2019 Conference Preliminary Program

Transforming and Re-Energizing Ontario Impact Assessment for a Low Carbon Future

Tuesday, October 29, 2019 and Wednesday, October 30, 2019

Faculty Club – University Of Toronto, 41 Willcocks Street, Toronto, ON M5S 3G3

Traditionally, Toronto was a gathering place for many nations including the Anishinabeg, the Haudenosaunee and the Wendat peoples. We acknowledge we are meeting in the area covered by Treaty 13, also known as the Toronto Purchase, and we pay our respects to the Mississaugas of the Credit First Nation.

About the Conference Theme

The Government of Ontario's *A Made-in-Ontario Environment Plan* commits to addressing climate change and its discussion paper entitled *Modernizing Ontario's environmental assessment program* proposes a vision to modernize the almost 50-year old environmental assessment program. Shifting to an environmentally sustainable and low carbon future will bring huge challenges for Ontario, involving fundamental changes in how we meet our demand for energy, transportation, water, housing and food. Governments, the private sector and civil society organizations around the world are confronting these challenges and are energized by the emerging opportunities. Because it is not possible to know in advance exactly how the low-carbon transformation will unfold, environmental assessment has an important role to play in guiding actions around low-carbon solutions that our society can use to reduce impacts on the environment and people.

In Ontario, the transformation to a low carbon future is underway and occurring at a time when impact assessment is also undergoing review in the face of uncertainty and increasing complexity in our decision-making processes. In these times, impact assessment remains an important tool for helping clarify the choices we need to make to achieve a low carbon future. As impact assessment practitioners, we also need to transform and re-energize our discipline. If impact assessment is to support a low carbon future, practitioners will need to embrace innovation, develop and operationalize new assessment frameworks, systems and tools.

The conference consider factors such as:

- ✓ The achievements and lessons learned so far from implementing renewable energy projects in Ontario;
- ✓ The structure, nature and impacts of low carbon energy and transportation systems;
- ✓ Tools for assessing the impacts of new and emerging technologies;
- ✓ Challenges to increasing energy efficiency and conservation;
- ✓ Implications for urban, rural and remote community planning;
- ✓ The utility of lifecycle assessments of new and emerging technologies and the role of strategic environmental assessment in long-term energy planning;
- ✓ Energy governance frameworks, barriers and opportunities; and
- ✓ How we undertake coordinated action, especially when regional economic interests or cultural viewpoints pull us in different directions.

Come, listen, and share your thoughts… and you will leave with new ideas to tackle emerging issues within your own work.

Join us!

For more information, visit our website: www.oaia.on.ca

Ontario Association for Impact Assessment (OAIA)
2019 Conference Planning Committee

MIKE BRICKS – (CONFERENCE CHAIR) MORRISON HERSHFIELD

ANJALA PUVANANATHAN – (CONFERENCE CO-CHAIR) IMPACT ASSESSMENT AGENCY OF CANADA

JILLIAN BIESER – UNIVERSITY OF TORONTO

CHARLES J. BIRCHALL – WILLMS & SHIER ENVIRONMENTAL LAWYERS LLP

NICK CROCKFORD – MORRISON HERSHFIELD

COLLEEN GEORGE – ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTRY

ANNELIESE GRIEVE – ANNELIESE GRIEVE STRATEGIC ENVIRONMENTAL PLANNING SOLUTIONS

KEVIN HANNA – UNIVERSITY OF BRITISH COLUMBIA

BRAM NOBLE – UNIVERSITY OF SASKATCHEWAN

BETH WILLISTON – TORONTO AND REGION CONSERVATION AUTHORITY

TOMASZ WLODARCZYK – SLR CONSULTING (CANADA) LTD.

OAIA thanks all the presenters, facilitators and moderators!

In recognition of their contribution to the 2019 Conference, OAIA has made a donation to Tree Canada. Tree Canada, a not-for-profit, improves the lives of Canadians by planting and nurturing trees. Tree Canada has proudly collaborated with Indigenous groups on their tree plantings projects.

Pre-Conference Workshop:
Legislative change in Ontario and Canada

October 28, 2019 – University of Toronto, Faculty Club – 5 pm to 8 pm

Registration required – lights snacks will be served

The Conference Planning Committee will be organizing a workshop focused on highlighting the key features and developments relating to the federal *Impact Assessment Act*. The workshop will also be an opportunity to discuss the Government of Ontario's discussion paper on modernizing Ontario's environmental assessment program.

