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# **Opportunities in a Low Carbon Economy Forum**

## **REPORT ON KEY FINDINGS**

Hosted by  
**Manitoba's Expert Advisory  
Council for the Climate and Green Plan**  
Winnipeg, Manitoba | 11.29.2019

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# Executive Summary

The world is moving towards a low carbon economy and Manitoba can position itself to take advantage of the transition. Manitoba can prosper through climate change by being smart, focused and resilient in its investments and attitude.

On November 29, 2019, Manitoba's Expert Advisory Council for the Climate and Green Plan (the Council) held a forum on economic opportunities in a low carbon economy. The Council's focus was on understanding the economic factors (broadly speaking), that influence a shift to a low carbon economy. The primary areas of focus under the low carbon economy umbrella were decarbonisation, agriculture, and transportation.

The Council's roles and responsibilities include providing advice and recommendations to the Minister of Conservation and Climate on programs, policies, greenhouse-gas emission reduction goals as well as issues under the Manitoba Water Council and measures to be included in the climate and green plan.

The forum guest speakers and participants were selected based on their corporate sustainability strategies, knowledge, and interests as stakeholders in the green economy. The size and scope of the event facilitated meaningful dialogue and engagement and the Council gained important insight from this dynamic group of participants.

The content of this report is based on what the Expert Advisory Council understood to have heard during the Low Carbon Economy Forum. The information herein does not necessarily reflect the views of the Expert Advisory Council.

The key learnings, which are summarized in the following table, will influence the work of the Council going forward including their next mandate which includes providing recommendations and advice on a provincial Transportation Strategy.

KEY LEARNINGS	DESCRIPTION
Strengths	<ul style="list-style-type: none"><li>- Clean energy grid</li><li>- Increasing green energy use in buildings</li><li>- Significant activity around data collection centres</li><li>- Well-educated and reasonably priced workforce</li><li>- Phenomenal standard of living</li><li>- Abundantly available quantities of water available in almost all regions</li><li>- Support for research &amp; development</li></ul>
Weaknesses	<ul style="list-style-type: none"><li>- Failure to promote as a place to "do the business of the future"</li><li>- Need to grow high-tech workforce to an even greater extent</li><li>- Lack of engagement with post-secondary institutions regarding needs for future workforce</li><li>- Speed of government service delivery has not always been consistent across all parts of the economy relevant to cleantech</li><li>- Lack of planning and preparedness for climate change amongst businesses</li></ul>

KEY LEARNINGS		DESCRIPTION
Opportunities	Energy	<ul style="list-style-type: none"> <li>- Companies can produce very little scope 2 emissions compared to elsewhere (scope 2 emissions are indirect emissions from the generation of purchased energy)</li> <li>- Fuel-switching to electricity can be done relatively cheaply</li> <li>- Clean energy can support fluctuating renewables</li> <li>- Manitoba Hydro: world leader, expertise in HVDC lines</li> </ul>
	Buildings	<ul style="list-style-type: none"> <li>- Look at updates to building code</li> <li>- Revitalize buildings in the province – stimulate the local economy, create jobs, investment</li> </ul>
	Transportation	<ul style="list-style-type: none"> <li>- Leader in ethanol and diesel blending rates</li> <li>- Electrification of transportation as a longer-term opportunity</li> <li>- As a non-landlocked province with an Arctic port, there is enormous untapped potential supporting role as a central transportation and logistics hub for North America</li> </ul>
	Agriculture & Nature-Based Solutions	<ul style="list-style-type: none"> <li>- Leader in re-thinking agricultural practices, and potential to serve as a model</li> <li>- Reduced fertilizer use, regenerative agriculture, monetizing carbon</li> <li>- Agricultural waste use for biomass/biofuels</li> <li>- Intensify agriculture, “re-wild” the marginal farms and unused lands</li> <li>- Nature-based solutions and offset markets</li> <li>- Agriculture sector has much potential for carbon offset projects that would support Manitoba enterprises and organizations wishing to assert credible claims of carbon neutrality where cost-effective reductions are not immediately available</li> </ul>
	Waste	<ul style="list-style-type: none"> <li>- Potential to gasify waste</li> <li>- A whole new system could be based off of existing infrastructure</li> </ul>
	Research & Development	<ul style="list-style-type: none"> <li>- Grow as a hub for trucking and transportation-related research and development</li> <li>- Consider innovation zones where new technologies can be rapidly deployed</li> <li>- Consider increased use of technical review committees</li> </ul>
Threats	Planning and Regulatory Structure	<ul style="list-style-type: none"> <li>- (Un)Readiness of the planning and regulatory structure for net zero emissions governance</li> <li>- Land-use planning issues, urban sprawl</li> </ul>
	Economic Competitiveness	<ul style="list-style-type: none"> <li>- Diversified economy requires Manitoba to unite around some key areas and come together to intentionally drive growth</li> <li>- Regulatory initiatives that add cost or reduce efficiency may impact competitiveness unless those same measures are also imposed on competitors</li> <li>- Government programming and regulation must be extremely mindful about how their actions will impact business</li> </ul>

