3rd ANNUAL CANADIAN WATER SUMMIT REPORT 2012

CALGARY, ALBERTA, CANADA

Report by Grace C. Visconti © 2012
Eagleheart Dynamic

Canadian Water Summit promises collaboration for the emerging Blue Economy

On June 28, 2012, the 3rd Annual Canadian Water Summit was held in Calgary, Alberta, at the new Science Centre TELUS Spark. The whole day was a think tank session from experts in different fields strategizing and collaborating about the management of our vast water supply. The Canadian Water Summit was initiated in 2010 to unite leaders, experts and stakeholders to overcome water-related challenges by creating solutions and partnerships between business, government, and the public.

This Canadian Water Summit focused primarily on the Water-Food-Energy NEXUS that connects us all. "Recognize that water is the only medium through which major crises can be addressed. Decisions affecting water are made without realizing the importance and role of water. Trade-offs are generally political decisions. The elements of the NEXUS are key. It is not just a part of the NEXUS, it IS the NEXUS," explained Luncheon Keynote speaker Richard Connor.

The Honourable Diana McQueen, Minister of Environment and Sustainable Resource Development, was the first speaker. She was "proud to be speaking to people who are passionate about protecting our water as it transcends everything." McQueen promised that the air/land/water/biodiversity in the oilsands region would be monitored more closely as sampling will be increased. However, she praised the oilsands and stated that "Alberta has monitored water in the oilsands since the 1970s and they recycle their water."

"Safe water should be the foundation that all activities spring from," emphasized the Minister. "Water is not for sale in Alberta," is currently the motto. The province's water strategy under the PC government is to be "visionary" with the Water for Life Strategy that will create a more "balanced" approach for the province. Furthermore, according to McQueen, water will work with the Energy Resources Conservation Board (ERCB) licences. "We will take a holistic approach when looking at water licences but it will be under one group. We will make sure when we use our water, that water is there for all of Canada."

Water – Food – Energy NEXUS: Strategies for Competitiveness panel

The speakers on this NEXUS panel were Michael Glade, Director – Water Resources & Real Estate, Molson Coors Brewing Company; Geoff Riggs, Global Business Services – Smarter Cities, IBM Canada; Dan Wicklum, – Chief Executive, Canada's Oil Sands Innovation Alliance (COSIA). Challenges and opportunities were discussed involving population, urbanization, and rising consumption that are affecting the availability of freshwater ecosystems. The dialogue involved sector-specific and cross-sectoral strategies.

Michael Glade described how companies are now working together to maintain the health of the watershed. "Ironically, we have learned not to be so competitive," explained Glade. Though they compete for dollars, they share ideas and work on global procurement and sustainable strategies. Common goals are shared as well as the rewards and they focus on direct operations. "We were only benefiting lawyers by not cooperating with each other," added Glade.

Since 1997, the Clear Creek Watershed Foundation (clearcreekwater.org) collaborated and has worked effectively as a group. See other websites of collaborative groups worth noting at the end of this article.

Collaboration is a word that has been used not only at this Canadian Water Summit, but also at the Global Clean Energy Congress and Exhibition held in Calgary, AB last November, 2011. Overall, the advantages of collaboration are threefold: transparent reporting; community engagement; education and outreach. "It's beyond competitiveness now – just like within a family if you are not communicating, you don't know what the challenges are." Solutions are forthcoming when the challenges are presented.

Geoff Riggs from IBM Canada raved about the importance of the Canadian Water Summit for the future. "This is a vital summit and it can't be a more important topic. We talk about complex systems at IBM but the most complex system is the planet." A smarter planet is that we know a lot regarding what's around us - if it's implemented and instrumented. "This is the age of collaboration," agreed Riggs.

Riggs explained how IBM uses businesses analysis and data implementation. "We have to draw intelligence out of the data – by doing this, we are improving performance and reducing risk. We drive efficiency – this NEXUS of water, food, and

energy is what it's all about. It's about efficiency. We have to be better with our energy and collaborate like never before." Riggs ended this session describing the essentials of the Water-Food-Energy NEXUS. "We are using resilience to look into the future. We want to address risk with resilience and efficiency which are essential for our collective struggle in this critical Water-Food-Energy NEXUS."