OAIA 2019
Day 1 / October 29, 2019

Time	Session	Speakers
8:00 to 9: 00	**Continental Breakfast and Registration**	
9:00 to 9:15	**Introductions and Welcome** ✓ Charles J. Birchall, President of OAIA and Partner, Certified Specialist in Environmental Law, Willms & Shier Environmental Lawyers LLP ✓ Opening Prayer	
9:15 to 10:15	**Session 1 – Setting the context: Perspectives from Canada and elsewhere** *Presentation 1: Ross Lashbrook – Modernizing Ontario's Environmental Assessment Program – A Progress Update and Path Forward* The Ministry of the Environment, Conservation and Parks is undertaking a review of the Environmental Assessment (EA) program. Ontario's *Environmental Assessment Act* was first introduced in 1975 and remains largely the same. This review will ensure strong environmental protections while eliminating duplication, streamlining processes, providing clarity to applicants, improving service standards to reduce delays, and better recognize other planning processes that have evolved over almost 50 years since the Act was first enacted. This presentation will provide an update on the status and next steps for the modernization of EA and may include some key questions for which the ministry is interested in seeking input and ideas on. *Presentation 2: Nathan Braun and Lindsay Luke – Addressing climate change in British Columbia's new environmental assessment legislation and guidance* British Columbia's (BC) new *Environmental Assessment Act* requires an explicit consideration of how a proposed project will impact the Province's ability to meet legislated greenhouse gas targets. Additionally, ministers are required to consider sustainability and effects to current and future generation in their decision-making. BC's Environmental Assessment Office (EAO) has developed comprehensive climate change guidance, based on assessment best practices, practical experience, academic literature, extensive consultation and over a decade of practical experience. This guidance provides tools and frameworks for conducting an appropriate, scalable assessment of climate change in project-based EA, ensuring that project-level assessment is contextualized within broader provincial policy direction and management actions. The case study presented by the BC EAO will draw parallels to the Ontario experience and provide an opportunity to grow our collective body of knowledge and experience.	Moderator: - Charles J. Birchall, Willms & Shier Environmental Lawyers LLP Presenters: - Ross Lashbrook, Ontario Ministry of the Environment, Conservation and Parks - Nathan Braun, British Columbia Environmental Assessment Office - Lindsay Luke, British Columbia Environmental Assessment Office
10:15 to 10:30	**AM Break/Refreshments** Sponsored by Hardy Stevenson	
10:30 to 11:00	**Session 1 *continued* – Setting the context: Perspectives from Canada and elsewhere** *Presentation 3: Robert B. Gibson – From Paris to Projects: Implications for assessments in Ontario* Human-source greenhouse gas emissions have already locked in serious worsening of extreme weather and overall warming and all further emissions will darken prospects for future wellbeing. In October 2018, the Intergovernmental Panel on Climate Change reported that anthropogenic greenhouse gas emissions would have to be reduced to zero globally by 2050 to keep overall warming below 1.5CºC. Canada, like other industrial countries with "fair share" responsibilities under international climate accords, have committed to taking a leading role. So far, however, no government in Canada has made a serious attempt to determine what it needs to achieve under the Paris Agreement, much less establish a working plan for meeting the targets. This presentation imagines serious commitment in Ontario and considers implications for assessments here. In particular, the presentation elaborates the essentials of a climate test for undertakings subject to assessment under the Ontario's *Environmental Assessment Act*. The test is based on several means of determining whether a proposed undertaking will hinder or contribute to Ontario meeting its share of Canada's obligation under the Paris Agreement.	Moderator: - Charles J. Birchall, Willms & Shier Environmental Lawyers LLP Presenters: - Robert B. Gibson, University of Waterloo

