
2023

Building the Future of Energy Supply Chains in North America

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Pete Sheffield

Heather Ferguson

J.B. Chronister

Gary Sutherland

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With this, we respect the longstanding relationships that Indigenous Nations have to this land, as they are the original caretakers. We acknowledge historical and ongoing injustices that Indigenous Peoples (First Nations, Métis and Inuit) endure in Canada, and we accept responsibility as a public institution to contribute toward revealing and correcting miseducation as well as renewing respectful relationships with Indigenous communities through our teaching, research and community service.

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In recognizing the land upon which we reside, we express our gratitude and appreciation to those who lived and worked here before us; those whose stewardship and resilient spirit makes our residence possible on this traditional homeland of the Lenape (Delaware), Shawnee, Wyandot Miami, Ottawa, Potawatomi, and other Great Lakes tribes (Chippewa, Kickapoo, Wea, Piankishaw, and Kaskaskia). We also acknowledge the thousands of Native Americans who now call Northeast Ohio home.

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CANADA-UNITED STATES LAW JOURNAL

VOLUME 47

PROCEEDINGS OF THE 46TH CANADA-UNITED STATES LAW INSTITUTE ANNUAL CONFERENCE – SUPPLY CHAIN CHALLENGES IN NORTH AMERICA

SPEAKER BIOGRAPHIES	8
INTRODUCTION, AWARDS, AND KEYNOTE ADDRESS <i>Joe Comartin, The Hon. Jim Peterson, & Goldy Hyder</i>	18
JOURNALISTS' ROUNDTABLE <i>Diane Francis, Alex Panetta, David Shribman, & Todd Spangler</i>	36
SUPPLY CHAIN CHALLENGES FOR THE NORTH AMERICAN AUTOMOTIVE INDUSTRY <i>Chris Sands, Warren Ali, Ann Wilson, Sarah Goldfeder, & Tim Goodman</i>	59
FRIDAY LUNCHEON KEYNOTE <i>The Hon. James Blanchard & Rachel Poynter</i>	84
BUILDING THE FUTURE OF ENERGY SUPPLY CHAINS IN NORTH AMERICA <i>Martha Hall Findlay, Pete Sheffield, Heather Ferguson, J.B. Chronister, & Gary Sutherland</i>	94
ESG CHALLENGES AND OPPORTUNITIES IN NORTH AMERICAN SUPPLY CHAINS: HUMAN RIGHTS, FINANCIAL AND NATURAL SECTOR DIMENSIONS <i>Selma Lussenburg, Jonathan Drimmer, Fen Hampson, Michael Torrance, & Reg Manhas</i>	117
CLOSING REMARKS <i>Chios Carmody</i>	142

CANADA-UNITED STATES LAW INSTITUTE 2022 EXPERTS' MEETING

A DEFENSE PERSPECTIVE ON A RELIABLE AND SUSTAINABLE SUPPLY OF CRITICAL MINERALS <i>Matthew D. Zolnowski</i>	146
---	-----

**15TH ANNUAL CANADA-UNITED STATES LAW INSTITUTE
DISTINGUISHED LECTURE**

PILOT, NOT PASSENGER: CANADA’S ROLE IN SPACE
Michael Byers 159

STUDENT ARTICLES AND NOTES

OPTIMIZING MUSICAL CREATIVITY THROUGH NORTH AMERICAN COPYRIGHT
LAW
Mikayla O’Neill 170

PREPARING FOR THE CRYPTO WINTER: COMPLEXITIES IN CRYPTOCURRENCY
EXCHANGE INSOLVENCIES
Roula Khairalla184

PRECARIOUS WORK AND INDEPENDENT CONTRACTORS: AN OVERVIEW AND
COMPARATIVE ANALYSIS OF RECENT DEVELOPMENTS IN CALIFORNIA AND
ONTARIO
Lou Beckett201

PROCEEDINGS OF THE 46TH CANADA- UNITED STATES LAW INSTITUTE ANNUAL CONFERENCE

SUPPLY CHAIN CHALLENGES FOR NORTH AMERICA

TABLE OF CONTENTS

Conference Speakers.....	8
Introduction, Awards, and Keynote Address	18
Journalists' Roundtable.....	36
Supply Chain Challenges for the North American Automotive Industry	59
Friday Luncheon Keynote.....	84
Building the Future of Energy Supply Chains in Canada	94
ESG Challenges and Opportunities in North American Supply Chains: Human Rights, Financial and Natural Resource Sector Dimensions	117
Closing Remarks	142

CONFERENCE SPEAKERS

Warren Ali

Director of Industry Innovation at the Vector Institute

Warren Ali joined Vector Institute in 2023 as the organization's director of industry and innovation. The Vector Institute is a not-for-profit corporation dedicated to advancing research into artificial intelligence.

Before joining the Vector Institute, he was the vice president of innovation at the Automotive Parts Manufacturers' Association (APMA). During his time with APMA, Ali managed the Connected and Autonomous Vehicle Testing and Demonstration Zone as part of Ontario's Autonomous Vehicle Innovation Network

Ali has led Canadian trade missions and spoken at events in Germany, Japan, Singapore, the UK and across North America. He holds an Honours Bachelor of Science Degree in Statistics and Actuarial Science from the University of Toronto and a Master of Business Administration from York University's Schulich School of Business.

The Honorable James Blanchard

Co-Chair of the CUSLI Executive Committee, Senior Counsel at DLA Piper, formerly Governor of Michigan, United States Ambassador to Canada, United States Representative from Michigan

James Blanchard has served in multiple levels of the United States government, serving as governor of the State of Michigan (1983-1991), ambassador to Canada (1993-1996) and a member of the United States Congress (1975-1983). Currently, Blanchard is senior counsel and Chair Emeritus, Government Affairs for the global law firm of DLA Piper and chairman of the National Archives Foundation in Washington, DC.

In recognition of his work as ambassador to Canada, Secretary of State Warren Christopher presented Blanchard with the Foreign Affairs Award for Public Service in a ceremony at the Department of State, making him one of only a handful of ambassadors to receive this prestigious award.

Blanchard currently serves as co-chair of the Ambassadors Circle for the National Democratic Institute (NDI), a non-profit, non-partisan organization working to support and strengthen democratic institutions worldwide through citizen participation, openness and accountability in government. Mr. Blanchard also served as Chairman of the Meridian International Center, a leading public diplomacy center in Washington, DC. Governor Blanchard currently serves on the board of directors of The International Spy Museum also in Washington.

Blanchard serves as co-chair of the Canada-United States Law Institute, a forum where the two countries' governments, business communities, legal professionals, academics, non-governmental organizations and the media address issues confronting US-Canada relations. In 2015, Blanchard received the "The Henry T. King, Jr. Award" from the Canada-United States Law Institute in recognition of his dedicated leadership to the institute.

J.B. Chronister

Senior Director of Business Development, Cleveland-Cliffs, Inc., Chairman, the American Iron and Steel Institute Automotive Applications Council

Cleveland-Cliffs is the largest flat-rolled steel company in North America and a leading supplier of automotive-grade steel. It is involved in every step of the steel production process, from mining raw materials to primary steelmaking. Chronister's responsibilities at Cleveland-Cliffs, Inc. include technical support for all commercial activities including advanced and applications engineering, product innovation, customer technical services and technical marketing.

The Automotive Applications Council is a part of the Steel Market Development Institute and focuses on advancing the use of steel in the automotive market. In 2010, the council was named the winner of the *American Metal Market's* Award for Steel Excellence in the environmental responsibility/stewardship category.

The Honorable David L. Cohen*United States Ambassador to Canada*

David L. Cohen has served as the United States ambassador to Canada since 2021. Prior to his ambassadorship, Cohen served as Senior Advisor to the CEO at Comcast Corporation. He was previously Senior Executive Vice President at Comcast, where his portfolio included corporate communications, legal affairs, government and regulatory affairs, public affairs, corporate administration, corporate real estate and security, and community impact. Cohen also served as the company's first chief diversity officer. Prior to his roles with Comcast, Cohen served as a partner in and Chairman of Ballard Spahr Andrews & Ingersoll, LLP. From January 1992 to April 1997, Cohen served as Chief of Staff to the Honorable Edward G. Rendell, the Mayor of the City of Philadelphia.

Mr. Cohen has served on several non-profit boards, including as chair of the Trustees of the University of Pennsylvania and its Executive Committee; as a member of the trustee board and the executive committee of Penn Medicine; as a member of the board of directors and the executive committee of the Greater Philadelphia Chamber of Commerce; as chair of the Philadelphia Theatre Company; as a member of the Board of the National Urban League; and as chair of the corporate board of advisors of UnidosUS. Mr. Cohen also previously served as a member of the U.S. Semiquincentennial Commission. He also served on the board of directors of the PNC Financial Services Group, Inc. and PNC Bank, National Association.

Jonathan Drimmer*Partner, Litigation Department, Paul Hastings LLP*

Jonathan Drimmer is a partner in the litigation department at Paul Hastings LLP at its Washington, D.C. office. He has led hundreds of investigations around the world related to anti-corruption and human rights. Jonathan has participated in many major disputes in the United States, Canada and around the world, including transnational torts, anti-corruption claims, environmental cases, international arbitrations, tax disputes, construction claims and land controversies.

Before joining the firm, Jonathan was Deputy General Counsel and Chief Compliance Officer of Barrick Gold, one of the world's largest mining companies. He developed an industry-standard compliance program that has been duplicated across the industry.

Jonathan is a member of the World Economic Forum's Global Future Council on the Future of Good Governance and has taught international law courses at Georgetown University Law Center for nearly 20 years.

Jonathan has been recognized by Legal Era as one of the top 100 in-house counsel in the world. He is the recipient of the Charles Fahy Distinguished Adjunct Professor Award from Georgetown University Law Center. He was recognized by *Ethisphere Magazine* as one of the world's leading attorneys in Ethics & Compliance among other awards and distinctions. He received his law degree from UCLA School of Law.

Professor Diane Francis

Editor-at-Large, National Post and Distinguished Professor, Ryerson University

Professor Diane Francis, Editor-at-Large at the National Post, Distinguished Professor at Ryerson University's Ted Rogers School of Management, CUSLI Executive Committee

Diane Francis is a Canadian journalist and author, serving as editor-at-large for the *National Post* since 1998. She is also a columnist for American Interest, Atlantic Council's Ukraine Alert, and Kyiv Post.