The Canada's Oil Sands Innovation Alliance (COSIA)

The Canada's Oil Sands Innovation Alliance (COSIA - http://www.cosia.ca) is a group of 12 oil companies that include: BP Canada; Canadian Natural Resources Limited; Cenovus Energy Inc.; ConocoPhilips Canada Resources Corp.; Devon Canada Corporation; Imperial Oil; Nexen Inc.; Shell Canada Energy; Statoil Canada Ltd.; Suncor Energy Inc.; Teck Resources Limited; and Total E&P Canada Ltd. Two more oil companies will be signing on to this first time in history collaboration in the future.

Dan Wicklum described why COSIA was formed in the first place. "Our vision is to enable responsible and sustainable growth of Canada's oilsands while delivering accelerated improvement in environmental performance through collaborative action and innovation." The purpose of COSIA will avoid redundant solutions and it will allow them to share information. They are however, bound by some things regarding how fast they can move. COSIA is spending millions on tailings ponds solutions. "This is not about green washing but rather being substantive. Bottomline, the CEOs at COSIA want progress quickly," clarified Wicklum.

The view of the NEXUS is an "overarching collaborative hub – water-land-air-tailings. This initiative is about showing innovation – we will be sharing innovation to advance environmental performance. The most important thing is this: we are leaving the old paradigm of competition behind. We want to scour the planet for the best ideas to make the environment better," explained Wicklum.

Here are the goals of COSIA:

- *CEOs will be accountable in their leadership*
- *There will be a line of sight that involves goals and reporting*
- *Leverage will be an overarching collaborative hub to share and drive environmental innovation although they still remain independent*
- *Linking best ideas may be discussed and implemented if promising*
- *Best ideas will be systemized, implemented, and accelerated to create the pace for environmental improvement*

Though COSIA involves technology and innovation not policy, they are primarily an innovation company. "We want to maintain ourselves in the strategic innovation space. There is no other model like this on the planet. It is a permanent organization," insisted Wicklum. However, he admitted, "To some extent we are creating it as we go along. We are setting goals with the 4 areas of water, land, air, and tailings ponds. Each company has their own way to source water. It's the concept of regional water." Local governments can also be a part of the solution. "It's about outreach, engagement, and activity. It's not just about participation but actually making progress. It's more than just a handshake. It's sitting down with stakeholders and creating solutions."

During the panel discussion, Geoff Riggs from IBM agreed that local participation and action "create better solutions. We aim to alleviate friction through technology. There are so many standards out there. It's really frustrating. Complex problems need complex solutions. Industry will be obliged to report on risk."

Michael Glade recommended, "What is needed is transparency and a common method of reporting. The mandate is to come up with disclosure because a report on efficiencies isn't good enough when the risk is that great. The challenge is that you are not pushing down on the suppliers. You want to see communities and what they value. We look at several things including sustainability of watersheds."

During the breakout discussion, many key points were made. Riggs admitted, "This is a new era we are in because of the collaboration. Though it is time consuming, it is necessary. When complex systems brush up against each other, this is when innovation happens."

Moderator Sandra Odendahl asked, "Where does the role of government fit in on a federal, provincial, and municipal level?" Glade answered, "We are good at pushing our opinions rather than sharing information. This doesn't always work with the public. The challenge is you will have organizations that come together but that won't invite people and organizations that don't share ideas. The most important thing is to communicate. The first thing is that governments need to listen and be willing to change and shift. It's not just a matter of effort but about results. It's time for governments to address issues."

Wicklum described how action can attract change. "It's risk versus opportunity. Hoping that the legions will follow doesn't always work. We found that the concept in the

Field of Dreams works, 'build it and they will come,' this is what we have done." As for the involvement of governments, "Government and the private sector have different philosophies. The question remains, what is the best public policy role?"

The Canadian Water Summit Chair Lorne Taylor Special Advisor, Alberta WaterSMART, ended this breakout session with a comment that reflected what environmentalists have been saying all along. "Technology and public policy should go hand in hand. There has to be a strong relationship of public policy driving the companies and the need for technology. Appropriate regulation is also needed."

