



INSTITUT C.D. HOWE INSTITUTE

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POLICY SEMINAR REPORT

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CANADA'S 2030 EMISSIONS  
REDUCTION PLAN:  
WHAT'S REALISTIC?

July 2022



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*The C.D Howe Institute thanks the speakers at the Special Policy Seminar, drawn from leading universities, the industry and the Institute staff, for their insightful presentations, as well as participants in the stimulating discussions.*

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## AN OVERVIEW

The C.D. Howe Institute held a Special Policy Seminar on Canada's 2030 Emissions Reduction Plan on June 23, 2022, in Toronto, Ontario. The goal of the in-person conference was to provide an objective review of the Plan's aspirations with respect to greenhouse gases (GHG) and its proposed path to 2030.

The key question addressed by the conference was: What's realistic? How feasible are the Plan's projected 2030 outcomes, and what are their implications for the economy, for households and for businesses? The sessions followed the structure of the Plan itself and involved participants from economic sectors with significant GHG: oil and gas production, transportation, electricity, and buildings.<sup>1</sup>

The conference was designed to present a clear-eyed, non-partisan view of the Plan's contents rather than to develop an alternate roadmap or idealized suite of policies.

The cross-sector scope and economy-wide scale of the Plan makes it unprecedented in modern Canadian policy. An opening panel set the framework for the conference, examining how well prior government plans have progressed relative to their aspirations, the potential barriers to achieving desired 2030 outcomes, and the stakeholders likely to be involved. A closing panel examined opportunities for improvement, how governments can work together, and an assessment of the Plan's place in a broad public context.

The day's discussion took place against a backdrop of signs of economic recovery post-COVID-19, rising energy demand, lagging energy supply investment, supply chain disruptions, a recognition of the need for greater Indigenous economic participation, and an elevated emphasis on energy security prompted by Russia's invasion of Ukraine.

The preparatory work for the conference, and the presentations and discussions at the event proper, yielded numerous insights, many of which resonated across sectors. The reader will find them in the rapporteur's summary.

### Summary and Overarching Themes

Not a single speaker or participant unreservedly found the Plan's aspirations easily achievable, though there was a wide range of perspectives. A few broad themes emerged:

- The desire for a greater level of modeling detail and transparency underlying the Plan. This would help stakeholders better assess the Plan and contribute to its improvement. In many ways, it is a plan for a plan.
- Timelines are not realistic in view of the size of many of the projects and slowness of permitting. All sectors will need to gather equipment, have labour available and build infrastructure.
- The need for greater policy certainty and durability. It is important that participants largely know what to expect in the future and can rely on expectations when making decisions today. This includes the expected price and durability of emissions and tax measures, among other things. Policy durability is seen by participants as greater when enhanced by non-partisan institutions and processes.
- Intergovernmental coordination and cooperation among public and private sectors is desired – there are doubts that we can have this with increasing numbers of policies and agencies. Overlapping government jurisdictions and policies can blunt intended outcomes in several contexts.

There was a contrast in views between participants who argued for first-mover advantage and those who said that faster adjustment increases costs disproportionately.

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1 Time prevented including the agriculture, waste, or industrial sectors, though the ideas presented often applied to them also.

## AGENDA

### SPECIAL POLICY CONFERENCE: CANADA'S 2030 EMISSIONS REDUCTION PLAN—WHAT'S REALISTIC?

June 23, 2022 from 8:30 am to 2:50 pm ET

One King West Hotel & Residence, Toronto, ON

Grand Banking Hall



8:30 am - 8:55 am REGISTRATION AND BREAKFAST

8:55 am - 9:00 am WELCOMING REMARKS

#### 9:00 am - 9:45 am Testing the Feasibility of Canada's 2030 Emissions Reduction Plan

*Key discussion questions:*

*Are the targets and timelines practical?*

*What do the targets imply for capital investments and stranded assets?*

*What are the implications for business and households?*

**Moderator:**

**William B.P. Robson**, Chief Executive Officer, C.D. Howe Institute

**Presenters:**

**Jerry DeMarco**, Commissioner of the Environment and Sustainable Development, Office of the Auditor General of Canada

**Colin Guldemann**, Economist, RBC

**Professor Monica Gattinger**, Founding Chair of Positive Energy and Director of the Institute for Science, Society and Policy, University of Ottawa

