

Lawrence National Centre
FOR POLICY AND MANAGEMENT

Water and Agri-Food Innovation

Does our future profitability depend on it?

Ivey Idea Forum
Ivey ING Centre, Toronto, ON
January 17, 2012

IVEY

Richard Ivey School of Business
The University of Western Ontario

Lawrence National Centre

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PRESENTATION OVERVIEWS

Moderator: **DAVID SPARLING**, Professor and Chair of Agri-Food Innovation and Regulation, Richard Ivey School of Business

Water and Food Innovation Driven by Economics

The ability to link energy and water consumption to profits makes good business sense. Within the Ontario Food Processing Sector, differences exist in awareness and ability to adopt sustainable water use practices. The Ontario Food Processing Sector represents:

- the 2nd largest manufacturing sector in Ontario;
- 3 000 establishments and 114 000 employees;
- 68% of firms having fewer than 20 employees;
- 2 to 3% profit margin.

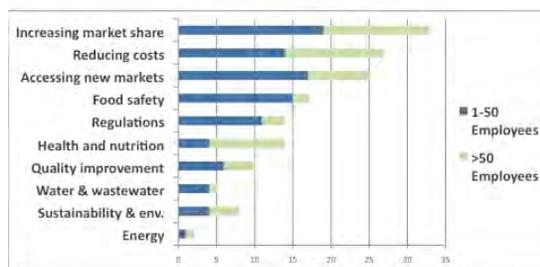
Increased interest in the sector is resulting from:

- high expectations in terms of feeding the global population, in a sustainable manner;
- relative economic stability and protection from global recession as compared to other sectors;
- continual, incremental improvements in efficiency, competitiveness and productivity.

Drivers for efficiency in the Agriculture and Agri-Food industry relate to:

- lack of scale and investment in the Canadian Food Processing sector, as compared with other regions;
- exports, accounting for a large proportion of production, and adapting to a high Canadian dollar;
- increased pressure by customers on suppliers for sustainably produced products.

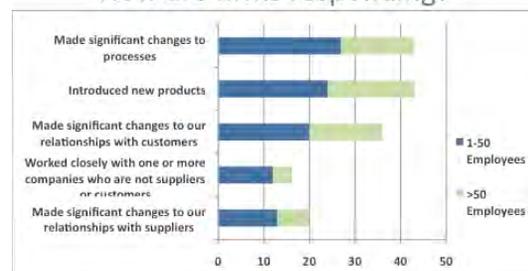
What's driving change?



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How are firms responding?



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Drivers for innovation and competitiveness identified by the Ontario Food Processing industry include:

- increasing market share and the desire to expand into new markets;
- driving waste and costs out of the system, particularly in terms of water and energy;
- meeting food safety and health regulations.

Many companies are forming internal change groups, and different relationships with suppliers, customers, consultants, governments and university researchers, to address sustainability issues. Barriers to innovation and competitiveness, as identified by the Ontario Food Processing industry, stem from lack of:

- money;
- time;
- ability to address regulations;
- interest, by those working in the sector.

Presenter: **DIANNE CUNNINGHAM**, Director, Lawrence National Centre for Policy and Management, Richard Ivey School of Business

Towards a Competitive and Innovative Agriculture Sector

The Lawrence National Centre for Policy and Management hosted a Water Innovation Forum (January, 23, 2011), supported by Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture, Food and Rural Affairs through Growing Forward, a federal-provincial-territorial initiative. An assembly of over 100 representatives of industry, academia and government shared valuable knowledge on opportunities and challenges facing our agriculture sector, in their use of water and innovative technologies that promote efficiency and conservation. The workshop report, released in June, 2011 at the Canadian Water Summit, outlines strategies to position agriculture as a leader in developing an innovative water-use vision for Ontario's agri-food sector, and accelerating the pace of innovation to increase their competitiveness in moving Ontario and Canada forward as world leaders. The myth of water abundance must be challenged with a clear understanding of our water realities in Canada. We must further embrace policies that encourage innovation and have flexibility to adjust to local circumstances. Water shortages around the world are increasing. Governments and industry cannot solve the problem alone. The report notes a sense of urgency and highlights actions that industry, government and academia jointly consider important to implement today. Other actions require a longer-term commitment in order to encourage water innovation and a sustainable water use future.

