

Special Expanded Edition

12 pages showcasing the Institute's Water Innovation Centre. For our pdf version, visit www.IISDisBridgingTheGap.org

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Enter the world of the Water Innovation Centre:

A new global knowledge hub for water management



Just as the world is learning how to put limits on carbon emissions through carbon taxes, IISD is about to show how it can use market mechanisms to protect and preserve water. Now thanks to the generous support of Manitoba Hydro and the Royal Bank of Canada's Blue Water Project—the Institute's Water Innovation Centre team is doing *exactly that*. *Continued on p2*

Water is essential for all life on earth yet it is a critically-stressed global resource

P rime causes: overconsumption, excess nutrient loading from municipal and agricultural sources, and from the impacts of climate change. Effective water management, meanwhile, promotes human well-being, environmental sustainability and economic development.

The Water Innovation Centre (WIC) was borne out of a need to link markets and environmental technologies with community-based, watershed management. Its vision: to protect and preserve water while its aim is to promote sustainable development approaches—worldwide.

Located at the Institute's Head Office in Winnipeg, Manitoba, Canada, WIC combines five years' experience on natural capital and ecosystem service research with 20 years of IISD expertise and experience with policy instruments for sustainable development.

The Centre is a natural evolution of the work IISD has done safeguarding our planet's resources since the Institute was created in 1990. Likewise, the WIC team's efforts will serve to help leverage IISD's position as a respected, technically proficient non-governmental organization that can work across the jurisdictional barriers.

At present, the WIC team is developing a comprehensive work plan for the next four years. This includes project progress reports, aligning these efforts with state-of-the-art global watershed management, guidelines for monitoring and reporting Centre research and development and program evaluation—to maximize WIC's overall effectiveness.



Water Innovation Centre

“The Water Innovation Centre demonstrates Sustainable Development = Good Business.”

– Dr. Henry (Hank) David Venema, IISD Director of Sustainable Natural Resources Management and the Water Innovation Centre



The Centre's Inaugural Project: Canada's #1 Water Hot Spot



Lake Winnipeg Basin

Today, the WIC team is applying the concept of natural capital to integrated water resources management. Together, they are hard at work building a strategic management plan for the Lake Winnipeg Basin. It will be reinforced by IISD's work on integrated water resources management, ecosystem services and environment and security.

The Lake Winnipeg Basin affects the lives of 7 million people, 17 million livestock, and covers 90 per cent of the agricultural land in Western Canada—including Alberta, Saskatchewan, Manitoba and Ontario PLUS North and South Dakota, Minnesota and Montana.

Lake Winnipeg, itself, is the most environmentally damaged large lake in the world. Especially vulnerable to climate change due to its shallow depth, it is home to the largest freshwater fishery in Western Canada and provides over \$100 million in annual economic benefits.

Now in Western Canada and the US, many agencies target a wide range of water issues within certain specific boundaries. Since WIC is *not* constrained by jurisdictional boundaries or limited mandates, it is uniquely positioned and qualified to establish an integrated basin-wide strategy for the benefit of all. As a result, the Water Innovation Centre will serve as a neutral, central coordinator for all such efforts in the Lake Winnipeg Basin.

Under the direction of Dr. Venema, the WIC team will provide technical, logistical, and policy support to local and regional community groups and municipalities. These collaborations will produce public health, economic, and climate change adaptation benefits plus opportunities such as more reliable runoff for hydro power production, reduced flooding impacts, resilience to drought, even improved recreation and tourism. In effect, the vast Lake Winnipeg Basin will

serve as a natural laboratory, through which WIC will show the world how such areas can reap the rewards of the integration of markets, governance and eco-technology.

The lessons the WIC team learns in the Lake Winnipeg Basin will be adapted and shared worldwide—from Chesapeake Bay and the Gulf of Mexico in North America to Lake Chad and Lake Victoria in Africa and from Lake Balaton in Europe to Lake Taihu in China.

“The Lake Winnipeg Basin is huge ... from virtually the edge of Lake Superior to the Rocky Mountains. That's why it is a real management challenge.”

