about urban form than behaviour change.

2) Framing issues is very important. How we frame the discussion shapes outcomes. We need to stop using terms like *alternative transportation*, which posits the automobile the norm. *Alternative energies* makes fossil fuel normative. We've already stopped talking about *alternative* medicine; it is now called *complementary medicine*.

3) Are we talking about policy change or paradigm shift? What is the relationship between the two? Incremental changes made over years can be significant: for example, Jan Gehl, Copenhagen architect and urban design consultant, said that if you make change in small increments, you can bring the public along with you. They've managed to flip the transport hierarchy entirely in Copenhagen through incremental policy change. Pedestrians and bikes now rank higher than cars. This is a policy change approach. Examples of paradigm shift include London, with its congestion charge, and San Francisco, with its commitment to and application of the precautionary principle. Carbon tax is also an example of paradigm shift. We should also ask: Do we have time for incrementalism?

4) The *Sustainable Communities* discussion paper highlighted the concept of social mobilization. But does this guarantee social equity? The discussion rounds up the same crowd in every city. Does the term *social mobilization* include an awareness of social [spatial] *justice*?

5) We have an information problem: the gap between having information and action--actually changing behaviour in response to the information. How do we

solve it? In the work I co-authored with A. Kollmuss, *Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour,* we argued that just giving people information is no guarantee that they will act. There is a lot in that gap. It's important that we think about communicating with different publics, who have different informational requirements. We need to think about building norms, as we have done with recycling: how do we build norms around other pro-sustainability activities? We also need to think about education re: sustainability. How can we move environmental education/sustainability education beyond the formal K-12 system? We need to change from K-12 education, to a post-compulsory, yet compulsory education. We don't have a system of communication with the public: instead, we have a spasmodic, episodic system of public communication based on needs in emergencies. What options are there for an ongoing public communication system? We need to rethink and re-imagine communication.

7) We need to frame sustainability in positive terms. Sustainability shouldn't be framed as "giving something up" but rather as gaining something. For example, I gave up my car, and I gained time to think. I lost weight walking to work. How do we frame sustainability as gaining something? We won't sell it to people on low incomes by asking them to give stuff up. That's just offensive! It needs to be framed in inclusive way that makes people want to get engaged. We need to pay heed to Cass Sunstein's work on "nudge" theory. Instead of using sticks, use a choice architecture, incentives that nudge people in the right direction. How can we change our sustainability policy thinking around notions of "nudge" so that incentives make the question: why *wouldn't* I do that?

8) We badly need more inter-institutional coordination. Europeans call it Joined-Up Thinking. For example, in Boston in 1987, the lack of joined-up thinking was highlighted by a major storm that decimated large trees around the city. Many trees fell across lines of several jurisdictions, prompting questions of: Who's responsible? It blew a hole in tree policy! How do we promote more joined-up thinking?

9) We need to ask: How do we move climate/energy strategies past efficiency questions? We need to reconsider our obsession with efficiency, for example, LEEDS building standards, cars. We need to first ask: Do we need a green building? Do I need a car at all?, and only then ask how to get the most efficient one. Efficiency is not enough; we need to look at sufficiency. Efficiency without the sufficiency question just legitimates further development. Let's not be blinded by efficiency.

10) We need to ask the right questions, and measure what matters. The data we currently have are located in current neo-liberal paradigm; these are not always the data we need to measure the change we need for sustainability. Currently we're just using that data. Let's think about questions we want to ask, then identify data we want to collect, to promote joined-up thinking and build communities that have diversity.

Questions and Discussion

11:20 Question: We've been talking about failure of sustainability discourse. Why do you think *overpopulation*, *overconsumption* seems to have dropped out of the discourse? It doesn't seem to be politically correct anymore.

Julian Agyeman: I get worried about people talking about overpopulation. Generally the term is directed at people in other countries. For me, the scariest statistic is this: 4.5 percent of population on planet consumes 25% of its resources. There is this sense of American exceptionalism. That's more worrying. In the US they don't like this statistic. We crow about China producing GHGs but when you start thinking about this, China's carbon production is really OUR carbon production. They feed our demand. New concept coming out of UK that China is becoming recognized as our "environmental laundry". They are laundering our production and yet we're blaming them. I don't think issues of population/consumption are missing, but in the US there is a real selectivity about how issues is framed. There is no ethical/moral discourse about the fact that those least responsible for climate change are most affected — even at home. Who dies in a heat wave? Those in low-income neighbourhoods. Faith-based groups, indigenous groups, are coming in on the moral and ethical side. If we frame issues entirely as science a lot of people switch off. We need to think about whatever way we can get this into the conversation — for example, a researcher who's been reviewing evidence of climate change by looking at people's garden journals over time. Every single person on this planet knows that something's up with climate. I used to keep notes re: annual arrival of swallows, etc., and see that now they're arriving much later. Why can't we join up these stories? If you can make people feel it… people *do* know.

11:25 Mark Roseland: We've all read the white paper. We've heard Julian's comments. Now, the question we want to address as a group: What are the key sustainable communities research questions? What does a sustainable communities research agenda look like? Most of us here could have given a keynote speech last night on sustainable communities. How do we join that knowledge we all have into some kind of shared vision/agenda? If we don't, PICS will end up as granting agency. What does it mean to develop a research agenda?

Stephen Sheppard: I think it would be good for all of us to hear about what came out of PICS social mobilization workshop. I could give two-minute overview of that and feed that in, when this is appropriate.

11:29 Comment: We know we can do this: We could just build a new sustainable community. Before we ask the research questions we need to think about 'how' we ask research questions. How do we integrate intricate agendas? Smaller communities are desperately in need of support to make sustainability happen. This is a great opportunity for action research – research that is on the ground and can make things happen – to learn from small communities, and to distribute knowledge.

11:31 Question: Why are "sustainable communities" separate from other PICS research pillars? Should sustainable communities not "sit above" other pillars? This is a definitional problem: what do we mean by "sustainable communities"? It has become a catch all phrase. How can we frame the questions to ensure that we take a holistic, rather than fragmented, approach? Perhaps PICS's first role should be to articulate what a sustainable community is and how it is linked to climate change. Otherwise, it could be so broad that you end up losing focus.

11:33 Tom Pedersen: Good point. In fact there is a high level of integration between PICS's research pillars. Depending on how you look at them, all of the pillars can be seen to "sit above". It is critical that these pillars know what each other is doing, through meetings between participants of all pillars. All of these will report to program committee, which will hash these out on at least an annual basis. We are aiming to build in high level of overlap/integration. This is good, and we need to fertilize this integration.

Comment: I'm hearing Mark Jaccard's voice: Any strategy without a strong regulatory framework to support it isn't good enough. It needs to be paired to regulation. Also, there's a capacity-building piece… We know enough about what we should be doing. Capacity building needs to be strongly integrated into the PICS mandate. There may need to be research done on how to best connect researchers and communities.

11:40 Comment: Also along the lines of Mark Jaccard: it need to align with policy or it will not be normative; it will always be the alternative. Also, there is lots of money to be made doing the right thing - but we need to connect life cycle value to money.

We need to build tools to enable us to crank on regulation, and address the fiscal and legal barriers – we don't need to force people and businesses out of town. We need to build the tools that let people capture these savings – especially with regard to energy, as there is a savings. There are so many business cases for sustainability. It's not about re-inventing, it's just making the business case clear.

Question: Should we be framing research questions with a focus on solutions, action on the ground?

Tom Pedersen: I'd encourage that. During the first day of resilient ecosystems workshop, the first day was spent defining resilience. I don't want us to spend a lot of time defining sustainable development. We need to focus on what we need to do to make communities sustainable, where the information gaps are. Political will? Something we don't understand? Julian's point about social equity is a point that is really hitting me. I was thinking green transit, green buildings… do that, and we're done. Now I'm not just thinking about that. They need to be informed in a coherent way about steps we need.

11: 42 Comment: There's movement within the federal government toward place-based policy making, a recognition that place *does* matter. There are very defined physical characteristics of places that attract people. This is a way to get at sustainable communities.