Create a Climate for Investment

Water Management Policy

- Promote flexibility in water policy management and implementation to account for water use differences between sectors and regions.
- Balance province-wide action with focused efforts on stressed watersheds.
- Continue to invest in water infrastructure to increase efficiency and optimize water use.

Collaborative Water Governance

- Promote collaboration across government, business, agriculture and academia as a means to develop regulations, policies, services and technologies for innovative solutions to water challenges.
- Simplify water governance structures to form streamlined rules and procedures to ensure expediency and accountability.
- Close the 'Implementation Gap'. Many public policies intended to improve water management lack commitment and monitoring to ensure proper implementation with measureable results.
- Water management in Canada would benefit from the creation of an oversight body for collaborative governance such as a 'Water Secretariat'.

Support Research and Development, and Knowledge Transfer

- Continue to invest in and develop leading-edge projects in Ontario's water sector. Increase the pace of innovation and decrease the time it takes to bring technology to market.
- Develop robust economic incentives to encourage early technology adopters and closed-loop sustainable operations.
- Build science capacity around the collection of water use measurement (data, monitoring, budgets, modeling).
- Support research and development for water conservation and efficiency pilot projects and demonstration plants.



For the complete report, Water Innovation Forum: A Competitive and Innovative Agriculture Sector, see <http://www.ivey.uwo.ca/lawrencecentre/water-innovation-2011/default.htm>

Presenter: **KEVIN JONES**, President and CEO, The Bloom Centre for Sustainability

Driving Adoption of Sustainable Water Solutions in the Ontario Food Processing Sector

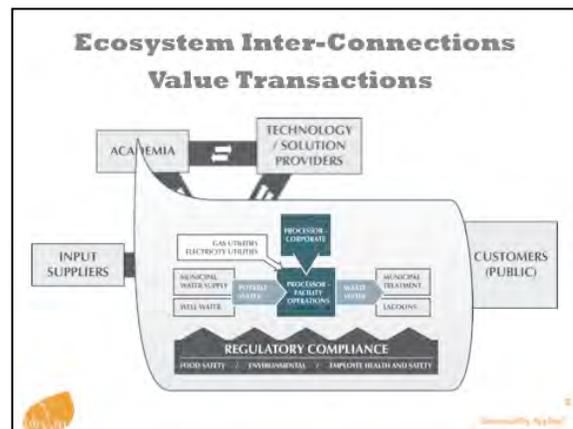
In June 2011, the Bloom Centre for Sustainability hosted a Water Innovation Forum supported by Agriculture and Agri-Food Canada and the Ontario Ministry of Agriculture, Food and Rural Affairs through Growing Forward. In moving toward a sustainable water use future, Ontario's food processing sector must undergo significant change and transition to a new way of doing business. The insights and recommendations from the Forum and the report, released in January 2012, lay the foundation for action, and adoption of innovative water use solutions that will improve the competitiveness and sustainability performance of the sector.

Why should Ontario's Food Processing industry care about water?

- Ontario food processors double their water use every 8 years, water supply and treatment costs double every 6 years;
- About 40% of the cost of water is related to energy;
- Water, energy and waste represent roughly 15 to 20% of the cost structure in the sector.

Barriers to adopting sustainable water solutions:

- Capacity and resource constraints in terms of human resources, technical and engineering capacity and finances to evaluate, procure and install innovative water solutions;
- Competing internal demands for scarce capital resources making sustainable water projects a low priority for many food processors against projects like product development and facility expansion;
- Lack of technical and non-technical support to smaller food processors;
- Expected Return on Investment (ROI) of 1-2 years for facility projects and inability to link efficient water use with the bottom line.



How to create stakeholder convergence and align collaborative action toward sustainable water use:

- View projects holistically with a life cycle approach;
- Include project and lifetime costs, energy and water measurements, and residual wastewater and waste generated;
- Ensure project benefits are quantified and integrated in the business case to capture a comprehensive ROI, including those of external, impacted stakeholders;
- Quantify the benefit for each stakeholder;
- Develop a comprehensive understanding of the facility and its system interactions.

