



FALL 2009

From the Director



Climate change—more specifically, global warming resulting from human activities—is a rate of change problem. Research shows that Mother Nature has never altered the global climate as quickly as *Homo sapiens* has been doing over the last fifteen decades. We know the anticipated impacts of our actions; almost all are negative, most profoundly so. There is now no doubt that we must adapt while doing our best to mitigate - to slow the rate of change. These imperatives present a daunting pair of global-scale challenges. How best to proceed, then? What should be our adaptation priorities? What mitigation steps can we take immediately and over the next few decades to slow the rate of change?

Embedded in those questions is also a remarkable opportunity. Blunting the pace of change will require adoption of new clean-energy technologies, shifts in human behaviour, improved environmental and ecosystem stewardship, and renovation of existing (and construction of new) physical infrastructure based on global best practices.

Much of the intellectual effort of the Pacific Institute for Climate Solutions is directed toward those very topics; our research will help to steer development of appropriate policies—economic, social, environmental, and industrial—that can assist Canada to become a nation known for best climate-change practices, rather than a country known for having missed an economic, environmental and social opportunity by not rebuilding its energy production and social infrastructure to yield dramatically lower carbon emissions. After two months in the job, I am inspired by the huge potential I am seeing for partnerships and research opportunities that can make this happen.

Baseball legend Yogi Berra once remarked that when you come to a fork in the road, you should take it. The implication of that piece of received wisdom is that delay is not an option. While PICS is working to improve the knowledge base upon

which sound policies can be built, it will only succeed if political dithering is set aside in favour of positive action. And while we're seeing robust activity at the provincial level, political lethargy is all too obvious in Ottawa. As a reader of this newsletter, I invite you to help turn this situation around. Get involved; raise your voice; encourage your elected representatives to recognize the opportunity for positive change that lies before them. And by all means, encourage them not to shy away from that fork in the road.

Pacific Climate Seminar Series


The Pacific Climate Seminar Series, co-hosted by PICS and the Pacific Climate Impacts Consortium (PCIC), has been enjoying strong audience participation since starting up again in September 2009. The monthly lecture series will feature a total of eight climate change experts this year.

The use of live web-streaming has significantly broadened the audience appeal and access, with the October lecture attracting almost 100 online viewers as well as 80 local attendees. The series aims to make climate change research and new information accessible to the public and to policy-leaders, such as government planners, industry, media and the wider research community.

Speakers to date have included one of the world's leading glaciologists, Dr. Shawn Marshall from the University of Calgary, and Dr. Robert Gifford, a psychology professor from the University of Victoria, who talked about individual-level barriers and solutions to changing climate change behaviour.



Dr. Robert Gifford's October 21 lecture on the human dimensions of climate change being webcast live from UVic.



All seminars will be held from 2:00 to 3:00 pm on the third Wednesday of the month at the University of Victoria. They will also be webcast live at <http://www.pics.uvic.ca/broadcast.php>.

Information on upcoming speakers is available at pacificclimate.org/aboutus/seminars.

Reducing GHG emissions - The QUEST project

The Quality Urban Energy Systems of Tomorrow (QUEST) project, funded by a wide variety of sources including PICS, provincial and federal departments, energy associations and energy utilities, is examining how changes in land-use, transportation and energy policy at the regional level can achieve greenhouse gas reductions on a national scale.

Various studies have suggested that there are significant opportunities for reducing urban emissions by up to 40-50%, and that policy changes such as increasing the density of urban development and related transportation changes, coupled with district energy systems, could help reduce overall Canadian emissions by 17-20%. The QUEST project applies three different quantitative models (land use, transportation and economics) to scenarios for four different cities across Canada to examine if these reduction targets are indeed feasible, and what policy choices might be required to achieve them. The three scenarios represent different futures for the year 2050 based on land development if cities: a) continue with current trends; b) follow current best-practice in land use policies; and c) adopt aggressive no-sprawl policies immediately.

The project is a joint effort between the consulting firm M.K. Jaccard and Associates (economic modelling), the University of Toronto (transportation simulation) and UBC, which is generating the land use scenarios.

PICS post-doctoral fellow Duncan Cavens has been leading the land-use modeling team at UBC. The QUEST project, which is closely related to his fellowship work, will provide a rich data set for the work he is undertaking over the next two years: making the kinds of quantitative tools used in the study more usable and accessible to local governments.

Research and outreach

Development of the Institute's research and outreach agenda took a major step forward with the hosting of the first PICS research theme workshop, the "Low Carbon Emissions Economy", held on October 1, 2009.

More than 30 invitees - including BC academics, government officials, representatives from industry and other key stakeholders

- participated in the event convened by SFU Professor Mark Jaccard in Vancouver.

During the intense one-day workshop, participants discussed both possibilities for allocating PICS research funding, and priority areas for PICS to focus on under the theme of the Low Carbon Emissions Economy. Professor Jaccard has subsequently forwarded recommendations to the PICS Director and Program Committee, and these were used to formulate a call for post-doctoral fellowship applications distributed on October 26, 2009.