#### 9:45 am - 10:30 am Sector Analysis—Oil and Gas

**Moderator:**

**Charles DeLand**, Associate Director, Research, C.D. Howe Institute

**Presenters:**

**David Yager**, President, Yager Management Ltd.

**Devin Iverson**, Director, Government Affairs, Cenovus Energy

**G. Kent Fellows**, Assistant Professor, Department of Economics, University of Calgary

10:30 am - 10:45 am COFFEE BREAK

*Presentations and discussions are off-the-record.*

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10:45 am - 11:30 am	Sector Analysis—Electricity
<p><b>Moderator:</b></p> <p><b>Benjamin Dachis</b>, Associate Vice President, Public Affairs, C.D. Howe Institute</p> <p><b>Presenters:</b></p> <p><b>Chris Benedetti</b>, Managing Partner, Sussex Strategy Group</p> <p><b>Francis Bradley</b>, President and Chief Executive Officer, Electricity Canada</p> <p><b>Justin Wahid Rangooni</b>, Executive Director, Energy Storage Canada</p>	
11:30 am - 12:15 pm	Sector Analysis—Buildings
<p><b>Moderator:</b></p> <p><b>Charles DeLand</b>, Associate Director, Research, C.D. Howe Institute</p> <p><b>Presenters:</b></p> <p><b>Jody Becker</b>, Chief Strategy Officer, Executive Vice President Infrastructure Services &amp; Technology, EllisDon</p> <p><b>Fatima Crerar</b>, Vice President, Strategy &amp; Partnerships, The Atmospheric Fund</p> <p><b>Richard Lyall</b>, President and Chief Executive Officer, Residential Construction Council of Ontario</p>	
12:15 pm - 1:00 pm	NETWORKING LUNCHEON
1:00 pm - 1:45 pm	Sector Analysis—Transportation
<p><b>Moderator:</b></p> <p><b>Benjamin Dachis</b>, Associate Vice President, Public Affairs, C.D. Howe Institute</p> <p><b>Presenters:</b></p> <p><b>Brian Livingston</b>, Executive Fellow, School of Public Policy, University of Calgary</p> <p><b>Daniel Breton</b>, President and Chief Executive Officer, Electric Mobility Canada</p> <p><b>Flavio Volpe</b>, President and Chief Executive Officer, Canadian Automotive Parts Manufacturers' Association</p>	

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1:45 pm - 2:00 pm

#### COFFEE BREAK

2:00 pm - 2:45 pm

#### Evaluating the Emissions Reduction Plan: Goals, Timelines and Options

*Key discussion questions:*

*Are the Plan's goals reasonable? Are its timelines realistic?*

*What changes to the Plan could reduce its biggest economic costs?*

*How can the federal and provincial governments work better together? What is the potential role of businesses and households?*

#### **Moderator:**

**William B.P Robson**, Chief Executive Officer, C.D. Howe Institute

#### **Presenters:**

**Marla Orenstein**, Director of the Natural Resources Centre, Canada West Foundation

**Michael Bernstein**, Executive Director, Canadians for Clean Prosperity

**Dale Beugin**, Vice President, Research and Analysis, Canadian Climate Institute

2:45 pm - 2:50 pm

#### CLOSING REMARKS

*Presentations and discussions are off-the-record.*



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## RAPPORTEUR'S REPORT:

Environment and Climate Change Canada released its 2030 Emissions Reduction Plan (ERP) in March 2022. The Plan aims to reduce emissions of greenhouse gases (GHG) across the economy to between 40 and 45 percent of 2005 levels by 2030 and guide the economy to net-zero emissions by 2050. The ERP provides goals for GHG emissions in key sectors. The C.D. Howe Institute assembled a conference featuring experts on, and representatives from, the largest of the sectors highlighted in the ERP to discuss the Plan's feasibility in oil and gas, electricity, building and transportation. The conference also featured an introductory scene-setting panel and a summary to conclude the day.

### Session 1: Testing the Feasibility of the Emissions Reduction Plan.

Presenters in the introductory session provided an overview of the feasibility of the ERP rather than focusing on a particular economic sector.

Canada has been a vocal champion of GHG reductions, but despite its commitments, Canadian emissions have increased. One panelist noted that Canada is poorly placed to meet the Plan's goals, given history, geography and industrial makeup.

The panelists emphasized the need for plans to be realistic. One noted that the ERP's main innovation was laying out paths of varying ambition by sector. Some of the paths are more dynamic, and some more realistic, than others. There was some pessimism about meeting the 2030 targets, although government, business, investors and the public appear ready to try.

The discussions identified key challenges to reaching the emissions goals. Among them: Canada's current inertia and its poor track record of achieving governmental objectives makes success within the timeline of the emissions reduction plan unlikely. All participants cited concerns with unrealistic modeling assumptions. Presenters agreed that the assumptions outlined in the ERP

concerning law, regulation, and investment may not accurately reflect reality if they do not translate into behavior. Moreover, there were concerns around model quality and transparency. One presenter noted that previous emissions plans relied on overly optimistic assumptions regarding nascent activities such as hydrogen production. There is a need for openness and peer-review of modelling for the 2030 plan.

Other challenges relate to regulatory and policy uncertainty. For example, the ERP lays out a vision, but leaves key issues unresolved. Uncertainty about the future path of policy and regulation affect profitability and cash flow calculations, discouraging capital investment and funding. Further, labour shortages, supply chain issues and tight capital markets would further undermine the Plan's feasibility. *Participants noted that the Plan's desired outcomes are unprecedented in scope and constitute a massive exercise in central planning.*

The discussions also identified project approval and jurisdictional challenges that could affect the feasibility of the Plan. A common concern among the speakers was the lethargic project-development process. One panelist highlighted that the scope and pace of emissions reduction will require a faster, easier and less politicized process for project planning, permission, and finance. The environmental *Impact Assessment Act* was a particular focus of concern.

A presenter noted that governments must clarify decisions early to speed investment and reduce the risk of negative outcomes, citing affordability and reliability in the electricity sector. There are also challenges around cooperation between intra-national jurisdictions. It is necessary for federal, provincial, local and First Nations governments to coordinate and cooperate to take the actions required to meet emissions targets.

Discussions emphasized the need to accelerate investment in critical areas, make better use of policies already in place (like carbon pricing), and to

build hardware like electric vehicle (EV) batteries and heat pumps. Oil and gas, and transportation appear to have a head start on at least addressing the emissions issue.