Canadian Water Leadership Panel

The Canadian Water Leadership Panel was the second group involved in some lively thoughtful discussion. Moderator Anthony Watanabe, President and CEO, Innovolve Group Inc. was joined by: David Marshall, Chair, Canada Wide Water Strategy, Canadian Water Resource Association, Cairine MacDonald, Chair, Water Stewardship Council, Council of the Federation; and Nicholas Parker, Executive Chairman, Blue Economy Initiative.

The discussion during this section revolved around the Blue Economy Initiative, how we need to "radically rethink water" and "tell the Canadian water story." The question was raised, if the world is under a risk of water scarcity, then where does it leave us and how do we address the new economics of water? Ultimately, it was decided that we have to change the dialogue on water, convening in ways not done before and inspire action based on real world examples. With the emerging Global Green Economy and Blue Economy, a whole new narrative can be created around water where Canada will play an important role as a global leader.

Cairine MacDonald, Chair, Water Stewardship Council, Council of the Federation expressed the importance of collaboration. "It will take courage, leadership, and innovation where the economy and environment should not be competing but collaborating. Water needs to be at the forefront of this paradigm shift. We can't use past trends for future solutions." MacDonald also stressed the importance of economic development and community support. The Council of Federation was created by the Premiers to promote meaningful relationships between governments and these connections may help with collaboration along with problem solving when it comes to water.

David Marshall, Chair, Canada Wide Water Strategy, Canadian Water Resource Association, talked more specifically about what the collaborative effort of the many factions would entail. "What really is the theme of this segment is how will we work together more effectively. The Canada-wide water strategy is a call to action and it needs to be a well-funded collaboration." In a study done, 53% of Canadians state that water is the most important issue while 61.6% rank water as a top priority.

The panel discussed how there must be a solid water initiative and the beginning of an action plan that will deal with better water governance that involves data etc. "We must shift. We must create a vision for using water. We need both a national water and energy strategy," insisted Marshall.

The elements of a Canada-wide water strategy involve six aspects:
1) Collaboration
2) Common goals and principles
3) Immediate Priority Actions
4) Adaptive and Responsive
5) Cognizant of Regional and Geographical
6) Considerations

In order to get these elements and a practical plan in place, it will take eighteen months. Questions were posed how Canadians can become involved, especially youth since it is their future. An important consideration is financial support to get sustainability in place. Additionally, "How we deal with the aging infrastructures is a big tsunami," suggested Marshall. Turning problems into economic opportunities and making them sustainable is one positive approach. With trans-boundary agreements, the question was raised how strategies can link water to monitoring programs.

Nicholas Parker, Executive Chairman, of the Blue Economy Initiative ascertained, "Technology has changed things dramatically. It's important not to solve every problem in isolation. Basically, everything is connected and one element will affect another and balance is also the key." Parker emphasized that competition is still good in business and it must not be ruled out. "In a way, we need to encourage competition in jurisdictions and they need to be rewarded for this. We have to show that being green does not mean we cannot fund other things. Collaboration can sometimes lead to the lowest common denominator so competition can be good." The consensus of the panel was that strategic implementation should be the first priority or it won't work.

Before Summit Chair Lorne Taylor ended the session, he made a rather cryptic remark. "Until we truly understand the true value of water, we won't move forward with this. I don't think a lot of these discussions will progress."

LUNCHEON KEYNOTE ADDRESS

The Luncheon Keynote Address from Richard Connor, Lead Author, 4th United Nations World Water Development Report and Chief Science Officer of Unisfera, was very informative. Dominic Waughray was also meant to speak but he was unable to attend. Connor spoke with a sense of urgency on the issue of water as well. "The ecosystem provided services but water in and of itself is an ecosystem and 80% of water worldwide is released without treatment." He questioned how much growth we can handle in the future and that medium cities will get bigger. "Recognize that water is the only medium through which major crises can be addressed. Decisions affecting water are made without realizing the importance and role of water. Trade-offs are generally political decisions. The recognition of the NEXUS concept Water-Food-Energy connects us all. The elements of the NEXUS are key. It is not just a part of the NEXUS, it IS the NEXUS."

Water management should have a "holistic perspective." Though the right to water is a never-ending debate, access to safe drinking water is a human right. Connor reminded us that allocating water to societies that don't have safe drinking water is important. Additionally, all products contain "embedded water" that need to be looked at on a case-by-case basis.