The Low Carbon Emissions Economy is one of four themes identified by the PICS Program Committee in April of this year. October's workshop established the initial climate-solutions related research and outreach directions for PICS to pursue as part of the development of its strategic research plan. Upcoming workshops will explore the three remaining themes - Resilient Ecosystems, Social Mobilization and Sustainable Communities.

UVic Professor Eric Higgs is currently organizing the Resilient Ecosystems workshop to be held in Victoria on December 7-8, 2009. The challenge, as Higgs puts it, is to build a research theme that frames and helps to answer key ecological questions in the face of rapid environmental and ecological change. Invitations are being issued to key academic and policy leaders.

Looking ahead, Dr. Stephen Sheppard from UBC has agreed to organize a workshop on Social Mobilization in March 2010. The goal is to provide recommendations to PICS on public outreach and stakeholder engagement as climate solutions need to be implemented through behavioural change, policy innovation and collective action. PICS is also pursuing candidates to organize and lead the sustainable communities theme workshop scheduled for Spring 2010.

PICS 2009-10 fellowships announced

This fall, PICS awarded post-graduate fellowships collectively worth more than \$250,000, kicking off a fresh round of wide-ranging research into climate change analysis and solutions. The 22 award recipients from PICS' four partner universities include 15 new fellows as well as extensions to seven existing scholarships.

PICS Director Dr. Tom Pedersen says the fellowships represent a major investment in ensuring BC decision-makers have up-to-date, relevant research to help guide climate change mitigation and adaptation policy decisions.

"Climate change is one of the greatest challenges facing our province, and indeed our planet," he says. "Without sound information to guide government, industry and our communities, we risk failure in mitigating and preparing for its worst impacts, and jeopardize valuable opportunities presented by the emerging green economy."

Research topics tackled by the new PICS fellows include:

- the expansion potential for environmentally friendly geothermal energy within BC
- future threats to BC's hydro-electric power and optimal strategies for Canadian wind power generation
- reducing BC's aviation carbon footprint despite a global upswing in aircraft emissions
- the impact of climate change on the invasion of biological species and rangeland productivity
- the impact of social influences on public acceptance and adoption of new energy technologies

The seven existing fellowships awarded ongoing funding include projects on the pine beetle outbreak and on "green building" design and functionality.

PICS fellowships are valued at \$12,000 a year for Master's students, \$18,000 a year for PhD students, and \$50,000 a year for post-doctoral fellows.

PICS people on the move

Office relocations, new personnel and a farewell are among the changes at PICS this fall. PICS headquarters at UVic are in the Sedgewick building, and the reallocation of adjacent office space has enabled staff from the Pacific Climate Impacts Consortium (PCIC) to move in next door. The shared space strengthens the relationship between the two sister organizations, and supports our expanding workforces.

PICS' UBC offices will be relocated to the Centre for Interactive Research on Sustainability (CIRS) when it opens in 2011. On September 24, 2009 the UBC Board of Governors approved \$32 million for CIRS and construction has now begun.



CIRS rendering from architects Busby, Perkins & Will.

CIRS will be among the most innovative and high performance sustainable buildings in North America, and it will be the hub of sustainability activities at UBC. PICS' UBC campus coordinator Alison Munro is also a CIRS research manager. For more information on CIRS, visit www.cirs.ubc.ca.

PICS has welcomed the appointment of Megan Jameson as the new Administrative Officer for the Institute. Megan replaces

Cecilia Freeman-Ward, who was coaxed out of retirement to fill the interim appointment. We would also like to welcome Ivan Watson who joins our team as the Communications Officer while Robyn Meyer is on maternity leave. This fall has also seen the departure of SFU Campus Coordinator Deborah Herbert, who is moving to Ontario. PICS would like to thank Deborah for laying the groundwork for building a strong PICS presence at SFU, and for her assistance in hosting the first theme workshop in October.

PICS UNBC Campus Coordinator and carbon offset expert Kyle Aben has no immediate plans to move his office, which has been purposely located in a central, high-traffic area at UNBC to increase PICS visibility. His recent off-site outreach and research activities have included attending the Northeast BC Energy Conference in Dawson Creek, and a visit to the Bear Mountain Wind Park, BC's first operational wind power development.

Latest PICS White Paper gives green light to PHEVs

On November 3, PICS released its new white paper entitled "Electrifying the BC Vehicle Fleet: Opportunities and Challenges for Plug-in Hybrid, Extended Range & Pure Electric Vehicles." The report indicates that British Columbia has sufficient underutilized generation capacity in its electrical grid to support the introduction of more than two million plug-in electrified vehicles, enough to eventually replace nearly all registered vehicles in the province, provided that recharging occurs in off-peak demand periods. It is the latest in a series of PICS independent research white papers, and was written by Liam Kelly, Trevor Williams, Brett Kerrigan and Curran Crawford from UVic's Institute for Integrated Energy Systems. The full report is available at www.pics.uvic.ca.