Time	Session	Speakers
11:00 to 12:00	**Session 2 – Sectors, communities and infrastructure: Approaches to considering greenhouse gas emissions** *Presentation 1: Katja Hetmanchuk – The consideration of climate change mitigation in environmental assessment* Quantifying a proposed project's greenhouse gas (GHG) emissions and scrutinizing their effect on climate change are increasingly required in Canadian environmental assessment (EA) processes. This presentation investigates to what degree an EA authority's intention for the inclusion of GHG considerations has resulted in implementation into environmental impact statements (EISs) by proponents and how these considerations influence the achievement of GHG reduction targets. Fifteen projects across five Canadian jurisdictions were reviewed. The examination revealed that well-developed intentions by EA authorities did not necessarily result in proponents following guidelines for GHG consideration in their EISs due to the absence of regulation or clearly defined policies. Conversely, even though intentions by an EA authority are underdeveloped in some jurisdictions, EISs sometimes exhibited thorough GHG assessments due to mechanisms in the EA process through which GHG consideration by the proponent could be compelled. The examination did not reveal how GHG consideration in EA currently assists in meeting reduction targets. A GHG emissions limit imposed during the EA process could link EA to success in meeting these targets. *Presentation 2: Bram Noble – Role of Impact Assessment in Community Appropriate Sustainable Energy Security* The energy sector is at a crossroads. Climate change and advances in renewable energy technologies are setting the foundation for what may be the most significant transition since the industrial revolution. The North is well-poised for energy transition. In Canada's provincial and territorial Norths alone, there are over 250 off-grid communities; 170 are Indigenous and rely on diesel generators. There is often an assumption that existing renewable energy systems, including policies, technologies, and Impact Assessment (IA) processes can simply be 'plugged-in' to the social, economic, and cultural fabric of northern and Indigenous communities. Energy and social systems are tightly coupled; energy transition in the North must be co-planned, and IA must be co-implemented, and informed by local needs, values, and aspirations. Externally- driven energy transition initiatives have often faltered due to limited local support, divisions in interests, and the pursuit of projects that do not add long-term social and economic value to local communities. This presentation discusses the transition challenges facing northern and Indigenous communities, the evolving role of IA in facilitating sustainable energy transition, and the recently formed Community Appropriate Sustainable Energy Security (CASES) partnership.	Moderator: - Nick Crockford, Morrison Hershfield Presenters: - Bram Noble, University of Saskatchewan - Katja Hetmanchuk, Concordia University - Pam Whyte, Parsons Inc. - Sarah Rogers, Parsons Inc.
12:15 to 1:30	**Lunch/Networking**	
1:30 to 2:00	**Session 2 *continued* – Sectors, communities and infrastructure: Approaches to considering greenhouse gas emissions** *Presentation 3: Pam Whyte and Sarah Rogers – Resiliency to Climate Change – Transportation Sector: City of Ottawa* The City of Ottawa is contemplating meaningful ways to address resiliency considerations within the Ontario EA framework following the Municipal Class Environmental Assessment (MCEA) and Transit Project Assessment Process (TPAP). This presentation will focus on an effective model and highlight alternative assessments in design choices regarding climate change resiliency. A framework and a suite of evaluation criteria and indicators will be presented. These can be considered and tailored for each project with respect to the climate change areas of focus; and these may vary by geographical region. The criteria have been developed following best practices in climate change planning and guidance provided in current literature. Using this simplified evaluation tool, practitioners can demonstrate that the influence of climate change will have been addressed, at a qualitative level, both in evaluating alternatives, and in Preferred Designs. Imbedding resiliency in EA documentation will ensure that Climate Change is further considered during project implementation.	Moderator: - Nick Crockford, Morrison Hershfield Presenters: - Pam Whyte, Parsons Inc. - Sarah Rogers, Parsons Inc.

Time	Session	Speakers
2:00 to 3:15	**Session 3 – Lessons learned from conventional renewal generation for small modular reactors (SMR) – An emerging carbon free application** Ontario Power Generation's (OPG) diverse generation portfolio offers a valuable basket of options that can promote a carbon-free future. The presentation will draw on OPG's experience with hydro and solar projects to identify lessons learned that can also be applied to small modular reactor opportunities as an emerging area of interest. The discussion will also focus on implications for urban, rural and remote community applications. Using examples from brownfield and greenfield hydro redevelopment projects and recent solar projects the discussion will identify lessons learnt from the environmental assessment process and permitting that can be applied to remote off-grid applications for renewable energy projects as well as emerging opportunities related to small modular reactors.	Moderator: - Tomasz Wlodarczyk, SLR Consulting (Canada) Ltd. Presenter: - Gillian MacLeod, Ontario Power Generation
3:15 to 3:30	**PM Break/Refreshments** Sponsored by Centre for Environmental Assessment at the University of British Columbia	
3:30 to 4:45	**Session 4 – Strategic Environmental Assessment: Applications for a low carbon future** *Presentation 1: Don Gorber and Tomasz Wlodarczyk – Leveraging "Non-Traditional" Strategic Environmental Assessment to Enhance Dialogue and Decision-making for a Low Carbon Future* Strategic environmental assessment (SEA) is traditionally a regional planning tool which in practice has, for many years, remained close to its project-specific environmental assessment (EA) roots. In Canada, SEA has principally been used at the federal level and typically mimicked project-level EA practice by applying similar steps: issue scoping, identifying alternatives, scoping the assessment, evaluating impacts of alternatives, determining cumulative effects and significance and identifying a preferred or "best" future scenario. Ontario's Auditor General has suggested that best practices related to environmental assessments calls for strategic assessments of energy plans, transportation plans, urban expansion plans, climate change strategies, etc. Some of these issues can be resolved by traditional SEA, however, due to the nature of the conditions existing at the areas being considered, a traditional SEA may not work. There are now examples of "non-traditional" SEAs being used to successfully provide solutions to complex environmental issues and Indigenous concerns. This presentation will highlight how non-traditional SEAs could be applied to energy developments that move Canada towards a low carbon future *Presentation 2: Kelechi Nwanekezie – Transitions-Based Strategic Environmental Assessment* The study seeks to understand the value and merits of applying a strategic environmental assessment (SEA) framework to inform energy decision-making and transition processes. If SEA's primary goal is to facilitate strategic change and guide decision-processes toward sustainability, an assessment framework that accounts for the multi-dimensional factors and intricate relationships influencing transition processes seems highly relevant. The transition-based SEA approach is focused on assessing the institutional environment and policy context surrounding the development of strategic energy initiatives including the commitments, supporting policies, and opportunities. The study bridges strategic planning theories, decision making and transition theory and will highlight the multi-level perspective (MLP) and transition management (TM) frameworks. The proposed assessment steps include: assess the guiding vision for transitions, assess the institutional context and governance arrangements, identify the opportunities and risks of proposed sustainability pathways, identify the strategies and indicators to guide on-going energy transition, and assess the impacts of the broader exogenous landscape.	Moderator: - J.A. (Sandy) Nairn, WSP Presenters: - Don Gorber, Independent Environmental Consultants - Tomasz Wlodarczyk, SLR Consulting (Canada) Ltd. - Kelechi Nwanekezie, University of Saskatchewan
4:45 to 5:00	**Wrap of Day 1**	Mike Bricks, Morrison Hershfield and 2019 OAIA Conference Chair
A drinks social will immediately follow the conference wrap up on Day 1 in the pub in the lower level of the Faculty Club. Please join us!		