The session also highlighted the importance of long-term thinking and the challenge for governments in transitioning from short-term deliverables to long-term goals. Participants also discussed external factors affecting feasibility – concerns around worsening climate conditions, and changes in international regulation. Some speakers emphasized the need for action regardless of external factors, citing the higher cost of inaction and the need for balanced spending on mitigation and on adaptation. But crucial questions of who pays what, when, and how remain unanswered.

## Session 2: Oil and Gas

The second session of the conference featured presentations and discussions focused on the emissions reduction plan for oil and gas.

The sector is the arguably most difficult to decarbonize, since much of oil and gas production cannot be electrified. Further, the public and often governments are often inclined to cut oil and gas production to reduce emissions, notwithstanding domestic and foreign demand for those products. Panelists highlighted that the industry is generally predisposed to decarbonize, but it will be costly. *The industry is unable to commit to the aspirational 2030 plan due to uncertainty, however, a significant reduction of emissions is possible.*

One presenter noted the focus on carbon capture projects to decarbonize oil and gas. These projects are large undertakings and will require similar physical and human capital assets as new oil and gas projects. More generally, projects to decarbonize the oil and gas sector generate little or no cash flow as well as slow project development. They make investments unattractive since there is no reward for risking capital. As well, historical investment in the sector was hindered by low prices, a lack of market access,

carbon pricing and unfavourable public opinion.

*The modeling behind the ERP's projections raised concerns. Specifically, presenters noted that the models used had not been subjected to review by the sector, and that assumptions related to emissions per unit of production needed scrutiny.* One speaker highlighted that tension between short run goals of lower price (implying more production) and lower emissions. In the long run, these are not mutually exclusive. Moreover, Canada will continue to be an oil producer in the future. The oil and gas sector provides considerable value to Canadian economy and despite the anticipated path of oil prices in the short run, Canada, and especially the oil sands, are likely to continue oil and gas production as they did during previous episodes of low prices in 2014 and 2020. Low marginal cost of extant production projects will keep the oil sands competitive in the near to medium term.

There is a need to reduce uncertainty and incentivize investment through the de-risking of decarbonization projects. Improved consultation with industry would improve transparency, model realism and reduce uncertainty. Greater confidence about the future path of policy – particularly about the carbon price through ideas such as contracts for differences, and the value and duration of investment tax credits – would improve ambitions in the sector. One presenter noted the need to adopt additional policies and levers to de-risk projects and meet targets.

Discussions also focused on the effectiveness of various policies that could decarbonize the sector. Carbon pricing can work to reduce emissions on the intensive margin. The proposed sector emissions cap was discussed, notably its overlap and conflict with existing policy (such as the emissions price) and its consequent negative impact on GDP. A separate carbon pricing scheme for oil and gas would also be inefficient and politically unpopular.

Finally, there was discussion of the possibility that the oil and gas sector could shift production to less emissions-intensive products. However,



there is still a need for the internal combustion engine and other carbon products to support the emissions reduction of other sectors. Oil and gas inputs will be critical for aviation fuel and non-combustible materials in the near to medium term. Since Canada largely exports oil and gas, the related tailpipe emissions are controlled in other jurisdictions.

### Session 3: Electricity

The third session of the conference focused on the electricity sector.

There was general agreement that the existing emissions footprint for the sector is favourable. Canada has a relatively low-emitting electricity grid with less than 20 percent coming from emitting sources. The sector has the technology and the support to build on previous successes and to support other sectors' decarbonization efforts, but it will need to build more and build faster to meet the sizeable increases in demand prefigured in the ERP's goals.

*Concerns were expressed about the sector's ability to meet the ERP's goals when electrification is central to the reductions envisioned for other sectors, and forecasters generally anticipate that electricity demand will double or triple by 2050.* Speed is one issue: electricity projects take decades to complete. All presenters agreed that for any productive action to be taken the decision-making process must be accelerated. As one presenter highlighted, Canada in 2020 placed 64th in the World Bank's ranking for dealing with construction permits in its Ease of Doing Business index.

The speakers discussed the need for government coordination at all levels. Regional differences in electricity mix and authority will require government coordination to ensure that projects are developed in a timely manner. Presenters noted the importance of maintaining an affordable, resilient and reliable electricity grid. Challenges include adequate labour supply and skills, and supply chain shortages as the sector strives to meet its targets.

Optimizing all sources and uses of electricity (renewable and non-renewable) is essential and storage will be an important element of that optimization. The feasibility of meeting targets of the ERP depends largely on the ability to build infrastructure. Governments can support this effort with a stronger framework, faster construction approval, and greater cooperation and collaboration with critical partners.

Participants also discussed the future role of natural gas in the electricity sector. They agreed that the need for natural gas will remain robust into the future. One panelist noted that the math requires the use of natural gas until at least 2030 and likely longer. The government has a crucial role in creating standards that represent the public interest, but funding will occur at more local levels – and that will require stronger coordination.

### Sector 4: Buildings

The fourth session of the conference featured presenters from the building sector.

Participants highlighted the Plan's inherent tensions. On the positive side, the Plan is an exciting development, while a more pessimistic view is that the Plan is aspirational, not concrete. There is support in the sector to make progress; there is support for a net-zero building code; and there is support from builders to reduce emissions – although there are several conflicting and overlapping standards.