Why are commercially available, viable solutions not implemented and adopted across the sector?

- Procurement barriers need to be de-risked in terms of financing, regulatory compliance and integration with existing infrastructure;
- Lack of capacity of the market to design, engineer, install and maintain the solutions;
- Lack of capacity by the food company to implement.

How to drive adoption of sustainable water use solutions:

- BLOOM has developed a guiding framework, a change management model for action, and series of recommendations to drive adoption across the food processing sector;
- Success will require engagement of all key impacted stakeholders, to get on-board to drive down risk and enable widespread adoption, including;
- Developing a shared vision for how food processors value, measure and manage water within their operations and supply chain;

- Measuring behaviour and linking it to key performance indicators to effect change; and
- Implementing pilots and demonstrations to show what can be done and to quantify the benefits that can be generated for the food sector and other impacted stakeholders.



For the complete report, Water Innovation Forum: Driving Adoption of Sustainable Water Solutions in the Ontario Food Processing Sector, see; <http://bloomcentre.com/docs.htm>

Presenter: **HELMI ANSARI**, Director of Sustainability and Productivity, PepsiCo Foods Canada

Water Innovation in Practice: The Frito Lay Example

PepsiCo is a large international company, with operations around the world. The Canadian business is a smaller but important part of PepsiCo and is innovating to create leading edge sustainability solutions and address issues common to many manufacturers. The sustainability vision PepsiCo Foods Canada is striving for is called “Leave No Trace.” They are re-engineering their business through a series of innovative solutions and technologies called “Net Zero,” to advance their Resource Conservation program which began in 1999. PepsiCo Foods Canada and Frito Lay Canada, a division of PepsiCo Canada, have been widely recognized for their efforts in this area.

The Sustainability Journey: Over the past 20 years, PepsiCo Foods Canada has undertaken a three phase strategy to reduce its energy and resource consumption and minimize its overall environmental and ecological footprint. Phase 1 of the sustainability journey began in the early 1990s when Green Teams were assembled to ensure a high level of environmental compliance and awareness in Frito Lay’s operations and processing plants. Conservation measures were established in Phase 2 of the journey beginning in 1999, in order to achieve significant reductions in water and energy consumption. For each bag of snacks produced by Frito Lay Canada, water inputs were reduced by over 40%, gas consumption by 25%, and electricity consumption by 20%, over a span of nine years.

Phase 3, initiated in 2008, marked the beginning of a long-term commitment to operate within the broader context of sustainability and a “Net Zero” environment. For example, over 1999 baselines, Frito Lay Canada established goals to improve water efficiency by 75%, and increase manufacturing fuel efficiency per kilogram of snacks produced by 50%. The ability of industry to avoid upfront water use could help reduce the need for costly water infrastructure. For example, Frito Lay Canada hopes to pioneer an approach to partly, and perhaps someday completely, produce its Potato Chips products by capturing the water from within the potato in order to make the potato chip, rather than drawing water from municipal sources. As the potato is 80% water, when sliced and fried the embedded water turns to steam that, if utilized, could lead to zero water input potato chip processing. Additionally, PepsiCo’s European sister organization is developing the technology to use the starch from the potato to create the packaging for the potato chips.

Moderator: **David Sparling**, Richard Ivey School of Business

1. Adopt a broader, more holistic approach to sustainability.
2. Start with the right incentives and institute a process.
3. Communicate the message and create awareness about the process in order to enable people to consider how to take action.
4. Determine a company's capabilities, such as human resources, to achieve its sustainability goal. Objectives determined by large food processing companies aren't something many companies can aspire to internally. Having one employee address sustainability as part of their job in a small or mid-sized company would be significant in this sector as most haven't made the sustainability-productivity link. Even when the right capabilities and funding are accessed, assistance is required to implement.
5. Relay the recognition an organization receives for making a difference to other organizations to help them become aware of the incentives.

