Annual Conference of the McGill Institute for the Study of Canada

canadian water

towards a new strategy

March 25-26, 2010
A summary report

Written by

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“Canadian Water: Towards a New Strategy”

2010 Annual Conference of the McGill Institute for the Study of Canada

The 2010 MISC Conference asked important and timely questions regarding water and water policy in Canada, such as: What are the most problematic myths about water in Canada? What are the biggest water issues that Canada will face over the next 10-25 years? How would full-cost pricing or full-value pricing of water promote technological and institutional innovation and conservation? What are the positions of stakeholders such as industry, universities and NGOs on water governance?

To help answer these questions, the MISC reached across professional and disciplinary boundaries, and invited some of the most prominent Canadian and foreign experts to speak. Panellists and keynote speakers were asked to assess Canadian water policies and to come forward with new recommendations for the management of Canadian water resources. The dynamic exchanges of ideas that marked the conference were a testament to the diversity of the participants, who included government representatives, practitioners working in various water sectors, representatives from citizen groups, students, and members of the general public, many of whom might not have had a chance to share their thoughts and insights without this forum.

This report\(^1\) reviews the main issues addressed by the “Canadian Water: Towards a New Strategy” Conference, and provides a summary of each panel. It also seeks to highlight recommendations made by the participants. As such, the document does not represent the views of the McGill Institute for the Study of Canada or those of the author. For more information about the conference or to watch video recordings of the panels, please visit the conference’s website: www.mcgill.ca/water2010.

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<th>OBSERVATIONS</th>
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| **Water governance** | • Adoption of a new National Water Policy.  
• Integration of water policy within watershed borders rather than political boundaries.  
• Importation of some parts of the EU model, especially the subsidiary principle.  
• Election of a water champion.  
• Enforcement of a set of national guidelines. |
| Canadians wants governments to take a greater responsibility for freshwater. The federal government is seen as an unreliable partner, while federalism is perceived to have inhibited the dialogue. | |
| **Water pricing** | • Cost recovery measures should be initiated to limit waste in irrigation, municipal systems and households.  
• Mandatory metering to be implemented. |
| Water is not properly valued and Canadians are ready to pay more to have clean and sufficient water supplies. | |
| **Enforcement of law and regulations** | • Governments, especially Environment Canada, should be more aggressive in enforcing environmental laws. |
| Laws and regulations are not properly enforced. | |
| **Water perception** | • There is room for action and politicians should embolden themselves.  
• Social media should be used as a tool to connect with people and share ideas. |
| Canadians define water as the most important resource and the greatest source of concern. Canadians are ahead of their politicians in this regard, and expect leadership from the political class. | |
| **Climate change** | • Renewable energy and sustainable water practices should be given priority by governments.  
• Demand management should be promoted. New technologies would create green jobs and economic opportunities within global markets.  
• Tools for conservation and low impact designs should be developed. |
| Climate change is occurring, and we are unprepared to deal with the challenges it will present. | |
| **Native people** | • More attention should be focused on this issue, and more resources made available; local communities should be empowered. |
| 75% of Native reserves do not have clean water. | |
| **The North** | • The adoption of a broader strategic vision for the Boreal forest would help to preserve it. |
| Canadians are unaware of the importance of the Boreal forest. | |
| **Water abundance and exports** | • More educational activities should be undertaken to reach the Canadian population. |
| There are no water surpluses in Canada. The main threat to our water is not the US but the Canadians themselves. | |
| **Science** | • Policy-makers and scientists have to work together more closely.  
• Communication is essential for science to be understood and disseminated amongst policy-makers. |
The first panel, moderated by David Biette, focused upon the most relevant international issues surrounding water today.

As the first panelist, Doug Miller presented the results of a global survey conducted by his firm, GlobeScan International. Thousands of respondents from 15 different countries participated in the survey. The results indicate that an increasing number of people perceive environmental problems as very serious. Canadians ranked as ‘average’, above Americans but significantly below Mexicans and Indians. When asked about the urgency of particular global challenges, shortages of clean water ranked as the most urgent one to address, ahead of poverty, climate change and air pollution. However, when asked to rank particular issues in terms of private companies’ ability to effectively address them, the issue of clean water shortages came 6th, behind economic instability, electronic waste management and corporate accountability. Doug Miller closed his speech by asserting that the results support a greater role for governments in providing potable water. The same argument could be made for water pricing, as millions of people are very concerned with the state of their water resources.