Obstacles exist in the sector that must be overcome: the need for faster project approval, a stronger decision making framework, and coordination between governments and the private sector. One presenter noted that there is an asymmetry between policy, procurement, technology, and best practices. Procurement is slow and based on arbitrary goals. Policymakers focus too much on new projects, when retrofitting old buildings can have a greater impact on GHG reductions. *One presenter noted that to reach 2030 goals, there would need to be 130,000 buildings per year*

*retrofitted in Toronto alone.* Concerns about skills and information gaps of operators who take on net-zero buildings were discussed. Other concerns raised include: the use of unrealistic arbitrary goals and the negative impact on credibility when targets are missed, the need to consider the whole lifetime of the project, and the problem of technology outpacing slow project construction. Canada comes 34th out of 35 OECD countries in the average time to get regulatory approval for a construction project (also from the World Bank's Ease of Doing Business Index). Also highlighted were the gaps in the Plan for the sector such as the exclusion of digitization, mass timber, and offsite construction consideration.

The presenters agreed that goal-oriented planning is crucial. There is a need for new skills and perspectives to drive innovation to enhance speed and develop green materials. Investment will drive the technological innovation, but faster project development will ensure that the technology and the building progress contemporaneously. Presenters highlighted the need for stronger cooperation between all levels of government, the private sector and academia. While a frequent complaint, growing numbers of regulations and bodies appear to make this unlikely. A stronger framework to set rules for targets and establish accountability will also increase the speed of project development. One presenter noted there are currently over 45 agencies involved in a given project approval process. Another noted that stronger reporting and verification regimes for operators of net-zero buildings would significantly help meet emissions goals.

Overall, the vision for the sector in the Plan appears arbitrary. Participants agreed they would like to see more explicit planning in coordination with industry. The development of skills, coordination between actors and stronger accountability for operators of net-zero buildings are important components of the building sector's ambitions to reach targets. It might be inevitable that businesses and consumers leave the slow yet

standardized political sphere and choose to pursue lower-emission projects faster on their own.

## **Sector 5: Transportation:**

The fifth session of the conference featured presenters from the transportation sector and discussions focused on the emission reductions ambitions.

*The presenters in this session, similarly to presenters in other sessions, characterized the ERP as aspirational: a plan to have a plan.* They noted that is unlikely the transportation sector will reach the targets outlined in the Plan. Among the reasons: Canadians are driving more and larger vehicles, Canada has the highest CO<sub>2</sub> per km in the world for light duty vehicles, and the EV market is novel and small. Despite these issues, the presenters emphasized that sector participants would like to meet their targets if able to do so.

Overly positive assumptions were a concern. One presenter demonstrated the unrealistic projections for EVs in the ERP, given existing sales and manufacturing trends and the average life of the current stock of vehicles. There is a need for larger EV manufacturing capacity and the EV market is highly dependent on the United States. Furthermore, there are supply issues for EV manufacturing inputs – particularly batteries.

EVs will require an infrastructure plan, strategy, regulation, new skills, and manufacturing with federal coordination to prepare for widespread EV adoption, particularly of larger vehicles. To achieve this, one presenter suggested the use of rebates and “feebates” to discourage the use of internal combustion engines, more education and training to spur innovation and skills, mandatory instead of voluntary EV mandates, and support for alternative methods of transportation such as electronic transit and car sharing to achieve targets.

Other topics included EV supply chain issues, resource exports, and stronger government frameworks. The speakers discussed the strength

and market durability of oil and internal combustion engines given the potential supply chain shortfalls. Participants noted that it's unlikely aviation or rail can be electrified anytime soon, so solutions will likely focus on lower-carbon liquid fuels. Moreover, the speakers discussed the constraints on acquiring the material to make EV batteries and cited it as a major challenge to reaching targets, especially in an environment when projects take so long to permit and build.

Participants heard of the need to ensure Canada has access to minerals for EV production instead of relying on international partners. As well, a strong, yet non-partisan, regulation framework is crucial to the transportation sector, since US regulations will be a large determinant in Canadian production. Stronger collaboration with US governments could increase Canada's EV market share.

### **Session 6: Evaluating the Emissions Reduction Plan: Goals, Timelines and Options**

The final session of the conference featured high-level commentary on the ERP's goals, timelines and options.

The session highlighted that the world is committed to emissions reductions. The climate is a pressing issue, keeping the temperature under control is crucial, and emissions reductions are a key component of the solution. Reaching targets and goals can help avoid high costs in the future. *One speaker noted that the ERP can be considered a roadmap, or checkpoint, but any path forward requires confidence and optimism.*

Certainty around policy will drive investment. The private sector will have to drive action and having certainty around the path of policy –

particularly carbon pricing which is the centerpiece policy – and how it affects the bottom line will improve investment. Progress is being made: methane reductions of 50 percent have been made in the Alberta and Saskatchewan oil and gas sector, for example.

While the ERP proposes many different policies it is important that we get the most from policies already in place. In particular, carbon pricing has been established as a central policy: layering conflicting policies on top may weaken it and add confusion.

In a presenter's view, a positive aspect of the ERP is that it naturally presents a way to prioritize policies. Speakers also reiterated the need for coordination between different levels of government to improve the speed of project development. Regional differences should be built into solutions. The need to have a framework that takes seriously the end goals, implements the plans, and challenges and tests the assumptions was also discussed.