# Introduction

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The Expert Advisory Council is made up of professionals from diverse backgrounds and bring a wide variety of expertise to the table, covering both the environment and the economy. That expertise includes conservation, water management, recycling, biodiversity, climate change, resource development and local government.

On June 10, 2019 the Minister for Sustainable Development (Conservation and Climate) issued a [letter](#) to the Expert Advisory Council (the Council) outlining their mandate for the remainder of 2019. The Council was asked *to meet and work with Manitoba's strategic and regional economic development partners – Communities Economic Development Fund, Manitoba Chambers of Commerce, Association of Manitoba Municipalities, Winnipeg Metropolitan Region, Economic Development Winnipeg, North Forge Technology Exchange, World Trade Centre and Travel Manitoba – to share the Council's insights regarding Manitoba's emissions reduction potential and to understand business and investor opportunities and roles in this regard.*

In response to this mandate item, the Council held a full-day forum in Winnipeg, MB on November 29, 2019 with the purpose of initiating strategic, results-oriented discussion with key partners to identify and support opportunities in Manitoba that contribute to low carbon economic growth. The primary areas of focus under the low carbon economy umbrella were decarbonisation, agriculture, and transportation as well as the objectives of job growth and making Manitoba the cleanest, greenest and most climate resilient province.

As the Government of Manitoba had recently announced its intention to create 40,000 new jobs in four years, the Council was specifically interested in discussion around identifying clean growth opportunities to enhance the economy, jobs and investments in the province.

The event brought together the Council Chair, Members and Technical Advisor and Manitoba's Economic Development Partners (listed above) along with renowned experts in low carbon economic development, business leaders selected based on their corporate sustainability strategies and knowledge, and other stakeholders with interest in the green economy.

**The discussion questions that were put forward to participants in advance of the forum were:**

- How are addressing climate change and sustainability shaping business investments, consumer choices, and financial trends?
- Where are economic growth opportunities in a low carbon economy, and which sectors of the Manitoba economy have the greatest opportunity to advance low carbon job growth?
- How can a jurisdiction like Manitoba attract new investment, supported by the right tools for potential investors?
- How can government policy support low carbon economic growth by the private sector in Manitoba?

# Current State of Green Business, Cleantech and Innovation in Manitoba

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The world is moving towards a low carbon economy and Manitoba can position itself to take advantage of the transition. Manitoba can prosper through climate change by being smart, focused and resilient in its investments and attitude. Manitoba needs to determine what competitive advantages it has and how best to leverage them.

A low carbon economy is one where GHG emissions and other negative environmental metrics do not go up or down with economic growth. Ideally, in a low carbon economy, they vary inversely, or are on a trajectory to do so. This structure has become the long-term goal of countries who are trying to reduce the effects of climate change.

Manitoba is already home to a vibrant community of innovation and boasts significant activity around data collection contributing to the idea of “smart cities”. In 2014, 2016 and again in 2018 Winnipeg was named one of the ‘Top 7 Intelligent Communities’<sup>1</sup> in the world by the Intelligent Community Forum. This award recognizes Manitoba’s use of innovation and technology to strengthen the business environment and quality of life for Manitobans.