Another link that is important is sustainability indicators. Winnipeg is developing sustainability indicators with the United Way. These can be very powerful at getting down to metrics of success. We haven't been very effective at that yet.

Comment: We should add the sociological lens, and decide at what level. This ties to metrics for sustainable communities, place-based policy, Julian's idea of justice. What's the unit of analysis? Is it individual residents? Is it the place of residence? Community, city, or household? What is the social unit that is a foundation for the society that we want to plan for? If we're designing a city, we must revisit that question. This morning I was reading a chapter on *neighborhood* as an important social unit for building cities. Can be used in a large urban setting, or in a rural community. We need to prioritize this, and decide: what are we planning for? What are we building our lives around?

11:47 Comment: For me, Julian's points really resonate. Adding new efficient buildings is only solving part of the problem. There's a whole bunch of buildings out there already. A whole world of existing buildings that we don't regulate – we need to start wrapping our minds around these issues. Thinking about building codes: we need to think about that paradigm shift, not just incremental change….not just how we ratchet up codes a bit. At next code cycle we might be done, but this doesn't mean that we are just creating efficient buildings. Do we have the capacity to build and operate buildings effectively? This paradigm shift is huge and necessary, as is behaviour change. How is that paradigm shift going to occur? What does it look like?

11:48 Comment: Then we have a reasonable palette of solutions, indicators, the question is: how do we get the evidence, rationalize the information we need/have? Just trying to get utility data to line up with land use data is unbelievably problematic. Currently, the necessary data is disaggregated among multiple disciplines. If you're trying to make integrated decisions, you need to understand how you link elements like traffic flow, energy flow together. We need information that is refined and integrated enough (for example, a combination BC Hydro, Terasen Gas, traffic flows) to provide solutions that are locally relevant.

An interdisciplinary group could help decide how to collect and analyze that data. An integrative approach needed, and a successful cooperation between transportation and building sector partners, to inform the full spectrum of solutions.

11:55 Comment: Yes, we don't just need more knowledge. What we need is more *access* to the knowledge we have, a clearer understanding of the knowledge we have.

11:50 Comment: The ideas in the white paper are not new and it could've been written 20 years ago. There is a need for applied solutions. To that end, I'd like to see more collaboration on the ground with people who work with the legislation daily. Experts are not academics; the experts are the people on the ground doing change.

I also like the connection with sufficiency in addition to efficiency.

Comment: Speaking of the role of regulation in reducing GHG-producing behaviour: note that the culture/social norms of smoking has been changed over time in part through regulation. It's been squeezed out of public places, become "unacceptable". However, people must buy into regulations for them to be effective. We have to highlight limits to regulation, because we don't always buy into them. Example: speed limits of 30 km/hour in school/park zones routinely ignored. An example of less regulation but high success rates: recycling. How many of us are required by law to do it? And what's the recycling rate? 75%? Regulations are important, but are not a magic bullet. We have to make it easy for people to do the right thing.

11:56 Comment: I agree with Julian's point that we may need to be measuring different things than what are currently being measured.

11:57 Question: Regarding structural and behavioural change: it's not about balancing them; it's about integrating them. Can we define a low-carbon development path in terms of behavioural change?

11:58 Comment: I'd like to reinforce the point regarding existing buildings. Community retrofits is only now starting to resonate. The climate change problem is not something we can just design our way out of. We need a solid focus on how we retrofit existing communities. It's not a *new community* problem, it's a retrofit problem.

12:02 Comment: Regarding action research: we need to ask how can we leave greater capacity in communities as a result of research. PICS could look at new models of research and dissemination. In the academy, it's hard to find both thinkers and doers. I'd like to experiment, to work with non-profit social enterprise consulting partners. They would have to have a social aspect to their company, and work with graduate students across the country. This would be very relevant to communities who have a history of bringing in expensive consultants whose recommendations are never implemented. We need to leave capacity within communities.

Mark Roseland: Wouldn't it be great if PICS were able to integrate that and have this at all universities?

12:04 Comment: We need to think at the macro and micro level.

At the macro level, I agree we should be looking at behaviour change. How do we reframe the narrative that has been placed around sustainable communities? We have to look at the carrots, not the sticks. What changes are actually going to enhance people's lives? I think an amazing agenda could be worked out around gathering stories about how you reframe this, and around linking those stories…coming up with a powerful narrative.

At the micro-level, I think that the kind of direction that UBC's School of Community and Regional Planning is going, and other schools, is community-based research which engages the community. The questions we're asking need to be addressed at the local level; ask communities what are their critical issues, build up a body of case studies which could then be then rolled out to other places. BC is unique in terms of a sustainability narrative.

Tom Pedersen: We need identify what *are* the carrots.

Comment: Even those of us who work in labs are concerned about behaviour change. A way to think about it is: Is perceived effort greater than the perceived benefit? In some cases, we've misunderstood the "pain point". Recycling is an example. The pain point was not in separating recyclables from trash; it was in getting it to the depot. We should ask: what are the pain points that we can work to solve, and how can we address those? Should we call carbon taxes carbon *offsets* instead?

Comment: Recycling in some ways has been an abysmal failure. We've created a recycling industry that promotes the idea that people can consume more.

Comment: But recycling started by educating kids in schools. Kids brought this home to their parents.

Comment: The point I am making, though, is that we misjudged where the pain point *is*. If we want to make it easy for people to do the right thing, we need to know where that pain point is.

12:09 Comment: The policy-making environment and community engagement processes do not actually help people understand the implications of their decisions. How can we help people understand the neighbourhood, national and international implications of their decisions – at the time of policy-making? We have information but it is so often not packaged in a way that fits audiences. The needs of academic publishing so often do not fit general needs. What are the points in the decision-making process where information is available, but not packaged properly? What are the points in the process where we need tools to help people understand the implications of decisions? We need better tools to help people understand differences between option A and B.

Comment: We're looking at many different approaches. It's not regulation, or behavioral change. It's all of these things.

As a communications professional, I know that GPs are seen as one of the most credible sources of information. Perhaps if we use this to help people understand that climate change will affect their children, their health. This relates to framing, and how we communicate stuff. For example, walking to reduce obesity and improve health, rather than just to reduce GHGs.

We should also address the economic drivers of change. The business case for sustainability is huge, and people want to hear about the dollars. There are a couple of initiatives underway, for example: the Columbia Basin Trust Communities Adapting to Climate Change Initiative. The National Roundtable on Environment, a network of 50 Canadian communities, is already working on adaptation and mitigation.

Also, as regards telling the stories: the *New York Times* did a series of articles on climate change, using stories from all around the world. Stories about subjects like penguins showing up in Brazil. That is a way to reach people's hearts.

12:11 Comment: We need to reframe the climate discussion in terms of win-win scenarios; e.g. a low-carbon economy brings health benefits, food systems benefits, etc. Perhaps PICS's role is to identify opportunities for re-framing the discussion and articulating these win-win situations.

12:13 Comment: I agree that if we can address the economics of sustainability, this would be easy. We need to make these behaviours attractive and easy. Things need to be made convenient, accessible! The Canada Line, for example: it worked because it was easy, fast, and cheap compared to driving. Note that right now, no one advertises a service to weather-proof/retrofit homes for energy efficiency. Ideally, this type of service would be easy to locate. We can sell things by getting them into that quadrant, and also by pushing some behaviours into the quadrant where they become unattractive and difficult.

12:15 Julian Agyeman: Regarding recycling … I ask my students: If you see more recycling, is that a good or a bad thing? It can be promoting consumption, a very successful con – heavily promoted by industry, schools. These same associations do not focus on reducing consumption. There is another point we should consider: people want to do the right thing; they want to be seen doing the right thing. How do we scale that up into notions of waste reduction? How do we scale that up?

Also, there is a problem with pushing all of the responsibility onto individuals. British government has a campaign about Doing Your Bit. Such campaigns risk pushing responsibility for environmental crisis on to individuals, thereby providing an excuse for governments to not act — to pass the buck. We really need to move from managing waste and traffic to *reducing* waste and traffic. Let's shift the paradigm.