OAIA 2019
Day 2 / October 30, 2019

Time	Session	Speakers
8:00 to 9: 00	**Continental breakfast and OAIA Annual General Meeting** *OAIA president to be elected*	**All OAIA Members**
9:00 to 9:15	**Welcome by Conference Chair and announcements by OAIA Membership Committee** ✓ Mike Bricks, Morrison Hershfield and 2019 OAIA Conference Chair ✓ Cheryl Chetkiewicz, Wildlife Conservation Society (WCS) Canada and OAIA Membership Committee	
9:15 to 10:30	**Session 5 – The expert panel: Dialogue toward a low carbon future** What is the role of impact assessment in achieving a low carbon future? New approaches to providing low carbon power will entail impacts and benefits that are different form our experience with exiting systems. How can assessment help plan for these and how will it need to adapt and innovate? This panel discussion brings together practitioners and researchers from across Canada to discuss the unique challenges, experiences, and opportunities inherent in developing new approaches to power production, delivery and distribution in Canada.	Moderator: - Kevin Hanna, Centre for Environmental Assessment Research at the University of British Columbia Panelists: - Deborah McGregor, York University - Paul Norris, Ontario Waterpower Association - Genevieve Martin, BC Hydro - Lisa DeMarco, DeMarco Allan - John H. Peters, Reach Enviro Plan (REP) Limited
10:30 to 10:45	**AM Break/Refreshments** Sponsored by Hardy Stevenson	
10:45 to 12:15	**Session 6 – Your perspectives for transforming and re-energizing Ontario** As practitioners, what are our views on how impact assessment can transform and re-energize Ontario? Ontario has had success phasing out coal and has taken some steps to transition towards a mix of electricity sources. Ontario's *A Made-in-Ontario Environment Plan* commits to addressing climate change. In consideration of some of the major infrastructure and development commitments in Ontario, such as transmission lines to remote far north areas of the province and plans to develop the mineral rich Ring of Fire area, what is the role of impact assessment in shaping Ontario's transformation to a low-carbon future? Breakout groups will discuss this question based on various perspectives: Industry, consultants and practitioners, regulators, different levels of government, Indigenous people, environmental groups and the public.	Facilitators: - Anjala Puvananathan, Impact Assessment Agency of Canada - Nick Crockford, Morrison Hershfield Participants: - All conference attendees
12:15 to 1:00	**Lunch/Networking**	
1:00 to 2:30	**Session 7 – Knowledge and tools: A focus on wetlands and carbon sinks** *Presentation 1: Tony Lemprière – Tools to assess the impact of proposed projects on the GHG balance of affected forest ecosystems* Forests play an important role in the global carbon cycle, and have the capacity to contribute to, or mitigate the impacts of climate change, depending on how they are managed. Scientifically defensible, peer-reviewed forest carbon accounting tools, like the Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3), have been available to forest managers in Canada for over a decade. New tools are also becoming available to track the fate of carbon in harvested wood products, so that carbon can be followed from the forest to the landfill, and back to the atmosphere over time. This presentation will highlight various tools. *Presentation 2: Becca Spence – Transitions-Based Strategic Environmental Assessment* Wetland loss in southern Ontario (70-90% post-settlement), escalated by the continued demand for development, is putting crushing pressure on municipal planners as they	Moderator: - Beth Williston, Toronto and Region Conservation Authority Presenters: - Tony Lemprière, Natural Resources Canada - Becca Spence*, Trent University and Central Lake Ontario Conservation Authority - Ravidya Burrowes, ESSA Technologies Ltd. **Becca Spence is the 2019 Recipient of the Ontario Association for Impact Assessment Student Bursary*