Panelists discussed the need to evaluate the modeling, and test its impacts given potential adverse international emissions developments. Participants heard concerns that the model is moving faster than reality, concerns about future path of policy and the need for multifaceted methods to examine tools and models. In response to a question about how Canada should mitigate emissions if other major emitters do not, some panelists asserted that other countries will reduce emissions, and that Canada should proceed regardless, while another panelist emphasized the need to protect Canadian competitiveness and living standards.

## BIOGRAPHIES OF PRESENTERS AND MODERATORS

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### WILLIAM B.P. ROBSON

CHIEF EXECUTIVE OFFICER, C.D. HOWE INSTITUTE

Bill Robson took office as CEO of the C.D. Howe Institute in July 2006, after serving as the Institute's Senior Vice President since 2003 and Director of Research from 2000 to 2003. He has written more than 240 monographs, articles, chapters and books on such subjects as government budgets, pensions, healthcare financing, inflation and currency issues. His work has won awards from the Policy Research Secretariat, the Canadian Economics Association, and the Donner Canadian Foundation. He is a Senior Fellow at Massey College and holds an ICD.D designation from the Institute of Corporate Directors. He is a member of the Panel of Senior Advisors to the Auditor General of Ontario and the Ifo World Economic Survey expert group, and a regular commentator on BNN/Bloomberg. Bill taught undergraduate public finance and public policy at the University of Toronto from 2000 to 2003, and a Master's level course in public finance at the University of Toronto's Munk School of Global Affairs and Public Policy from 2014 to 2019.



### JERRY DEMARCO

COMMISSIONER OF THE ENVIRONMENT AND SUSTAINABLE  
DEVELOPMENT, OFFICE OF THE AUDITOR GENERAL OF CANADA

Jerry V. DeMarco assumed the role of Commissioner of the Environment and Sustainable Development in February 2021. A lifelong interest in nature and a 25-year career devoted to working in the environmental field have positioned Mr. DeMarco as a leading Canadian expert in environmental policy and law.

Before joining the OAG, from 2019 to 2021, Mr. DeMarco served as Commissioner of the Environment and Assistant Auditor General at the Office of the Auditor General of Ontario.

In addition to a bachelor's degree from the University of Windsor, Mr. DeMarco has a law degree from the University of Toronto and master's degrees in environmental studies (York University), management (McGill University), and science (University of Toronto). He also holds a diploma in French studies from the *Université de Savoie* and certificates in adjudication and alternative dispute resolution. He is a member of the Law Society of Ontario and a Registered Professional Planner and member of the Canadian Institute of Planners.



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**COLIN GULDIMANN**  
ECONOMIST, RBC

Colin joined RBC in 2019 as an economist. He holds a Bachelor's degree in Economics from the University of Ottawa, and Master of Arts in Economics from the University of British Columbia. Prior to joining RBC, Colin worked on mortgage, housing, and economic policy at the Department of Finance Canada.



**PROF. MONICA GATTINGER**  
FOUNDING CHAIR OF POSITIVE ENERGY AND DIRECTOR OF THE  
INSTITUTE FOR SCIENCE, SOCIETY AND POLICY, UNIVERSITY OF  
OTTAWA

Monica Gattinger is Director of the Institute for Science, Society and Policy, Full Professor at the School of Political Studies and Founding Chair of Positive Energy at the University of Ottawa. Dr. Gattinger is an award-winning researcher and highly sought-after speaker, strategic advisor and media commentator in the energy and arts/cultural policy sectors. Her innovative research program convenes business, government, Indigenous, civil society and academic leaders to address complex policy, regulatory and governance challenges. She has published widely in the energy and arts/cultural policy fields, with a focus on strengthening decision-making in the context of fast-paced technological change and markets, changing social values, and fluctuating levels of trust in governments, industry, science and expertise. Gattinger is Fellow at the Canadian Global Affairs Institute, board member of the Clean Resource Innovation Network, and serves on advisory committees for the Institute on Governance, the National Research Council Canada, the Nuclear Waste Management Organization, the Ontario Energy Board, the Ottawa Science Policy Network and the University of Calgary. She chairs the Council of Canadian Academies' expert panel on International Science and Technology Partnerships and is a columnist for JWN Energy's Daily Oil Bulletin. Monica received the 2020 Clean50 Award for her thought leadership in the energy sector. She holds a PhD in public policy from Carleton University.

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### CHARLES DELAND

ASSOCIATE DIRECTOR, RESEARCH, C.D. HOWE INSTITUTE

Charles brings to the Institute a deep knowledge of economic policy issues with more than 20 years' experience in the energy sector.

Charles began his career analyzing the deregulating Alberta electricity sector, then joined consultancy Purvin & Gertz (now IHS Markit) as an energy analyst. He then spent several years in senior analytical, advisory, and policy roles with Husky Energy, Shell Canada, Canadian Natural Resources Limited, the Canadian Association of Petroleum Producers, and the Government of Alberta.

In these roles, he informed and supported company strategy and investment decisions, as well as public policy outreach efforts. In particular, Charles brings a wealth of experience to investment evaluation and strategy, taxation and royalties, ESG, and trade issues related to the energy sector.