– Dr. Henry (Hank) David Venema, IISD Director of Sustainable Natural Resources Management and the Water Innovation Centre



A Message from Dr. Henry (Hank) David Venema

— *IISD Director of Sustainable Natural Resources
Management and the Water Innovation Centre*

Water is the staff of life—*especially here on the Prairies.* As much as the air we breathe, water connects us to the cycles of nature, the health of our region, our nation and our planet. As urbanites, we lead lives that are a little sheltered. But our rural brothers and sisters are aware that their livelihoods and economies will thrive or suffer with the vagaries of rain.

Today, 20 years after IISD began life in the province famous for its 100,000 lakes, the Institute is now firmly focused on water. And for what better a reason than the stewardship of Manitoba's most prominent feature—which, in the Cree language is *mistehay sakahegan*, and in Ojibway as *gitchee gumee*—or 'The Great Lake' or Lake Winnipeg: the crossroads of North America. Originally, the Eastern Great Lakes brought Europeans as far as Northwestern Ontario. But it was the watershed of Lake Winnipeg that empowered them to traverse the Prairies—from the Rocky Mountains and beyond—North to Hudson Bay.

The great explorers of Western North America *all* paddled the waters of Lake Winnipeg. Their explorations foreshadowed the coming of the railroads and the pioneers, the breaking of prairie soil and the building of sod huts. The Crow Rate soon followed. Then came floods, droughts and the Dust Bowl. Afterwards there was the Canadian Wheat Board, the Prairie Farm Rehabilitation Administration, mechanization and the northern Great Plains becoming *The Breadbasket of the World*. All these historic events took place within the Lake Winnipeg Basin.

In the 1930s, anthropologist Irving Hallowell visited Aboriginal communities along the Berens River on the East Side of this very same Lake. Here, Hallowell came upon what he called, "a Mayo Clinic of the North: a *Paingaiissi*, a centre of traditional healing." Indigenous people travelled the waterways linked by Lake Winnipeg to be healed and to be reconciled with nature.

To me, the Water Innovation Centre is a modern-day centre of healing.

Environmental healing. And to heal both Lake Winnipeg and its basin, we must first address the ecosystem in which it is embedded. Granted, our means are different: nutrient capture, basin management, phosphorus recycling, payments for ecosystem services and ecological engineering. However, our goals are the same. WIC is all about reconciling with nature, the economy and the food production we need—with true sustainability and ecological health for today, tomorrow and beyond.

DR. HENRY (HANK) DAVID VENEMA is IISD's Sustainable Natural Resources Management Program and heads the Water Innovation Centre Team. For more information about WIC, visit <http://www.waterinnovationhub.org/>



RBC Blue Water Project Awards Funding to Water Innovation Centre

(From L to R) Rob Johnson, RBC Regional President (Manitoba, Saskatchewan and Northwest Ontario); David Runnalls, IISD President and CEO; and Charles Loewen, IISD Vice-Chair and Capital Campaign Chair with Gord Nixon, RBC President and CEO during as he and Rob present IISD with a RBC commemorative painting at the grand opening of the RBC branch at Manitoba Hydro Place in October 2009



During the ceremonies for the grand opening of the RBC branch in downtown Winnipeg, David Runnalls (IISD President and CEO) and Charles Loewen (Vice Chair, IISD Board) proudly accepted the generous RBC Blue Water Project Leadership Grant for the Water Innovation Centre on October 6, 2009. Coincidentally, this RBC branch is situated on the main floor of Manitoba Hydro Place.

The RBC gift means that WIC can effectively reach out to the Prairie agricultural community and provide

education and support for sustainable water management. Other RBC Blue Water Grant recipients at the event were the Lake Winnipeg Research Consortium and Friends of the Earth.

"It was a daunting exercise to evaluate and choose from the 159 applications," said Rob de Loë, Chair of the RBC Blue Water Project Advisory Panel, professor and University Research Chair in Water Policy and Governance, University of Waterloo. "We were looking for innovative, collaborative programs that would provide a significant, measurable environmental and social impact." Once they reviewed the WIC application, the choice was easy.

The RBC Blue Water Project offers Leadership Grants to organizations that help protect watersheds or basins and improve access to clean drinking water. Out of 159 applicants around the globe, a total of 31 organizations—including IISD—were chosen in August 2009.

Eligibility-wise, the Blue Water Project zeroes in on programs dedicated to watershed or basin protection and access to clean drinking water. Protection includes awareness, community-based stewardship and restoration of natural areas, or sustainable water use and conservation. It also covers programs and projects that ensure communities have access to clean, safe drinking water—when and where it is needed. Over the next decade, the RBC Blue Water Project is will donate a total of \$50 million CDN toward global freshwater initiatives.