Ms. Francis is Faculty at Singularity University in Mountain View, California, a Distinguished Visiting Professor at Ryerson University in Toronto, a Senior Fellow at the Atlantic Council in Washington, DC, and sits on the boards of the Hudson Institute's Kleptocracy Initiative in DC and the Canada-US Law Institute in Cleveland. She is a member of Abundance360, created by Silicon Valley influencer and space pioneer Peter Diamandis, who leads this exclusive group of 250 entrepreneurs.

Ms. Francis is the author of ten books, including *Merger of the Century: Why Canada and America Should Become One Country* (2013, featured in a cover story in *Foreign Policy*), *Who Owns Canada Now?: Old Money, New Money and the Future of Canadian Business* (2008), and *Immigration: The Economic Case* (2002).

Sarah Goldfeder

Manager of Government Relations, General Motors Canada

Manager of Government Relations at General Motors Canada, formerly Special Assistant to the U.S. Ambassador to Canada

Sarah Goldfeder joined the public policy team at General Motors Canada in 2021. Prior to this role, Ms. Goldfeder was a Principal at the Earncliffe Strategy Group in Ottawa, where she specialized in the North American political and economic environment, especially in the security and defense, natural resource, energy, manufacturing, and trade sectors.

In addition, Ms. Goldfeder served as Special Assistant to two U.S. Ambassadors to Canada. Prior to her arrival in Ottawa, Sarah spent three years in Mexico as a Foreign Service Officer.

Professor Fen Hampson, Ph.D.

Chancellor's Professor, Carleton University and President, World Refugee and Migrant Council.

Fen Hampson currently serves as a Chancellor's Professor at Carleton University's Norman Paterson School of International Affairs. Prior to assuming the position of Chancellor's Professor, Dr. Hampson served as director of the School from 2000-2012. A prolific writer, Dr. Hampson is a member of the Royal Society of Canada, and has written or co-written 15 books and over 100 articles and chapters to date on a wide variety of topics in international affairs.

In addition to his academic work, Dr. Hampson serves and President of the World Refugee & Migration Council, which attempts to help the international community grapple with refugee crises and acts of forced displacement. Through his work in both academia and on the Council, Dr. Hampson has received many awards; the most recent of which being the 2022 Distinguished Scholar Award of the Canada Section of the International Studies Association.

Heather Ferguson

Senior Vice President, Corporate Affairs, Ontario Power Generation

Heather Ferguson is the Senior Vice President of the Business Development and Corporate Affairs for Ontario Power Generation, one of the largest producers of clean power in Canada and the United States. Heather also serves as a board member of the Canada Institute at the Wilson Center to help in the Center's endeavor to promote awareness of Canadian affairs in the United States.

Martha Hall Findlay

Chief Climate Officer, Suncor Energy

Martha Hall Findlay is the Chief Climate Officer for Suncor Energy, where she endeavors to find strategies that will help lead the energy sector to a more sustainable future. Prior to this position, Hall Findlay held many positions across business and academia, including President and CEO of the Canada West Foundation and Executive Fellow at the School of Public Policy.

Hall Findlay has been recognized many times for her work promoting sustainability. Most recently, in 2023 she was awarded the Queen Elizabeth II's Platinum Jubilee Medal in recognition for her contribution to the province of Alberta.

Tim Goodman

Associate General Counsel and Director, Worldwide Road Safety & Compliance, Amazon

Mr. Tim Goodman is Associate General Counsel and Director of Worldwide Road Safety for Amazon. When not working for Amazon, Goodman is a professorial lecturer in law at the George Washington University School of Law. Prior to assuming his position at Amazon and at the time of this conference, Goodman was a Partner at Thompson Hine LLP.

Goldy Hyder

President and Chief Executive Officer, Business Council of Canada

Goldy Hyder serves as the President and Chief Executive Officer of the Business Council of Canada – a non-profit, non-partisan organization composed of the chief executives and chief entrepreneurs of Canada’s leading companies.

Mr. Hyder previously served as the President and Chief Executive Officer of Hill+Knowlton Strategies (Canada), where he provided strategic communications counsel to a variety of clients. Prior to joining Hill+Knowlton, Mr. Hyder served as Director of Policy and Chief of Staff to former prime minister and leader of the Progressive Conservative Party, the Right Honourable Joe Clark.

Mr. Hyder has served within several charities and non-profit organizations. He is currently the chair of the Asia Pacific Foundation of Canada’s Asia Business Leaders Advisory Council, a board member of the Business + Higher Education Roundtable, an executive committee member of the Century Initiative and co-chair of Canada’s World Trade Organization Business Advisory Council. In addition, Mr. Hyder sits on the advisory boards of Catalyst Canada and the 30% Club (Canada). Mr. Hyder is also a member of the selection board for A Seat At The Table. He is a past co-chair of the United Way of Ottawa’s Campaign Cabinet. In 2013, Mr. Hyder received the Queen’s Diamond Jubilee Medal in recognition of his contributions to Canada.

Selma Lussenburg

Corporate Director of MAG Silver Corp, Ontario Power Generation and Muskoka Airport and Chair of the Ontario Justice Sector Internal Audit Committee

Selma Lussenburg is the corporate director at MAG Silver Corp, Ontario Power Generation, and Muskoka Airport. She is the chair of the Ontario Justice Sector Internal Audit Committee and the former VP of safety security & governance, general counsel, and corporate secretary of Toronto Pearson Airport.

Selma has vast experience in mergers and acquisitions, corporate commercial agreements, international investment, trade, and procurement. Additionally, she possesses a deep understanding of corporate governance, leading teams and implementing strategies to achieve long-term business success.

Selma holds a Chartered Director designation from the Directors College, a GCB.D designation with respect to ESG from Competent Boards, and a Masters of International Law from the Australian National University as well as other degrees.

Reg Manhas

Co-founder and CEO of Lapis Energy and Global Fellow at the Canada Institute of the Wilson Center

Reg Manhas is the co-founder of Lapis Energy, a full-service carbon-capture and sequestration firm aiding companies to reduce their carbon footprint. Mr. Manhas also works to promote knowledge of Canadian affairs in the United States as a Global Fellow at the Canada Institute of the Wilson Center.

Prior to assuming these positions, Mr. Manhas worked as an executive in many Energy firms, including Kosmos Energy and Talisman Energy. He completed his Bachelor of Laws at the University of British Columbia in 1994 and has previously worked as a legal associate at McCarthy Tétrault as well as in-house council for Talisman Energy.

Alex Panetta

Washington Correspondent for the Canadian Broadcasting Corporation

Alex Panetta is a Washington-based correspondent for CBC News who has covered American politics and Canada-U.S. issues since 2013. He previously worked in Ottawa, Quebec City and internationally, reporting on politics, conflict, disaster and the Montreal Expos.

The Honourable Jim Peterson

Co-Chair of the CUSLI Executive Committee, Counsel, Fasken LLP, former Canadian Minister of International Trade, Canadian Member of Parliament

Jim Peterson is a former Member of Parliament in the Canadian House of Commons, representing Toronto's Willowdale riding between 1980 and 1984, and again from 1988 to 2007. Mr. Peterson served as the Minister of International Trade between 2003 and 2006. In addition, Mr. Peterson served as Secretary of State (International Financial Institutions) from 1997 to 2002, where he piloted financial institution reforms through Parliament. Between 1993 and 1997, Mr. Peterson served as the Chair of the House of Commons Finance Committee, where he completed a number of studies, including a review of Canada's value added tax (the GST).

Rachel Poynter

Deputy Assistant Secretary, Mexico and Canada Bureau of Western Hemisphere Affairs

Rachel Poynter is the Deputy Assistant Secretary for North America at the U.S. State Department's Mexico and Canada Bureau of Western Hemisphere Affairs, where she helps manage the United States's relationships with Mexico and Canada. This position represents the latest work Poynter has done with international relations, having worked many positions in the Senior Executive Service, including Director of North American Affairs at the National Security Council.

Pete Sheffield

Vice President and Chief Sustainability Officer, Enbridge Energy

Pete Sheffield is the Vice President and Chief Sustainability Officer at Enbridge Energy, where he helps lead the company's sustainability initiatives. A seasoned energy executive, Sheffield previously worked as Vice President of Energy Policy and Governmental Affairs for Spectra Energy Corporation, and Director of External Relations for Duke Energy.

Professor David Shribman

McGill University's Max Bell School of Public Policy, formerly Executive Editor at the Pittsburgh Post-Gazette, Washington Bureau Chief at The Boston Globe, Pulitzer Prize Winner

David M. Shribman has served as the executive editor of the Pittsburgh Post Gazette since 2003. Prior to his current role, Mr. Shribman worked at the *Boston Globe*, where he served as assistance managing editor, columnist and Washington bureau chief.

In addition, Mr. Shribman served as national political correspondent for *The Wall Street Journal*, covered Congress and national politics for *The New York Times* and was a member of the national staff of *The Washington Star*. Mr. Shribman began his career at *The Buffalo Evening News*, where he worked on the city staff before being assigned to the paper's Washington bureau.

Mr. Shribman is an emeritus member of the Board of Trustees of Dartmouth College and of the Board of Visitors of Dartmouth's Rockefeller Center for the Social Sciences. He is a member of the selection committee for the Profiles in Courage Award given by the John F. Kennedy Library Foundation and is chairman of the selection committee of the Elijah Parish Lovejoy Award given by Colby College. He also sits on the national board of the Calvin Coolidge Foundation.

In 1995, Mr. Shribman was awarded the Pulitzer Prize in 1995 for his coverage of Washington and the American political scene.

Dr. Chris Sands, Ph.D.

Director of the Canada Institute at the Wilson Center, Senior Research Professor at Johns Hopkins University (SAIS), CUSLI Executive Committee

Dr. Chris Sands, Ph.D. is a member of the Canada-United States Law Institute executive committee and the director of the Canada Institute at the Wilson Center.

An expert on Canada-U.S. relations, his work has been commissioned by several U.S. think tanks including the American Enterprise Institute, Brookings Institution, Center for the Study of the Presidency and Congress and the National Endowment for Democracy. He has contributed to studies by the C.D. Howe Institute and the Fraser Institute, two Canadian think tanks. Sands was named a senior fellow of Massey College at the University of Toronto in 2019.

Sands, a Detroit native, previously taught at the Nitze School of Advanced International Studies at Johns Hopkins University, the School of Public Affairs at American University and at Western Washington University's College of Business and Economics.

Todd Spangler

Washington Correspondent, Detroit Free Press

Todd Spangler has been a reporter and editor with the Detroit Free Press since 2003, covering Washington for the paper since 2007. Spangler regularly covers politics, politicians and federal policy and reports on federal and Supreme Court cases of significance to Michiganders.