A global portrait of freshwater issues was then offered by Zafar Adeel, Director of the Institute for Water, Environment & Health at the United Nations University:

- 900 million people worldwide live without having access to clean water | Africa and South Asia are the areas of greatest concern | 2.6 billion people do not have sanitation | 3.5 million people die each year from poor water quality and a lack of sanitation and hygiene | Children under the age of five accounts for 1.4 million of those preventable deaths

Lacking access to clean water and sanitation kills many more people than any tsunami or national tragedy that we are used to seeing in the news. Policy failures are to blame for the current overexploitation of water resources around the world: even relatively water-abundant North America is concerned (mostly in the West, but also in eastern states such as Georgia and Florida. According to projections by the IPCC, by 2050, water run-off will be dramatically altered by climate change. Many parts of the world will experience a water availability decrease of 20%, including the Americas, Europe, and eastern Australia, while other regions such as the Arctic, Southeast Asia and Africa will experience a 20% water availability increase. Changes are already occurring, and engineering textbooks have to be rewritten since 50-year floods now happen every 2-3 years. Canada is not ready to face these changes, one such change being that the North is going to be wetter, as rainfall will increasingly replace snowfall. Zafar Adeel concluded his speech by inviting Canada to act, sooner rather than later: “We have to wake up to these changes and become a world leader.”
Lili-Anna Peresa, Executive Director of the One Drop Foundation, made an impassioned speech about water as a human right, focusing on how water affects the lives of people. Proclaiming her humanist stance on the issue, she argued that water is a shared heritage. “A right to water,” she said, “is a right to life.” She argued that providing water to human populations is not only a matter of volume, but also a matter of quality. Having access to water makes huge differences on a daily basis, as is shown by the following statistics:

More people have died from unsafe water since the Second World War than all the people who were victims of conflicts in that time period. | Washing one’s hands reduces the mortality rate by 40%. | For every child that dies from HIV, five die from unsafe water. | South African women and girls walk the equivalent of 16 trips back and forth to the moon every day for clean water.

Having access to clean water is also a prerequisite for education, since students are missing many days of school due to water-related diseases. Education can bring about major changes in developing countries, yet as females are usually in charge of fetching water, girls suffer the most in this regard. Lili-Anna Peresa finished her speech by bringing attention to the fact that every dollar invested yields an 8-12 dollar return.

What do dinosaurs and Julius Caesar have in common? Margaret Catley-Carlson, patron of the Global Water Partnership, began her talk by drawing the public’s attention to this very unusual question. Her answer was that both have enjoyed the same volume of water on earth, since the hydrological cycle is a closed system. But today, with the great increase in human population and water usage, we are experiencing shortages. As a result of greater prosperity, people are looking to increase their quality of life. They thus tend to spend more on food, yet each calorie produced requires a litre of water. Worldwide, 70 rivers do not reach the sea anymore, water tables are declining, and close to 30% of freshwater aquatic species are in peril. Margaret Catley-Carlson was unequivocal: the future looks grim due to the overexploitation of water resources, and an increased risk of conflicts and security issues are to be expected as a result. In her words, we are “simply getting to the place where not enough water will be available for everyone’s needs.” Accordingly to Catley-Carlson, water is not valued properly, and there is significant waste in irrigation systems, municipal systems, and also within households. Improper infrastructure in the Third World leaves the poor overburdened with water issues – for instance, millions of working days are lost in India due to water issues every year. However, even under these dire circumstances, some concrete solutions can be put in place: building more desalinization plants, encouraging reuse of water in agriculture, creating new drought resistant crops and building water neutral buildings. Above all Catley-Carlson concluded, we have to think creatively and learn to collaborate, even if “reforms are a negotiated political process involving high stakes and possibly powerful resistance.”
During the discussion that followed, which was moderated by David Biette, Zafar Adeel expressed his disagreement with some of Margaret Catley-Carlson’s claims. After asserting that we are experiencing a trend toward community level empowerment, he argued that water is an integrator and a factor of collaboration rather than of conflict, as shown in the Jordan River basin and the Indus basin. Margaret Catley-Carlson responded by highlighting the fact that new stresses are arising, and tensions surrounding water are emerging everywhere around the globe. Lili-Anna Peresa referred to Hillary Clinton stating that water would soon become the number one policy priority of the United States. Doug Miller concluded the discussion by giving voice to the respondents in his study: “People out there expect leadership. They think their leaders should be able to do a better job than what they do.”