He is a CFA charterholder and earned a certificate in Strategic Decision and Risk Management from Stanford University's Center for Professional Development. He is based in Calgary.



### DAVID YAGER

PRESIDENT, YAGER MANAGEMENT LTD.

David Yager is an oil service executive, entrepreneur and long-time writer. He has worked in the oil industry since 1970 and from 1987 to 2018 was a founder, senior officer and director of several TSX-listed oil service companies.

From 2012 to 2016 he served as National Leader Oilfield Services for MNP LLP, a leading Canadian tax, accounting and consulting provider. He is currently President and CEO of Winterhawk Well Abandonment Ltd. which is commercializing a wellbore methane emission technology.

Through Yager Management Ltd., he provides executive consulting, communications and policy analysis to companies, boards, industry associations and other organizations. He was Chairman of the Petroleum Services Association of Canada in 2009/2010.

David Yager has been active in business journalism and energy policy analysis since 1979. He is a keynote speaker and regular commentator on the oil industry and energy policy in multiple media outlets.

His book - From Miracle to Menace – Alberta, A Carbon Story – was released in 2019.



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### DEVIN IVERSON

DIRECTOR, GOVERNMENT AFFAIRS, CENOVUS ENERGY

Devin Iversen is the Director of Government Affairs for Cenovus Energy. His team is focused on public policy and over the last two years he has been working closely with his oilsands peers in the Pathways Alliance to net zero, mapping out the policy and regulatory framework needed to accelerate the decarbonization of Canadian oil production, which he describes as the most challenging project in a 25 year career of working on tough policy objectives. He has worked in Parliament, politics, and has been at Cenovus for the last 11 years.



### G. KENT FELLOWS

ASSISTANT PROFESSOR, DEPARTMENT OF ECONOMICS,  
UNIVERSITY OF CALGARY

Dr. Kent Fellows is an Assistant Professor (Economics) and Associate Program Director of the Canadian Northern Corridor research program at The School of Public Policy, University of Calgary. He is currently Fellow in Residence as an academic advisor and contributor to the C.D. Howe Institute's Energy Policy program and incoming director of the Master of Public Policy Program at the University of Calgary. Dr. Fellows specializes in multiple areas of Microeconomics including Competition Policy, Regulatory Economics, Regional/Transportation Economics and Energy Economics. He has published multiple papers on those subjects in both academic and policy journals and his advice on related topics has been sought by provincial, federal, and international governments

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### **BENJAMIN DACHIS**

ASSOCIATE VICE PRESIDENT, PUBLIC AFFAIRS, C.D. HOWE  
INSTITUTE

Benjamin Dachis is Associate Vice President, Public Affairs for the C.D. Howe Institute. In his role, he furthers the Institute's mission to improve Canada's economic performance by enhancing the visibility, reputation and impact of its research and activities. Benjamin started with the C.D. Howe Institute in 2006 as a Research Fellow and also has experience with major U.S. and U.K. think tanks. He returned to the C.D. Howe Institute as a Policy Analyst in January of 2008, became a Senior Policy Analyst in 2011, and Associate Director, Research in 2016. From 2018 to 2019 he was the Director of Policy, Budget and Fiscal Planning for the Premier of Ontario. He was part of the Ontario government's leadership team in developing a number of policies, including the Housing Supply Action Plan, the 2018 Fall Economic Statement and the 2019 Budget. He has an Honours Bachelor of Arts and a Master of Arts in Economics from the University of Toronto, and a Master of Science in Regional Science from the London School of Economics and Political Science.



### **CHRIS BENEDETTI**

MANAGING PARTNER, SUSSEX STRATEGY GROUP

Chris Benedetti is a Managing Partner with Sussex Strategy Group. With experience in both federal and provincial governments, Mr. Benedetti provides an in-depth insight and expertise into various policy development and political processes and brings an extensive background in strategic communications and public affairs.

Mr. Benedetti has advised a diverse range of domestic and international clients. He has led client efforts related to energy and environment-related policy, regulatory, and planning matters. He has also led public affairs efforts on behalf of clients in health care and biotechnology, infrastructure and transportation, agriculture, public-private partnerships, international trade and investment, and government procurement. In addition to his sector expertise, he is an expert in public administration and political affairs.

Prior to joining Sussex, Mr. Benedetti held several positions in the federal government with the Department of Foreign Affairs and International Trade and as a political advisor within the House of Commons and the Senate of Canada.

## BIOGRAPHIES OF PRESENTERS AND MODERATORS

SPECIAL POLICY CONFERENCE: CANADA'S 2030  
EMISSIONS REDUCTION PLAN—WHAT'S REALISTIC?

June 23, 2022 from 8:30 am to 2:50 pm ET

One King West Hotel & Residence, Toronto, ON

Grand Banking Hall



### FRANCIS BRADLEY

PRESIDENT AND CHIEF EXECUTIVE OFFICER, ELECTRICITY CANADA

Francis Bradley is the President and Chief Executive Officer of Electricity Canada. Electricity Canada is the national voice of electricity and serves its electricity industry members through the work of expert professionals led by Francis and directed by a Board of Directors made up of member CEOs. Francis is the co-chair of the National Cross-Sector Forum, overseeing Canada's Action Plan for Critical Infrastructure. He also sits on the Steering Committee for the Electricity Sub-Sector Coordinating Council, the Board for the Energy Council of Canada, the Positive Energy Advisory Council, and is a founding Board member of the Canadian Transportation Alliance. At the North American Electric Reliability Corporation's Member Representatives Committee and Board of Trustees' meetings, Francis represents Electricity Canada and advocates strongly for its members in their activities related to the Electric Reliability Organization Enterprise, and its role in ensuring the reliability and security of North American bulk power system.