Prior to his time at the Detroit Free Press, Spangler was a Pittsburgh-based correspondent for the Associated Press, managing a 10-person bureau covering western Pennsylvania news, sports and business.

Gary Sutherland

Director of Strategic Affairs and Stakeholder Relations, Hydro Quebec

Gary Sutherland is the Director of Strategic Affairs and Stakeholder Relations at Hydro Quebec. He is a specialist in public relations, communications and relationship management. Gary has previous experience working for an intergovernmental organization and an international environmental NGO in the energy sector. He holds a master's degree in international relations from Laval University in Quebec City.

Hydro Quebec is a crown corporation engaged in the generation, transmission, and distribution of electricity in Quebec. It exports a portion of its generated power to the Northeast United States. Close to 100% of the electricity it produces comes from hydroelectric sources.

Michael Torrance

Vice President and Chief Sustainability Officer, BMO Financial Group.

Michael Torrance is the Chief Sustainability Officer at BMO Financial Group, helping the company's clients have a more sustainable future through their own sustainable practices. Prior to beginning his position at BMO, Torrance utilized his J.D. from Osgoode Hall Law School to become partner at Norton Rose Fulbright.

Ann Wilson

Senior Vice President of Government Affairs at the Motor & Equipment Manufacturers Association (MEMA)

Ann Wilson joined the Motor & Equipment Manufacturers Association (MEMA) in 2004 and was named an industry influencer by the Automotive Hall of Fame in 2022.

Wilson works with MEMA's Washington staff overseeing federal and state legislative and regulatory monitoring, reporting and advocacy. MEMA represents vehicle suppliers, the largest manufacturing sector in the U.S. with more than 4.8 million jobs.

Wilson previously served as the senior vice president of government affairs for the Rubber Manufacturers Association and the vice president of government affairs for the American Moving and Storage Association.

Wilson holds a law degree and the National Order of the Barrister from the Washington University School of Law in St. Louis, Missouri.

INTRODUCTION, AWARDS, AND KEYNOTE ADDRESS

Mr. STEPHEN PETRAS: Alright, everyone, please. Please keep eating, we are going to start our program now. But can you hear me ok? How's that? Better? Ok. Thanks everyone for your attention, those of you please keep eating, enjoy your dinner, enjoy your dessert, and we're going to start our program tonight. The first item I want to do is I want to start out with an announcement. Back in 2014 at our annual conference, we announced the formation of the Council of the Great Lakes Region, which is now a vibrant, binational organization whose mission is sustainability and economic development of the Great Lakes - which is, of course, a binational resource between Canada and the United States - and I wanted to announce to all of you that the Great Lakes Economic Forum will take place in Chicago on June 26th to June 28th, and it's a fabulous conference. It's going to talk about the Great Lakes and its importance. This is the 7th conference of the Council of the Great Lakes Region, and I encourage all of you to attend. There are flyers here and as a founding member - CUSLI is a founding member of the Council of the Great Lakes Region - we support its mission and hope that you can attend.

So, we're going to start tonight's program. The first thing I would like to do is to introduce to you the Consul General of Canada in Detroit, Joe Comartin, who is going to basically kick us off with some welcoming remarks from Canada. And I wanted to give you a little bit of a background about Joe Comartin, because he has a very interesting history. Before reaching his prestigious position that he holds today, he had a very interesting and impressive career. He was a trial lawyer in civil litigation, and he practiced in Ontario, focusing on family law, criminal law, and personal injury law, and he was involved in the creation of the Canadian Auto Workers Legal Services Plan and he served as its managing director in the Windsor-Essex region. Then he decided to enter Canadian politics, and he served as a member of parliament since 2000, for 15 years and he was recognized as Canada's most knowledgeable Parliamentarian. He arose to the position of Opposition House Leader and Deputy Speaker of the House of Commons. Upon leaving elected office, he became a distinguished professor at the University of Windsor where he taught ethics, reform in Canadian Parliament and constitutional law. As Consul General in Detroit, he is responsible for Michigan, Ohio, Kentucky and Indiana. He has been a longtime friend of the Canada - US Law Institute, and it's an honor to have him formally introduce us to this year's conference. Joe?

Mr. JOE COMARTIN: Thank you for that Steve, I really do appreciate those warm words of greeting. You know, when I first came to the consulate back in the late fall of 2018, my staff were extolling the virtues of this conference, and I said to them: 'I've been at a lot of conferences, you can imagine with that kind of a background over the years. There's none that are that good.' And they said 'yup';

they pushed it really hard. And I said: okay, so we've been supporting this for all these years. Are we continuing to do that? Of course, the answer was yes, and then, in 2019 I got to come to the first one. And everything, of course, that they had told me was accurate. That year the theme was about the Arctic, about the environment. Some of the speakers were just, I mean they were world class thinkers, and experts in those areas, and I said: 'we've got to continue to support this.' And so, this evening I will confirm that on an ongoing basis-I have authority to be saying this-that we will be supporting this conference on an ongoing basis. Having said that, I'm also taking the opportunities when I am speaking at a number of these events over the four states that I am responsible for, that I have been announcing that my term is over as of July 31st, but again, I've made it very clear to my staff and passed it on to both Washington and Ottawa that this is one of the events that we have to be supporting on an ongoing basis because it does benefit us so much.

One of the things that struck me that first day that I was here and then in the subsequent hour was, I guess, the camaraderie. Martha, remember that first night you guys got my wife and I into a corner and really convinced us of just how important it was? And the relationships that have been built up over the years - it was quite amazing to watch this. These are high, high level, very experienced, hardworking, experts in a number of different fields. But it was like a family gathering that we had. And that wasn't because of the amount of alcohol that we consumed in Washington. It started before the alcohol started pouring. But I was left with that, and again, I don't know how many conferences I have been to over the years from the time I was in university onwards. But that was the first time I had really seen that, I guess, close intimate contact and people being very proud of their involvement. For those of you that may be new to this, keep coming, it's well worth it. I don't think there's any doubt Steve that your organization, the board, will continue to attract the kind of highly talented, thoughtful, even wise, people coming to these and presenting, all of which we can benefit from. So, I'm looking forward to the conversations tomorrow as you can imagine in terms of the work we do as a consulate in a country that has such high trading relationships with the United States that the supply chains are on the top of our agenda on every given day. And so, I am really looking forward to the presentations that we are going to have tomorrow. Along with that, I was really happy with the theme this year because it is one that we are certainly working on; and I say that not just our consulate here for the four states, but all our consulates across the United States and Mexico, because of the trade agreements that we have with the United States and Mexico. So, very much looking forward to that and again, quite impressed by the people that you have been able to attract to come here.

Just a couple more things then. We've had two additional people join our consulate in the last six months, I guess seven months. So first, Steve Neves. Steve, do you want to stand up for a second? Steve was posted to us in September and comes out of Ottawa. He was a great catch because his background while in Ottawa-and he's also spent some time in the United Nations on this-but he was in our treaty law section. So I probably shouldn't say this but one of the important things that he did was to analyze the treaty that we have between Canada and the United States on pipelines between our two countries, which has been a bit of a

friction point in some areas, so he's been a great addition to the office, and again, Steve is one of those people who will carry on the tradition of making sure that we continue to support CUSLI.

And then the second one I wanted you, well wait a minute, Earl. Do you want to stand up? Earl Provost is the representative for the province of Ontario, and he is not based in this area, he's over in Illinois, that's the state over there. And Earl always says that I forget to announce that he's here and recognize him. So, Earl, you can't say that about me anymore. Seriously, we have worked extremely well together over these last twelve months, I guess, since he has been posted, and it's a relationship that's benefitted the consulates here both in Illinois and here in Ontario.

And the next person I want to introduce - and I know that this isn't going to be necessary because I think the vast majority of you know him - but something you may not know is the last Honorary Consul that we had in Ohio, was Henry King, and he had played that role for Canada for a very large number of years. I tried to find out how many, but it was a long time. And obviously he did an excellent job, as he did in so many other endeavors that he was involved in. Henry was a mentor, a pretty significant mentor, to Dan. Dan, why don't you stand up and be acknowledged? So, Dan, like Steve, was official as of September as of last year. For those of you who don't know him. He is a superlative - and I mean that in just about every sense of the word - a trade and transfer lawyer in terms of the work he has done. I must say that I am envious of the amount of publicity that he has been able to garner as we went through the negotiations around NAFTA and eventually evolved that into the USMCA, or CUSMA if you're on the Canadian side of the border. I don't think there was any major TV radio program - most newspapers at one time or another that did not have an interview with him or him making comments that they had drawn. All of them reflecting the background that he's got and just how much of an expert he is, so he's a great catch for us obviously. Obviously, this law school is proud of him. He's a graduate - he's an alumnus of this school and he's been back and taught here on a periodic basis as well. So, we're looking forward to the ongoing relationship. Now, the only thing I have to say negative about Dan - and this happened again just this week - prior to the pandemic, he and I were doing a number of panels together in advance of the treaty coming into effect, and negotiations and resolving that. And of course, he was the expert and I was just bringing a few facts. And he would do most of the talking, and I mean that. He did most of the talking; you know, if he was allotted twenty minutes you had to expect he was going to take an hour. If you cut him down to ten, he still took an hour. And he did that again this week. The three of us do a lot of these panels around the trading relationship between our two countries. So, Dan, as much as I've got all those other superlatives I could say about you, you've got to work toward the schedule. As Steve said, I was the Deputy Speaker of the House, and one of the roles that the speaker plays in our Parliament and House of Commons is to keep the political people to their schedule, you know ten minutes for this, twenty minutes for this, two minutes for this, one minute for that. I think we should start enforcing those rules, Dan, against you on an ongoing basis.

Let me finish on a more serious note. As Consul General for Canada in Detroit for those four states, it has been one of those experiences that you just cannot imagine when you're coming out of university, that you're ever going to have the chance to do. But the best part of it is the relationships that we've formed, between our two countries, that is so common - we're not just a trading relationship; we're not just a relationship based on defense or security. In many respects, it's much more, as this group is, like a family relationship. My father was an American, my oldest sister and my youngest brother lived on the U.S. side and the other six of us are still on the Canadian side. We have a large family - French-Catholic, Irish-Catholic mother - so lots of children. I'm looking forward to retirement, but I am going to miss you, those of you who I have gotten to know better in particular, so keep up the good work. Push hard for that relationship to continue the way it has for so long. Thank you.