During the Q&A period, the role of social media was brought up. Margaret Catley-Carlson responded by affirming that they are very important and play a key role in prompting people to question their own behaviour. Zafar Adeel agreed, and furthered the discussion by highlighting the technological limits that Third World countries are facing, such as intermittent or nonexistent access to the Internet and limited access to electricity. Lili-Anna Peresa said that the One Drop Foundation uses social art to reach out to people and to change their behaviour. One issue whose importance was unanimously agreed upon, albeit to different extents, was the pricing of water. Margaret Catley-Carlson asserted that the world is not running out of water, but of economical water. She acknowledged that very few people are talking about full cost recovery, but said that if operational costs could be recovered, it would be a big step. Zafar Adeel adopted a similar position, arguing that the right to water is an absolute fallacy; supplying water costs money, and someone has to pay for it. Lili-Anna Peresa countered that there is no right to free food, but that the state has a responsibility to provide water for free if someone cannot afford it.

**OPENING ADDRESS, FEATURING DAVID W. SCHINDLER**

David W. Schindler, Killam Memorial Chair & Professor of Ecology at the Department of Biological Sciences of the University of Alberta, offered a fervent and spirited environmental plea. He began by insisting that water is prevalent across Canada (even in Saskatchewan, which is known for its dry climate). He then focused upon the Boreal forest, pointing out that human activity is profoundly changing the nature of the landscape through attacks by human-introduced beetles, the multiplication of roads, and industrial logging. And with the expansion of tar sand extraction activities towards the Mackenzie valley, the Boreal forest risks being cut in two. While its intrinsic value went unnoticed for decades, estimates of the amount of carbon stored in the Boreal forest have recently been doubled. Indeed, in terms of carbon capture, the Boreal forest is now considered to be the equivalent of the Amazon forest. Moreover, the ecosystem services that it is providing are estimated to be worth billions of dollars. Having offered this present-day snapshot of the Boreal forest, David W. Schindler then invited those in attendance to
revisit our very interpretation of time and our relationship with it. Recalling the fact that the last century was unusually wet, he showed maps of Lake Winnipeg thousands of years ago. At that time, the climate was much drier and the basin much smaller that it is today. The exceptionally wet climate that we are currently experiencing comes at a price: in times of drought, billions of dollars in damages are paid to farmers, as it occurred between 2001-2003. He also warned that more droughts are to be expected in the near future due to climate change: the temperature is increasing in Alberta, the Great Lakes shoreline is receding, glaciers are retreating, and rivers’ flows are reduced. David W. Schindler rejected the oil companies’ denials of climate change as propaganda carried by the “sunshine boys” who are “experts at blowing sunshine into dark, smelly places, such as the oil sands.” As an example of how unreliable information from the oil companies is, he cited the fact that they refer to their average water consumption to demonstrate how low their needs are, whereas their consumption spikes well above that average many times a year.

Schindler then presented results from the recent examination of the Athabasca River (in Western Canada), debunking the myth of the “natural and historical leaching” of chemicals into the river. He showed that snow precipitation contains many more chemical components, and in higher concentrations, than what is found naturally: lead, arsenic, mercury, and more than 28 other types of metals, all of which are accumulating downstream. According to him, there is no doubt that a violation of section 36, subsection 3 of the Fisheries Act (prohibition of deleterious substances) is occurring, and that Environment Canada is not enforcing the law. Turning his focus upon eastern Canada, Schindler said that there are significant concerns there as well. Chief among these is the multiplication of hydroelectric developments, which in the past were characterized by a denial of the rights of the Aboriginal people such developments affected, as well as a minimization of their environmental impact. As a result, people and wildlife were displaced and fish were deprived of their natural habitat, while the underwater decay of the flooded vegetation produced greenhouse gases. Although major strides have been made to decrease the impacts of hydroelectric projects, their impact remains very significant – and more hydroelectric developments are planned. Schindler concluded by insisting that Canadians should take a greater interest in their northern resources.