Manitoba has a clean energy advantage. An abundance of hydro power means that 99% of the electricity generated in Manitoba is renewable. That makes Manitoba’s electricity grid one of the cleanest in Canada, but there are still opportunities for Manitoba to lead and to prosper in the transition to a sustainable, low carbon economy. While Manitoba’s environmental and cleantech sector is strong, the global market is much bigger and is projected to continue growing.

According to Clean Energy Canada and Navius Research (May 2019), Manitoba’s clean energy sector accounts for 4.8% of GDP, more than in any other Canadian jurisdiction. Jobs in clean energy total 16,584 and annual investments are \$1.2 billion, putting Manitoba proportionally at the top of the provinces. The strength of the clean energy sector in Manitoba is mainly due to Manitoba Hydro and New Flyer Industries.<sup>2</sup>

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<sup>1</sup> The Intelligent Community Forum, *Winnipeg, Manitoba*, [https://www.intelligentcommunity.org/winnipeg\\_manitoba](https://www.intelligentcommunity.org/winnipeg_manitoba)

<sup>2</sup> Clean Energy Canada, *The Fast Lane: Tracking the Energy Revolution 2019*, [https://cleanenergycanada.org/wp-content/uploads/2019/10/Report\\_TER2019\\_CleanJobsFuture\\_20191002\\_FINAL-FOR-WEB.pdf](https://cleanenergycanada.org/wp-content/uploads/2019/10/Report_TER2019_CleanJobsFuture_20191002_FINAL-FOR-WEB.pdf)



# Global Trends Toward a Low Carbon Economy

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The world is facing a time of unprecedented change and is quickly moving towards a low carbon economy. As one of the Forum presenters noted, the global low carbon market has been recognized as contributing \$26 trillion to the global economy. Some of the key global trends noted were:

- Carbon pricing is playing a key role in the shift away from fossil fuels;
- Clean electricity (solar, wind, hydro, etc.) is a priority; along with
- Natural gas displacement in other stationary or energy production
- Increasing energy efficiency overall.

# Key Learnings for Manitoba

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The key learnings from the Low Carbon Economy Forum are reported using a SWOT (strengths, weaknesses, opportunities, threats) methodology. Forum attendees identified what they saw as Manitoba's strengths, weaknesses, opportunities and threats with respect to moving towards a low carbon economy.

## Strengths

- Affordable, clean energy grid; virtually unlimited access to power
- Increasing green energy use in Manitoba's buildings (e.g. solar applications for high rise towers)
- Precision agriculture, crop science expertise
- Transportation logistics expertise
- Significant activity around data collection centres
- Well-educated and reasonably-priced workforce who are ready and able to adapt to work in this new environment
- Phenomenal standard of living including access to affordable housing
- Abundantly available quantities of water in most regions of Manitoba
- Support for Research & Development
  - space to build-out testing
  - facilities that rival any locale in North America
  - available funding focused on clean technology and commercialization

## Weaknesses

- Failure to promote itself as a place to "do the business of the future" (as compared to other jurisdictions)
- Need to grow the high-tech educated workforce to meet the needs of further investment and development
- Need to increase engagement with post-secondary institutions regarding needs for the future workforce
- Green and red tape reduction are necessary: the speed of government service delivery is not always been consistent across all parts of the economy relevant to cleantech
- Lack of planning and preparedness for climate change amongst businesses
- Permitting approvals too slow/bureaucratic/prohibitive

## Opportunities

- **Energy**
  - As the price of carbon starts to climb, entities are starting to look for jurisdictions with cheap, reliable and clean energy like Manitoba; companies operating in Manitoba can produce very little scope 2 emissions compared to elsewhere and this is a huge advantage
  - Fuel-switching such as electricity for vehicles or the conversion of stationary energy can be done relatively easily in Manitoba