Question #1: The sustainability work at PepsiCo, is highly connected to the municipalities. Can you share lessons learned from working with the municipalities? **Barbara McMurray**, Ministry of the Environment

We learned to work with local municipalities to understand how their priorities and objectives might influence our direction. A few years ago a conservation campaign was launched to significantly reduce water consumption in our plants. At our manufacturing plant in Cambridge we put teams in place, monitored our activities and cut water usage by 40% within one year. When the total amount of fresh water is reduced, but the same number of chips are made, effluent concentration is impacted. The local municipality had a tough time managing the wastewater because it was less dilute. Municipalities derive revenue from the amount of water that comes in and the amount of particulates in the wastewater. When we sent less water out, they had less revenue. Within 18 months, our municipal water-taking surcharges rose dramatically. We cut our water usage by 40% and our bill went up by 40%. We did not save money, but we gained an understanding of how our actions impact the local municipality and that we need to work proactively with them. **Helmi Ansari**, PepsiCo Foods Canada.

LADII is experiencing a similar situation with our municipality. Several years ago we brought in a raw water line to our operations. As we use it 2 months of the year, we invited the greenhouse sector to become involved. The municipality is now stating that they're generating less income because we're taking revenue away from the system. We're not charged for wastewater outflow. Our wastewater is not allowed to enter the municipal system. We're required to address the regulatory portion of wastewater treatment through the Ministry of Environment. We can't dump water directly into the lake but must filter-out the water. We're doing this research ourselves and our costs are rising. Where do we access information that demonstrates how to work through these problems, long term? **Wayne Palichuk**, Leamington Area Drip Irrigation Inc.

There is a need to align municipal and local operations with the direction we want to take the agriculture and agri-food sector as a nation. In the Cambridge plant, we had a disincentive to reduce freshwater usage. We didn't say 'The solution to pollution is dilution', and put more water down the drain to reduce surcharges and save money. We re-innovated to address our wastewater concentration. In Ontario \$30 to \$40 billion is required for infrastructure spending. From a policy perspective, there is a need to assist municipalities in addressing investment in infrastructure without creating a cost burden on businesses that would make us uncompetitive. **Helmi Ansari**, PepsiCo Foods Canada

Certain municipalities like Guelph and the Regions of Waterloo, York, Peel recognize that it's more cost-effective and competitive to address issues upstream, on-site at the facility, by providing incentives to food processors to improve water efficiency and wastewater management, as opposed to continuing to invest public capital dollars in new infrastructure that municipalities cannot afford to finance. **Kevin Jones**, The Bloom Centre for Sustainability

If I were still in government, I would be asking the municipalities why it costs more to deal with increased concentrates in waste effluent. Consider 20 years from now, if all municipalities were to charge more money because companies are saving water. PepsiCo has solved the problem by doing something better for its business. The question is how this helps smaller businesses. If less water is being put through the wastewater process, the business case for conservation must be made to municipalities. This is a competitiveness and jobs issue. **Dianne Cunningham**, Lawrence National Centre for Policy and Management

When PepsiCo, a large user of water, decreased its water use by 40%, the municipal water manager had a big problem. Water managers have large water treatment and sewage plants and they cost money to run. Each year managers present a budget to council outlining projected revenue and expenses. By decreasing water usage by 40%, PepsiCo also decreased the revenue for water use to the city by a significant amount. The easiest solution to an impending budget shortfall for the manager of water at the city was to raise the unit price for water and this is what happened. So in the end PepsiCo cut water use by 40% but their annual water cost stayed exactly the same. Policy initiatives designed to reduce water use must reward, as opposed to punish, both industry and municipal water departments that reduce water usage. **Craig Wardlaw**, National Research Council

Over ten years ago, I participated in a Toronto study on the food industry's water use. Then, Toronto's food processors used about 5% of municipal peak water treatment capacity, delivered roughly 10% of the wastewater but ate up about 20% of the wastewater treatment capacity. For this sector the relationship between water use and municipal cost is high. We need to discuss with the municipalities the opportunities to drive costs out of both systems. Before the food industry puts capital into a project they address the low hanging fruit and efficiency, because that drives down costs. Having municipalities understand user and utility efficiency opportunities linked to utility demand management, in terms of the \$30 to \$40 billion that is said to be required for water and wastewater infrastructure renewal in Ontario, may provide a win-win cost benefit to ratepayers, business and our water utilities. **Phil Dick**, Ontario Ministry of Agriculture, Food and Rural Affairs