Mr. PETRAS: Thank you very much Joe. Work well done. We're going to miss you, but we want you back here. The next item on our agenda is the presentation of the Henry King Award. Which is named in honor of Professor Henry T. King Junior, here at Case Law School, who was the U.S. National Director of the Canada-U.S. Law Institute for many years and a former Nuremberg prosecutor, former International Counsel at the Department of Labor, former International Counsel of TRW, former partner at Squire, Sanders, Dempsey and then he came to this law school as a professor in international law. And here to present this year's Henry T. King award, is another outstanding, well noted international trade lawyer, Larry Herman, a former Canadian Diplomat, trade negotiator and a member of our executive committee. Larry?

Mr. LARRY HERMAN: Our honoree tonight, David Shribman, represents the ideals reflected in the mandate of this Institute and the background. He's been a columnist for leading newspapers in the United States - *The New York Times*, *The Wall Street Journal*, among others. He is a Pulitzer Prize winner. We have for many years enjoyed his writings, his comments in our newspapers and I just want to say how pleased we are at the Institute to honor David with the Henry King Award. So that being said, David, we ask you to give us a few comments.

Mr. DAVID SHRIBMAN: Okay, well I hope you can hear me, I can't see you or have any indication you can hear me. Okay, well I guess I'm supposed to say something. I can't tell whether you're all listening, but I am delighted and privileged really to be the recipient of an award named for Henry King, a remarkable character, a graduate of Yale and Yale law school. Apparently, he was unable to get into Dartmouth. But a distinguished member of the bar and a member of the American Bar Association's task force for war crimes in Yugoslavia. We could use Mr. King today. He was also the U.S. Director of the Canadian - U.S. Law Institute and a senior advisor to the Robert H. Jackson Center in Jamestown, New York, where I have actually given a lecture and I'm a great admirer of Justice Jackson. It's a great privilege for me even to be associated even at one removed from Justice Jackson, and of course, to Henry King.

Let me just say that I am the son of a Montreal mother and a Massachusetts father, and as such, I am the direct beneficiary of Canadian-American relations. Since I was a young boy growing up in Massachusetts, I've had a peculiar but a

relentless fascination with Canada, which I considered my second country. I'm now a dual citizen. I've been to all ten provinces. Many of you probably haven't even done that. I've been to all ten provinces, I've even lectured at the University of Saskatchewan. As a young boy, I was fascinated with Canada. And as a professional at *The New York Times* and *The Wall Street Journal*, I asked to be able to be assigned to cover Canada. The editor of *The New York Times* - his name was Abe Rosenthal, who grew up, actually, in Ontario - heard about this preoccupation of mine. I said, 'I'd like to be a Montreal Bureau Chief or a Toronto Bureau Chief.' And sadly, he said to me: 'You're too young to die.' But my interest in Canada never did die. And for the past three years, going on four, I would have taught at McGill, which is my mother's alma mater. She was class of 1951 at McGill University. We live not too far from where she grew up. And if I look out my apartment window I can see where Kamala Harris, and where Leonard Cohen, and where my mother went to high school. So, it is a great honor for me to be affiliated with not only with Henry King, but anything having to do with Canada. I'm life-long admirer of the country. I've dedicated myself to explain each country to the other; with scant success, I must say, but with great enthusiasm.

And so, I'm going to accept this award very gratefully, in the name of my mother and my grandparents, who I wish were here to celebrate with me and with you. They would have been so proud, but my father from Massachusetts would have been bewildered. In any case, I'm delighted to have anything to do with Canada. And my entire family, my only relatives really live in Canada. We say thank you to you and we salute you for the work you do and the honor you bring upon that work. I'm very, very grateful and I'll be very, very happy to have this award, so I thank all of you. And all I can say: is we stand on guard. Thank you so much. I guess I'll see all of you at 9:15 tomorrow morning.

Mr. HERMAN: David, there's a plaque here. This plaque is given to you for your dedication to our Institute. So, thank you very much.

Mr. PETRAS: Alright. The next award is the Sidney Picker Award, and Sidney Picker was actually the founder of the Canada - United States Law Institute. And it's interesting - this institute was founded in 1976, here at Case Law School, which was the year that I started law school at this law school. And I remember I went up to Sidney because he was the professor of international law. I said, 'Professor Picker, I'm interested in international law.' And he goes, 'Let me tell you about what I'm doing. I'm starting this Canada - United States Law Institute.' And I thought, "Wow, that's fabulous, what a great idea." And I've been involved ever since. Sidney was the founder, outstanding professor of international law here at Case and we have the outstanding pleasure, Sidney passed away on us, but tonight, to honor us with her presence, is Sidney's wife, Jane Picker. Jane, thank you very much. And what an outstanding couple Jane and Sidney were, because Jane is a professor of international law, and she was at Cleveland State University. A very powerful combination, the two of them. And I was just informed today by Dean Michael Scharf that an alumni of our law school, who was a student of Professor Picker, was so impressed he has set up an endowed scholarship in honor of Professor Picker to support students who have an interest in international law or international business. That's hot off the press today. That's awesome.

This year's winner of the Sidney Picker Award is our own Professor Diane Francis. Now some of you may have said wait a minute, I thought that she might have gotten that award in 2014. Well, that was the intention, but she couldn't be here to accept it. So tonight, we're going to do a special tribute to Diane Francis, editor-at-large of the National Post, distinguished professor at Ryerson University in the Ted Rogers School of Management, and importantly, a member of our executive committee. Diane is a well-known journalist and author, broadcaster, and editor-at-large at the National Post. She writes publications around the world and is a regular contributor to radio, television, the Postmedia newspaper chain, the Atlantic Council, and the Kyiv Post, among other publications. She has written several books, interesting books on corruption and books on US - Canada relations. If you really want to dig deep into U.S. - Canada relations, read the *Merger of the Century*, that she wrote. Fabulous book.

She has recently been publishing a column that has been focusing on Ukraine, which has very well thought out, researched, and insightful approaches to what's going on there. She has truly been an impact in journalism and particularly in the relationship between Canada and the United States. Diane, it's an honor to present this award to you. Please come forward.

Ms. DIANE FRANCIS: Totally unfair. I had no idea. No tip off. I couldn't do any good lines. Wow, this is amazing. I'm so honored. Holy mackerel. Well, like your last recipient, I'm a 50/50; born in the U.S., chose Canada at 19, stayed, dual citizen. Love both places. Understand the foibles of both and the good things of both. And I'm honored to be part of the Law Institute. And I'm really, I'm quite bowled over by this award. Thank you so much. Thank you.

Mr. PETRAS: Yes, alright everyone, now it's time for our keynote presentation. And here to introduce our keynote speaker is the Honorable Jim Peterson. Jim is the co-chair of the Canada U.S. Law Institute's executive committee. He's counsel at the Canadian law firm of Fasken LLP. He served in the government of Canada as Minister of International Trade, Secretary of State, and chair of the House of Commons Standing Committee on Finance. As Minister of International Trade, Jim represented Canada at the World Trade Organization's Doha Round of negotiations, which were focused on expanding trade and investment in the leading emerging markets, which at that time were Brazil, Russia, India, and China. He was also materially involved in Canada's participation the North American Free Trade Agreement, as well as representing Canada to the European Union. While Secretary of State from 1977 to 2002, Jim was instrumental in piloting significant financial institution reforms throughout the Parliament, including legislation permitting foreign bank branching, aligning Canada with the international standards to fight against money laundering and terrorism. Jim retired from the House of Commons in 2007, after 23 years of public service as the Member of Parliament from Willowdale, Toronto. He has been a stalwart member to the Canada - United States Law Institute. And Jim, to introduce our keynote speaker, the floor is yours.

THE HONORABLE JIM PETERSON: This is our first annual meeting of CUSLI in three years which is being conducted not only virtually but in person. I must tell you I have long been looking forward to being with you this year at Case

Western. However, last Thursday my wonderful wife Heather and I had a meeting with our family doctor. He outlined to us the very real risks from COVID-19 which are still there, and especially for Heather, who is immunocompromised. As much as I wanted to be with all of you in Cleveland, I decided it would be most irresponsible to do so in person.

I wish to thank our very fine CUSLI staff, headed by Steve Petras, and including Ted Perrin, Eric Tyler, and many others. I want to tell you that I still feel very privileged to be a co-chair of CUSLI's executive committee, and to serve with Jim Blanchard, whom I have known since he was US Ambassador to Canada. A great co-chair, a great ambassador, a great politician, and great friend. And I could not be more grateful to the members of our executive committee, both American and Canadian. We work together in such a cooperative way. Just to talk about our Canadian members, Larry Herman from whom you've heard already, and Selma Lussenberg, Diane Francis, Martha Hall Findlay, Dean Erika Chamberlain, and Chi Carmody, all of whom you will be hearing from tomorrow. They have all played leading roles in our annual meeting on our supply chain challenges. And also, I would like to mention, the latest member to join our executive committee, Peter MacKay. He has been a 30-year friend of the Canadian keynote speaker tonight, Goldy Hyder.

Goldy Hyder is president and CEO of the Business Council of Canada. The council was founded in 1976 and represents the chief executives of over 150 leading Canadian companies who employ over 1.7 million Canadians and are from every major industry and every region of Canada. The Business Council is a bridge bringing together governments and business to help Canadians prosper in so many ways, through better jobs, attracting foreign investment, our global competitiveness, our digital economy, and working with foreign governments to make Canada's economy stronger.

When I was Member of Parliament and in cabinet, the Business Council was regarded as the single most important voice from the business world. And I'm just thrilled that as president and CEO, Goldy Hyder is with us today.

Mr. Hyder brings a truly impressive background, as being a top person at the Business Council. He served as Director of Policy and Chief of Staff to the Right Honorable Joe Clark, former Prime Minister, and leader of Canada's Progressive Conservative Party. As one of Goldy's former colleagues, who was a Liberal said to me, "Well don't let that bother you Jim, he was a good Conservative." I've always had a lot of respect for Mr. Clark. Mr. Hyder, went from government to Hill & Knowlton Strategies Canada, a global public relations firm. He served as president and CEO from 2014 to 2018. As a leader, he was active in attracting a great deal of foreign investment to Canada and opening up new markets. He gained much respect throughout our business communities. But also respect for the work that he did for charities and non-profits. He was a former co-chair of the United Way in Ottawa, a chair of the Ottawa Senators Foundation, and was on the board of governors of Carleton University. Currently, he's vice-chair to the Asia Pacific Foundation. He's on the Canada's Asia Business Leaders Advisory Council, a co-chair of Canada's World Trade Organized Business Advisory Council and a member of Century Initiative, which is aimed at responsibly growing Canada to a

population of 100 million by the next century. He's a host of Speaking of Business, a podcast which interviews entrepreneurs, innovators, and business leaders. Mr. Hyder has also been a leader in promoting diversity and inclusiveness. He's on the advisory board of Catalyst Canada, which constitutes a galvanized community of multinational corporations to accelerate and advance women into leadership. It works to address the innate concerns of Canadian women in business through research, education, and events. And he's also on the advisory board of the 30% Club, which consists of the 1000 board chairs and CEOs from more than twenty countries to deliver at least 30% female representation at both board and CEO levels. They have found time again that research shows that diverse corporations outperform their less diverse peers.