- Manitoba's clean energy can support fluctuating renewables (wind/solar) as an addition to a hydroelectricity grid supplying a stable base load, to maximize export opportunities to neighbouring provinces and the US
- Manitoba Hydro offers experience as a world leader in industrialization, energy storage and intermittency support, and expertise in how to build high-voltage direct current lines
- Planning and regulatory structure
- Land-use (no coordination or long-term planning), only planning for a short-term window and not a long-term structure
- **Buildings**
  - A sped up process for updates to building code to new federal standards
  - Manitoba has some of the greenest buildings in the world which can serve as examples of what developers can consider for future projects
  - Consider a 20-year project to retrofit every building in the province; stimulate the local economy and create tons of jobs, investment
- **Transportation**
  - Manitoba is a leader in ethanol and diesel blending rates and can continue to demonstrate leadership in this area
  - Electrification of transportation as a longer-term opportunity
  - Manitoba is not a landlocked province and has an Arctic port with enormous untapped potential supporting our role as a central transportation and logistics hub for North America
- **Agriculture**
  - Manitoba is well positioned to be a leader in re-thinking how agriculture is practiced, and has the potential to serve as a role model and teacher of best practices
  - Promote net zero fertilizer, reduced fertilizer use, regenerative agriculture, monetizing carbon (pay farmers for regenerative agricultural practices)
  - Agricultural waste use for biomass/biofuels
  - Intensify agriculture, "rewild" the marginal farms and unused lands, and let the forests grow back in aid of carbon sequestration and nature-based solutions
  - The agriculture sector has much potential for carbon offset projects that would support Manitoba enterprises and organizations wishing to assert credible claims of carbon neutrality where cost-effective reductions are not immediately available
- **Nature-Based Solutions**
  - Nature-based solutions (the sustainable management and use of nature for tackling socio-environmental challenges) are an opportunity for the Prairie Provinces (including Manitoba) given low population density
  - The opportunities arises primarily because of specific resources such as the size of the water and wetland resource as well as the extent of the boreal forest
  - The offset market offers huge potential for organizations who wish to reduce emissions but can't eliminate them until they can transition to new technologies
- **Waste**
  - Potential to gasify waste as a source for alternative energy
  - Implement mandatory controls for all landfill and industrial methane sources

- **Research & Development Hub**

- Potential to grow as a hub for trucking and transportation-related research and development
- Create a series of innovation zones where new technologies can be rapidly deployed
- Don't try to write all the rules; instead, consider tasking a technical review committee with reviewing proposals to facilitate faster approvals for new clean technologies and green projects
- Less focus on GHG reductions, more focus on bigger, multi-benefit, disruptive changes

## **Threats**

- **Planning and Regulatory Structure**

- Green Tape gets in the way of innovation and change; big barrier to working in Manitoba and Canada more broadly
- Manitoba's planning and regulatory structure may not be ready for net zero emissions governance
- Need to look at land-use planning issues, urban sprawl, increasing infrastructure needs

- **Economic Competitiveness**

- A diversified economy requires Manitoba to unite around some key areas and come together to intentionally drive growth
- Regulatory initiatives that add cost or reduce efficiency will impact competitiveness unless those same measures are also imposed on competitors; government programming and regulation must be extremely mindful about how their actions will impact business

- **Inter-jurisdictional Competition**

- If Manitoba is not proactive in comparison to other jurisdictions, it risks falling behind in attracting economic growth opportunities that contribute to a low carbon economy (examples include green agriculture (SK), clean energy (BC), waste management and recycling (ON))
- Manitoba's academic institutions must be willing to match educational offerings to the skills and requirements of a changing work force; students seeking skills for a low carbon economy may consider out of province institutions and job opportunities if they are not present in Manitoba
- There is a need for education to be practical with more emphasis on training for a number of reasons that are relevant to all sectors including cleantech
- Public bodies across Manitoba occasionally lack the courage to take on reforms necessary to embrace a low carbon economy and other significant systemic challenges; this further increases the risk of Manitoba lagging behind key trends and challenges

# Next Steps

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Following the Forum, the Expert Advisory Council considered the information gleaned from the session. Some major action items resulting from the Forum included:

- Items in the Council's January 2020 [mandate letter](#) on which their advice is to be provided by fall 2020:
  - Provincial strategy on greening transportation and infrastructure
  - Provincial water management strategy for Manitoba
- The successful implementation of the [Efficient Trucking Program](#) which will support retrofits in the transportation sector, such as, fuel-saving devices and technologies, reducing energy consumption, and providing environmental benefits

Looking forward, the Council will discuss their key findings with the Minister as well as provincial entities working on economic growth. The Council recognizes that this is a time of change and an important chance to consider low carbon economic development in recovery plans.

The Council will also be providing advice and recommendations on performance indicators for the Climate and Green Plan as a whole. This advice should focus on key meaningful measures to track and report progress and performance, and support Manitoba's new transparent system of balanced scorecards and focus on outcomes.

Finally, the Council continues its ongoing work to support achievement of the provincial 2018 to 2022 emissions reduction goal by meeting and working with partners and stakeholders. The Council intends to use the learnings from the Forum to help guide this work going forward.

# Appendix A – Forum Agenda

TIME	EVENT	SPEAKERS
08h30	Registration	
09h00	Welcome Remarks	Kathleen Rich, <i>Assistant Deputy Minister, Climate and Green Plan Implementation Office</i>
09h10	Climate and Green Plan and Role of the Expert Advisory Council	Colleen Sklar, <i>Expert Advisory Council</i>
09h15	Current State of Green Business and Innovation in Manitoba	Chuck Davidson, <i>President MB Chamber of Commerce</i> Teresa Dukes, <i>President North Forge</i>
09h45	Manitoba's Climate and Green Plan – Jobs Pillar	David McLaughlin, <i>Technical Advisor, Expert Advisory Council</i>
10h15	Low Carbon Economy Opportunities Globally, in Canada and in Manitoba	Chris Bataille, <i>Adjunct Professor, Simon Fraser University</i>
11h00	Break	
11h15	Feature presentation	Tim Faveri, <i>Vice President Sustainability and Shared Value, Maple Leaf Foods</i>
11h45	Q and A	
12h00	Lunch	
13h00	Panel Discussion Current Shifts and Actions	<b>Moderator:</b> Colleen Kuruluk, <i>Chief Executive Officer, Efficiency Manitoba</i> Sara Hastings Simon, <i>University of Calgary</i> Peter Jessiman, <i>President Wescan Capital and Owner of Bison Transport</i> Thomas Small, <i>Director of New Product Development, New Flyer Industries</i>
14h05	Panel Discussion Addressing Barriers and Enabling Measures	<b>Moderator:</b> Dr. Robert Parsons, <i>Instructor, Asper School of Business</i> Chris Vervaet, <i>Executive Director, Canadian Oilseed Processors Association</i> Jean-Marc Ruest, <i>Senior Vice-President, Corporate Affairs and General Counsel Richardson International</i> Andrew Dickson, <i>Manitoba Pork Council</i>
15h00	Closing Remarks	
15h30	Close	

# Appendix B – List of Attendees

ORGANIZATION	NAME
Asper School of Business	Bob Parsons
Assiniboine Credit Union	Dennis Cunningham
Biomass Association of Manitoba	Racquel Baert
Bison Transport	Peter Jessiman
Canadian Oilseed Processors Association	Chris Vervae
Centreport Canada Inc.	Russ Hanson
Climate Change Connection	Curtis Hull
Creative Applications for Sustainable Technology	Glenn Murray
Efficiency Manitoba	Colleen Kuruluk
Expert Advisory Council and Winnipeg Metropolitan Region	Colleen Sklar
Expert Advisory Council	David McLaughlin
Expert Advisory Council	Andrew MacSkimming
Expert Advisory Council	Dimple Roy
Expert Advisory Council	Ian Gillies
Expert Advisory Council	Jim Irwin
Expert Advisory Council	Karla Guyn
Expert Advisory Council	Laurie Streich
Greenstone Structural Solutions	Ed Dornn
Greenstone Structural Solutions	Rodney Penner
HSBC	Brett Geoffrey
Institut du Développement Durable et des Relations Internationales	Chris Bataille
Jade Transport	Greg Arndt
Keystone Agricultural Producers	Bill Campbell
Ladco	Peter Muir
Manitoba Chambers of Commerce	Chuck Davidson
Manitoba Pork Council	Andrew Dickson