Time	Session	Speakers
	struggle to meet the community needs of hydro-energy, infrastructure and housing development while maintaining a balance with the natural heritage of the region. Wetland services are the ecological, social and economic benefits of a wetland. A provincial wetland impact offsetting policy is one measure that is suggested to prompt community action that meets the needs of the economy, society, and environment. The presentation will focus on a case study at the Central Lake Ontario Conservation Authority (CLOCA) and proposes that the findings can be applied across Ontario. *Presentation 3: Ravidya Burrowes – Towards an understanding of southern wetlands carbon emissions potential and the implications for the wise use of wetland ecosystem services to sequester carbon and abate flooding in Southern Ontario* Nature-based solutions are integral to climate action but these solutions needs to build on the best available science. The Wetlands Conservation Strategy for Ontario (2017-2030) identifies the importance of the province's wetland assets in abating flooding and serving as a major carbon sink (Ontario Ministry of Natural Resources and Forestry, 2017). How can environmental managers developing low carbon strategies reconcile provincial policy direction and science information on wetlands and climate change?	
2:30 to 2:45	**PM Break/Refreshments** Sponsored by Centre for Environmental Assessment at the University of British Columbia	
2:45 to 4:15	**Session 8 – Approaches to considering power production and addressing climate change for a low carbon future** *Presentation 1: Kevin Hanna – Building a better understanding of information and knowledge gaps: An analysis of the state of impact assessment research for low carbon power production* This presentation provides a portrait of the state of impact assessment (IA) research for four types of low carbon power production (wind, solar, small-scale hydro and small modular nuclear reactors). The results indicate that the literature addressing wind power is comprehensive, but there is a relative scarcity of research (in both quantity and breadth) on the impacts of solar, small-scale hydro, and small modular reactors. In each of these three energy areas there is a lack of available work addressing the social, political and cultural impacts accompanied by more specialized gaps in the biophysical research. *Presentation 2: Sean Capstick – The impacts of a project on Climate Change – Additional Considerations* Projected changes in climate present physical, reputational and economic risks to all sectors and should be a key area of focus for an impact assessment (IA). For example, under the new federal *Impact Assessment Act*, IA's will need to consider in "the extent to which the effects of the designated project hinder or contribute to the Government of Canada's ability to meet its environmental obligations and its commitments in respect of climate change." As a result, the current practice of Greenhouse Gas (GHG) assessments that look at the total project GHG emissions and use national and international inventories to define magnitude to assess significance must be reconsidered. Practitioners must be ready to answer challenges by stakeholders as to "how can any large project proceed if Canada or Ontario have a reduction target." In addition, to demonstrate that a project is well designed and energy efficient, additional considerations are necessary for the assessment that can address the moving targets for carbon pricing and planned GHG reductions and increases the assessment scope of this Global issue. This session, based on case studies and lessons from various sectors, will highlight the issues surrounding climate change goals and GHGs targets in relation to a proposed project, and suggest additional factors for consideration in an IA. *During this session Sean will:* • will introduce the issues and highlight the drivers to expand the decision-making process; • highlight lessons learned with various case studies; • discuss the emerging guidance in the *Impact Assessment Act*; and • engage with the audience to comment on and answer questions.	Moderator: - Andrew Harkness, Morrison Hershfield Presenters: - Kevin Hanna, University of British Columbia - Sean Capstick, Golder
4:15 to 4:30	**Closing of the Conference** *Completion of evaluation forms (online)*	Incoming OAIA President

Participant Biographies

Jillian Bieser is the Director of Communications for the OAIA. She is also a member of the 2019 Conference Planning committee. Jillian holds a Masters degree from the University of Toronto specializing in Forest Conservation and is currently completing a doctoral degree within the University's Faculty of Forestry. Prior to pursuing graduate studies, Jillian was employed as a Project Coordinator at an international engineering firm completing environmental assessments for municipal infrastructure projects. She continues to remain involved in the field of impact assessment through her work with the OAIA where she provides an important perspective from the academic community in an effort to help bridge the gap between scientific research and practical decision-making. Jillian is a Project Manager at the Impact Assessment Agency of Canada.

Charles (Chuck) J. Birchall, LL.B., LL.M. is a Director of OAIA and partner at Willms & Shier Environmental Lawyers LLP and certified as an Environmental Law Specialist by the Law Society of Upper Canada. Chuck has over 27 years' experience devoted exclusively to environmental law and the intersection of environmental law with Aboriginal law, consultation and economic development. Chuck has particular expertise with environmental assessment and compliance, contaminated lands and energy law. Chuck received his LL.B. from Queen's University and his LL.M. in Common Law from the University of Ottawa. Chuck also has a B.A. (Hons.) in Political Science from the University of Toronto. Chuck is called to the Bar in Ontario, Nunavut and the Northwest Territories.