During the Q&A, David W. Schindler affirmed that the Alberta government has its fiscal hands tied, since the province has no income tax. Hence the tar sands are their financial sacred cow, and “whenever the cow kicks, they react. It’s a no win situation.” He also warned that the tar sands development is changing the mating habits of animals and is causing them to move away – for instance, the number of caribou in the area has dropped by 50%.

Climate change deniers prefer believing in a “reassuring lie” rather than dealing with an “inconvenient truth.” – David W. Schindler
Nik Nanos, President and CEO of polling firm Nanos Research, presented the results of a national survey conducted in May and June of 2009. One important finding was that water is considered to be the most important resource in Canada (61%), well ahead of oil and gas (21%) and forests (11%). These results prompted him to challenge Stephen Harper’s claim that Canada is an energy superpower, saying that the country should instead be seen as a water superpower. With regards to freshwater, Nanos said that water pollution is a top priority for Canadians (39%), followed by waste and overconsumption (22%), and drinking water quality (18%). Bulk water exports occupy the 4th position (17%) in this survey. In matters of water governance, 49% of Canadians think that all levels of government should be involved (Quebecers are higher at 77%), while 29% think that just the federal government should be involved (5.6% in Quebec, 42% in Ontario). What then, should be the government’s priority? Canadians favour first articulating a vision through the development of a national water strategy (29%), followed by the prohibition of bulk water exports (20%), and further awareness/education (16%). Interestingly, Canadians are willing to pay more to get clean water, with 25% calling themselves ‘very willing’ to do so. Nik Nanos said that these results show “Canadians are ahead of their legislators on the issue of water.”

PANEL I: A WATER REALITY CHECK

Introductions were made by the moderator L. Ian MacDonald, Editor of Policy Options, who invited the panellists to expose myths surrounding Canada’s water resources.

R.W. Sandford, Chair of the United Nations “Water for Life” Decade and Executive Director of the Western Watersheds Climate Research Collaborative, titled his presentation Corralling the Water Hole. He began by seeking to debunk three persistent myths held by Canadians. First, we are not a leader in water management, are one of the top water polluters globally, and are quite good at making contentious water policies. Second, the marketplace will not take care of all our water-related problems. In fact, we are in need of proper principles and guidelines to direct our use of nature and the environment. Third, the proper management of water resources cannot make everybody happy as consensus is hardly achievable. Sanford went on to argue that what we need is governments
playing a greater and more consistent role, especially with regards to groundwater, water used for energy purposes (for instance in the tar sands), transboundary collaboration, and dams. Another particular source of concern is agriculture, which uses up to 77% of total water consumed, and which produces tons of nutrients that are borne by streams and runoff, into lakes and rivers thereby polluting them. The same is true of drugs, most of which leave our bodies unchanged and still active, thus altering the water quality downstream. In his closing remarks, R. W. Sandford proposed that Canada move forward on guaranteeing enough water supplies for nature before humans take it all, that we act in a more sustainable way, that we undertake regional water policy reform on a large-scale watershed basis, that we harmonize laws and regulations, and finally, that we make better use of scientific knowledge.

James P. Bruce from the Soil and Water Conservation Society, focused his talk on the impacts of climate change for Canada, highlighting the anthropological origins of current temperature changes. He said that human activities are responsible for an increase in the volume of greenhouse gas (GHG) emissions, and since the 1970s, those gases have played a key role in warming the planet. Two main trends are presently discernible. The first one relates to an increase in temperature: the warming of the atmosphere will lead to an increased volume of water vapour, and thus more intense rain and snow, with the North and the Prairies being the most affected, while the East is seeing the least impact due to maritime currents. The second trend involves an increase in soil erosion, since runoff will carry even more nutrients and chemicals into the waterways, while floods will become more common. James P. Bruce then underlined the importance of peat lands and warned that they must not be allowed to disappear, since this would lead to more methane, an extremely potent GHG, being released. In conclusion, he underlined the need to adapt to present and future changes, especially through water conservation in the South and by reducing our exposure to flash floods.