ORGANIZATION	NAME
Manitoba Pork Council	Grant Melnychuk
Manitoba Trucking Association	Terry Shaw
Maple Leaf Foods International	Tim Faveri
New Flyer Industries	Thomas Small
North Forge Technology Exchange	Teresa Dukes
Powertec	Daniel Lacovetsky
Richardson International	Jean-Marc Ruest
Richardson International	Kamila Konieczny
Strategymakers	Mike Fernandes
Tourism Manitoba	Colin Ferguson
Tourism Manitoba	Jackie Tenuta
University of Calgary	Sara Hastings-Simon
Vehicle Technology Centre	Jojo Delos Reyes
Veolia	Clayton Crawford
Winnipeg Airport Authority	Barry Rempel
Winnipeg Chamber of Commerce	Colin Fast
World Trade Centre Winnipeg	Derek Earl
Yes! Winnipeg	William Findlater
Government of Manitoba - Agriculture and Resource Development	Matt Wiens
Government of Manitoba - Agriculture and Resource Development	Glenn Friesen
Government of Manitoba - Agriculture and Resource Development	Maurice Bouvier
Government of Manitoba - Economic Development and Training	Jana Schott
Government of Manitoba - Economic Development and Training	Shawna Wilson
Government of Manitoba - Economic Development and Training	Stephen Szczerba
Government of Manitoba - Economic Development and Training	Michelle Wallace
Government of Manitoba - Economic Development and Training	Jan Forster
Government of Manitoba - Climate & Green Plan Implementation Office	Kathleen Rich
Government of Manitoba - Climate & Green Plan Implementation Office	Adrian Vannahme
Government of Manitoba - Climate & Green Plan Implementation Office	Charles Daniels



ORGANIZATION	NAME
Government of Manitoba - Climate & Green Plan Implementation Office	Neil Cunningham
Government of Manitoba - Climate & Green Plan Implementation Office	Thomas Williams
Government of Manitoba - Climate & Green Plan Implementation Office	Sara Thrift

# Appendix C – Speaker Biographies

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The Government of Manitoba would like to thank the following stakeholders for agreeing to speak and sharing their insights at the Low Carbon Economy Forum held on November 2019, 2019.

## **Chuck Davidson**

### ***President and CEO***

#### ***Manitoba Chambers of Commerce***

Chuck Davidson is President & CEO of the Manitoba Chambers of Commerce (MCC), the largest business organization in the province, representing nearly 10,000 organizations throughout Manitoba. Under his leadership, MCC has seen a renewed focus on policy and advocacy as the Voice of Business in Manitoba, a 15% increase in revenues, a 60% increase in event attendance, the establishment of the Chamber Executives of Manitoba, and recognition as an accredited Chamber of Commerce with distinction.

Prior to joining MCC in 2013, Chuck spent close to a decade at the Winnipeg Chamber of Commerce as Vice-President, Policy & Communications. A graduate of Red River College's Creative Communications program, Chuck launched his career as an announcer and reporter 680-CJOB radio, before moving into communications and policy development roles where he has worked for the past two decades.

Chuck is a tireless community booster and a passionate champion of northern economic development. He was recently appointed to the board of the Province of Manitoba's Community Economic Development Fund, serves as co-chair of the Look North initiative and the Provincial Tourism strategy. He is currently chair of the Canadian Chamber Accreditation Council and President of the Chamber of Commerce Group Insurance Plan as well as a past-chair of the South Winnipeg Community Centre.

Chuck grew up in Flin Flon and Snow Lake and now resides in Winnipeg with his wife and two hockey-loving sons.