Nathan Braun is an Executive Project Director at the British Columbia Environmental Assessment Office, and has been with the office for almost eight years. While his team is primarily responsible for gas and oil projects, Nathan has experience with projects across most sectors. Nathan joined the BC Government in 2006, working primarily in the areas of Crown land management and land use planning, and was previously with the Government of Canada. Nathan has a Master's degree in economics from the University of British Columbia.

Mike Bricks, MCIP RPP, is a Principal of Morrison Hershfield and a Director on the OAIA Board (and the 2018 and 2019 OAIA Conference Chair). At Morrison Hershfield he is the Director of the Environmental Services Department in the Greater Toronto and Hamilton Area. He brings over 25 years of experience in the transportation planning, municipal, and environmental fields. He has worked extensively in all aspects of planning, design and construction of infrastructure projects. He has been involved in over 100 Environmental Assessment Studies including some of the largest and most complex route planning studies in the province.

Ravidya Burrowes is an environmental and climate adaptation specialist at ESSA Technologies Ltd., where her work focuses on natural assets management for climate adaptation and the mainstreaming of climate science into policy and management strategies for climate and disaster risk reduction. By training, she is an earth scientist, with a doctorate in Quaternary climate change and sedimentology. She has over 20 years' experience in environmental management in tropical environments. Since moving to Canada 5 years ago, she has re-tooled in climate change adaptation and mitigation with a MSc from the University of Waterloo.

Sean Capstick, P.Eng., is a Principal with Golder Associates Ltd. where he provides specialized expertise on strategic and regulatory advice to clients on Climate Change adaptation services. He is Golder's Global Climate Change Technical Community Leader an internal knowledge-sharing initiative to promote the use of the latest climate change science and develop Best Practices to consider both the potential effects of the project on climate change, and the effects of climate change on a project. Sean has provided climate change impact assessments for both public sector and private sector clients in the mining, oil and gas, energy and infrastructure projects in Canada, United States, Latin America (Chile, Peru, Brazil), the Dominican Republic and Turkey in accordance with national regulatory requirements and international standards. He is a member of the External Advisory Panel for the Canadian Centre for Climate Services' (CCCS) who's mandate is the distribute climate data for developing Vulnerability Assessments and Adaptation Plans.

Cheryl Chetkiewicz, PhD, is a Conservation Scientist with Wildlife Conservation Society (WCS) Canada, a member of the OAIA Board and a member of the 2019 OAIA Conference Planning Committee. Her research focuses on regional-scale issues affecting fish and wildlife as well as First Nations including field and applied research, monitoring, assessing the cumulative impacts of land use and climate change on wildlife, and promoting the need for regional environmental and strategic assessments, especially in the Ring of Fire in the Far North of Ontario.

Nick Crockford, BES, MES, is an Environmental Planner at Morrison Hershfield and he is a member of the 2019 OAIA Conference Planning Committee. He has worked on numerous projects across Canada in infrastructure, automotive, waste management and sustainability in both the public and private sectors. Since joining Morrison Hershfield, Nick has assisted in coordinating provincial environmental assessment process requirements; formulating and implementing consultation plans; coordinating and reviewing environmental and technical specialist work; coordinating socio-economic and land use data collection; and communicating with Indigenous groups, municipal and provincial government representatives, and the public.

Lisa DeMarco is a senior partner at DeMarco Allan with over two decades experience in law relating to clean energy and technology.

Colleen George is a member of the 2019 OAIA Conference Planning Committee. She is a Research Scientist with the Ontario Ministry of Natural Resources

and Forestry. She holds a PhD in Environment and Sustainability from the University of Saskatchewan and a Master of Environmental Studies in Northern Environments and Cultures from Lakehead University. She holds two bachelor's degrees from McMaster University: Bachelor of Science, Biology (Biodiversity Specialization) and Bachelor of Arts, Political Science and Government.

Robert B. Gibson is a professor in the School of Environment, Resources and Sustainability at the University of Waterloo. Since the mid 1970s, he has worked on improving assessment law and application. He now focuses on integrating sustainability considerations in a diversity of applications including assessments at the project and strategic levels. He is a co-author of From Paris to Projects: clarifying the implications of Canada's climate change mitigation commitments for the planning and assessment of projects and strategic undertakings (January 2019).