The core indicators needed are: models that analyze relationships and systematic use, approaches, and solutions. Canada can share the benefits of water and "create profits" but the benefits must be shared sustainably and responsibly. Through a systematic approach, data can be analyzed.

Cracking the Water-Food-Energy code, Breakout Sessions

The three sessions in the afternoon contained dialogue involving these topics:

- **Keeping our cities afloat:** Rethinking regional water management
- **From the field to the shelf:** Water solutions across the food supply chain
- **Innovating up and down stream:** Smarter water use in energy production

This breakout session report is about Innovating up and down stream: Smarter water use in energy production. At the beginning of this breakout session, Moderator Tony Maas, Director, Freshwater Program WWF – Canada, introduced the speakers: Dr. John Zhou, Executive Director of environmental Management Alberta Innovates; Jacob Irving President, Canadian Hydropower Association; and Peter Macios, General Manger Oil Sands, GE Water and Process Technologies.

As Zhou started this session he explained, "Energy is required to preserve water. You either pay with water or the Green House Gases (GHG). We are working on a number of technologies that will reduce the amount of water needed and GHG Emissions. We are working with Insitu. The trade off is between water and GHG Emissions. If you do carbon capture, water will be more expensive. We are on this journey of creating more water efficient/energy efficient approaches to oilsands extraction."

Currently, the global water challenges are: availability, quality, productivity, and policy. "We have these challenges here in Alberta where 80% of water is in the North but 80% of the population is in the South."

Here are some of the management water approaches in the oilsands industry:
- *Sustainability and operability do not have to be exclusive*
- *SAGD – evaporators to achieve 98% water reuse*
- *Membrane systems to treat saline water*
- *Mobile water for basal and groundwater*
- *Boiling/cooling technology to increase efficiency*
- *Mitigate road dust*

Evolving environmental challenges and regulations require innovation that can occur through collaboration. The oil industry has a regular mandate to reduce freshwater use. Here are some challenges:

1) Inlet separation challenge
2) De-oiling Challenge – Oil bypassing system and impacting downstream water treatment
3) Water disposal challenge – trucking costs and/or deep well injection water quality limitations

Jacob Irving President of the Canadian Hydropower Association spoke of a hydropower revival. "Hydropower is seeing a renaissance in Canada. Canada is a leader in hydropower as it is 60% of the electricity in Canada. It is also the 4th largest in the world." Globally, the electricity utilized is 67% whereas 26% of combustible fuel is used. "We definitely have one of the most cleanest hydro capacity and potential in the world with 163,000 megawatts we still have left to use. The 25,000 megawatts is developing which is currently planned and paid for and 74,000 megawatts in use.

"Our technical capacity is our advantage. We are an innovator. We also have partnerships with First Nations." The hydro industry also collaborates with water use planning and watershed management. The future will involve the following: increased efficiency; new forms of water power – ocean energy, kinetic steam turbines; and a future study about climate change.

When we make energy, there is always an effect but, "In a strong democracy, innovation comes from the people. Canadian democracy is a huge driver." Investors will invest in energy that takes less time. For example, shale gas is quicker to develop than hydro as it takes 8-14 years to build a hydro facility but they last over 100 years. This is the best long-term approach for development. Wind farms are also being used, especially in Manitoba. "We are a net exporter of many optional energies and it is incumbent upon us to make the right choices," said Irving.

Peter Macios, General Manger Oil Sands, GE Water and Process Technologies, explained the best strategy for innovation and includes some questions as well. "We try to work on real problems. It's a strategy for innovation. How do we install this to make it cost efficient for the end user? A lot of learning went into the installation of innovation." But he also informed the audience how banks aren't always patient with innovators. "Financial institutions will pressure your performance to some point, thus there is stiffer innovation so the banks that are lending the money can hold you back."

At the end of this breakout session, the importance of creating innovative companies was addressed. The amount of water used and its intensity must be considered. "Alberta Innovates has a contest where they will find new talent and ideas to fund. For example, Athabasca Oil and Grizzly are new oilsands developers. Softworks from Vancouver is a small company to watch," said Zhou. A way to bring in clean energy into the mix is to supplement the natural gas powered oilsands with wind energy as a backup energy source instead of coal.