Words have great power. We also need to be talking about demand management. I was camping in Vermont during the northeast blackout of 2003, and was picking up radio stations from both Canada and the US. I was hearing very different discussions about it. Canada was talking about the need to manage demand better, while the US was talking about needing to build more capacity.

Finally, there are limits to parallels between smoking and climate change. Stopping smoking means immediate health benefits for you. To compare climate change to smoking would be tough to believe. Climate change is a wicked problem, so intractable. I agree that we need credible messenger, and GPs are when we are talking about direct health. But we must not lose sight of the fact that this is about climate change, and also that there will be winners, for example Russia, and losers (the poor) in climate change.

Comment: I think we also need to be thinking about the power of food as a change agent, its connection to sustainability, local economies, to community economic development, to community. For me, food is intimately connected to the equation. At some point, it is central to behaviour change. If we think about changing global food systems, building more local systems, you are in fact changing society. It's about more than behaviour change. For example, a focus local food means more land is required for agriculture, which means changes in land use, which means changes in retail/commercial use. Food needs to be on our agenda.

12:25 Comment: Regarding research budgets: We don't have that much money. We need to consider how we prioritize ideas. I encourage PICS to clarify its approach to prioritizing. Put high priority on things that are promising; next Nudge. All research should also be on condition that it be integrated: that it consider impacts across the board. PICS needs to look at all implications of its research. For example, If we consider looking at an environmental regulation, such as building code efficiency, we also need to look at social equity / affordability. It should be a condition of PICS research that each research area builds in economic, environmental and social impacts.

12:28 Comment: I second Julian's caution about the framing issue (climate change/smoking/health). We must not dilute the importance of climate change as part of the discussion. Climate change is a central part of the discussion, don't reframe it away to make it easier to sell. Yes, it can be sold as good planning…but keep climate change education a tenant of this work rather than just sell the co-benefits.

12:30 Comment: It's really important that PICS examine community decision-making around renewable energy. Some promising renewable energy developments have been stopped by public opposition. We need to ask: How do communities coalesce on some of these important issues? How can we build energy literacy so people can make informed decisions at community scale? How can we help people make better decisions?

Comment: Although some principles that applied to smoking or recycling can be applied to climate change, there are important differences. A lot of the same barriers and obstacles apply, but the climate change issue is more complex, and more urgent. Recall that it took some 40 years to address the smoking issue. There is also the "rebound effect": For example, while the average fuel consumption per vehicle has gone down, the average number of kilometres driven per vehicle has gone up… as in, "Honey, I bought a Prius. Why don't we drive to Prince Edward Island?"

Comment: Thinking about scale, here. I think it's great to talk about local communities as municipalities. But we also need to think about communities as being different groups of people who listen to each other: social connections, peer groups that listen to each other internationally, groups that listen to each other locally, such as immigrant groups. Who do people listen to? Where does information come from? There is not going to be a universal agreement. The "carrots" will vary among groups. We should ensure this emphasis on scale is included.

12:33 Comment: When we're talking about collaboration, we really need to talk about collaboration with First Nations. If we're trying to approach things from a regional perspective, we need to look beyond cultural, regional barriers where people are uncomfortable about how to bridge gaps. There are huge issues around capacity-building. A lot of the tools we have are focused on urban communities, not remote or rural, and certainly not First Nations. And speaking of environmental justice issues, First Nations are already seeing the impacts of climate change on their lives. For example, shorter winters in northern Manitoba. Trucks arriving out of nowhere to truck snow out of their watershed to provide snow for the Olympics.

12:37 Stephen Sheppard: A quick summary of findings from our social mobilization workshop. There are synergies between pillars here. Our workshop in March at UBC was quite similar in that we focused on what research agenda should be; what works. What approaches can be taken to overcoming barriers? We identified questions around how effective is social mobilization? How do we measure if it's working? How do we measure priorities? What are the barriers and incentives to clean energy solutions? What are the successful precedents? Also important is developing metrics of success. We agreed that there needs to be a focus on action research, being in communities, being informed by those communities, extension programs, interaction, mutual learning. There was a fair emphasis on use and potential of digital media, social networking. We weren't as explicit on equity. We do need to focus on reaching those other publics. Some of comments that came up today include 'carrots', or co-benefits. From our workshop we saw that there are clearly a number of 'carrots' that work very well. There are citizen conservation councils, a province-wide interest in local food, tourism, retrofitting. Adaptation is a huge driver for mitigation, and there's a huge predisposition to do both together. In England there are Rural Community Councils that have a huge climate change agenda but don't label it that way.

It's a charity that works on community-led plans, greening of communities, focuses on "carrots". Highly recommend learning more about this. We recognized the need for better planning processes, tools, that engage with social dimensions. Currently, our planning is not informed by social research and the informal sector. We need to be informed by research on social marketing, social psychology. We need to break down silos, improve planning processes so that they are more open to community-led initiatives; break down barriers between formal and informal sectors.

(12:44 BREAK for lunch, 1:30 Resume; break into group discussions)

3:15 Groups present results of discussions: for these, please see *Appendix B: Table Discussions Summarized*

Post-Presentations Discussion

3:51 Comment: I think we should take this same group, and pair it with decision-makers and businesses to achieve climate change action—organize this discussion from a practitioners' perspective.

3:52 Comment: I have heard a lot of good points about situation and factors in problem Our first step should be to identify, among the questions raised by this group, *what are the questions that are capable of being* researched? These should be distinguished from questions about the situation as it currently is. That should be the goal of the report.

Comment: I think a needs assessment is required. A gap analysis so that we identify what is what is already being done before we start.

Comment: I just want to highlight what I see as a couple of recurring themes: the importance of framing, and importance of place-specific, action research.

Question: We also need to ask: Who should be at the research table? What does a PICS project look like? It should not just be academics. Can PICS bring academics and practitioners together?

3:55 Tom Pedersen: We expect this will vary from project to project. The idea is to involve NGOs and industry along with academics at the research table, while maintaining research quality.

Comment: I think 80% of refereeing should be on how the project connects to the world. We need to be serious about how the research will do this.

Comment: From what I've heard there has to be some kind of synthesis: between suggestions that are about high-level thinking, shifting paradigms, and the

paradigm-shifting role that PICS can play, and suggestions that relate to the local and community level, i.e. research on rural areas, working with communities, capacity building, and analyzing how/what things work.

3:58 Comment: Something that has come up for me: It's not just about behaviour. Priorities for sustainable communities research depends on whether you choose to focus on production or consumption. How do we marry these issues, particularly when they are outside the scope of municipal jurisdiction?

3:59 Comment: We should frame the research around what PICS wants to see five years down the road. And when we send 20 students out there to do research, we need to know: How do we align projects/work so that people are working together, so that it is adding to work that is something bigger? Figuring out how to align research so it connects and yields integrated findings may be more important than setting the precise content of the sustainable communities research agenda.

Comment: The question of how do we approach this pillar may be about the model of graduate research. We are not constrained by traditional academic funding mechanisms, and therefore should be thinking differently, creatively. Maybe we need to pull people together and have a workshop, sponsor courses, do course outreach. How do we roll out something cohesive out of this?

Tom Pedersen: This is an important point!

Comment: PICS has opportunity to be a strong source for fusing relationships. Grad students have funding to do work but may not have capacity to walk out there and approach people. We need to get students to go way out there — take the big risks, try to find out something we don't know. PICS could do really cutting-edge research.

4:03 Comment: I've heard a lot here about how the development of sustainable communities requires better data, models and tools, better engagement/involvement to make research more "sticky" and connected — this overlaps with social mobilization — and better processes and integration with policy. It needs to be more joined-up and cross- jurisdictional. What is less often asked is: What mechanisms are necessary for that to happen? What levels does it happen at? What are the mechanisms to make this happen? What levels do these happen on? Need to develop and test new models. Is this a role for PICS: more guidance and testing?