Don Gorber, Ph.D., P.Eng., is President and founder of Independent Environmental Consultants (IEC) since 2015. He has over 46 years of environmental consulting experience, which includes extensive EA experience such as carrying out the first federal EA in Canada. Don provides leadership, oversight, and strategic planning services to multi-disciplinary teams undertaking environmental projects, particularly environmental and social impact assessments, strategic environmental assessments for interesting and challenging global projects. Don has also worked on many Regional and Strategic EAs including the recently completed Strategic Environmental Assessment at the Wood Buffalo National Park. He has worked on numerous energy development projects in Ontario, including nuclear, oil & gas, wind and solar projects. He has also completed many projects with Indigenous peoples.

Anneliese Grieve is Managing Director at Anneliese Grieve Strategic Environmental Planning Solutions and member of the OAIA Board. She is an expert in the application of environmental assessment and decision making processes for the approval of complex and controversial projects and has specialized expertise in conducting social impact assessments and stakeholder engagement. Anneliese has recently been part of the team undertaking an SEA for Wood Buffalo National Park.

Kevin Hanna, Ph.D., is Director of the Centre for Environmental Assessment Research at the University of British Columbia, and Associate Member of the Faculty of Forestry. His research focuses on integrated approaches to natural resource management, environmental assessment, cumulative effects assessment, and energy resources and systems. He is the co-chair of the newly established *Technical Advisory Committee on Science and Knowledge*, which provides advice to the Impact Assessment Agency of Canada on the implementation of the *Impact Assessment Act*. He is a member of the Environmental Assessment Implementation Advisory Committee to the BC Minister of Environment and Climate Change Strategy.

Andrew Harkness is a Principal and a Director with Morrison Hershfield. He specializes in Environmental Assessment planning and in managing multi-disciplinary project teams on a range of complex infrastructure projects. Andrew is currently leading a feasibility study for a 600 km all-season road between Highway 11 and James Bay, the primary objective of which is the enhancement of community well-being. Andrew is certified as an ENVISION Sustainability Professional and is playing a lead role with Morrison Hershfield's clients in Climate Change Mitigation and Adaptation.

Katja Hetmanchuk is a junior engineer in the Ordre des ingénieurs du Québec with a degree in civil engineering and a Master's in Environmental Assessment from Concordia University. She has worked for Québec's Ministère de l'Environnement et de la Lutte contre les changements climatiques on the consideration of GHG emissions in environmental assessment, and in the private sector conducting environmental site assessments. She is currently an EHS Regulatory Analyst working with legislation in European, South American and South Asian jurisdictions.

Ross Lashbrook worked at different divisions of the Ontario Ministry of the Environment Conservation and Parks (MECP) for 13 years before moving to the Ontario Ministry of Municipal Affairs and Housing (MMAH). After two years with MMAH in the Central Ontario Municipal Services Office, he is back at MECP to lead the EA modernization initiative.

Tony Lemprière is the Senior Manager, Climate Change Policy, in the Trade, Economics and Industry Branch of Natural Resources Canada.

Lindsay Luke has worked for the British Columbia Environmental Assessment Office as a Project Assessment Manager for three years. She has worked in in environmental management for resource development and environmental assessment for over a decade and has a Master's degree in geography from the University of Saskatchewan.

Gillian MacLeod is the Senior Environmental Advisor at Ontario Power Generation (OPG). She has worked as an environmental assessment specialist in the energy sector, advancing thermal, hydro and solar generation projects for OPG. Gillian has successfully completed environmental assessments for Portlands Energy Centre (with TransCanada), Wawaitin, Sandy Falls, Lower Sturgeon, Hound Chute, Mattagami lake Dam and New Post Creek and Ranney Falls, Nanticoke Solar, and Gull Bay Solar Migrogrid project. She holds an Honours BA, Double Specialist in Geography and Urban Studies from the University of Toronto and a Master's Degree in Environmental Studies, Urban Planning and Energy Conservation from York University. Gillian has worked extensively with First Nations and Métis Communities and is passionate about building relationships and leveraging her projects to bring prosperity and promise to the communities most directly affected.

Genevieve Martin leads BC Hydro's Project Environmental Risk Management Department. Her team's accountabilities include environment regulatory, archaeology, hazardous materials and contaminated sites scope on over 400 capital projects. In addition, she is

accountable for the development of BC Hydro's Environmental Policies and Standards, and management of Environmental Regulatory affairs. She chairs Water Power Canada's Regulatory Working Group. Genevieve is a Professional Biologist and Environmental Auditor.

Deborah McGregor joined York University's Osgoode Hall law faculty in 2015 as a cross-appointee with the Faculty of Environmental Studies. Her research has focused on Indigenous knowledge systems and their various applications in diverse contexts including water and environmental governance, environmental justice, forest policy and management, and sustainable development. Prior to joining Osgoode, Professor McGregor was an associate professor in the Department of Geography at the University of Toronto. She has also served as Senior Policy Advisor, Aboriginal Relations at Environment Canada-Ontario Region. Professor McGregor is Anishinaabe from Whitefish River First Nation, Birch Island, Ontario.