Canada Leads – How to secure the NEXUS for Canada and the world

During this panel discussion, Moderator Garrick Ng, Vice President, Innovolve Group Inc., led the panel made up of the following people: The Honourable Gord Mackintosh, Minister of Conservation and Water Stewardship, Government of Manitoba; David Moran, Director of Sustainability and Stakeholder Relations, Coca-Cola Canada; and Laurent Tainturier, President, BASF Canada Inc.; and Sarah-Jane Snooks, Deputy Minister of the Environment, Nova Scotia.

Gord Makintosh revealed, "Though Manitoba has the extreme conditions of flooding and drought, we are bound and determined to be the best at water stewardship."

Deputy Minister of the Environment Sarah-Jane Snook, Nova Scotia, shared that under her direction, these strategies were initiated: Understanding the quality and quantity of watersheds, encouraged innovation and protection of water resources. "People need to inquire about their watershed management. We are moving forward with the Water Charter."

Laurent Tainturier, President, BASF Canada Inc., creates chemistry for a sustainable future. "There are two principles – innovation and sustainability. We have 2,000 patents with universities. What is driving our innovators is sustainability. We try to understand how we use water on our own sites. Water is a very important driver in what we do. If we continue to use the resources at the current rate, by 2050, we will need three planets. It's all about collaboration." BASF created a "responsible care" system in Canada after the Bhopal industrial catastrophe. Though there are huge challenges with the oilsands, it is imperative that we work hard to find innovation. Tainturier offered some wisdom. "Solutions are existing, we just have to change the way we are working and existing. Collaboration starts with helping to understand ourselves a little better."

David Moran, Director of Sustainability and Stakeholder Relations, Coca-Cola Canada, concurred that water is the most important resource for their business. "Our long term future depends on the local watersheds in which we operate. For us, water is completely and utterly local. Competitors are now working together and saying, 'we have to fundamentally change how we deal with water.'" The government, businesses, and NGOs coming together will be better water leaders. "There is a sense of urgency now and this urgency in action must be acknowledged for the local watersheds." Moran admitted that he has better collaboration with other businesses than

with governments. “Making a commitment to collaboration isn’t good enough. We need to take action and make plans to collaborate not just say it but we have to follow through.”

The Honourable Gord Mackintosh, Minister of Conservation and Water Stewardship, Government of Manitoba, defined what governments should do. “We need to look at public policy, foster policy on innovation, and look at tax credits. I see a synergy that is going to happen in this country. We have to find the mechanisms to collaborate better with the private sector. Sometimes it is easier to collaborate with part of the private sector than with specific companies.” He discussed regulation as a key factor in moving forward with innovation. “Regulation enables sustainable development and isn’t necessarily a bad thing since it can stimulate improvements. Innovation and regulation can work together.”

Mackintosh expressed his concern of the federal government taking a turn. “The Experimental Lakes is one example. It’s worrisome when the government doesn’t like the cost question. When they don’t like what they see, it’s worse.” Mackintosh strongly urged the public to participate in a national dialogue and warned, “We don’t have a lot of time to save this world.”

After Anthony Watanabe, President and CEO, Innovolve Group Inc., made his closing remarks at the 3rd Annual Canadian Water Summit, the Summit Chair Lorne Taylor ended the Summit with some final thoughts. “We can define our storytelling. A future Summit should have a civil involvement and include their opinions too.”

During the Canadian Water Leadership panel, a quote was shared with the audience spoken by the former Lieutenant Governor of Alberta, the Honourable J.W. Grant MacEwan, agriculturalist, entrepreneur, author and historian. It encouraged us to remain humble to our environment, our home, and to value it always: “I am prepared to stand before my Maker, the Ruler of the entire universe, with no other plea than that I have tried to leave things in His Vineyard better than I found them.”

Since water connects us all and we share this valuable resource with the natural world around us, it deserves our utmost respect.

EagleheartDynamic

Graphic Design • Writing • Photography

"Since water connects us all and we share this valuable resource with the natural world around us, it deserves our utmost respect." Grace C. Visconti

Report by Grace C. Visconti © 2012