Question # 2: How does the business community connect with the municipality beyond the question of water? Do you see municipalities as facilitators in bringing smaller businesses together to have a dialogue? While larger industries like PepsiCo have the capacity to address complex issues, what is the role of municipal Economic Development Corporations relative to small and medium sized enterprises (SMEs)? **Sherri Hanley**, City of London

Larger businesses have a responsibility to play a role in demonstrating what is possible. They can afford to innovate and take risks as they have more people, engineers, skills and capital to invest in pilot projects and infrastructure. SMEs don't always have the technical horsepower or capital. Municipalities should consider how to work together and leverage the skill sets of larger water users to make changes, and communicate the success of businesses in reducing their water intake and wastewater concentration. The question becomes, how do you transfer that knowledge and replicate solutions for SME's to quickly plug and play? **Helmi Ansari**, PepsiCo Foods Canada

Certain technologies and costs don't scale down very well. It may not be possible to make a large-scale solution appropriate for the smaller operations. We want the same outcome to a given problem, but the path may be completely different. The balance among costs, effectiveness and the capacity of a business to adopt specific technologies needs to be kept in sight to focus our efforts where they will have the greatest impact. **Keith Reid**, Agriculture and Agri-Food Canada

Over the past ten years, the City of Guelph has developed programs to advance technical support to smaller food and beverage processors. Once involved, the city can identify where further opportunities, savings or efficiencies may lie. A variety of municipal incentives can be used to support these kinds of risk assessments. We need to align strategies among stakeholders, and communicate them to the food sector. If the food sector benefits, everyone benefits: the supply chain, municipalities and infrastructure. **Kevin Jones**, The Bloom Centre for Sustainability

Municipalities need to plan for changes companies want to make. Such a conversation will help municipalities understand the objectives of various companies and work them into longer-term plans. **David Sparling**, Richard Ivey School of Business

Question # 3: Why are these costs allowed to flow through the system? Relative to other nations, pricing on water in Canada is materially less. In Europe and in developing countries real costs are applied to this resource to incent the right kind of behaviour. **Andrew Dooner**, Bank of Montreal

Relative to other countries, water in Canada is inexpensive. However, of the 38 or so FritoLay manufacturing plants in the U.S. and Canada, the highest combined water and wastewater costs are actually in our Ontario plant. It's important to put the right value structure on water to create incentives for people to do the right thing. The challenge is how, without penalizing our food and beverage sector, and making it uncompetitive relative to our U.S. facilities. One way to incent this behavior is by creating a penalty system that makes water so expensive, everyone has to figure out how to decrease water use. Although it could work, this approach risks making us uncompetitive leading to job losses in Canada, which nobody wants. A second way is to create an incentive program for developers to create technologies to help reduce water use on a cost effective basis. This could achieve two goals; firstly, to drive down costs by applying new technologies in the food processing sector; and secondly, to encourage and setup Canadian water technology companies to take advantage of the global water problem. In developing countries and even in Europe and the U.S., there is a growing demand for water solutions. Providing incentives to companies could potentially make us leaders in global water technologies. **Helmi Ansari**, PepsiCo Foods Canada

In addition to the energy nexus, water conservation is linked to the effluent contaminant nexus. Most Canadian municipalities have an arbitrary effluent limit for organics, biochemical oxygen demand (BOD), of 300 mg/L. Facilities discharging above this concentration are either fined or charged a sewer use surcharge. This policy structure tends to embed water use inefficiency. For example, one of our automotive supply chain clients has zero process wastewater. Yet, low flow fixtures have reduced their domestic sewage sufficiently to elevate their concentration above 300 mg/L of BOD. This generates unnecessary hurdles for their environmental compliance certification program. Policy makers need to understand that it is the mass (kg) of BOD discharged, rather than the concentration of BOD (mg/L) discharged, that generates increased operating costs at the municipal wastewater treatment plant (WWTP). Inclusion of additional dilution water (due to embedded water inefficiency) does not reduce this cost and increases other costs (such as the volume of tanks required to treat the wastewater).