For more information, visit <http://www.rbc.com/environment/bluewater/index.html>



North America's greenest building: Manitoba Hydro's new Winnipeg home

"This building represents a significant commitment to downtown Winnipeg and to having the most energy efficient building in North America."

—Manitoba Premier Gary Doer (now Canada's Ambassador to the United States), at the grand opening of Manitoba Hydro Place, September 2009

Manitoba Hydro Place, the crown corporation's new 22-storey headquarters in Winnipeg is a state-of-the-art, green office tower. It is the 2009 recipient of the *Best Tall Building for the Americas Award* from the Council on Tall Buildings and Urban Habitat as well as the *2006 Canadian Architects Award for Design Excellence*.

As Bob Brennan, President and CEO of Manitoba Hydro, said, "I think we've been able to enhance downtown Winnipeg with a striking and award-winning, new building that also provides a healthy and vibrant work environment for our employees."

Manitoba Hydro Place covers an entire city block comprised of 690,000 square feet of public, retail, commercial and office space. Designed especially for cold weather climates, it is 60 per cent more energy efficient than a conventional office tower, featuring:

- A 'living green' roof to encourage reproduction of oxygen into the environment
- Waterfall features in the galleria and south winter gardens to provide conditioned fresh air that is naturally humidified and dehumidified depending on the season
- A solar chimney to passively drive the fresh air ventilation system
- Geothermal heating and cooling

Ties between Manitoba Hydro and IISD

Manitoba Hydro and the Institute are partners in the Water Innovation Centre.

A major reason is rooted in their policy manual, which clearly states "there are no political and jurisdictional boundaries to our environment, and that there is ecological interdependence among provinces and nations." All of which makes their generous financial support of WIC as fitting as it is welcome and appreciated.

"Manitoba Hydro is proud to partner with IISD in establishing the Water Innovation Centre. We share its vision to protect and preserve water in Manitoba, across Canada and worldwide."

— Bob Brennan, President & CEO, Manitoba Hydro

For a tour of Manitoba Hydro Place, telephone 204-474-3311 or visit <http://www.hydro.mb.ca>





“The concept of using Lake Winnipeg Basin as WIC’s natural laboratory is outstanding. It’s an ideal way to show just how well integrated water management can work here at home and worldwide.”

Charles Loewen is the Canadian Vice-Chair of IISD’s Board of Directors, Chair of IISD’s Bridging the Gap between Knowing and Doing Capital Campaign and a man whose life and career reflect a deep commitment to excellence. Prime example: the Water Innovation Centre.

As President and Chief Executive Officer of Loewen Windows, Charles is the head of one of Canada’s top window and door manufacturers and a Manitoba success story since 1905. Proudly hailing from Steinbach, Manitoba, he has served as president of that city’s chamber of commerce, credit union and is a key member of the Loewen Family Foundation—a non-profit organization which supports a wide range of charities. In 2007, Charles was the grateful recipient of the Canadian Window Manufacturers Association C.P. Loewen Award and an honorary diploma from Red River College in Winnipeg.

Charles Loewen’s Commitment to Excellence

A champion of the value and power of a good education, Charles appreciates and applauds WIC’s planned community education and outreach, which include internet-based outreach, ongoing seminars, meetings and workshops to improve the public’s awareness and understanding of the issues and potential solutions involved.

A graduate of the University of Winnipeg with a BA in history and philosophy, Charles is a past chair of the Manitoba School Improvement Program, a board member of the Arthur V. Mauro Centre for Peace and Justice, University of British Columbia’s Forestry Advisory Council, Menno Simons College and the Eastman Education Centre.

In addition, Charles Loewen is Chair of the Business Council of Manitoba. No stranger to awards, he was inducted into the Canadian Manufacturers and Exporters’ Hall of Fame in 2006. Four years earlier, Charles was among those honored with the Commemorative Medal for the Golden Jubilee of Her Majesty Queen Elizabeth II. When you ask him about his greatest personal achievement, Charles proudly points to his participation in two Iron Man Triathlons—typical for a man as committed to excellence as he is.