Christopher Hilkene, Chair of the Water Program of the National Round Table on the Environment and the Economy, talked about the role of water relative to Canada’s main natural resource sectors: forestry, agriculture, mining and energy. Taken together, these sectors represent a significant part of the Canadian GDP and of total exports. In the long term, their continued growth affects hundreds of thousands of jobs, as well as fiscal revenues for the governments. But because of a lack of incentives right now, businesses need leadership to improve their efficiency. Hilkene affirmed that Canada lacks a broad public water policy, and said that individuals and businesses would benefit from the creation of a centralized and accessible water information database. He also pointed out that economics is an important driver of water conservation, since there is a strong linkage between energy consumption and water use. Hilkene went on to propose a review of water allocation across the country, the adoption of an integrated watershed resource management approach, and a stronger engagement on water related issues by the federal government. He concluded by highlighting the relationship between water and energy, with each needed to produce the other. He underlined that “energy use reductions” could drive down water
usage, as well as that producing nuclear energy requires a lot of water and thus could give rise to all sorts of water-related issues.

“This meeting is necessary, and can have an impact.” Following these words, Karen Bakker, Geography Professor at The University of British Columbia, called for a new paradigm of water governance that would consider the needs of both humans and the ecosystem. Bakker said that at present, Canada has some of the weakest water governance in the developed world. Indeed, more than 75% of Native reserves do not have access to potable water. The lack of legally enforceable guidelines and the lack of integration due to the multijurisdictional nature of water resources resulted in a decentralized mode of water governance, one that is good at triggering constitutional discussions regarding jurisdictional issues, but that does little to protect the water resources. This failure to coordinate can be seen in the absence of a central repository for data, which would allow for comparison and evaluation. As a result, the role of NGOs is getting more and more strategically important over that of government, since they are often the best source of reliable information.

Bakker then said that when it was passed in 1970, the Canada Water Act made this country a leader in water governance. But this law has not been updated in 40 years, causing Canada to lag behind other countries. According to Bakker, our present focus should be on water security, that is to say, guaranteeing “sustainable access on a watershed basis to adequate quantities of water, of acceptable quality, to ensure human and ecosystem health.” Karen Bakker concluded her presentation by asserting that the greatest threat to our water is not the US but Canadians themselves: we need to get our own house in order.

“We don’t regulate, we abdicated... Some countries do it better than us. – Karen Bakker
The second panel, dedicated to the economics of water, was moderated by Peter Calamai, Adjunct Research Professor in the School of Journalism and Communication at Carleton University.

Peter Brown, Geography Professor at McGill University, argued that water is a fiduciary good. He drew a parallel between John William’s painting *Ulysses and the Sirens* – in which Ulysses is lured to his death by the sirens – and our own civilization, arguing that this metaphor illustrates the unsustainability of our relationship with the natural world. Moreover, our current institutions do not work properly, and thus we should take a good, hard look at things. Professor Brown urged us to reconsider the way we think about certain things, especially water. In describing how to do this, he drew upon fiduciary law, and insisted that “any person having power over a water resource has the duty to care for it.” According to his definition, a fiduciary relationship is built upon two main principles: the requirement to act in good faith, and to not seek out one’s own interests. Furthermore, according to the fiduciary paradigm, a person or an institution cannot waive their responsibilities. Brown said that water should not be considered a public good, but rather a common good over which the trustee has at his or her disposal numerous policy tools:
market mechanisms, pricing, punitive damages, etc. Peter Brown concluded his presentation by underlining the need to rethink our institutional structures, as well as to further explore the concept of fiduciary relationships with regards to water.

The concept of common goods was then discussed by Madeleine Cantin Cumyn, Professor Emeritus of Law at McGill University, through the lens of the newly-enacted *Act to affirm the collective nature of water resources and provide for increased water resource protection* in Québec. This law recognizes water as our common heritage. The meaning of the term ‘collective resource’ is legally significant since this law has bearing upon the civil code. It maintains the status of both ground and surface water as a *res communis*. Hence everyone is entitled to the right to water for personal hygiene, cooking and domestic purposes, but no one can claim ownership over the water, not even the state. To the latter is vested the role of trustee, thereby establishing a fiduciary relationship between the state and the water resources. The Act creates watershed communities that involve the participation of users, and also presides over the setting up of master plans, including inventories of fragile zones and determinations regarding the measures and financial resources required to protect them. From now on, withdrawals of water must abide by the principle of precaution and be authorized by the Ministry of the Environment. The issue of water exports is also addressed by the Act: any exports should be in the public interest and should be assessed in advance.