Sewer use policy needs to be revised to address both mass versus concentration based discharge limits, and the sewer surcharge price-point hurdle. In the case of Tim Hortons, we negotiated a mass based limit for BOD with Halton Region that facilitated a decrease in the volume of water discharged by more than 60%. We also reduced the mass of BOD discharged by 80% and saw a small net decrease in the concentration of BOD discharged. If the percentage of water saved had been greater than the percentage of BOD mass reduced, the effluent BOD concentration would have increased. Even so, Halton's WWTP would still have benefitted from the reduced volume of water and mass of BOD requiring treatment. Mass based discharge limits recognize the benefits of this approach and encourage further water conservation. In regards to the sewer surcharge, agreements are presently structured such that facilities that discharge less than 300 mg/L of BOD pay the same rate whether they discharge 0 mg/L or 300 mg/L of BOD. If they conserve water to such an extent that they exceed 300 mg/L, a large surcharge is levied. Although this water conservation actually reduces the municipality's operating costs, it results in a large cost premium for the discharger. This problem was illustrated by FritoLay's example. In such cases, responsible companies must conserve water in spite of this arbitrary economic hurdle. This price breakpoint problem can be addressed by introducing a fee structure that directly charges significant dischargers for the mass of BOD discharged as well as for the volume of water discharged. Under such a system, if water conservation resulted in a concentration increase from 300 to 350 mg/L of BOD, the facility would save money on their effluent volume fee and pay the same rate on their effluent BOD mass fee. The facility would see a net cost savings. Similarly, if they reduced BOD mass such that their effluent concentration decreased to 250 mg/L, they would save on their BOD mass fee while paying the same effluent volume fee. Given the trends towards lower flow, the legacy limit of 300 mg/L BOD needs to be revisited. Otherwise, enforcement of resources will increasingly be directed towards pestering responsible companies whose water conservation efforts are actually benefitting the municipality. **Bruce Taylor**, Enviro-Stewards Inc.

Question #4: If we don't keep the food processing companies in Ontario, farmers will lose in the long term because they can't move their farms. In addition to building capacity, we need to replace existing water and energy infrastructure. How can municipalities respond to this, and put incentives in the system for everyone? Sarnia has started to trade in clusters. Steam, hydrogen and carbon dioxide from one area is sent to another. They recognize that one person's waste is another person's feed. What kinds of demonstration projects should be supported to encourage innovative thinking, and where should they be located? **Don McCabe**, Ontario Federation of Agriculture

Farms depend on the processors, as the processors depend on the farms. Our success is linked. In Europe, many farms integrate their waste with their energy production. Relative energy and water costs are so low here, that we cannot afford such solutions. If we want a strong agricultural sector, particularly in terms of exports, we have to create the right incentive structure. We need to pick a few sites and demonstrate options to help reduce operating costs. The farming industry is one of the most competitive and challenging from a cost perspective. How will this be managed as resources become scarce and costs rise? How will it affect the price of ingredients and jobs? We have to demonstrate the same thing in our agriculture industry that we profess in the food processing industry. **Helmi Ansari**, PepsiCo Foods Canada

The world will need three major things moving forward: energy, water and food. Ontario and Canada have an opportunity to be a sustainability leader in all three. The opportunity is for a stronger commitment by the provincial and federal governments, to formulate smarter policy that will enable the agriculture and agri-food sector to grow, create jobs, increase manufacturing capacity and lead in sustainable food production. The challenge is apart from OMAFRA and Agriculture and Agri-Food Canada, there does seem to be a high awareness of this industry by others? We need to increase this awareness, and make it a priority issue in the Premier of Ontario's and Prime Minister's Offices. **Kevin Jones**, The Bloom Centre for Sustainability

We need to focus on opportunities. How do we make agriculture and the agri-food industry a high-level government priority? This is, in part, a management issue. We need expertise within the ministries. Expertise takes time to develop. Government positions of leadership change frequently. In order to conduct long term, detailed work, government must partner with business to bring solutions to market. **Dianne Cunningham**, Lawrence National Centre for Policy and Management

All food producers are talking about water. They're not afraid to spend the money. They just don't have the knowledge on how best to deal with the issue, and they don't know where to spend it. I like the idea of forming regional as opposed to sector-based clusters. A dialogue can quickly form around this to generate ideas. **Alex Keen**, The ALTECH Group

Question #5: What is the sense of urgency surrounding this issue? If we don't do anything and maintain the status quo, is this sustainable? **Anita Beaudrea**, Boudreau & Associates Inc.