Mr. Hyder, not only are you the top person at one of the very top positions in Canada today, you are a person who spends so much effort and knowledge making Canada better in so many ways, not just business. And you are following in the footsteps of Tom d'Aquino and John Manley, your predecessors at the Business Council. Both have been recognized as being among our very best and brightest, as are you. We cannot be more fortunate than to have you present and open our keynote address and distinguished lecture on securing Canada's future. Thank you so much for being with us.

MR. GOLDY HYDER: Well, I'm quite moved Jim, thank you so much. To hear those words from you is really humbling, and it's a real pleasure and a privilege to be affiliated with anything that people like Jim Peterson and Peter McKay, my friends, are. And so, it's great to be here. Great to be here with you tonight. Diane, congratulations. One of our members is John Beck who happens to be, how do we say that again, you're his better half? Right, is that how we say that?

You know, one of the things they always say in speeches is to try and establish your local roots in some way, shape, or form. And so, this is my first trip to Cleveland, my first chance to be here, so thank you for having me and it's wonderful to be here on this campus. But actually, I was looking through my phone to quickly identify how many people I know here from a client that I used to have at Cliffs Natural Resources, and it turns out there are a dozen contacts in my phone list at Cliffs Natural Resources, going all the way back to Dana and others. So, it feels like even though we never had a chance to come down here at that time, it's like coming home to a client like yours, that you were. So, it's great to be here where at least I have some connection.

I'm not going to be as funny as the other speakers to be honest, partly because I think this is a very serious time now and my prepared remarks will hopefully help you understand why I'm feeling the way I am. And it's really reflecting the views of the members that Jim described that I represent, many of whom are not just Canadian business leaders but frankly global business leaders.

The great American author, Mark Twain, famously noted 'history doesn't repeat itself, but it often rhymes,' and had I been standing here two years ago or even two months ago, I might have said that we are in the rhyming 20s. As was the case in the 1920s, we find ourselves in the aftermath of a global pandemic, with socio-political upheaval around the world. Today, however, our

circumstances more closely resemble a more recent period, one that is only a half a century ago. You see, in the 1970s, inflation evolved into stagflation, amid a global energy crisis caused by the weaponization of oil. Russian soldiers invaded a bordering country where they faced fiercer fighting than they had expected. Sound familiar? A Republican President had left office under the cloud of congressional investigations into his abuse of power. He was to be followed by a Democrat destined to be a one term commander in chief, who faced an emerging China. Canadians, meanwhile, were being led by a Prime Minister, wait for it, with the last name Trudeau.

The 70s were a decade of difficulty but ushered in an era of unprecedented cooperation between Canada and the United States. The creation of the G7 and, later, the US - Canada Free Trade Agreement, strengthened and solidified our economic ties; and of course, it was in that same period, 1976 to be exact, that the Canada - United States Law Institute was born. The same year, a group of far-sighted Canadian business leaders founded the very counsel that I am now privileged to lead. It was, in short, a period of great upheaval and great transformation, but even greater ambition. And so today, as we experience similar challenges, we must meet our moment with similar outsized ambition. It is a time for what former U.S. Treasury Secretary Larry Summers, called a 'new seriousness'. We must not only strengthen our integrated economies and supply chains; we must actually secure them. Every day I have the privilege of speaking to North American business leaders and they say we must focus on three areas. First, economic security, second, energy and environmental security, and third, defense and cyber security.

Now when I speak of economic security, I'm referring to our collective ability to ensure the growth and stability of the American and Canadian economies. Put simply, having the means and the ability to produce or acquire the essentials that power our economic engines and provide a high standard of living to our people. In my view, frankly, the view of our members, the best way, in fact probably the only way, to achieve economic security in these uncertain and competitive global markets is to adopt a more continental approach. The Coronavirus pandemic and Putin's war have unleashed a combination of chaotic forces into the world economy. We've experienced shortages and supply chain disruptions on a scale, frankly, we haven't endured since World War Two. Domestically, these forces have also given new life to an old threat: protectionism. North America's economic security requires us to resist or remove barriers to cross border trade and travel. Now, sometimes this means actually removing physical barriers as was the case in February when protestors had blockaded the Detroit-Windsor Ambassador Bridge. Now, let me pause here to recognize another ambassador who is with us tomorrow; and that is U.S. Ambassador to Canada David Cohen. Ambassador Cohen has been very busy, including pushing for new legislation to prevent future border blockades. And let me say to Ambassador Cohen, he has the full support of the members of the Business Council of Canada for his efforts.

Fortunately, physical barriers are rare. It's the ones you don't see, actually, that sometimes get you into trouble. By that, I mean we need to remove political barriers; rules, or regulations restricting the movement of people and goods. You

know, you don't need to have a Western or a Case Western law degree to support a rules-based trading regime - although, I'm sure it would be helpful to you to understand it - but any such rules must facilitate and not frustrate trade between our two countries. Regional preferences and rules of origin which disrupt and discourage trade undermine our economic security. And this includes Made in America provisions, which may seem innocuous, but hurt innocent trade partners in Canada. As CEO of the Business Council of Canada, I've spoken out against proposed actions by the U.S. government on EV tax credits, buy America rules, and section 232 tariffs. These measures were intended to target other countries, but unfortunately Canada got caught in that crossfire. That's not to say that Canada always comes to the trade table with clean hands. We don't. I have to acknowledge that; we don't. And Canadian business leaders have and will always speak out against restrictive trade policies even at home. We believe that Canada and the US must adhere to both the letter and the spirit of the USMCA. We must implement and leverage it fully, including the North American Competitiveness Committee that it created. In addition, we must align or harmonize our regulatory regimes to avoid creating non-tariff barriers to trade. We need to focus on productivity, not on protectionism. Our fully integrated auto sector, which has its roots in the 1960s Auto Pact, is a model for this type of cooperation. That is why back in December we were so concerned about the proposed Build Back Better tax credits. When we met Senator Joe Manchin in Washington last month, members of the Business Council thanked him for his decisive opposition to these credits. Around the world, we see countries and regions coalesce into a variety of formal and informal trading blocks. Now to compete with them, we in North America need to think of ourselves as partners in a continental joint venture.

Which brings me to our second area of focus: energy and environmental security. Russia's unprovoked and unacceptable attack on Ukraine has disrupted global energy markets. Despite being rich in resources, North America is clearly not insulated from dramatic shifts in both energy demand and energy supply. Even where we are capable of ramping up production or releasing reserves, we actually struggle getting them into the market. So, to be clear, I don't just mean overseas markets; it embarrasses me to say that Canadian producers today, struggle to deliver energy to customers on the other side of our shared border. The cause of this problem is quite simple: we haven't made the necessary investments in our cross-border energy infrastructure. Instead of acting to shore up our shared energy security, we've allowed these decisions to be politicized. We simply cannot afford to keep making that mistake. We need to act together to prepare for the next energy crisis; whatever, whenever, and wherever it might be. Now in the short term, that means continuing to pursue responsible development of our oil and gas revenues. It also means building the necessary infrastructure to leverage our shared security, to produce and distribute next generation net zero energy resources. And here, it is up to government to lead. For too long now, NGOs and special interests have had de facto veto on energy infrastructure development and while governments must listen to their concerns, energy security requires that we have the means to both extract and to export it. As I noted, Ambassador Cohen, who is again with us tomorrow, I would be remiss if I didn't mention the marching orders he received

from his boss, the President. Last year, President Biden and Prime Minister Trudeau unveiled a road map for renewed US - Canada partnership. It is a comprehensive blueprint for how our two countries can, and must, work closer together in key vital areas. It includes a commitment to clean energy, and the infrastructure that supports that clean energy, as well as cross-border electricity transmission. Specifically, it calls on us to enhance security and resilience - that's a word you hear a lot these days, the resilience - of our shared critical infrastructure. And given the integrated nature of our transportation networks, we must work together to accelerate the adoption of zero emission vehicles. Now you'll note that I said zero emission in full. I just wanted to avoid the 'Zee-E' or the 'Zed-E' gaffe. Now, to make North America a global leader in EVs and battery technology, production and integrated supply chains, we have to simply harness the critical minerals that are here in North America. We must deal with geopolitical realities, as well as geological realities. You know that the main ingredient in electrical vehicle battery is cobalt. Most of it is in the Democratic Republic of Congo, DRC, which is really influenced by a country called China. There's a little bit of it in Idaho, but not a heck of a lot anywhere else in the world. We have a town called Cobalt in Ontario, but it doesn't actually have cobalt. The only way we're going to not be reliant on that is if we do the innovation to make batteries that don't necessarily require cobalt. So, we've got to be strategic; we've got to think through what we have, and what we don't have, and how it is we are going to be able to control our own destinies. I mean the truth is, much of the world's critical mineral deposits are located outside of North America. So, we need to map out these reserves we have within our borders and also those we can access with friendly allies so that we can have access in a secure reliable way; otherwise we'll be driving electrical vehicles that may not be able to have a new battery or we won't be able to charge it. We must find a way to control our own destiny. China and Russia have been doing exactly this for years and so we need to combine our efforts, not fight each other, but combine our efforts to catch up to them. They are well ahead of us in this regard. So, securing access to critical minerals is absolutely vital to both our energy security and our economic security.

Now look, I'm an Albertan, so I've obviously talked a lot about extraction, but let me be clear: environmental security is essential to energy security. Moreover, climate change is a great and grave threat to our economic security. So, last year we saw how flooding in the Pacific Northwest crippled a crucial trade corridor in British Columbia. Wildfires in western parts of the United States and Canada resulted in billions of dollars of damage. Extreme weather events are becoming more common and costly, not only to our livelihoods but, frankly, in human lives. On the eve of Earth Day, let me emphasize the need to address the devastating impact of climate change. This is another area where we should take our cue from the golden age of cross-border cooperation. The same two leaders, who ushered in the US-Canada Free Trade Agreement, President Ronald Reagan and the Right Honorable Prime Minister Brian Mulroney, also signed the landmark Acid Rain Treaty. That is the level of cooperation we need again, now. Geographic proximity requires us to address climate change and environmental sustainability in lock step. We need a common front on the climate change battle.