Hans Schreier, Emeritus Professor at The University of British Columbia, focused on water conservation strategies. He noted that Canada has one of the highest rates of water consumption in the world, and that its citizens pay the least for their water. This situation arose because of the prevalence of water intensive industry and agriculture in the country, as well as from our cultural background. As an example, he pointed to the widespread use of conventional toilets, which represent a huge drain on the water resources of any Canadian city, especially during intermission between periods of hockey games. Solutions to reduce our water consumption abound, however. Xeriscaping is one that is particularly efficient, as well as shifting towards crops that require less water. Roof gardens represent another solution that is available to most citizens, as well as metering, general water conservation and low impact designs. In his closing remark, Hans Schreier cautioned us that costs are exponential and that we have to rethink our water consumption.

In closing the panel, Steven J. Renzetti, Economics Professor at Brock University, dedicated his presentation to full cost pricing. He defined this as the identification and inclusion of all the inputs and associated costs. He cited the EU model of integrating environmental costs as an example of the sorts of things that must be considered to achieve full cost pricing. According to Renzetti, the current pressure and increasing demand on the water delivery systems across Canada make getting close to full cost pricing desirable. This is especially true in light of

We can learn from electrical pricing by Hydro-Québec, where energy is controlled at the provincial level.

– Steven J. Renzetti
the challenges presented by aging and expanding infrastructure, as well as rising costs to supply water to households. Moreover, Canadians have directly benefitted from being systematically undercharged for water over the last decades. Renzetti said that current pricings are incomplete, since they do not reflect the marginal cost of service, do little to encourage environmental protection, and do not help to promote innovation. From a policy perspective, inconsistent pricing from one province to another, and from one municipality to another, is a problem that should be addressed: “without [water] meters, as is the case for more than 25% of Canadians, you can’t manage it.” Ultimately, Renzetti recommended several possible solutions. He said that a single set of rules that apply across the whole country could be effective, and would help to depoliticize the pricing process. Another possibility is to tie the price to the costs, coupled with smart water meters with real time data.

In the following Q & A, Hans Schreier pointed out that even seemingly trivial choices that we are making today, like choosing toilets, will have an impact for the next 30 years, until the old models get replaced. Steven J. Renzetti then reaffirmed the effectiveness of water pricing in reducing water consumption.

KEYNOTE ADDRESS, FEATURING THE HONOURABLE JIM PRENTICE

The Honourable Jim Prentice, Minister of the Environment, began his speech with a poetically charged introduction, quoting Frédéric Back’s Fleuve aux grandes eaux, which served to highlight the importance of the St. Lawrence River to Canadian society and to the country’s economy. From the coureur des bois to today’s tourists, the “St. Lawrence is at the heart of the Canadian psyche.” That attachment to our natural resources has had some severe setbacks however, as evidenced by how heavily polluted our waterways have become. But according to Minister Prentice, Canada is taking action, through agreements with the provinces and the contiguous United States. The Boundary Waters Treaty, the Great Lakes Water Treaty Act, the St. Lawrence Plan, and the Great Lakes Action Plan are funnelling millions of dollars towards cleaning up our waterways.

Minister Prentice went on to stress that many of our environmental behaviours are problematic, an example being the dumping of raw sewage in rivers and the ocean. Such behaviours prompted the adoption of the Wastewater Systems Effluent Regulations on March 20th 2009, and these are contributing to the development of national regulations under the Fisheries Act. At the same time, the federal government has been helping municipalities such as Sainte-Agathe, Sherbrooke and Hamilton upgrade their wastewater plants. According to Minister Prentice, “It’s time,
frankly, to live up to the image that we have of ourselves. [...] Nature is resilient if we give it a chance.”

PANEL III: WATER GOVERNANCE IN CANADA

The third panel, dedicated to water governance, was moderated by Scott Vaughan, Commissioner of the Environment and Sustainable Development at the Office of the Auditor General. Rob de Loë, Water Policy and Governance Professor at University of Waterloo, began his speech by stressing the importance of coordinated action in working towards a new national water strategy. He noted that the public is becoming increasingly aware of water-related issues, especially water availability and water security. A challenge for water governance today is the complexity of many of the issues, as well as the increase in the number and diversity of actors involved. The stakes are also now higher, with serious risks of environmental damage, especially through climate change. But the present situation also harbours opportunities that should be grabbed, with new markets emerging that can be taken advantage of. Rob de Loë agreed with those who advocate a new National Water Policy, and proposed a focus on sectors such as food security, transboundary resources, and water information sharing. According to de Loë, Canada is “not leading the pack here.”