Charles Loewen has been an active member of the IISD Board of Directors since 2006. To view his and fellow Board-members’ video interviews online, visit <http://IISDisBridgingTheGap.org>





Book
Preview:



As launched in New Delhi, India in November 2009, the book is co-edited by IISD's Darren Swanson and Suruchi Bhadwal of The Energy and Resources Institute (TERI) and provides insight into more effective policy design for today's increasingly complex and uncertain world.

Creating Adaptive Policies: A Guide for Policy-making in an Uncertain World is the very first book to distill the principles of complex adaptive systems and management into practical guidance for policy-makers. It describes the concept of adaptive policy-making and presents seven tools to develop such policies. Based on hundreds of interviews with people impacted by policy and over a dozen case studies, it has been hailed as "an essential toolkit for those in the business of making, recommending, learning about or teaching sensible and sound policy" by Margaret Catley-Carlson (United Nations Secretary General Advisory Board on Water).

A perfect storm of global crises

Excerpt #1: "We are in danger of approaching a perfect storm of global crises. A global food crisis reared its head early in 2008 and has not gone away, and the impacts of climate change are manifesting themselves faster than was projected some years ago as carbon continues to accumulate in our atmosphere at unprecedented rates. But with these unfortunate experiences we are learning some important lessons about our economy, society and environment. For example, the economic crisis illustrates just how interconnected our local and global economies have become. The food crisis has reminded us of the vulnerability of the poor to fluctuations in market prices for our most fundamental commodities. The climate change issue has illustrated the interconnections among our economy, our society and our environment. The carbon fuelling our economy is changing the global environment on a scale never experienced before."

—from the Foreword by David Runnalls and Rajendra K. Pachauri

The Imperative: Sustainable development and the prospective mind

Excerpt #2: "We are motivated in this work by the imperative for a sustainable future, a future in which decisions are made with careful, deliberative thought about positive and negative impacts as viewed from economic, social and environmental perspectives, and with due regard for present and future generations. Fundamental to this pursuit is the ability of people to interact with each other and adapt to change.

"Public policies have an important role to play in fostering this ability. But for policies to be effective and to help people, the policies themselves must also give careful consideration to complex interactions and be able to adapt to conditions that can and cannot be anticipated. A policy that is unable to continue to perform in a dynamic and uncertain setting, or unable to detect when it is no longer relevant, is a policy that is more likely to hinder the freedom and capability of people to adapt to change."

Creating Adaptive Policies

A Guide for Policy-making in an Uncertain World

Adaptive policies anticipate the array of conditions that lie ahead...

Excerpt #3:

"...through the robust, up-front design using (1) integrated and forward-looking analysis; (2) multi-stakeholder deliberation and (3) by monitoring key performance indicators to trigger automatic policy adjustments. But not all situations can be anticipated. Unknown unknowns will always be part of policy-making. Adaptive policies are able to navigate towards successful outcomes in settings that cannot be anticipated in advance. This can be done by working in concert with certain characteristics of complex adaptive systems, including (1) enabling the self-organization and social networking capacity of communities; (2) decentralizing governance to the lowest and most effective jurisdictional level; (3) promoting variation in policy responses and through (4) formal policy review and continuous learning.

"Designers and implementers of adaptive policies embrace the uncertainty and complexity of policy context, and consider learning, continuous improvement and adaptation of the policy a natural part of the policy life-cycle."

The challenge facing policy-makers is that the world is a much different place than the one in which previous generations of policy-makers worked

Excerpt #4:

"The connectedness of the global economy, the pace of change and scale of impact of our actions, all add up to a more complex, dynamic and uncertain setting in which policy-makers must work on a day-to-day basis. New policy approaches and tools are needed to work effectively in this world."



Darren Swanson is a Senior Project Manager with IISD's Measurement & Assessment Program. As a sustainable development policy specialist and professional engineer with 18 years of consulting and research experience, he focuses on strategic processes for organizational and societal-wide learning and adaptation. Darren also provides project management for IISD's Sustainable Natural Resource Management and Climate Change programs and technical support to IISD's corporate management team.