Now, I use those military terms deliberately as I pivot to our final priority: defense and cyber security. Russia's illegal and outrageous invasion of Ukraine is a stark reminder that our two countries are not just friends, neighbors, and economic partners; we are NATO and NORAD allies. Canada and the United States must continue to stand shoulder to shoulder on continental defense. Soon after Russian troops moved into Ukraine, I wrote to our government on behalf of our members to reiterate our long-standing support for increased defense spending. Now, some said 'Why would the head of the Business Council of Canada have a point of view on some defense issue?' It's called the national interest, and I wasn't the first one, both my predecessors, who were named by Jim, John Manley and Tom d'Aquino, had written in their own time about the importance of defense as a national interest issue. Because if you don't have that, you don't have a business environment in which you can operate. So, we were pleased to do it; we were even more pleased to see that this government, Mr. Trudeau's government, responded positively in the recent federal budget, at least directionally putting us on track to meet our NATO commitments. We were also pleased by the government of Canada's long-standing decision to purchase 88 US-made Lockheed Martin F-35 fighter jets, finally. Now my good friend, Peter McKay, who is with us, I believe, virtually tonight, deserves a great deal of credit for all of his work on this file, as Canada's former Defense Minister; and, obviously, today's Defense Minister, also a good friend, Anita Anand, deserves credit for finally bringing it across the finish line. Now let me be frank, it is tough to sustain a positive bilateral economic partnership if the United States thinks that Canada is going to be a freeloader or a laggard on national security. I don't believe we are, but the perception can be a problem as well. We need to do more, and we need to do better and we're on, at least, the right track now to do so. It's too bad it took a war to do that. I've seen the reputational harm that this can do in Washington when discussing trade and investment issues. We've heard much talk about how Australia has muscled its way into America's heart through a strong defense policy. My hope is that the recent moves by the Government of Canada will remind Americans that we too are committed to defense. And to that end we know that continental defense isn't simply about conventional forces. It's also about cybersecurity.

Earlier, I mentioned the roadmap for a renewed US-Canada partnership and, importantly, that road map calls for increased and bilateral cooperation on cybersecurity. If I ask any one of my members what's keeping you up tonight, the answer is 99.9% of the time cyber threats. Sure, labor issues, sure taxes, regulations all kinds of other things show up - the single answer you will get from them is cyber security. Especially now, because of the mischief being caused by Russians and others during this war. So, we need to commit our two countries to create a framework for collaboration on cybersecurity. State-sponsored cyber-attacks target trade by basically disrupting our energy infrastructure, utilities, financial networks, telecommunications. You know, the attacks on the telecommunication industry are in the billions in a day, billions. That's how much mischief is going on out there. And when I was in Washington last month on the day that President Biden spoke with the Business Round Table, our counterparts here in the United States, he spoke about cyber security amongst many things. In

fact, when I met with some of the members of the Business Round Table immediately after the President's remarks, they told myself and my colleagues that he said it's up to business leaders and that it was their patriotic duty - this is President Biden saying to the American business community - it is your patriotic duty to help protect Americans by investing more in cyber security. Now, I would go further. I would suggest to you that we have a shared obligation to do more to protect all of North America from cyber threats because, you see, cyber threats are much like the virus; they don't know any borders or boundaries. They don't do customs and immigration on their way into the continent. We need to work together because states that sponsor or engage in cyber warfare can and will target each of us through the other. Your weakness is our weakness, your strength is our strength.

Let me close by simply saying that we must recognize - here's that word again - the resilience and reliability of our economic ties. We're facing similar threats. And when similar forces threatened our two countries in the 1970s and the 1980s, we overcame them together. Not separately, together. Leaders such as Ronald Reagan and Brian Mulroney acted together on trade, on the environment, and yes, on defense. Our leaders today must follow that example, and act to protect our collective economic security, our collective energy and environmental security, as well as our collective defense in cyber security. Simply put, a failure to act would in fact be an act of failure. And we do this not for ourselves, but we do this for future generations. Thank you.

Mr. PETRAS: Thank you very much, Mr. Hyder, for your remarks, your very insightful, very provocative remarks. We do have time for some questions, so if anyone has a question for Mr. Hyder. Any questions? Anybody, anybody with a with a question? Chris?

UNIDENTIFIED SPEAKER: Can you talk a little about the rule of law in Canada's relations and why the law matters for the way in which we conduct our relationship?

Mr. HYDER: Thanks, Chris. I mean look. The short answer is, at least from a business perspective, what is it that we look for: we look for predictable, stable regulatory and political environments in which we can make long-term investments to help the local community create jobs and use that possibly as a hub to create jobs in other places. It's not asking for much, actually, when you think about it. Just give me a rule of law that allows me to say that law is actually going to be applied the way it's intended to be applied when the time comes. I've said this publicly in many of the places I've traveled around the world pre-COVID. If we don't do that - money is agnostic, capital is about multiplication, it's not a philosophy class. It will go to where it can multiply. And sadly now, what that means is you actually end up driving capital to the very people you're competing against: communist regimes autocrats and others. Because at the end of the day, they may roll out the red carpet of predictability and stability and offer you labor, offer you discounts, offer you an environment that's conducive to investing. You know you're going to do that for your shareholder, in some cases they're in the room with the shareholders who say, 'thank god they're doing that because I like my dividend.' It doesn't have to be that way; if we made sure, and this is what I

meant earlier about the politicization; like with all due respect, the fact is there are hundreds and thousands and millions of miles of pipe underneath us, all across North America. They were built largely at an arm's length from political decision making. The politicization of infrastructure, and the politicization of foreign investment, has created investment chill. Now, I know people say oh the numbers have all gone up, yeah they're going up in technology sectors: what has Canada built? What have you [America] built? And if we don't do that, we're going to go somewhere else, and I think we are guinea pigs, with all due respect, like none of us here are questioning climate change or anything that's going on, but it isn't a light switch, it's a transition; it's going to require a hell of a lot of capital, and it's going to require a lot of innovation, a lot of patience there's a commitment I know. Martha, my friend, is going to be moderating a panel tomorrow, you know she's at the core of a group called the pathways group. We're all working together because you know what, governments go out to these conferences and set targets 'oh it's going to be 30 percent, no it's going to be 40 percent.' They haven't got a clue how they're going to do that because it's not their job it's our job. And so, if you give us the capacity to innovate, get out of the way, let us put the capital to work. Let us use the ingenuity of the Canadian and American minds to lead the world on the climate transition. Instead, what we've done is driven the capital away, right, and the other countries, take a look at Europe - and Diane's the expert on this so I won't take her on any of this - take a look at Europe, but they invaded Crimea, the Russians, and the vast response from Europe was to buy 25% more grass from Russia. This is a marketing event for him [Putin]. Right? Like, we have got to get off the reliance, you have a President of the United States calling Venezuela, Iran, and Saudi Arabia -two of whom haven't returned the call. You have a President of the United States who took 50 million barrels of reserve out only to add another 180 million barrels of reserve over the next six months, and instructed those very members in that room 'in six months in one day you need to come up with a million a day because we need it for them' Well, what happened? I thought we're all off fossil fuels and all. I thought that's what the plan was, right? And so, you said no to keystone, with all due respect, 800,000 barrels a day Russia gives you 600,000, you would have had all of that and then some. We're [Canada] only able to now send you [America] two to three hundred thousand on a train - can't put it in a pipe, pipes are full. These are self-made problems, and it all comes back to either we have a predictable stable regulatory system that attracts capital, that allows us to do what we do best; bring in the talent and lead the world in transition because let me tell you those other countries he's calling, I'm pretty sure they're not thinking about climate change - pretty sure. So we owe it to ourselves to have that conversation, and I think government, with all due respect, this is why you run for office, this is why you get elected, is to stand up and to say "look the reality is this, not what you framed it to be."

Mr. PETRAS: Other questions? Jim Blanchard.

THE HONORABLE JIM BLANCHARD: I have a question. I thought that was a wonderful speech. Thank you for your comments, thank you for being with us. We really appreciate it. We're honored to have you. My question is: how do you and your members view the political climate in the United States today?

Mr. HYDER: So, you were the diplomat of the two of us, right? I'm looking to you for some advice here, Jim. Well, first of all thank you for your kind words, it's good to see you again. Our paths have crossed many, many times, and you're a great example of what our relationship is about: people who care about both sides of the border.

Well look, let me put it this way, I have now spent three of the last five weeks in Washington. Multiple trips, again and again and again, which you've got to ask yourself: why I am doing that as regularly as I am? I'm going to have no trouble getting meetings in Congress and in the Senate including, as I said with Senator Manchin, Senator Toomey, all kinds of other people. I think this is a reality check moment. I think even the Democrats that I've been speaking to, and my members have been talking to and others are realizing some of the things we did over the last decade, whoops. Look at Europe as I said, right. You turned off nuclear plants, you wanted to run on renewables, uh oh, that didn't work out very well. Four or five, six hundred percent inflation on your utilities costs. Like, we're doing a lot of things that the public is not on the ride for. The public's issue out there today is inflation, and not any of the things that I've talked about. That's what Joe Public is talking about in Canada and the United States. So, when we went down there, we had a sense that this is a moment where just maybe we can recalibrate and reset some of the things that I just spoke about tonight. Because, when you see a President of the United States calling those people that I mentioned begging - let's be honest, begging - for oil when you know your neighbor has it, and your neighbor cares about climate change, your neighbor cares about human rights, your neighbor would do whatever it took to get that infrastructure built in as responsible of a way as possible, would do restitution, God forbid, because you know what? Stuff does happen. To make sure, that if it does happen, that there's restitution to make sure that you build collaborative partnerships and build the so-called 'social license' with Indigenous communities and others; it's Canadians who would help and think about all of those things.