Comment: A general thought: as a province, we have big vision and aggressive goals. We are good at one to three years, but it gets cloudy as it goes out beyond that. PICS could provide value to the province by extending that vision, looking at how we see 2020, 2030 and 2040. PICS could provide us with a future vision.

4:06 Comment: PICS offers a way of doing things differently, incorporating a social perspective. BC is embarking on a unique experiment. What can we do in BC that no one else can do? We have great framing in place, we have GHG targets, we have a carbon tax. It would be disappointing to proceed in the same way as in other locations. We can do better here. We need to capture value from what is an extraordinary opportunity in BC.

Julian Agyeman: This is a great point. You have a responsibility to take advantage of the best opportunity in North America. Where BC goes, the rest of North America will head, in time. You have a responsibility to show what can happen. You have started the discussion. You have good politicians. The seeds are planted here and are beginning to germinate. In other places, the seeds haven't been planted. The onus is on us. This is also a good selling point to our politicians: "Be the politicians of the future". Good luck with this… we are watching!

Closing Remarks by Julian Agyeman:

The bad news is, I've been going to these types of forums for 20 years. By end of day people get tired, realize that we'll go back to our silos. The good news is, after 20 years, we've become so creative about talking about these issues. We're starting to realize that we have creative solutions. I've heard amazing stories here today. There are solutions in this room.

But I am also wondering: Are we asking the right question? That is, do we need a research agenda, or we do we need an action agenda? Are we not past the time for more research? Can we not look at some action items? You guys proposed things now. We need to start doing them. We need to empower politicians to take ownership of responsibility.

Second thing: I heard quote from former mayor of Helsinki 20 years ago: Sustainable development is not about limiting use of natural resources; it's using unlimited *mental* resources. I've seen unlimited mental potential and power in this room. Sustainability happens here: in your head…releasing mental potential. Challenge is there, the ideas are here. I challenge you to think more boldly about an action agenda. There are millions who do not get this opportunity.

Several other themes came up for me today:

• The urban/rural separation
• Connections: Sean mentioned spatial justice issue; that benefits in one area can create dis-benefits in another area. How do we minimize these?
• Scale issue: individual, local, community, region, global? These will be important.
• Time issues: sustainability issues have a different time-scale to those of politicians, who think in election cycles. How do we reconnect politicians to sustainability issues? How do we get them to touch deeply entrenched,

'wicked issues? Instead of the 'low-hanging fruit', grapple with equity and justice issues?
• Boundaries: academic, jurisdictional. Mark and I routinely transgress boundaries. Some academics are scared when they go on the edge of their competence. We need to be willing to cross professional boundaries.

These are areas that we should look at, to try and transcend with action items. If not in BC, where? BC is in the enviable position of being able to show North America and the world that sustainable communities are possible. We need to look at gaps: where are they? When things work, how and why do they work? Individual to federal levels?

Mark Roseland offered thanks and acknowledgements.

Tom Pedersen offered recognition and thanks to Mark Roseland.

Appendix B:
Table Discussions Summarized

Group name: The Community Catalysts

Participants: Julian Agyeman, Penny Gurstein, Andy Scerri, Victoria Smith, Larissa Ardis, Lisa Hardess

Some observations

• People in poorest neighbourhoods are often seen as being a drain on society. In fact, they are often living what we are talking about: for example, in the Downtown Eastside, United We Can is generating jobs for homeless, people are building community gardens.
• Placed-based approaches recognize when people are tied to a place and have a right to be there.
• BC communities are so diverse — remote BC is so different from urban BC. This requires PICS to prioritize place-based approaches.
• Sustainable planning often gets stuck when it hits a First Nations rights issue.
• There has been talk for a long time of enshrining environmental rights in human rights. Could we also define a social/economic space, A right to community space, that would define a set of expectations to a portion of the world's resources? Some kind of social norm? Note that discussion of rights must include recognition that rights come with responsibilities. "Rights" must also recognize the nature of treaty/aboriginal rights.
• There is a distinct lack of cultural competency training in planning schools across the country.
• BC will be an interesting jurisdiction to watch/study, now that it has a mechanism for *communities* to produce energy.
• BC is so blessed with a variety of energy resources. Where is the potential for community energy resources?
• BC has over 200 aboriginal bands with territory, and these include some very sophisticated, innovative First Nations/aboriginal bands. What would happen if the dialogue were changed from aboriginal entitlement to aboriginal sustainability? How could that shift be facilitated?
• It's very easy for politicians to cherry-pick sustainability issues; there's no incentive to tackle the deep-seated wicked problems. Electoral time-scales are out of step with those of sustainability. In Germany, however, many sustainability issues have been divorced from politics. German Greens: "There is no left or right, we're just ahead." One way to do this is green economy: it is an industrial revolution just waiting to happen. Van Jones: Economy must lift all boats. The promise of jobs in retrofitting, re-insulating for those left in the 'scrap heap of the post-industrial economy' could be a way to sell this to a mixed audience.
• There are no environmental issues: climate change is a human behaviour issue. Environmental refugees is not a scientific problem. We need to involve

psychologists, sociologists, anthropologists involved. We need to imagine how we live.

- Professional associations fiercely guard their turf, but days of departmental boundaries are clearly numbered.
- Energy and justice cut across all time scales, geographic boundaries, political boundaries, programs and policy.
- Laws, coupled with information directed at individuals about the rationality of behaviour change, is not enough. Individual choices must be supported by institutional choice architectures that make the right choices easy and economic — a win-win.

Some key questions

- How can climate change discussion link to and address equity issues? Could we help link sustainability to environmental justice by defining a norm, a set of expectations to a portion of the world's resources? Some kind of social norm? Note that discussion of rights must include recognition that rights come with responsibilities.
- How do we design inclusivity into planning processes and metrics of success?
- How to promote create partnerships between aboriginal/non-aboriginal publics?
- How can PICS operationalize place-based planning?
- How is sustainability in local places mainstreamed and operationalized?
- How can community action and local governments be encouraged to accept some criteria, including social indicators, for sustainability?
- How can politicians be convinced to take ownership of sustainability? How can sustainability issues be dissociated from politics, and made just good common sense? How does this link to green economies? How can the green economy "lift all boats," offer new scope to those who have had limited scope to develop their potential? Can this be used to sell change to mixed audiences?
- Where are the inter-jurisdictional barriers to to sustainability, starting from the municipal level and working outward/upward? How to surmount cross-jurisdictional issues that hinder movement forward on community renewable energy strategies?
- How do we frame issues for different publics?
- Where are the examples of success, in institutions, in First Nations communities… what can we learn from them.
- Disasters happen. How can we turn these into opportunities for education, re-tooling for behavioral change after the fact? 'Never waste a crisis.'

Priorities for research

Study success and learn from it

- Identify First Nations communities with successful planning processes; analyze what's working and why.
- Study examples of practices which promote adoption and diffusion of GHG-reducing behaviour change within private- and public-sector institutions.

- Consider how politicians can be convinced to take ownership of sustainability; divorce sustainability from politics. Look to places where this has happened, identify why.

Communication
- Reconsider framing of climate change in light of informational needs of different audiences: for example, 'energy security' vs. 'social equity'.
- Identify ways to communicate sustainability cross-culturally; identify and analyze examples of such communication that is successful.

Build in equity
- Incorporate cultural competency training in planning schools, local governments.
- Ensure that research is participatory, capacity-building.
- Consider/involve rural, remote, and First Nations contexts; develop tools/capacity there.

Interdisciplinarity
- Revisit the edges of our discipline, break down boundaries, develop synergies/cooperation with people in other places.
- Define the scales we are working with.

Identify barriers and opportunities
- Map power in communities: identify, for each community, where the real power is, which buttons need to be pressed to get things done.
- Map out potential and actual community energy resources.
- Identify inter-jurisdictional issues inconsistencies in/harmonize policies funding, and planning: employ a multiple-scale approach that considers local, provincial, federal, First Nations/non-First Nations. Ironically, all the things that most affect people's lives are at the municipal level — and they are things they have least power over. Municipalities are just not funded at appropriate levels. Restraints come from the top down, but change can be best made from the bottom up. For this reason, envision the municipality at the center of concentric circles; pick key opportunities for sustainability, such as buildings, transport, built infrastructure, waste, and work from the municipality outward.