Prior to being named CEO in June 2019, Francis managed Electricity Canada's day-to-day activities as Chief Operating Officer for five years. During that time, he also acted as a member of the National Advisory Committee of Canada's Platform for Disaster Risk Reduction and was a co-chair with the Standards Council of Canada of the Smart Grid Standards Advisory Committee.

In 2019 Francis created and continues to host "The Flux Capacitor" podcast, featuring discussions about the future of electricity with CEOs, regulators, political figures, and leaders from civil society.



### JUSTIN WAHID RANGOONI

EXECUTIVE DIRECTOR, ENERGY STORAGE CANADA

Justin is a lawyer with more than a decade experience in the energy sector starting as a Senior Policy Advisor for the Ontario Minister of Energy and then as the Ontario Policy Lead for the Canadian Wind Energy Association and most recently Vice President, Policy and Government Affairs at the Electricity Distributors Association. Justin holds an Honours BA in Economics & Political Science from the University of Toronto as well as a Law Degree from the University of Western Ontario. He also currently sits on the board of the York Children's Aid Society.



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### JODY BECKER

CHIEF STRATEGY OFFICER, EXECUTIVE VICE PRESIDENT  
INFRASTRUCTURE SERVICES & TECHNOLOGY, ELLISDON

As Chief Strategy Officer, Jody oversees strategic planning for EllisDon. She works directly with EllisDon's CEO and Board of Directors to forecast areas of growth and to develop execution plans. Jody prepares EllisDon's annual strategic planning report and works with all operational divisions to monitor progress with respect to short and long term objectives.

Jody is also responsible for overseeing the Infrastructure Services & Technology division which is comprised of the Facilities Services; Transit Services; Energy and Digital Services; Furniture, Equipment and Design; Project Advisory & Management; and Sustainable Building Solutions. Jody also oversees EllisDon's international operations.

As part of EllisDon's executive leadership team, Jody's mandate is to transform EllisDon's business with a view to making EllisDon the most technologically advanced and environmentally responsible construction services company.



### FATIMA CRERAR

VICE PRESIDENT, STRATEGY & PARTNERSHIPS, THE ATMOSPHERIC  
FUND

As VP, Strategy & Partnerships, Fatima is leading efforts to advance TAF's organizational growth and effectiveness to create a carbon-neutral GTHA by 2050.

Inspired by the power of people and armed with a strong drive to succeed, for more than 15 years Fatima has been designing and implementing programs and strategies at all scales – from workplace initiatives to large-scale transformative programs – that deliver social, environmental, and financial benefit. At TAF, Fatima oversees communications, operations and TAF's granting program, with an eye to accelerate the adoption of low-carbon solutions in buildings and transportation, and enabling a culture of innovation, learning and collaboration with stakeholders.

Fatima sits on the Board of Environmental Defence. Fatima joined TAF in November 2019.



### RICHARD LYALL

PRESIDENT AND CHIEF EXECUTIVE OFFICER, RESIDENTIAL  
CONSTRUCTION COUNCIL OF ONTARIO

The president of RESCON has represented the residential construction industry in Ontario since 1991. He is a frequent speaker and popular source quoted by GTHA mainstream media on construction industry issues, and as a writer been published in the Toronto Sun, Daily Commercial News and ReNew Canada magazine.

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### BRIAN LIVINGSTON

EXECUTIVE FELLOW, SCHOOL OF PUBLIC POLICY, UNIVERSITY OF CALGARY

Mr. Livingston served as vice-president, general counsel and corporate secretary of Imperial Oil Limited since February of 2002. He retired from Imperial Oil in December of 2013.

A native of Toronto, Ont., Mr. Livingston is a graduate of Queens University with a degree in mechanical engineering. In 1976, he worked as an engineer in the upstream business in Calgary, Alta., before continuing his education at the University of Toronto where he earned a bachelor of law degree. In 1981, Mr. Livingston took a two-year assignment with the federal government and also spent several years working with two major law firms in Toronto. In 1985, Mr. Livingston joined Imperial Oil as a counsel in the law department. He was transferred to the treasurers department as a financial analyst in 1989 and later became manager of credit. In 1994, he commenced a three-year assignment with Exxon Corporation in Dallas, Texas, and returned to Imperial in 1997 as director of corporate tax. In 2002, he was appointed vice-president and general counsel.

As general counsel, Mr. Livingston has a wide variety of legal and business experience in climate change, tax, commercial, litigation, regulatory and First Nations matters. As corporate secretary, he has experience in dealing with board of directors, including corporate governance matters (both Canadian and U.S), executive compensation and securities laws affecting public companies.

Mr. Livingston is currently an Executive Fellow with the School of Public Policy at the University of Calgary, a past President of the Petroleum Club in Calgary and a graduate of the ICD program. He is a guest lecturer at the Law Practice Program offered to articling students in Ontario, and has done education seminars with a number of law firms. He has also lectured at the Queens law school, and is proposing to expand such lectures to include students in the Engineering faculty.