Now, I know it's not fair for me to say that to you, because we can't build energy east either, but the hijacking of our agenda is I think cherry-pick democracies, because we're vulnerable to having our leaders follow movements now. They call themselves movements. What happened to leadership? What happened to Ronald Reagan saying you're all fired to the air traffic controllers, or Margaret Thatcher saying this lady's not for turning, you know? What happened to Pierre Trudeau saying "just watch me." I mean, these are all iconic leaders I'm not talking about whether you agree or disagree with what was said. They had a point of view. And they led. We need the return of political leadership. That's what our people expect of us, and I'm very worried that the situation in the United States is going to ripple into Canada. When I spoke with our Prime Minister about this very issue in December of 2019, we both said to each other we got to make sure that never happens up here. I said, well, what makes you think we're so immune? What makes you think we're so immune to that, right? We have to be very careful of that emerging up here. I'm optimistic, because I've often said you know why are you laughing, well the alternative is to cry, but I believe that this is a moment where we might be able to insert reason, facts, rationality into the discussion and

the debate about just what kind of a transition we're into. Because the biggest risk out there, I never talked about: it's actually the public. The public is not entirely aware of what's coming at them on this climate change thing. They're all for it if there's a carbon tax, and there's a rebate. Good spirits, "here's 50 bucks for my utilities budget you know what I'll double it I'll make 100 a year out of my utilities budget for the climate change agenda, but don't ask me for 101. I don't have 101." Who's going to tell them it's 25,000 to replace your heat pump? Who's going to tell them that if natural gas is going to be turned off - their barbecue, their pool heater, their stove, their dryer, what is that going to run on, right? Meanwhile we're sitting on all of these assets here; America is utilizing its fracking, sending it out because it's light oil and they can't do anything with it, here. We've got LNG that could be sent to Europe - I had the European ambassador in my office last week and she said "tell me what you can do for us in the next 10 years. We need to get off reliance on Russia and others, we've got 10 years to do it, what can you do?" And I said could you have people in Europe call some of my premiers to say "hey can we get that thing built? Because if we don't get access to the coast, I can't send you anything." The best thing we can do for Europe today is send them LNG so they can store it and keep it for any day that they want to use it. You need infrastructure for that, and so I think if we can come together in a moment of rational reasonable reset and recalibrate the discussion, I really believe the people would come with us.

Mr. PETRAS: Michael Robinson.

Mr. MICHAEL ROBINSON: Thank you for that very illuminating speech. Speaking of the disincentives to foreign investment, has your organization taken a position on the United Nations Declaration of the Rights of Indigenous People, by which we are the only one of two countries in the world - the other being Bolivia, which of course has an indigenous president - to incorporate into the law of Canada.

Mr. HYDER: Yeah, so, UNDRIP is something that this Government has embraced. Our position really is one of what I have seen is the modern Indigenous community, the community that is emerging today, 50 percent of Indigenous people in Canada are below the age of 25. They want to play. They want a piece of it. They want to have the skills developed, they want equity, you know the number one bidder on the TMX Pipeline is probably going to be an Indigenous group. One of my members sold an asset in Atlantic Canada - two billion dollars came from the Indigenous groups. There is an opportunity here to bring them in, and help with jobs, help with economic development, help with prosperity, help with the long-term agenda. I really believe that when there's a will, there is a way, and I don't know if we need the United Nations to tell us that. But the truth is in Canada, we tend to be naturally stakeholder oriented. We do believe in dialogue. We do believe in being able to sit down and engage in the work that Martha and others are doing in Alberta. I think it is a great example of that; there is actually a lot of social license that does exist, but our governments are beholden to those interests whom they hear from every day, which actually I believe represents a minority. I mean just take a look at our own position from the Environment Minister now. He wasn't for carbon capture. Look, we've got along great so if he's

listening, I'm sorry, or if he sees this. But originally, he didn't believe in carbon capture. Now, the international body said actually carbon capture is going to be one of the most effective ways to help bring down emissions, right. So, carbon capture was a prominent feature of the budget. It featured what we asked for, which is basically an incentive tax credit because remember for a corporation – please, if you've learned nothing tonight remember this - capturing carbon for a corporation is a hundred percent cost. There is no market for that carbon after it's captured. So, it's a societal good being done on behalf of business in the interests of Canadian national interest in this case, right. There's nobody, I mean unless carbon fibers come to be or whatever, this is all cost. We're absorbing 50 percent of it now. Hopefully this this tax credit allows the 50 percent that government to share in that. Same thing on nuclear. How can you have a clean energy policy that says, "we don't want nuclear?" Japan turned off nuclear plants and turned on coal plants. Now, Japan has to turn back on nuclear plants because it's not working. Germany did the exact same thing, right. Back to leadership. Tell the people the truth. I really think the Canadian public and the American public are pretty darn smart. Just be honest with them. This is what it's going to take; this is how it's going to happen; this is what it's going to cost you; this is what we're going to do; this is how long it's going to take; these are some of the bets; we don't know if they'll materialize; nobody knows if blue or green hydrogen will materialize, we're trying. We don't know." It could be something else. But give them some confidence and some hope that the leaders of their country, business leaders, and government leaders are working together to solve that problem with the Indigenous communities and with others. And I think there's a real opportunity here because there is a will. And the Indigenous communities I'm dealing with, I just met with a Chief a couple weeks ago, it was all about entrepreneurialism: how do I participate. And I think that's one of the game-changing moments from what we're accustomed to versus where we find ourselves now.

Mr. PETRAS: We have time for one more, yes back there.

UNIDENTIFIED SPEAKER: My question is very similar. Yes, we started with the land acknowledgment today and I'm wondering if you see opportunities for the United States and Canada to both work on addressing the atrocities of their colonial past of course.

Mr. HYDER: Of course. And I think that government after government has – both Conservative and Liberal - at least in Canada, has been um doing exactly that. There is a Truth and Reconciliation Report in Canada. This government has had it for seven years, and frankly should do more on what's on that list. Many of the things that are in that report are actually not that hard to do. We can just do them. And I think it's a question of action, and execution. Enough of the slogans, enough of the talk, I mean you're in power—just do it, right. To borrow from Nike, just do it. All I'm saying is that I do believe that there is a new dawn when it comes to the opportunities to engage with Indigenous communities who are very much entrepreneurial, who are very interested in, as I said, their own education, their own well-being, skills development. When you have the labor shortage that we do in Canada and you hear that 50 percent of the Indigenous communities are below the age of 25, we're ready to train them; we're ready to re-skill them; we're ready

to put them through whatever programs they need to be able to be a part of the economic success of our country. So, I think it's happening. It's also happening because people want it to happen, right. Again, I go back to the sensibilities of the Canadian and American people - we're good people, and I think we're pretty smart people. And so, on those areas, I only wish our governments would actually do what they said they were going to do.

Mr. PETRAS: Well, thank you very much. Well, everyone, that brings us to the conclusion of the opening of our 46th annual Canada-United States Law Institute Annual Conference. We start again tomorrow at eight o'clock at the Botanical Gardens. So, we stand adjourned; see you bright and early tomorrow. Thank you.

JOURNALISTS' ROUNDTABLE

Mr. STEPHEN PETRAS: I'm Steve Petras, the United States National Director of the Canada-United States Law Institute, and it's an honor to welcome everyone here to our 46th annual conference. We're going to start off right away with some introductions to the Co-Presidents of our Institute. First, Michael Scharf, Dean of Case Western Reserve University, School of Law, and Erika Chamberlain, who is the Dean of the University of Western Ontario's law faculty. Michael.

DEAN MICHAEL SCHARF: Good morning, everybody. Wow. CUSLI has delivered a fine morning for a wonderful conference in a beautiful venue. So, here we are at the botanical garden, one of Cleveland's gems. It is completely open to all of you, and so when you're taking breaks you should explore both the inside but especially the outside. It's going to be a gorgeous day, especially in the morning, and all the flowers are in bloom. The last time we were here for a CUSLI conference, we were celebrating the challenges of climate change and it snowed. Same date. So, now we're exploring the challenges of interconnectedness and hoping for a spring in economic relations and so we have spring outside.

Well, as Steve said, I am Michael Scharf. For the last 8.5 years, I've been the Co-Dean of Case Western Reserve University School of Law, but before that, I was the Associate Dean for Global Legal Studies, and before that, I had Steve's job as Director of the Cox Center. So, I've been involved with CUSLI for twenty years. And one of the reasons I was brought into this and fell in love with this organization was Henry King. And one of the things that Henry would do as he organized and opened every conference is he'd ring this old bell, and it was old even back then. We're in our 46th year; I'm sure this was old even 46 years ago, but it still rings. So, without further ado, let me ring in the 46th Annual CUSLI Conference.

So, I think most of you were here last night. Raise your hand if you were here last night. Alright, so I'm not going to repeat any of the things I said last night. I'll just summarize for you that one of the wonderful things about being the Dean, and Erika Chamberlain who you're going to meet in a second is my partner in this, is that we are appointed *ex officio* as the Co-Presidents of the Canada-U.S. Law Institute. And we get to work with a wonderful executive committee that Erika is going to introduce to you in a moment and they are the glue that makes this all work. They are the people who are bringing forth Henry King and Sid Picker's legacy and making CUSLI a better and better conference and a stronger and stronger institution every year.

Last night, I began with a land acknowledgement. I'm not going to do it again, but I do want us just to take a moment and realize that this gorgeous land that we're on, we're just passing through. It has been here for millennia and there were thousands of people, hundreds of generations before us, of tribes, Indigenous people, immigrants, and others who have made this place the beautiful venue that it is now. And not all of the history is wonderful, as we know; and that's part of why you do a land acknowledgement to understand both the good and the bad of the past. The other thing I do want to do is point out that in your programs, you

have a list of our co-sponsoring organizations, and they have really stepped up this year, and I think that's also in large part due to the members of our executive committee who reached out to their friends and their institutions and helped us bring in the money that makes this conference possible. Together, with the live conference, we are also remote; we have about double the number of people watching us through the media sphere as we do have in this room, and we also will be producing the Canada-U.S. Law Institute Journal. You should have before you copies of last year's Journal. These are free; we want you to take those home. Every year we make enough of those so that we can give those out at the conference. Alright so, without further ado, I would like to turn it over to my partner, Erika Chamberlain, the Dean of Western Ontario Law School.

DEAN ERIKA CHAMBERLAIN: Thank you so much, Michael for that kind introduction. So, on behalf of the Canadian partner of CUSLI, it is my pleasure to welcome you to this annual conference. As you may know, CUSLI is a long-standing partnership between our two universities, and I'm delighted that it continues to thrive the way that it does. I'm thankful that the hybrid format this year has made this conference more access to an audience in Canada and across the continent.

For those of you who may not be familiar with the University of Western Ontario, Faculty of Law, or Western Law as we like to call it, we are located in London, Ontario which is one or two hours from the border, depending on which bridge you happen to cross. Western University is located on the traditional territories of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Chonnonton peoples on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. So, that's the land upon which my university is situated. Western Law has a strong and growing group of international law researchers, including experts on trade and conflict of laws as well as a strong international law internship program that allows our students to get first-class experiences in offices of the United Nations, the WTO, World Bank and a range of international organizations. We're pleased as well that we can continue this strong relationship in terms of international law with our partners at Case Western.