An Open Letter to Mr. Harper, Mr. Ignatieff and Mr. Layton

Hopes that a strong global position would emerge before the UN negotiations on climate change at Copenhagen in December have diminished significantly following this fall's UN Summit in New York and the G20 meeting, where little progress was made. Concern that the Canadian federal government's continued inaction on the issue was making this country a pariah on the international stage prompted PICS Director Tom Pedersen to write the following open letter to the leaders of the three national parties, which was published in the Vancouver Sun on October 23.

"As the economy shows signs of emerging from the devastating global recession, many Canadians harbour a nagging sense that something major is missing. It's called vision.

Where is the grand plan for Canada in the 21st Century? Where is the blueprint for an economically, socially and environmentally

healthy society? Now is the crucial time to extend our planning beyond “stimulus measures”, and lay the groundwork that will deliver the vibrancy that this nation, and each of you, seeks.

Many countries in the developed world are now embarking on ‘the next industrial revolution,’ a critical reinvention of their energy economies in the face of climate change. This overhaul has three drivers: first, our scientists tell us without equivocation that we must eliminate fossil-fuel carbon from our energy diet; second, visionary politicians like Democrat Barack Obama, Republican Arnold Schwarzenegger, and New Labour’s Gordon Brown have heard that advice and are running with it; and third, the smartest entrepreneurs and industrial enterprises are getting out in front on this issue.

For instance, John Doerr, a Forbes-list billionaire who Time magazine calls America’s most famous venture capitalist, says stopping global warming is “the largest economic opportunity of the 21st century.” He’s right. There is gold in cleantech, the alternative energy technologies that can invigorate our economy as they inoculate our environment.

Fortunately, some Canadian leaders are paying attention to the climate challenge and the cleantech opportunity. British Columbia Premier Gordon Campbell is a continental policy leader, and the Charest and McGuinty governments are working to tackle climate change and reform their economies. But their efforts are limited by provincial boundaries when what is really needed is a national call to arms. We see this south of the border: President Obama has already taken bold steps to create new economic value. We must do the same. We must implement a strategy that will jump this country to the leading edge of the cleantech revolution, a strategy that will let us compete shoulder-to-shoulder with our industrial competitors in the US, Europe, and increasingly, China.

What might such a strategy entail? First, let’s establish appropriate tax incentives coupled with effective regulations. Good examples abound: Denmark became the world leader in wind technology by encouraging private-sector industrial innovation while implementing tough energy efficiency standards.

Second, let’s put a national price on carbon emissions. British Columbia’s revenue-neutral carbon tax offers an excellent template – early indications are that it is already stimulating investment in cleantech.

Third, let’s give our entrepreneurs better access to venture capital by encouraging appropriate cooperation between government and the financial industry.

Fourth, let’s bolster support for our universities – the primary research and innovation engines of the future – while encouraging our domestic industries to perform more R&D here, rather than purchase innovations from abroad.

And fifth, let’s minimize or eliminate infrastructural barriers to alternative energy solutions. We could start by toppling the walls that separate provincial-scale electrical grids.

What is the price of not taking these steps? We will fail to prepare for and mitigate the worst impacts of climate change; we will come up short in protecting our environment, the very cornerstone of our prosperity and our identity as Canadians; and we will fail to protect the health and wellbeing of our citizens in the face of rising sea levels, acidification of the oceans, biological invasions, and extreme weather events.

Sticking to the status quo means Canadian business and industries will miss the opportunity to secure their place in the emerging green global economy – none of us want to become lapdogs to foreign leaders in cleantech. It means we increase our risk of facing trade barriers, born of the growing backlash against fossil-fuel carbon energy sources. And as a country, sticking to the status quo means failing to meet our international climate change obligations and suffering serious damage to our reputation as a result.

Canada’s ability to emerge from this economic recession ready and prepared to participate in the next industrial revolution depends on groundwork laid now. Let’s acknowledge the climate-change elephant in the room. This country is crying out for leadership, and any or all of you can take the suggestions here and incorporate them in your platforms. For the sake of Canada’s economy, society and environment, I hope you do.”

CONTACTS

Dr. Tom Pedersen

Director
picsdir@uvic.ca

Dr. Lawrence Pitt

Research Coordinator
lpitt@uvic.ca

Megan Jameson

Administrative Officer
mjameson@uvic.ca

Ivan Watson

Communications Officer
iw@uvic.ca

Jessica Worsley

Secretary
jworsley@uvic.ca

Anna Rozwadowska

Research Assistant
picsra@uvic.ca

Alison Munro

Campus Coordinator
University of British Columbia
amunro@ires.ubc.ca

Kyle Aben

Campus Coordinator
University of Northern BC
abenk@unbc.ca

Pacific Institute for
Climate Solutions
University of Victoria
PO Box 1700 STN CSC
Victoria, BC V8W 2Y2

Phone (250) 853-3595
Fax (250) 853-3597
E-mail pics@uvic.ca
www.pics.uvic.ca