Linda Nowlan, Environmental Lawyer and Consultant, began her presentation with a definition of water governance, colloquially defined as “who sits at the table and who makes the decisions.” The participation of outside stakeholders in governmental decisions means that we can now talk about shared water governance. According to Nowlan, this joint engagement in developing and delivering policy and services is necessary since conflicts between user groups will increase in the future. She also foresees Natives (which she called ‘the sleeping giants’) playing an active role in environmental law. Nowlan advocated for shared water governance, and highlighted five main areas of concern: the use of watershed boundaries rather than political boundaries, the delegation of water governance to local basin organizations, greater participation from civil society, a collaborative decision-making process, and finally, a decision-making process based on science.

Ralph I. Pentland, President of Ralbet Enterprises Inc., argued that humanity has a duty to practice sustainable development. He anticipates that the limits on sustainable development could be expanded through social innovation and technology, such as rising productivity and better waste management. But he cautioned his listeners not to be overly optimistic and to mistakenly assume that technology will resolve issues of water scarcity. For Pentland, democracy and capitalism have been somewhat underemphasized in the effort to practice sustainable development, while the World Trade Organization has put a higher priority on short term gains rather than on promoting the public good. At the same time, the Canadian public
service has become risk-averse in an international environment that is becoming increasingly competitive. According to Pentland, so-called ‘smart regulations’, which are meant to ease transactions, are in fact endangering the regulator-regulated relationship. Despite the wishful thinking of some, the market is not really a part of the solution. Instead, what is needed is an emphasis on sound science, as well as on getting the scientific findings to policy makers. Also, Pentland made the comment that dusting off the Federal Water Policy of 1987 was not an appropriate option. Too much has changed and new forces have emerged. A policy reform is essential and a new approach is required. In conclusion, Ralph I. Pentland called for policy reform, and invited local managers to maximize “the resilience of local ecosystems to cope with the unknown and uncontrollable.”

The following roundtable, moderated by Scott Vaughan, raised the issue of science and the impacts of the principle of precaution. Rob de Loë said that science is incredibly important, but he emphasized that any action has to be negotiated. Rights and responsibilities must be based upon science, but just asking scientists is not enough. These statements were supported by Linda Nowlan and Ralph I. Pentland. When questioned about the optimal balance between representatives and average laypersons in public consultations, Linda Nowlan worried that “average concerned citizens sometimes are neglected”, while Rob de Loë referred to the transformative process that people often go through when acting as representatives for the public: “people are coming for the public good instead of for the sake of being there for themselves.”

SPECIAL ADDRESS, FEATURING THE HONOURABLE CHARLENE JOHNSON

Charlene Johnson, President of the Canadian Council of Ministers of the Environment (CCME), dedicated her special address to the role of the CCME in water governance. Created in 1964, the Council brings together 14 provincial, territorial, and federal ministers of the environment. It gives each member an equal voice and promotes interministerial collaboration, with members free to choose the issues to be discussed. This intergovernmental forum works on the basis of consensus. Although reaching a consensus can be challenging, Johnson stated that the benefits arising from the Council mean that the “effort is worth it”. The CCME’s members endorsed a high-level agenda in October 2009, and adopted it soon afterwards. The agenda, entitled “Strategic Directions for Water”, focuses on five main goals: i) protection of the aquatic ecosystems on a watershed basis, ii) water conservation, iii) improvement of water quality and quantity management, iv) adoption of adaptive strategies to deal with climate change impacts, and v) improving knowledge about Canada’s waters. According to Johnson, the CCME plays an important role in providing leadership and promoting research on clean and safe water. For
example, the organization maintains a water quality index calculator to ensure that there are consistent procedures for Canadian jurisdictions in reporting water quality information, and it is currently working on a protocol for underground water.

**PANEL IV: NEW WAYS OF THINKING ABOUT WATER**

Moderated by Désirée McGraw, Executive Director of the Jeanne Sauvé Foundation, the last panel focused upon our relationship with water.