## **Teresa Dukes**

### ***President***

#### ***North Forge Technology Exchange***

Teresa Dukes is the President of North Forge Technology Exchange where she works with entrepreneurs, innovators, inventors, and start-up companies. As part of the economic growth team and the strategic partner for innovation, North Forge is helping start-ups, existing companies and government grow the economy through innovation.

**Dr. Chris Bataille****Associate Researcher****Institut du Développement Durable et des Relations Internationales**

Dr. Chris Bataille is a native of British Columbia and has been involved in energy and climate policy analysis for 23 years as a researcher, energy systems and economic modeller, analyst, writer, project manager, and executive. He is currently an Associate Researcher at the Institute for Sustainable Development and International Relations ([IDDRI.org](http://IDDRI.org)) in Paris, is an Adjunct Professor at Simon Fraser University in Vancouver, and conducts freelance energy and climate policy consulting. Chris has led many deep reductions studies for the National Roundtable of the Economy and Environment, ECCC and NRCan, and Chris was co-lead of the 2015 Canadian chapter of the global Deep Decarbonisation Pathways Project. Chris is currently a Lead Author of the Industry Chapter for the IPCC Working Group III Assessment Report (AR6). Chris' day job is working with IDDRI to develop low emissions development strategies in the developing country context, including Latin America and the BRICS countries. Chris has published peer reviewed articles in *Nature Climate Change*, *Applied Energy*, *Energy Economics*, the *Energy Journal* and *Climate Policy*.

**Tim Faveri****Vice President, Sustainability & Shared Value****Maple Leaf Foods Inc.**

Tim Faveri is Vice President, Sustainability & Shared Value at Maple Leaf Foods. In this capacity, Tim leads the development and execution of the strategy and initiatives that deeply embed sustainability and shared value into Maple Leaf's culture and business. Sustainability and shared value provide the framework for Maple Leaf's purpose - Raise the Good in Food.

Tim is a seasoned business and sustainability professional with 25 years' experience. His specialties include sustainability and environmental strategy development and implementation; corporate reporting / disclosure; stakeholder engagement; and supply chain and environmental risk assessment and verification. Prior to joining Maple Leaf, Tim was Director, Sustainability and Responsibility at Tim Hortons Inc., one of North America's largest publicly-traded restaurant chains and iconic Canadian companies.

Tim sits on the Board of Directors of Stewardship Ontario. Tim holds a Bachelor's degree (Biology) from Queen's University and a Master's of Health Science degree from University of Toronto.

**Dr. Sara Hastings-Simon****Research Fellow****Global Research Initiative, University of Calgary**

Dr. Sara Hastings-Simon is a Research Fellow, Global Research Initiative, University of Calgary. Her research is focused on low carbon energy transitions at the intersection of policy, business and technology. Her expertise is in innovation, clean tech, electricity grids and markets, and emissions reduction policy. She has worked with governments (provincial and national), utilities, renewable energy developers, financial institutions, and oil and gas companies.

She sits on the board of Emissions Reduction Alberta. In her career Sara has worked across science, industry and policy. She is founding director of Business Renewable Centre Canada, a modern marketplace where corporations and institutions can learn how to buy renewable energy directly from developers. Previously she was manager of the Cleantech practice at McKinsey & Company and led the Clean Economy group at the Pembina Institute. She holds a Ph.D. in physics from the University of Geneva.

**Peter M. Jessiman*****President, Wescan Capital Inc.******Owner, Bison Transport Inc.***

Mr. Jessiman is President of Wescan Capital Inc., a family owned holding company with interests in Transportation & Logistics, Real Estate, and Financial Investments. Wescan Capital is the sole shareholder of the Bison Transport group of companies.

Mr. Jessiman currently serves as Chairman of the Board of Colorado-based CTI, a global manufacturer of specialty inks and coatings. He is also a past Director of Webgistix, a US-based logistics business which was sold to Japanese eCommerce giant Rakuten. He has also served on numerous other corporate Boards in Canada and internationally.