Group name: The S-Frame

Participants: Cecile Lacombe, Lyn Bartram, Elisa Campbell, Nastenka Calle, Ron Kellett, Rob Woodbury, Mike Vanderlaan

Suggested research questions/tasks

- On knowledge development, application focus and policy implementation:
  - Develop tools that are locally relevant and can apply to multiple communities

- o PICS should not try to provide the roadmap, but rather the metrics and substance
- For every project, consider scales:
  - o Practitioner level: The makers, users, and implementers of knowledge
  - o Physical scales: Individual, building, and neighbourhood. Ask:
    - o How do we enable the linkages between these scales?
    - o What are the relative impacts of changes at all scales?
    - o What acts as a conduit for disseminating knowledge between scales?
    - o What are the important factors, context-specific drivers, tradeoffs, emergent behaviours and ripple effects?
  - o Time scales: Encourage shorter term results, prototyping and pilots
- Investigate how social and digital media support decisions to use water and energy sustainably, via:
  - o Delivery of information
  - o Movement of knowledge: what are the network relationships?
    - o Digital vs. physical neighbourhoods: What steps are needed to refine solutions in the digital environment? What makes sustainability enjoyable
    - o Whether, how, and why ideas work
- Consider metabolic flow and time; how flows through communities can be successfully captured and quantified? How can this play out in decisions made at the policy, design, and immediate time scales?
- Investigate ways to ensure that benefits of sustainable behaviour (e.g. water conservation) are locally relevant, understandable, and attractive choices (nudge). Consider what makes habits snowball, and what impedes this process.
- Investigate whether awareness of individual ecological footprints can influence behaviour. How can tradeoffs and feedback mechanisms between behaviour and climate change be made clear (i.e. which buttons can we push; how much do we gain for each)? What are the impediments?
- Considering that it takes a region to save a planet, ask: How can we quantify how much an individual is contributing to the change? How can we foster community-driven, user-friendly ideas, encouragement at the level of neighbourhoods for actions that began at individual level?
- Identify the choices that develop as a result of decisions regarding use of land and space.
- Identify linkages between sustainable design and sustainable living: What can be done far before people move in, to foster the latter?
- Build capacity among small and medium enterprises (SMEs), and involve them in capacity building: they are stronger and faster than researchers. Ask: who are the players who are influencing change? How can we involve SMEs, thereby generating different but equally relevant research questions?
- Thinking 40 or more years into the future, ask:
  - o What are the long-term impacts of choices today?
  - o How can the necessary changes be made believable? How can they be applied convincingly to the suburban as well as the urban environment?

- How can we successfully communicate changes not inherently visual? Change need not look futuristic.
- Can time be made into a commodity that can be individualized?
- Position PICS as a national leader in climate change research; there is no national agency that is situated similarly to PICS.

Group name: Beyond Hope(, B.C.)

Participants: Ian Picketts, David Connell, Freya Kristensen, Sean Markey

Macro ideas

- Climate change and community issues must be looked at through rural lens: ex. carbon tax is more punitive for rural communities; similarly sustainability should be looked at through First Nations lens.
- Inter-pillar panel must also address rural-urban linkages in PICS research… perhaps some sort of inter-pillar rural secretariat.
- Need to avoid urban bias: ex. smart growth meets resistance in rural communities, where there is less infrastructure, a sense of entitlement to space, bigger vehicles: what does sustainability mean in this context? Carrots in rural areas are different: issues of scale, health, air quality, access to open space. Metrics of GHG production look different.
- Need to avoid painting all rural communities with the same brush. Huge variance in size, opportunities, wealth, progressiveness (ex. Smithers, Mackenzie, Prince George– all very different, and all very different from the south.
- rural areas as a source of innovation and land

Ideas for research

- Examine rural–urban linkages: How can rural communities work become more competitive players in energy, food, for example? How do rural economies look within shrinking economies... if we consume less, how do we make provincial policy to account for rural growth or rural contraction?
- Just sustainability – what does it look like from the perspective of First Nations, rural areas? spatial impacts and benefits, choice availability
- How to bolster rural capacity for sustainability through information, technological, knowledge, finance?
- From a communications perspective, what are the "carrots" in rural areas? How to overcome the challenges of communicating ideas like smart growth to a rural audience?
- How to promote diversification, adaptation within resource sectors?
- Policy: delivery of rural services, information, complete communities, density, efficiency.
- Where does food fit within climate change policy. If climate change means that there is a fundamental restructuring of the global food system, what does this mean for B.C. communities? For food security? How should climate change be linked to community/food? Should BC have a policy on food? Should PICS

have a rural secretariat which includes members of the four pillars to examine this?
• Is response to climate change necessarily predicated on growth paradigm?

Group name: Team GO₃

Participants: Alan Osborne, Jennie Moore, Andrew Devlin, Tom Pedersen, Stephen Sheppard, Nicole Miller

Some issues raised

• There is no lack of motivation from politicians. Surmounting barriers is a greater challenge than offering incentives.
• Communities are struggling with capacity.
• Some communities are not motivated by climate change, but are interested in dealing with issues that can be tied to climate change and sustainability.
• Is it true that we already know what to do? Ex. Smart Growth: it's a generic solution, not designed specifically for GHG reduction which may be but is not best practice, not appropriate in all situations. Do smart growth principles work, go far enough, address other social/political issues, or are they being misused?
• Many design workshops are predicated on assumptions of massive growth and densification for GHG reduction strategies through urban form, but many communities are not actually growing at these rates.
• We need more information on life-cycle analysis – in some cases, we have information, but not from a complete "systems" perspective
• Also a need for policy alignment – very slow transformation process
• Municipalities were originally "service providers"; however, roles are shifting. Today they are dealing with ecological constraints.
• Councils are fearful of social engineering.
• UK One Planet Living has created different scenarios including different types of people/behavior.
• We should ask: How functional is transportation or buildings for different types of users?
• New Urbanism, which is less locationally based, also presents problems for transportation issues
• Other paradigms are available – such as eco-city models. How far can these concepts get us? How do they interact with behavior?
• What is the proportional contribution of behavior to the problem? Understanding this factor could lead to more informed policy
• Why did it take 10 years to make changes to BC building codes? Recent code changes are very modest – province backed off of some major changes. Builders exert influence, have concerns about learning curves, uncertainty, costs. How can risks and costs be shared?
• We live in a highly structured system. To reduce emissions, we know we should be retrofitting and building green buildings. Possible to linking green building to demand-side management as a rationale, but no market traction for retrofits.

Architects more interested in new buildings, so more green building programs are developed. Municipalities concerned about conflict with developers.
- Question: What incentives have maximum impacts on retrofits? The challenge: current retrofit practice doesn't take us nearly far enough to achieve the reductions required by 2050.
- Problem-based learning opportunities could be useful - perhaps using eco-cities as a possible paradigm, using a framework to work with a local government to problem solve servicing issues/policy changes to achieve eco-city status.
- Opportunities exist in working through policy alignment issues on a case study "living pilot".
- Can "policy trials" be implemented on a case-study basis to change some rules/increase opportunities? Not necessarily – just testing out ideas beyond what is typically considered "feasible".
- Concern about urgency remains. What are the short term "nudges" – is there a balance between long-term research/planning and short term action?
- What are the problems with/concerns for district energy? Resistance to pollution (e.g. burning biomass), resistance from developers (e.g. in North Vancouver). More innovative incentives needed.
- Politicians are very conservative elements in society – can't be seen as wasting people's money. Developers are perhaps more likely to take a risk, but there are policy limitations.
- Public/community action also needed. Example: Eagle Island, West Vancouver – have agreed to do retrofits/other work, but required funding/variances, local government cooperation. Research could support initiatives like these, link risk takers and benefit bearers.
- How can risk be minimized or shared? Currently, inefficient (redundant) systems serve to cover risks.
- What are the perceived and actual benefits, and tradeoffs? How can it be made "impact neutral" in terms of quality of life?
- How can our communities be retrofitted? Europe is not building new communities, but changing old ones.
- What are the triggering events to change public perception? For example, proposal for nuclear power plant served as incentive to reduce energy use in Freiburg. Are there forseeable events like this, crunch points, coming? Can they serve as triggers before actually happening?
- How can we use climate change as an argument? i.e. Things are going to be changing, so this can be an opportunity, for example, more flow will be occurring in streams, leading to erosion, so we might as well use the extra energy for micro-hydro, and protect the stream at the same time.
- Possible project: provide people with longer term information (e.g. cost of energy in 2020); maybe even plan for energy pricing from the province; new reasons for why we would change energy prices; scenarios illustrating these futures.
- Sacramento's policy tool iPlaces enables the creation of many scenarios, and quantifies impacts.
- Need to understand the broader benefits of an eco-city: free time, lower obesity, better health. Research on distributed systems is required to fully