### DANIEL BRETON

PRESIDENT AND CHIEF EXECUTIVE OFFICER, ELECTRIC MOBILITY

Daniel Breton is President and CEO of Electric Mobility Canada, one of the oldest associations dedicated to the electrification of transportation in the world. This organization has members from every sectors related to electric mobility in Canada, including electricity suppliers, vehicle manufacturers, cities, universities, unions, technology companies, mining companies, research centres, government departments, environmental NGOs, electric vehicle owners' associations, dealers associations, fleet managers, etc. A former Quebec Minister of the Environment, Sustainable Development, Wildlife and Parks, he was the first elected official in charge of a government strategy for the electrification of transportation in Canada in 2012. He graduated in sustainable carbon management and has written several books on the subject of transportation electrification, climate change, air pollution and energy transition since 2009.



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### FLAVIO VOLPE

PRESIDENT AND CHIEF EXECUTIVE OFFICER, CANADIAN  
AUTOMOTIVE PARTS MANUFACTURERS' ASSOCIATION

Flavio Volpe is an internationally recognized champion of Canada's automotive industry. He proudly leads the Automotive Parts Manufacturers' Association (APMA) – Canada's national association representing original equipment suppliers to the worldwide automotive industry. Working closely with officials in Ottawa, Washington and Mexico City during the 2017-19 NAFTA renegotiations, he led the effort to secure an unexpected and unprecedented increase in Regional Value Content for Canadian automotive suppliers in the new USMCA.

When the global COVID-19 pandemic created a dangerous medical equipment shortage in Canada in early 2020, he launched one of the biggest peacetime mobilizations of the country's industrial capacity ever. Dubbed a 'manufacturing hero' by the Toronto Star for his leadership, this effort resulted in the largest build orders of ventilators, face shields, surgical masks and gowns in Canada's history.

A passionate technology leader, his response to the Prime Minister's call to action for a net-zero emission economy by 2050 was to launch an all-Canadian, zero-emissions, lightweight, concept vehicle to debut in 2022. Described by The Globe and Mail as 'an audacious play to build an all Canadian electric car, APMA's Project Arrow was revealed at CES2020 in Las Vegas to international coverage and will serve as a premier showcase of Canada's automotive technology cluster.

Flavio speaks regularly on behalf of industry interests and is a sought-after voice by leading global publications including The Economist, New York Times, Bloomberg, Wall Street Journal, CNN, BBC, CNBC, Globe and Mail and Washington Post. He was recognized as a top Industry Leader in the 2017, 2018, 2019 and 2020 editions of Automotive News Canada's All-Stars.

Flavio holds a Master's in Business Administration from the Schulich School of Business at York University and a Bachelor's degree in International Relations from the University of Toronto.



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### MARLA ORENSTEIN

DIRECTOR OF THE NATURAL RESOURCES CENTRE, CANADA WEST FOUNDATION

Marla Orenstein is Director of the Natural Resources Centre at the Canada West Foundation, a public policy think tank. She spends most of her time looking at how Canadian business can prosper as the world transitions to cleaner forms of energy, and the policy and regulatory contexts that support or hamper development, commercialization and success. Marla is also President of the International Association for Impact Assessment and an Ambassador of the Energy Futures Lab.



### MICHAEL BERNSTEIN

EXECUTIVE DIRECTOR, CANADIANS FOR CLEAN PROSPERITY

Michael Bernstein is the executive director of Clean Prosperity, a Canadian non-profit that works toward market-based solutions to the climate crisis.

Michael is an economist by training. He is an advisor to elected leaders across the political spectrum, and a frequent commentator on climate policy. He was named on The Hill Times' Top 100 Lobbyists List for 2021.

Michael joined Clean Prosperity in 2018. His career has spanned business, management consulting, international development, and politics. Prior to Clean Prosperity, Michael was the CEO of Mama Earth Organics, a small business that delivered organic produce from local farms to families around the Greater Toronto Area.

He worked directly with dozens of farmers and saw first-hand the effects climate change was having on the farms he worked with. As a father of two young kids, he's also very concerned about the future that we're leaving to the next generation.

Before working in the local food sector, Michael was a business management consultant at McKinsey where he advised Fortune 500 companies, institutional investors, and governments on key strategic and business issues. He also worked with InvestEco Capital to set up an advisory service that offered support to companies in the sustainable food sector.

Michael holds a Master's in Public Administration from the Harvard University Kennedy School of Government, and a B.A. in Economics from Yale University.

Michael serves on the C.D. Howe Institute's Energy Policy Council, on the Public Policy Forum's Energy Futures Forum, and as a MaRS Cleantech Volunteer Advisor.

When he's not working on climate change, you can find him building Lego airplanes with his kids or doing his best karaoke impression of Vanilla Ice.

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### DALE BEUGIN

VICE PRESIDENT, RESEARCH AND ANALYSIS, CANADIAN CLIMATE  
INSTITUTE

Dale Beugin is an expert in environmental policy and economics bridging deep technical expertise with clear communications skills. Dale has previously worked as both Executive Director and Research Director of Canada's Ecofiscal Commission, as an independent consultant providing analysis and advice to governments and organizations across Canada and internationally, and as policy advisor with the National Round Table on the Environment and the Economy. He holds a master's degree in resource and environmental management, with a specialization in energy-economy modelling, and an undergraduate degree in mechanical engineering.

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