J.A. (Sandy) Nairn, MCIP, RPP, is the National Manager for Environmental Planning with WSP with over 25 years' experience in Environmental Assessment in Ontario specializing in transportation infrastructure. He is a long standing member of OAIA and is registered professional planner. Sandy has completed well over 100 environmental planning assignments for various public and private sector organizations. His career experience includes application of various environmental assessment regimes working with indigenous communities, government ministries, municipalities and private sector developers. Sandy has provided expert advice to clients on environmental assessment process, policy development and environmental assessment audits.

Bram Noble is a professor in the Department of Geography at the University of Saskatchewan and Co-Director of the Community Appropriate Sustainable Energy Security Partnership. His work is focused on impact assessment, including cumulative effects assessment and strategic assessment, with applications in land use planning and the mineral and energy resource sectors.

Paul Norris is the President of the Ontario Waterpower Association (OWA). Under Paul's leadership the OWA has grown to include over one hundred and fifty (150) members with a shared commitment to the advancement of environmentally sustainable economic development and resource management. Paul has a Bachelor of Science degree from the University of Toronto and is a graduate of Ryerson's Public Administration Program. He holds an MBA from Queen's University and the Certified Association Executive designation.

Kelechi Nwanekezie is a final year PhD student in Geography and Planning at the University of Saskatchewan. Her broad research interests center around impact assessment (IA), strategic environmental assessment (SEA), energy policy transitions, natural resource management, and renewable energy. Her current doctoral research investigates advancing the role of SEA to guide energy policy transition including promoting strategic-thinking in energy sector decision-making. She holds an MSc in energy and environmental management, an MSc in sustainable environmental management and a Bachelors in zoology.

John H. Peters is the President of Reach Enviro Plan (REP) Limited. He was previously with Ontario Power Generation. His areas of expertise include nuclear energy, Indigenous relations, public participation, and environmental assessment for nuclear generation. He is a graduate of the University of Western Ontario.

Anjala Puvananathan is a Director on the Board of OAIA, and the co-chair of the 2019 OAIA Conference Planning Committee. She is the Director responsible for Ontario at the Impact Assessment Agency of Canada.

Sarah Rogers has over thirteen years experience as an environmental assessment (EA) practitioner. Beginning her career as an environmental scientist, Sarah worked in the Yukon on a major mining EA. Compliment to her science background, Sarah became more involved in EA planning moving to Ontario. Sarah has completed numerous EAs and consultation programs at the federal, provincial and municipal levels. Since joining Parsons, Sarah's expertise has been refined to include planning, design and construction projects for transportation and wastewater infrastructure. With her science background Sarah found a natural fit to incorporate climate change considerations into her role as an EA practitioner.

Becca Spence comes from an academic background in ecological restoration, supported by both a diploma from Fleming College and an Honours Bachelor of Science in Ecological Restoration from Trent University. She feels a closeness and gratitude for land and water and has a desire to reciprocate the gifts of waterways by ensuring their health now and in the future, while simultaneously supporting the health of current and future humans and animals that depend on them for food, water, medicine, homes, and so much more.

Beth Williston is the Associate Director of Environmental Assessment Planning at Toronto and Region Conservation Authority (TRCA). She is a professional planner, and is a career conservationist. Beth has worked in infrastructure planning for the past 15 years. She is responsible for overseeing the environmental review of all infrastructure projects in TRCA's 9 watersheds across the GTA. She works closely with municipalities, the province and many, many consultants to ensure efficient service delivery and effective natural resource management as we build our city region. Beth lives in Innisfil with her husband and youngest daughter, and has two other children off at university. In her spare time, she loves to hike and swim.

Tomasz Wlodarczyk, B.Sc., M.E.S., is a Principal Consultant with SLR and a Senior Advisor, Environmental Management, Planning and Approvals. He has over 28 years of experience, providing expertise in several areas including: strategic environmental assessment; regional studies; policy research, analysis and development; environmental and socio-economic

impact assessment; cumulative effects analysis. His strength is the ability to synthesize multi-disciplinary information and considering often disparate perspectives to reach defensible conclusions. He is a leading expert in conducting environmental assessments having experience with assessments under the Canadian Environmental Assessment Act (2012 and predecessor), various provincial and territorial EA legislation. Tomasz was a member of the team that prepared the Strategic Environmental Assessment at Wood Buffalo National Park.

Pam Whyte has over sixteen years' experience in land use and environmental planning. She has led and coordinated numerous environmental assessments for the federal, provincial, and municipal levels of government. Her work with sustainable transportation projects has enabled a good understanding of the inter-relationships of transportation system components and valued ecosystem components. More recently, at a project scale, Pam has assisted project teams in how to account for climate change impacts and adaption strategies on transportation infrastructure projects in Ottawa, Ontario.

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