understand concepts like eco-cities, including risk assessment. Need to identify potential factors of success to identify potential case study communities.
- This systems thinking: where does it occur? In planning processes, at universities, higher, lower levels, in Official Community Plans?
- Need to quantify sustainable or eco-cities: indicators, framework.
- Dawson Creek has made tremendous progress: shifted attitude of community.
- We can reframe this as "taking control" rather than "giving up" in the face of inevitable change
- We need to use economic/employment arguments more (e.g. Dawson Creek windmill technician training, construction job potentials from retrofits), present all the win-win as a package of benefits, and remember to address consumption

Identified needs

- More "systems thinking"
- A "backcasting" approach — having long-term vision to direct short term actions
- Better scenarios; information for long term vision and long term consequences
- Policy and incentive experimentation (case studies? living labs?)
- Mechanisms to reduce or share risk and benefits

Research priorities

- First priority is to define end points – assessment of which planning paradigms/scenarios are most likely to achieve emissions reduction targets, in locally appropriate ways. Different communities may have different endpoints.
- Identify support mechanisms: Explore regulatory/incentive opportunities to reach the desired end points (backcasting), as well as barriers and capacity of municipalities
- Undertake risk assessment from a spatial justice perspective: consider risks associated with specific end points; how risks and benefits should be shared
- Pilot testing: select and test support mechanisms "on the ground," as in Dawson Creek.
- Emphasize importance of retrofitting
- Emphasize bottom-up, nudge approach.

Group name: Dragon Whisperers

Participants: Robert Gifford, Janet Moore, Ann Dale, Meg Holden, Sean Connelly, Natalie Gibb

Some observations

- Two ideas: Can we get a constitutional amendment for a right to a healthy environment by 2016 (to commemorate David Suzuki's 80th birthday)? What

about an annual Nobel prize for the country that reduced emissions the most? Similar to the "Green Games" – Olympics for the "right" reasons.

- We need to identify: What are the carrots? What policies and investments do we need to reduce payback periods and promote investment? What are transition strategies to move from less to more sustainable options? What are the financing options?
- Before talking about *what* we're researching, I think it's important to discuss *how* we're researching: How do we do community-based research? How can we connect graduate student research in order to foster integrated findings at the end of a five-year PICS research period? Ex. Combining grad students and community practitioners into interdisciplinary teams for capacity-building. Many local people – beekeepers, librarians, amateur naturalists, etc. – with a lot of knowledge and connections; this should be tapped into
- How can we make climate change local?
- How can we engage people in local, everyday actions?
- How can we develop community indicators for sustainability, connecting the hard physical science indicators of climate change with locally defined indicators for liveable, vibrant communities?
- How can participatory measurement work as community engagement tool?
- We need to take a step back, and ask: Are sustainable communities all about carbon? Is carbon our way of encouraging people to get engaged?
- We've articulated what the design of carbon-free community is, but we don't know how to do social side yet.
- Do we really "know" how to make carbon-free communities? These processes have to be dynamic and capable of responding to changing conditions. We should be using 100 years as our time frame.
- Doesn't 100-year thinking go against human self-interest? How can we think long term if our brains are wired for the short term? How can we design a society around the fact that we need long term planning?
- What kinds of engagement processes do we need to make people want to live in sustainable communities?
- How can we reconcile the (perceived) need for security with the need for a greater sense of community between people that is needed to make community engagement processes work?
- Food may be a gateway to raise these issues. Food centers around personal relationships: good food is good for "me" and for my relationships with other people. The social capital generated in and around farmers' markets is a good example of this.
- Why doesn't health work as a gateway to sustainable communities? Because the relationships with others aren't there like they are when you're talking about food.
- As supermarkets get into local food, will the social capital and political action associated with local food bought and sold at farmers' markets be eroded?
- We're seeing traditional supply chains changing e.g. some local farmers are selling online.
- Not everyone who is into local food "gets it." For example, there's a pizza parlour in Victoria selling pizza made with greens grown in the backyard and flour milled in Italy.

- We need to be aware of food quality and local food discussions becoming elitist.
- We need to find local champions for sustainability, some kind of "block leaders." For example, the Strathcona Zero-Waste Challenge was with one woman going out and talking to her neighbours at the kitchen table, with martinis. The SZWC has been quite successful in getting people to "show off" how little garbage they produce. There's also the example of neighbourhood solar co-ops in Toronto.
- What are the psychological techniques to cultivate behavioural change for sustainability? Environics has lots of data about this.
- Why are people not getting together in their neighbourhoods to develop "sustainable neighbourhood" questions?
- Again, this raises the question of scale. Not all neighbourhoods work the same way: The obstacles in one neighbourhood (long-term residential) may not be the same as those in one with high mobility.
- At what scale do we define sustainable communities when we're seeking public engagement? Spatial neighbourhood? Ethnic community? Work community? Age group?
- Especially when we're talking about very mobile youth: we need to find ways of engaging them. The U-Pass offers an interesting example of an outcome (students no longer have cars because they have a U-Pass and even register at the university not for classes but to keep their U-Passes) that was anticipated. It would be interesting to follow up on this, to see what happens when they start working. How can sustainable communities research make use of existing sustainable communities "experiments" like the U-Pass? We should find examples of social innovation and study them.
- They say "small is the new big": the best way to engage people is on a one-on-one basis. From a policy perspective, how can we engage people at the micro-level?
- We could synthesise some of these questions as: What do we have to learn from consumer marketing/advertising? How to find, engage, empower, the social entrepreneurs ("block leaders") we need? How can we support them in generating their own information and expertise? What are the barriers to engagement?
- Many people know surprisingly little about sustainability. What we take as common sense may be radically new to some people. What do people actually know about sustainability?
- What are short, medium and long term policies that need to be in place to induce behavioural change?
- There is a connection between paradigm shifts and social innovation. Frances Wesley (who co-wrote Getting to Maybe) suggests that social innovations breed paradigm shifts.
- How can we foster social innovations that will lead to paradigm shifts for sustainability?
- Often, we treat policy as escape route so don't have to think about behavioural change. However, policy is not enough on its own: people need to buy into the policy. We need policy and buy-in at the same time.

- We also need to consider that people engage in environmental behaviours for non-environmental reasons. For example, they may turn off the lights when they leave the room not because it reduces GHG emissions, but because it's "a good thing to do".
- What are the reasons we're giving when we encourage people to buy into behavioural change? How can we articulate reasons that will convince people?
- What happens to (climate) activists once they enter into positions of power within institutions? How can they be supported in learning to navigate the institutions?
- How can we facilitate intergenerational leadership skills?

Key themes, questions

Make climate change "local"

"Local" has different meanings for different communities. "Local" climate policy and action could be based around neighbourhoods, ethnic communities, peer groups, etc. Making climate change "local" means making it relevant to people's personal relationships.