In doing nothing, we risk the opportunity to be competitive by reducing water and energy costs through technology, and for Canadian businesses to lead in providing global water solutions. How we feed the world's population over the next 30-50 years is a massive issue for humanity to solve. Glacier fed rivers, such as the Indus, Brahmaputra, Mekong, and Yangtze that create food for one third of the world's population, are projected to dry up. The PepsiCo vision statement is 'performance with purpose'. We are proud to lead on the agenda of water conservation and sustainability. It is important to us as individuals, parents and community stakeholders. We also recognize that energy and water represent a financial cost to our business from a competitiveness perspective. How do we encourage large and small processors to take risk and lead in this area? What will tie municipal, business and community challenges together in a world facing even greater challenges? This sense of purpose is one ingredient I find missing from the national agenda in Canada. **Helmi Ansari**, PepsiCo Foods Canada

Doing nothing or “business as usual” is a major opportunity cost. We need to get all impacted stakeholders engaged to better align and coordinate their objectives and activities. We have to recognize that if the food processing industry takes actions to accelerate widespread adoption of sustainable water, energy and waste solutions, all of us are going to win. For instance, consider the PepsiCo Frito Lay Canada facility in Cambridge, Ontario. Why should we all care and support FritoLay with implementing measures to improve its sustainability performance? If this plant can become more competitive, FritoLay will hire more people, invest more capital and buy more ingredients and raw materials from their Ontario supply chain. They’ll employ more engineering services, technology solutions and generate more tax revenues at all levels of government; local, regional, provincial and federal. On the last point, the food processing sector accounts for roughly \$37 billion in sales in Ontario. If we can collectively grow this sector to \$50 or \$60 billion, what are the implications of this – for jobs, for economic development and the contribution this could make to eliminating Ontario’s \$16 billion deficit. We have to talk in terms of the metrics we need to enable smart decisions, whether from a policy, investment, or program perspective, in order to grow this sector and make it more competitive and sustainable. **Kevin Jones**, The Bloom Centre for Sustainability

The greatest challenge for government is to strongly support and promote innovation. Municipalities should create a climate for business investment in their areas. They’ll find more money that way through tax revenues. If we communicated and worked more together, we wouldn’t have these barriers. We need to research further the appropriateness of a price on water; we want to avoid unintended consequences. Sometimes we make mistakes if we don’t think about the issues enough. **Dianne Cunningham**, Lawrence National Centre for Policy and Management

Making changes through a sector, consisting of many small farms, companies and municipalities without unlimited resources requires a framework, and the plug and play approach. Through pilot studies we can develop a process for farms, food processors and governments, at every level, to work together to create a model we can use to implement plans. It won’t otherwise happen because most farms and processing companies don’t have the resources to proceed on their own. We need to say; ‘this is the team that will help you. Here’s how we’ll resource it. Here’s how it will pay for itself.’ That model is important. **David Sparling**, Richard Ivey School of Business

AGENDA

Tuesday, January 17, 2012

7:30-8:00 AM **REGISTRATION AND BREAKFAST**

8:00-8:15 AM **WELCOME AND OPENING REMARKS**

Water and Food Innovation Driven by Economics

David Sparling, Professor and Chair of Agri-Food Innovation and Regulation, Richard Ivey School of Business

8:15 – 9:15 AM **PANEL PRESENTATION**

Water Innovation in the Agri-Food Industry: Recommendations from Water & Agri-Food Innovation Forum Reports

Towards a Competitive and Innovative Agriculture Sector

Dianne Cunningham, Director, Lawrence National Centre for Policy and Management, Richard Ivey School of Business