To download ***Creating Adaptive Policies: A Guide for Policymaking in an Uncertain World***, visit <http://www.crdi.ca>. To purchase a copy, visit <http://www.sagepub.com>



A Sustainable Development Roadmap for the WTO

A *Sustainable Development Roadmap for the World Trade Organization* by IISD Associate Aaron Cosbey, received its official launch at the WTO head office in Geneva, Switzerland in November 2009. Aaron is an IISD Senior Climate Change and Trade Advisor specializing in trade and sustainable development, international environmental governance, and climate change for the Institute's trade and investment program.

Since the WTO's mission for global economic prosperity is threatened by looming climate change and other global environmental, social and economic crises, *Roadmap for the WTO* is designed to guide the organization to a strong social and environmental purpose—a purpose the Organization has officially set for its founding documents. In essence, it asks: *What would the WTO look like if that objective were rigorously pursued?* Its answers address dispute settlement, accession, trade and environment, trade and development, and the negotiation process.

As well as considering those organizational challenges, *Roadmap for the WTO* also explores the forms of trade liberalization that could contribute to the transition towards an efficient economy while simultaneously reducing the gap between rich and poor.

Pascal Lamy, WTO Director General, gratefully accepted the Roadmap and agreed that the multilateral trading system has room for improvement. But the question was how much the WTO itself could do. In his view, the WTO is not a "holistic" organization. It could, Lamy added, more actively participate in the efforts of other specialized multi-lateral institutions and civil society organizations so all can address inter-connected sustainable development issues in the context of a new approach to worldwide trade.

John Gero, Canada's WTO representative, said *Roadmap for the WTO* offered positive suggestions as to how to solve several vital issues. He felt the IISD book challenged conventional wisdom while it emphasized the need for benchmarks for accountability.

In Aaron's eyes, the *Roadmap* contains a message of hope, and acknowledges that many of the principles for sustainable development are already embodied in the WTO's founding text.

"It is time for the WTO to do some serious soul-searching," Aaron concluded. "For starters, it should convene an independent body of experts to recommend how it can make progress on these institutional issues, and to help decide which pieces of the larger sustainable development effort are appropriate to the WTO's mandate and expertise."

For more information about *A Sustainable Development Roadmap for the WTO*, visit <http://www.iisd.org/trade/>



"Today, we live in a small world where there is no room for pure mercantilism. The potential of the WTO to engage in sustainable development is enormous."

—Aaron Cosbey, IISD Associate and author of *Roadmap for the WTO*

Coming in November 2010: Lake Winnipeg Basin Invitational Summit

The state and fate of the Lake Winnipeg Basin, ecosystem goods and services as well as sustainable and integrated water resources management will take centre stage for two days of discussions and presentations at the upcoming Lake Winnipeg Basin Summit in Winnipeg on November 30 and December 1, 2010.

Day One's morning session will focus on a historical look at the Lake Winnipeg Basin, its stresses and challenges while the afternoon will consist of scenario development and creation of possible solutions and how to implement them. Day Two's focus will be on round-table discussions with key stakeholders.

The Summit marks the 5th anniversary of what was formerly known as the *Prairie Water Policy Symposium* (PWPS) which was hosted by IISD in Winnipeg in 2005 and attended by over 100 scientists, policy-makers and researchers from across Canada.

For details on the 2010 Lake Winnipeg Basin Invitational Summit, visit <http://www.waterinnovationhub.org/>

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IISD's vision is better living for all—sustainably; its mission is to champion innovation, enabling societies to live sustainably. IISD is registered as a charitable organization in Canada and has 501 (c) (3) status in the United States. IISD receives core operating support from the Government of Canada, provided through the Canadian International Development Agency (CIDA), the International Development Research Centre (IDRC) and Environment Canada, and from the Province of Manitoba. The institute receives project funding from numerous governments inside and outside Canada, United Nations agencies, foundations and the private sector.

Now available online: The Water Innovation Centre website

Now you can visit the Water Innovation Centre online at its brand-new website at <http://www.waterinnovationhub.org/>

The WIC site provides an overview of the Centre, an in-depth look at the Lake Winnipeg Basin, funders, biographies of Centre staff as well as information about WIC research areas including ecosystem services, wetlands, governance and management, eco-health, technology, community outreach and education plus links to other IISD websites.

Funding for the Water Innovation Centre comes under IISD's Bridging the Gap between Knowing and Doing Capital Campaign has a private sector goal of CDN \$4 million.

To join the growing number of contributors, visit <http://www.IISDisBridgingTheGap.org>



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