**Tim Morris** from the Duncan Foundation focused on the concept of accountability in his talk, and decried the fact that while good laws exist, they are not properly enforced. He drew upon opinion polls in observing that Canadians consider water to be the most important natural resource. Yet while nearly all provinces have adopted their own water management plan, we are concretely witnessing lakes and rivers that are far from being in good shape. Moreover, we are billions of dollars behind the required level of investment in our water infrastructure. The severity of this situation is exacerbated by the decreasing level of attention being paid to water-related issues by the federal government, and by the overly heavy reliance on voluntary participation in water management plans. According to Morris, the adoption of sustainable policies that take ecosystems, watersheds and citizens into account, are key. Finally, the public must be engaged in a more dynamic manner.

**David B. Brooks**, Senior Policy Advisor for Friends of the Earth Canada, dedicated his presentation to demand management and the ‘soft path’. He said that following the release of the Brundtland report, leaders and the wider public realized that what we do with our environment affects our economy, since the latter is to a large degree dependent upon the environment. Brooks therefore believes that we should take the soft path, which focuses on effecting a change in peoples’ outlooks and decision-making. It involves a vision of a different kind of society where decisions are taken according to their sustainability and ecological impacts. Institutions would have to be redesigned, and a lower rate of economic growth would have to be promoted. But the question remains as to whether the soft path could ever realistically be politically feasible.

Adopting a different position than the other panellists, **David Henderson**, Managing Director of XPV Capital Corporation, offered an entrepreneurial perspective. Instead of expressing his fears about the future, he preferred to emphasize the opportunities for investment, especially in the realm of water. For instance, because pension funds care about returns and the sustainability of their investments, investing in water infrastructure is a good venture for them. According to Henderson, the combination of the populace’s keen interest in the environment and the current weak employment market can stimulate innovation and produce great results, as was shown by
the development of new, more environmentally-friendly technologies for cooling office towers. Reducing our environmental footprint is good, but it is even better from an economic perspective. Thus rather than choosing between the economy and the environment, David Henderson invited us to see the two spheres as being closely interrelated.

**Larry Innes**, Associate at Olthuis Kleer Townshend Barristers and Solicitors, underlined what he sees as the present failure of our federal system with regards to water policy, and suggested that we get over the simplistic divide between article 91 (federal powers) and article 92 (provincial powers) of the Constitution. He also made a plea for placing more emphasis on article 35 of the Constitution, which talks about the rights of Aboriginal people. Innes noted that the courts are presently inviting us to reconcile the demands of modern life with older practices such as generational equity and the principle of precaution. He concluded by observing that indigenous law encourages us to reconsider our relationship with water, which should be regarded as sacred, and which should not be owned but rather shared.

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In his closing statement, **Robert Slater**, Adjunct Professor at the Carleton School of Public Policy and Public Administration, noted that water is an ecological and spiritual resource, but is also essential for the economy. It is often considered to be more important than oil and gas resources, and thus needs to be supported by laws, regulations, and sound science. He noted that everyone at the conference had agreed about the need for better organization of our water governance through mutual reinforcement, as well as through vertical and horizontal integration.

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We have heard that science is the voice of the environment. And the voice on water is troubled and troubling. The question is: are we ready to do something about it? Are you ready to pay for it? And the answer was yes. – Robert Slater

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In the following Q&A, **Larry Innes** pointed out that much of Canada’s water is found in the north, which creates opportunities for Native communities. However, they do not have control over upstream flows, which can have dramatic effects. When questioned about the relevance of a localized approach to water, one panellist affirmed that simply providing technology is not enough. Instead, we have to simplify it so that anyone can put it to use.

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**CLOSING REMARKS**

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between and within jurisdictions. New values must be implemented and new directions undertaken: pricing water so as to recover the full costs associated with it is just one example. But attaching full value to water is the eventual goal, as is the acquisition of evidence to support proper water management: “Evidence is necessary not only to determine the state of a given resource, but also for decision making.” Slater argued that the contributions of both human and natural sciences are vital. Just as vital is our ability to communicate results and knowledge. Slater then offered a provocative idea: creating a Canadian Institute for Water Information based on the model of the Canadian Institute for Health Information. He asked rhetorically, what stops us from adopting an inclusive, transparent, and accountable system of water governance. He reminded us that a window of opportunity exists, and that ‘green’ jobs and a ‘greener’ economy can emerge and should be encouraged. Robert Slater concluded by stating that “vision with no action is a daydream. Action with no vision is a nightmare. Vision and action are what is needed.”