- How can we cultivate the interpersonal relationships necessary to engage people in change?
- What kinds of engagement processes or strategies do we need to make climate change local?
    o   How can we involve communities in measuring indicators for sustainable community development? Does involving the community in sustainability assessments even work?
- How can we design a society around the fact that we need long-term planning?
- What are the different social mobilization strategies needed for different communities?
    o   What are the barriers to involvement in neighbourhood/community climate movements?
- Paradigm shifts are linked to social entrepreneurship. How can we locate and empower local social entrepreneurs?
- Food has been successful in engaging people. How can we use food as a gateway for climate solutions – without developing elitist social movements?

How should we engage in sustainable communities research?

- How can we connect research to action?
- How can we "join up" (grad student) research in order to obtain integrated findings?
- How can we connect researchers, practitioners, and (informal) local community leaders?

Framing sustainable communities research and action

- When is it appropriate or inappropriate to equate sustainable communities with low carbon communities?
- How should sustainable communities research and action be framed in order to be relevant and engaging for diverse groups of people?

Group name: Capacitors

Participants: Deborah Harford, Roger Lam, Sean Pander, Ben Finkelstein, Mark Roseland, Julie Lowry

Proposed research questions/topics

- How can we build capacity in local government and public sectors organizations to plan and implement carbon reduction strategies?
- How do we integrate adaptation/resilient-communities thinking approach into the vernacular of climate change strategies?
- How can we develop local government investment in sustainable initiatives?
- What models would be effective in mobilizing post-secondary researchers to align the research to meet the needs and capacity of local governments?
- How can schools, university, colleges, hospitals (SUCH) be used to transform community energy systems?
- Can SUCH used to catalyse change- or to become the node to catalyse change?
- What are the legislative changes that would help local governments limit sprawl?
- What are the barriers towards climate action in our current regulatory regime?
- Is the provincial community charter flexible?
- Can PICS be used to act as a international hub for local sustainability researchers?
- Can PICS develop state of the art system to share resources?

Background / context for questions above

- Rural communities relying on consultants to create sustainability plans: where's the legacy?
- It's not very smart to ask communities to achieve specific goals. It's redundant to ask communities to all work on the same type of initiative. Energuide 80 is an example: need to start with the basics. Too much emphasis on the wrong part of achieving sustainability, forgetting about capacity.
- Climate action charter has been signed; it is brief, says a lot without details. It enables, but does not direct and is a good starting point. Some communities have figured it out, others not so much.
- Often comparison against other communities (peer pressure) drives work towards achieving commitments made in the charter. But what happens if they don't meet the targets?

- What percentage of emissions come from urbanized responsibilities? If you cannot do it in Vancouver, you cannot do it anywhere. Vancouver has a zillion things going for it. Work with Hydro: how do you enable it?
- Vancouver must build on its advantages. Carbon-neutral government operations have been showing traction.
  - What about the role of schools, university, colleges, and hospitals (SUCH)? Hospitals: high density, big scale, already established: can help transform community district energy system, catalyse change, or become the node to catalyse change.
- People on boards know that its expensive, results are slow, staff will be let go — but it's a great way to become a leader. A good business pitch needs to be made.
- Momentum: build the parade and everyone will join.
  - Start with a research consortium, build energy/enthusiasm from there;
  - Research body: here are the challenges, here are the ways around.
- How do you package research in a tangible and applicable way so that it can be taken up elsewhere? Case studies?
- Private enterprise models do not necessarily work in other jurisdictions. What regulatory regime would allow these projects to happen cross-jurisdictionally?
- How do you apply the lessons from 'special' places to more ordinary places?
- Take the research, knowledge, and the capacity, and place it right inside the community early on; apply it to the case study/business plan while meeting the research and the academic requirements. i.e. post doc, etc.
- Vancouver: untapped intellectual resources from the universities that are not being applied in communities. We need to make the connections: get students to practically apply their work, offers benefits for the community and the student/research, etc.
- PICS could coordinate research and marry it with capacity.
- So much is already happening: this is a co-ordinating issue. Bring researchers together to model and consolidate research. Why not work with ICLEI?
- Report on issues, scan of all research, etc. and provide a briefing note, scoping review, etc. of other jurisdictions. The knowledge Information Service-being lost due to budget constraints.
- toolkit.bc.ca a one-stop shop for climate action; became a big repository.
- International Council for Local Environmental Initiatives (ICLEI): played a role in Rio D. J. to bring together local governments on sustainability, provided a network for information sharing, protection from colleagues, etc. ICLEI concerned with how to mobilize researchers. It asked, who are the local sustainability researchers? Came up with 700.
- Could launch an international network of sustainable researchers, similar to ICLEI; PICS to be the hub.
- It's a tremendous model; the concern that it has to truly be a community based research model. BC-relevant, BC-centric.
- Resilience is important to all issues. Any initiative should be considering climate impacts and adaptation and mitigation, paradigm shift.
- Example of passive design paired with solar energy, land-use planning paired with regulation.
- How do you change the defaults? Do you have to change the Charter?

- How to create disincentives to sprawl through funding access? Does this lead to good planning… or risk aversion?
- Community Charter gave too much power to community. Can it be taken back? How can you provide more direction to communities to achieve sustainability/carbon reduction?
- How do you set targets? How do you achieve them? Possible research question: How many people did deep analysis on how they will do it (achieve the Charter)? Where is the implementation step?
- PICS should have some sort of process to define standards for communities. Post 5 community examples on toolkit, with baseline, target, implementation model. Incorporate resilience.
- Resilience is deep, expensive, time-consuming, etc.
- In BC, who do local governments turn to for guidance, advice, planning, etc? Communities that want to take action may not know who to turn to. Vancouver works very closely with Hydro; Hydro takes that info to other communities. Is this a good relationship? Is Hydro the correct group to work with?
- We don't need more information, we need a place where [sustainability?] exists. Next step, how do you apply it to your community?
- Must be based on personal relationships, not a website.
- Speaks to the need for a network: create an effective database, a directory of expertise.
- Need scan of current mechanisms to share knowledge; vision for instructions.
- Ask the users what they want. PICS can act as a bridge between theory and action.
- Need quantitative research, not just basic surveys.
- Regarding websites and research: smaller local governments just do not have the staff to synthesize and communicate research.
- We need to talk about long-term sustainability…use economic modelling?
- Need financial incentives to engage the private sector
    - Local improvement charter: attach cost of improvement to taxes on an incremental basis
    - Property assessment clean energy (PACE)
    - Understand barriers and opportunities for using a voluntary tax increment to finance clean energy efficiency.
    - Conduct life-cycle analysis. Why did Boulders PACE program fail? What did Berkeley learn? Utility services have shown success for similar programs.

Appendix C:
List of Workshop Participants

Last name	First name	Organization
Bartram	Lynn	SFU, School of Interactive Art and Technology, Assistant Professor. Human Centred Technologies for Sustainable Living
Campbell	Elisa	UBC - Design Centre for Sustainability, Executive Director
Connell	David	UNBC - School of Environmental Planning
Dale	Ann	Royal Roads University, Faculty of Environment and Sustainability
Devlin	Andrew	NEWPATH Research Manager, Bombardier Active Transportation Collaboratory.
Finkelstein	Ben	Manager - Green Communities. Climate Action Secretariat. Ministry of the Environment
Gurstein	Penny	UBC - School of Community and Regional Planning
Gifford	Robert	UVIC, Professor of Psychology and Environmental Studies at the University of Victoria
Hardess	Lisa	Building Sustainable Communities, Centre for Indigenous Environmental Resources
Harford	Deborah	SFU, Executive Director, Adaptation to Climate Change Team
Holden	Meg	SFU, Urban Studies and Geography, Assistant Professor
Kellett	Ron	UBC - School of Architecture and Landscape Architecture