Mr. Jessiman is a passionate philanthropist and remains extremely involved in the community, serving on The United Way Cabinet, Seven Oaks Hospital Foundation Council, the Board of Governors of Balmoral Hall School, and oversees numerous philanthropic endeavours through The Jessiman Foundation. He provides strategic advice in the areas of technology, innovation, and fundraising for numerous other non-profit organizations. He was recently named to the Global Leadership Council of Mayo Clinic, the world's leading health care organization.

Peter is a member of Young Presidents Organization, The Canadian Institute of Corporate Directors, and is a graduate of Harvard Business School.

**Thomas Small*****Director, New Product Development******New Flyer Industries***

Thomas Small is a product development expert and currently leads New Flyer's New Product Development (NPD) team through its innovation, design, and development process. With over two decades of engineering experience and leadership, he oversees New Flyer's assessment of emerging technology and implementation of new products and mobility solutions into the North American market. He also provides active support to the Canadian Urban Transit Research and Innovation Consortium's (CUTRIC) Pan-Canadian Electric Bus Demonstration & Integration Trial with technical planning and design. Prior to joining New Flyer in 2000, Thomas spent several years with the product validation team at New Holland Canada. He holds a Mechanical Engineering degree from the University of Manitoba and is an accredited Professional Engineer.

**Chris Vervaet*****Executive Director******Canadian Oilseed Processors Association***

Chris Vervaet is the Executive Director of the Canadian Oilseed Processors Association (COPA), representing its members on matters pertaining to the oilseed processing industry. Chris also serves as a senior executive with the Canola Council of Canada (CCC).

He has worked at various levels of the agriculture industry for over 20 years, in both a domestic and international capacity. Prior to joining COPA and the CCC in 2015, Chris spent seven years working for Agriculture and Agri-Food Canada as a market access and trade specialist, including four years as Agriculture Counsellor at the Canadian Embassy in Beijing. Earlier in his career, he served as Director of Trade Policy for the Canadian Federation of Agriculture and Trade Analyst for Bunge Global.

Chris holds a M.Sc. in Agriculture Economics from the University of Guelph and a B.Sc. in Agribusiness from the University of Manitoba. He was raised on a grain farm in Manitoba and currently resides in Winnipeg with his wife and daughter.

**Andrew Dickson**  
**General Manager**  
**Manitoba Pork**

Andrew Dickson has been General Manager of Manitoba Pork since 2005, during which time he has been involved with, among other things, expanding the hog industry's market development activities in the U.S., dealing with trade conflicts, and initiating major public awareness campaigns about the industry during some of the worst economic conditions in decades.

Andrew holds a Bachelor of Science Degree in Agriculture from the University of Reading, England, and a Master's Degree in Public Administration from the University of Manitoba.

Prior to joining Manitoba Pork, Andrew worked for 30 years for the Government of Manitoba's agriculture department, where he held a variety of senior positions and played a lead role in the development of the livestock industry.

**Jean-Marc Ruest**  
**Senior Vice President Corporate Affairs and General Counsel**  
**Richardson International**

Jean-Marc Ruest graduated from St. Boniface University with a Bachelor of Arts degree (political science). He also holds a Bachelor of Law degree from the University of Ottawa and a Master of Law degree (International Commercial Law) from the University of Cambridge.

Jean-Marc was called to the Bars of Ontario and Manitoba and began his career at Great-West Life as in-house counsel. He subsequently joined the law firm of Fillmore Riley in Winnipeg, where he practiced primarily in the areas of civil and commercial litigation, employment and labour law. Jean-Marc joined Richardson International Limited in 2002 and is currently Richardson's Senior Vice-President, Corporate Affairs and General Counsel. In this role, he manages all legal affairs for Richardson International and its subsidiaries. He is also responsible for general corporate affairs and corporate communications.

Jean-Marc has been actively involved in Canadian agricultural policy matters as a member of the Western Grain Elevators Association Management Committee, Cereals Canada and is a past Chairman of the Canada Grains Council. He is also active in numerous community associations, including the St. Boniface University (Capital Campaign Cabinet member), the St. Boniface Hospital (Board of Directors) and the United Way of Winnipeg (Major Donor Cabinet).