Driving Adoption of Sustainable Water Solutions in the Ontario Food Processing Sector, Kevin Jones, President and CEO, The Bloom Centre for Sustainability

Water Innovation in Practice: The Frito Lay Example

Helmi Ansari, Director Sustainability and Productivity, PepsiCo Foods Canada

9:15-9:55 AM **PARTICIPANT DISCUSSION**

- What steps are needed to make Canada more competitive in terms of water technology and innovations in the agri-food sector?
- How do we encourage agriculture and food processors to move toward resource-efficient and closed-loop, sustainable operations?
- How do we bring scientists, industry representatives, and decision-makers together to develop integrated programs for water quality and quantity management?

9:55-10:00 AM **SUMMARY AND CONCLUDING REMARKS**

PRESENTERS



HELMI ANSARI, DIRECTOR SUSTAINABILITY AND PRODUCTIVITY, PEPSICO FOODS CANADA
Helmi Ansari is responsible for leading the company's aggressive agenda on environmental sustainability, strategic financial planning, annual operating and productivity plan development, and continuous improvement for operations. A supply chain professional, Ansari has worked in manufacturing supply chain and more than a dozen food and pharmaceutical manufacturing plants across North America. He started his career in pharmaceutical manufacturing, and progressed to the food industry, working with world leaders PepsiCo and H.J. Heinz. At PepsiCo and H.J. Heinz, Ansari has led manufacturing plants with staff of up to 800 people. He has a degree in Mechanical Engineering from the University of Arkansas, and an MBA from the Richard Ivey School of Business.



DIANNE CUNNINGHAM, DIRECTOR, LAWRENCE NATIONAL CENTRE FOR POLICY AND MANAGEMENT, RICHARD IVEY SCHOOL OF BUSINESS

Dianne has more than 30 years of experience in education, business and government affairs. Cunningham is the former Ontario Minister of Training, Colleges and Universities, Minister of Intergovernmental Affairs, and Minister with Responsibility for Women's Issues. She chaired the Council of Ministers of Education, Canada, and was the Member of Provincial Parliament for the riding of London North Centre (1988-2003). As the Director of the Lawrence Centre, Cunningham's extensive knowledge of both government and education strengthens Ivey's continuing leadership position as one of the world's top business schools. With a focus on transportation, green energy, and water policy, the Lawrence Centre continues to bridge business strategy with government policy.



KEVIN JONES, PRESIDENT AND CEO, THE BLOOM CENTRE FOR SUSTAINABILITY

The Bloom Centre is a private company that takes a practical and business-oriented approach to enable change, motivate action and advance the market adoption of sustainable solutions, to create economic, social and environmental value. As its Director, Kevin Jones has more than 24 years of diversified experience in the private and public sector. He has provided leadership on several award-winning projects in sustainability and innovation. In 2010, in collaboration with XPV Capital, he led the preparation of The Water Opportunity for Ontario report to position Ontario as a global leader in water technologies and sustainable water use. Jones has an Executive MBA from Athabasca University, a Master of Science in Environmental Planning from the University of Toronto, and an Honours B.A. from McMaster University.



DAVID SPARLING, PROFESSOR AND CHAIR OF AGRI-FOOD INNOVATION AND REGULATION, RICHARD IVEY SCHOOL OF BUSINESS

Before joining Ivey, David Sparling was a professor at the University of Guelph, where he was also an Associate Dean and Executive Director of the Institute of Agri-Food Policy Innovation. He is also Senior Associate at the University of Melbourne and has taught at the Australian Graduate School of Management and McMaster University. Sparling farmed for nearly 20 years near Cambridge, Ontario and has been president of an agribusiness insurance company and a biotechnology startup. He is actively involved in shaping agri-food industry strategies and government policy.

PARTICIPANT LIST

Ansari, Helmi, Director Sustainability and Productivity, PepsiCo Foods Canada

Ayyad, Hanna, Finance and Administration Manager, Silfab Ontario Inc.

Baker, Jill, Senior Policy Advisor, National Round Table on the Environment and the Economy

Bardorf, Cristina, Associate Brand Manager, Johnson & Johnson Inc.

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