Klein	Kerri	Provincial Facilitator, BC Healthy Communities
Lacombe	Cecile, Dr.	Director of Housing Research, Knowledge and Information Services, Office of the Chief Information Officer, Ministry of Citizens' Services
Lam	Roger	Manager Policy and Code Development, Building and Safety Standards Branch, Policy and Research Division, Ministry of Housing & Social Development
Markey	Sean	SFU, Centre for Sustainable Community Development, Assistant Professor
Moore	Janet	SFU, Centre for Dialogue, Assistant Professor
Osborne	Alan	Executive Director, Intergovermental Relations and Planning, BC Ministry of Community and Rural Development
Pander	Sean	Sustainability Manager, Office of City Manager, City of Vancouver
Pederson	Tom	Pacific Institute for Climate Solutions, UVic
Roseland	Mark	SFU, Director, Centre for Sustainable Community Development; Professor, School of Resource and Environmental Management
Scerri	Andy	RMIT University - Australia. Research Fellow Global Studies, Social Science and Planning
Sheldon	Ted	Climate Action Secretariat, BC Ministry of the Environment
Sheppard	Stephen	Director of Collaborative for Advanced Landscape Planning (CALP).Dept. of Forest Resources Management/Landscape Architecture Program
Smith	Victoria	BC Hydro - Manager of the Aboriginal & Sustainable Communities sector in Customer Care, BC Hydro

Vu	Thi	Manager - Climate Justice Project, Canadian Centre for Policy Alternatives (BC)
Woodbury	Rob	SFU, School of Interactive Art and Technology, Professor. Human Centred Technologies for Sustainable Living
Wittman	Hannah	SFU, Department of Sociology and Anthropology, Assistant Professor
Special Guest		
Agyeman	Julian	Tufts University, Boston, Massachusetts, USA

POST DOCTORAL AND GRADUATE STUDENTS

Last name	University	Program
Natalie Gibb	SFU	Sociology
Julie Lowry	SFU	Resource and Environmental Management/ Sustainable Community Development
Larissa Ardis	SFU	Resource and Environmental Management/ Sustainable Community Development
Dr. Sean Connelly	SFU	"Mobilization for Sustainable Community Development"
Nicole Miller	UBC	Resource Management and Environmental Studies
Michael Van der Laan	UBC	Department of Geography, Atmospheric Science
Jennie Moore	UBC	School of Community and Regional Planning
Ian Picketts	UNBC	Natural Resources and Environmental Studies in Environmental Program

Appendix D:
Workshop Invitation and
Call for Expressions of Interest

Dear XXXXXXXXXXXx,

Greetings! As you may know, you have been nominated by your faculty advisor to attend the PICS Sustainable Communities workshop May 5-6 in Vancouver. We are delighted to now invite you to join the group of experts attending the workshop. You will find the current list of participants attached.

Our special guest will be Dr. Julian Agyeman, Professor and Chair, Department of Urban and Environmental Policy and Planning, Tufts University, Boston, USA. Dr. Agyeman is Editor of the journal *Local Environment*, author of *Sustainable Communities and the Challenge of Environmental Justice* (NYU Press, 2005) and co-author of *Speaking for Ourselves: Environmental Justice in Canada* (UBC Press, 2009).   The workshop will commence with a public lecture and private reception in the evening on May 5 and continue with an all-day working session May 6. All workshop activities will be at SFU Vancouver (downtown).

Please confirm your interest in attending **by April 16** by sending a brief Expression of Interest (eg., a short bio and indication of your research interests). These will be circulated to all participants prior to the workshop. If you would like, we would also welcome your brief response to the PICS white paper on "Infrastructure and Communities: The Path to Sustainable Communities" (Robinson *et al*, November 2008, http://www.pics.uvic.ca/assets/pdf/publications/Sustainable%20Communities.pdf <http://www.pics.uvic.ca/assets/pdf/publications/Sustainable%20Communities.pdf>), specifically the final section on key directions for future research, so that we have completed some substantial sharing of ideas before we meet together in May. These responses will be circulated to all participants prior to the workshop.

Mark Roseland	Nastenka Calle
Workshop Chair	Site Coordinator

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Appendix E:
Workshop Agenda

SUSTAINABLE COMMUNITIES WORKSHOP
May 5th and 6th, 2010

SCHEDULE

First Day: Wednesday, May 5th 2010

Public Lecture: Toward a 'Just' Sustainability

Where: Harbour Centre, Simon Fraser University, 515 West Hastings Street

Room 1700 Labatt Hall

Time: 19:00 to 20:30

Private Reception

Where: Harbour Centre, Simon Fraser University, 515 West Hastings Street

Room 2065, Diamond Alumni Centre

Time: 20:30

Second Day: Thursday, May 6th 2010

Workshop

Where: Segal School of Business, 500 Granville Street

Room 2800 CN Strategy Room

Time: 8:30 to 17:00

University of Victoria | SFU SIMON FRASER UNIVERSITY THINKING OF THE WORLD | UBC THE UNIVERSITY OF BRITISH COLUMBIA | UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

PICS is hosted and led by the University of Victoria in collaboration with the University of British Columbia, Simon Fraser University and the University of Northern British Columbia.

Second Day: Thursday, May 6th 2010

Agenda

8:30   breakfast

9:00   Welcome and agenda review – Mark Roseland
       Participant Intros

10:00 PICS Context and Overview – Tom Pederson, PICS Director

10:30 break

10:45 Opening Remarks, "Sustainable Communities Research" –

       Julian Agyeman, Special Guest

11:15   Plenary Discussion: Key SC Research questions

12:00   Plenary Discussion: Key criteria for PICS SC research agenda

12:30   Lunch

1:00   Tables discuss/design/propose potential research projects for 2010-2012

2:30   break

2:45   Reports from each table

3:15   Plenary Discussion

4:00   Closing Remarks – Julian Agyeman, Special Guest

4:30   Adjourn

Appendix F:
Excerpt from PICS November 2008 White Paper *Infrastructure & Communities: The Path to Sustainable Communities*, by John Robinson, Tom Berkhout, Sarah Burch, Emily Jane Davis, Nichole Dusyk, and Alison Shaw, with Stephen Sheppard and James Tansey.

EXECUTIVE SUMMARY

The focus of this White Paper is on infrastructure and communities. More specifically, we look at the critical role that 'sustainable communities' can play in achieving long-term climate change mitigation and adaptation goals, and the short- to medium-term actions needed to ensure that this potential is realized. By addressing climate change adaptation and mitigation through the pursuit of a fundamentally sustainable development pathway, we encourage an integrated approach that considers not only emissions reductions and climate change adaptation, but also the underlying drivers of unsustainable patterns of development.

Communities lie at the very heart of our everyday lives. Their networks of built structures, institutions and behaviours have a powerful influence on how we collectively use energy and, in turn, how we both influence and respond to climate change. Changes in land-use, density, urban form and transportation, energy and water infrastructure, therefore, are essential mitigation strategies that can contribute to significant, long-term greenhouse gas reductions. Just as important as these structural changes are changes in how people think about and use energy, both with respect to individual energy use and also with regard to the level of acceptance by individuals of the policies and measures required to achieve collective energy savings.

To better understand how sustainable communities are intricately linked to climate change mitigation and adaptation choices, we describe the characteristics of sustainable communities of all sizes in British Columbia in the decades ahead. These include densification, mixed land use, a net-zero energy system, and a diverse local economy. In addition, the sustainable community is the site of integrated local-level adaptation and mitigation actions that are critical to the arenas of governance, decision-making, and behavioural change. In short, the scenario described here demonstrates how climate change adaptation and mitigation are the favourable outcomes of deeply sustainable communities.

The accumulated changes needed to transform today's carbon intensive communities into the low-carbon sustainable communities of the coming decades are undoubtedly enormous. The major effect of these actions, and their parallel positive outcomes on climate change, will occur in the post-2020 period. Yet, it is essential that they be started now, since fundamental change in both underlying infrastructure and in human attitudes and behaviours must overcome considerable inertia and time lags. We need to begin now to make the changes that will give rise to more sustainable and low-carbon development pathways in the future. In order to get started, we recommend a strategy to steer and coordinate the decisions of governments, markets, local groups and individuals toward favouring low-carbon infrastructures, institutions, and behaviours so that, over time, the cumulative result of these decisions will be recognizable as sustainable communities.