Western Law also hosts the Canada-U.S. Law Institute's Annual Distinguished Lecture, here in London and that features leading diplomats, academics, journalists speaking on topics related to Canada-U.S. relations. Just this winter, we hosted Michael Adams, President of Environics who spoke on the topic "American Backlash, Canadian Compromise". We also host several events geared to students which compare Canadian and American approaches to issues like cannabis legalization, law enforcement and of course right now, COVID protections as well.

I'd like to take this opportunity to thank the members of CUSLI's executive committee for their ongoing leadership and for helping to assemble the fantastic lineup of speakers we have for you today. In particular, I would like to acknowledge our U.S. National Director, Stephen Petras; our Canadian National Director, my colleague, Chi Carmody; our Managing Director, Ted Parran; Program Director Steve Paley; our Executive Committee Co-Chairs James

Blanchard and Jim Peterson; and all the other members of the Executive Committee from both sides of the border, and of course all the broader membership who make up the CUSLI family.

I'm delighted that you've joined this conference today on supply chain challenges, which I know are top of mind across our two nations. We have some outstanding speakers presenting today and I think you are up for some very stimulating discussions, so without further ado, I will turn it back over to Stephen Petras to continue with the program.

Mr. PETRAS: Thank you, Erika and Michael. We are going to start off today. First item of business, we lost one of our stalwart, long-standing members of our Executive Committee, Dick Cunningham. And here to do a tribute to Dick is one of our Executive Committee members, Larry Herman. Larry?

Mr. LARRY HERMAN: Thank you, Steve. Last November, we were all shocked to learn of the passing of Dick Cunningham, who for years had been a stalwart supporter of this organization and a member of the Executive Committee. He was a fine lawyer, an outstanding counsel, a great friend and colleague, and I think it is very fitting that we pay tribute to Dick and his memory at the opening of this conference. We miss him greatly. We miss his counsel, his wisdom, and his dedication to everything that this organization stands for; and that is bringing together Canada and the United States in a major way. So, I just want to say how much we do miss him and pay tribute to his memory as we open this session of CUSLI. Thank you.

Mr. PETRAS: Now, we have a very special treat to start off our conference. We will hear remarks from the newly appointed United States Ambassador to Canada, and here to introduce our Ambassador is a former U.S. Ambassador, Jim Blanchard. Many of you know Jim Blanchard, but I wanted to just point out some very interesting facts about Jim. He's been a long-standing member of our Executive Committee, he is the Co-Chair of our Executive Committee, he is a former U.S. Congressman from Michigan, former Governor of Michigan, and a former Ambassador of the United States to Canada. And one thing that is very interesting; is he was elected Governor in 1983 and he faced a \$1.7 billion budget deficit when he started. And he managed at the end of his first term to bring that down to a balanced budget, and the people in Michigan loved him so much that he was re-elected with the largest margin in the history of the state of Michigan as Governor. Then of course, he went on to do other great things, highest of which is to join CUSLI. Jim?

THE HONORABLE JIM BLANCHARD: I accept your nomination for - I don't know what it is! But anyway, Steve, thank you for your leadership. Dean Scharf, Dean Chamberlain, thank you for all that you do. I'm really delighted that we have students here. Students, please raise your hand, please. You are going to hear some really good speeches, actually. Of course, you are used to being talked to all the time, but we are delighted you are with us. I also want to thank our Executive Committee members; they have all been great. Jim Peterson, my partner- I do not know if Jim is watching - probably watching this from his farm in Ontario - but he's been a delight to work with for many, many years. And by the way, congratulations to Diane Francis for your award last night, to David

Shribman for his award. We are glad that you have been so helpful to our organization and to the cause of Canada-U.S. issues and relations. Joe Comartin – that was the first I heard that you are actually going to leave your post. Are you going to retire and travel or are you going to go off and run for Parliament again? What is going on there? You have been a fabulous partner to the states of Michigan, Ohio, Kentucky and Indiana, so thank you for everything you have done. He's been managing a lot of different issues, including our favorite, the Gordie Howe Bridge, but there is also Line 5, that will be discussed later in the program. Joe, you have been fabulous and a personal friend of mine as well, so you are going to be missed, but the good news is you are right across the river from me; that Detroit-Windsor connection has always been the cradle of cooperation, really, between the U.S. and Canada. I also want to acknowledge Rick Newcomb my partner, he can't be here. He is an expert in sanctions, and his legal work has been going on and on. He is working more than 24/7, but he is the reason why DLA Piper is a platinum sponsor. But he does not even have the chance to enjoy this conference today. I hope he is watching some of it, but I don't know that. I hope he is. He'll let me know through email.

Also, with our State Department is Russell Singer, I am glad you are here. We hope you will chime in wherever it is appropriate. He is at the Canada desk, which is really the most important desk, as far as I am concerned, in our State Department. I am going to say a few things because we really are honored to have the new U.S. Ambassador to Canada, David Cohen, who is about to speak and give us a greeting. I will tell you this, having served in that position, you may think it is just parochial observation but actually, the position of U.S. Ambassador to Canada is our most important Ambassadorship. It is really the busiest; you get to deal with every issue. It's true that London and Paris and sometimes Rome have a social cache more than perhaps in Ottawa, but on the day-to-day business, the relations between our two countries are so multi-faceted and so complex and so important that that's why our embassy in Ottawa is the busiest. You can deal with everything from space stations to alien smuggling to Great Lakes water quality to energy, trade, NATO issues, it's the gambit. And being Ambassador to Canada is a fascinating blend of politics, government and diplomacy, and you are dealing with domestic issues as well as international issues. You just think about the agricultural issues and the arguments over softwood lumber, it's really an incredibly challenging, important post.

In your material is the bio of David Cohen, our new U.S. Ambassador. It doesn't tell you the things that I think are even most important. You will read that he has been a top executive at Comcast, which is like Rogers Communications on steroids. He has been a leader in communications; he has been effective with our government, our Senate; he's a partner at a major law firm; he was a key advisor and Chief of Staff to Ed Rendell, who was Mayor of Philadelphia, later Governor, later Chairman of the National Democratic Party; he has been a leader in the University of Pennsylvania, chairing their Board of Trustees. He has done an enormous amount. but the thing I like about David Cohen is he is a veteran politician. He understands issues, he is the person that can handle this job that is a blend of government, politics and diplomacy, and most importantly, he is a very

close friend of Joe Biden's, really close. A lot of people have known Joe a long time, including myself, but there are very few who are almost like family to President Joe Biden. As a matter of fact, Dave Cohen had the first fundraiser for Joe Biden when he ran for President. Not only that, but Dave Cohen has had bipartisan support in almost everything he has done. He was confirmed unanimously by the U.S. Senate, and I do not think that would have happened but for the fact that the Pennsylvania Republicans, including their Senator, Pat Toomey, recommended him. This is a big deal. We are very lucky to have an advocate in Ottawa in the person of David Cohen. And the final thing I will say is this: when the President talks with David Cohen, he trusts what he says about what is going on in Canada or elsewhere. Trust and friendship is so critical, as we've all developed with this group and so it is my pleasure to introduce the United States Ambassador to Canada, the Honorable David Cohen.

THE HONORABLE DAVID COHEN: Thank you very much Ambassador Blanchard for that overly kind introduction. You are part of a very small group who understands what a privilege and responsibility it is to serve as U.S. Ambassador to Canada. I stand proudly on your shoulders, representing the outstanding work that you performed when you served in this role from 1993-1996. I also commend your continued work to preserve and strengthen the friendship between Canada and the United States. I am honored to address all of you this morning; and sorry I can't be there in person, but I will happily embrace the hybrid aspect of this meeting to be able to address you this morning.

For 46 years, this Institute has provided the unique forum for experts from both the United States and Canada to discuss the most pressing legal and policy issues in our relationship. And this year's conference featuring supply chains is no exception. And although I am joining you virtually this morning from Ottawa, I want to add how much at home I feel talking to a distinguished group of lawyers. I know my friend and colleague Rachel Poynter, our Deputy Assistant Secretary of State for Canada and Mexico, will be delivering a keynote address later today, so I am going to keep my remarks brief and try not to step on her toes. But I do want to say a few words about what we at the U.S. Embassy and Consulates in Canada are doing to build the relationship between our two countries and the progress that we have made over the past year. For me, serving as the United States Ambassador to Canada is the honor of a lifetime. It is not just about being President Biden's personal representative in another country; it is about representing America to our closest friend, partner and ally, Canada. As you all know very well, our partnership is unlike any other in the world. It is not just about trade or treaties or tourism between our countries - although all of that is important - it is about families that extend across our border and communities that are located along both sides of the border from New Brunswick to Alaska. It is about a shared set of values that informs the way we relate to each other and to the rest of the world. And it is about a friendship between our peoples that has developed and deepened for centuries. To be sure, that friendship has been tested. There have been times when it has been strained, but each time it comes back stronger as my friend Goldy Hyder reminded us in his speech last night, and that is exactly what has happened in the past few years, as I have said many times, the test of a great friendship and

partnership is not when the friends agree, it's when they disagree and how they handle that disagreement and resolve their differences.”

About a month after he was sworn in, President Biden held the very first bilateral meeting of his presidency with Prime Minister Justin Trudeau. At the end of that meeting, in February 2021, the two leaders released the ‘Roadmap for Renewed U.S.-Canada Partnership’; the kind of shared, ambitious, and strategic vision that can only be put in place by the closest of friends and allies. The Roadmap has brought the partnership between the United States and Canada to a new level of cooperation and collective purpose. As we renew old relationships and look with great optimism and anticipation toward the future. The Roadmap is comprehensive, but it also has very practical implications. I’m not a big fan of strategic plans-I think you can get lost in the process- but the Roadmap is not just a strategic plan, and it is not just about prosperity, or security, or shared values, it is about all these things and more.

The Roadmap is organized around six pillars: combating COVID-19; building back better from the pandemic, very importantly to me, in an equitable fashion; accelerating our climate ambitions; advancing diversity and inclusion; bolstering security and defence; and building global alliances. Each of these six pillars is important in its own right, and they are also interconnected. For example, bringing the pandemic under control and advancing diversity and inclusion are really overlays to all the pillars. Unless we make progress on both simultaneously, we will not succeed in either and we will not get very far with the others.

So, not surprisingly given my background as an executive with a Fortune 500 company, I do have a particular affinity for the “building back better” pillar of the Roadmap. I am not allowed to choose between pillars, it’s a little bit like asking who your favorite child is, so I am a big fan and enthusiastic supporter of all six of the pillars, but I do have a special affinity for “building back better”. Recovering from the financial ravages of COVID-19 is simply a huge priority for both the United States and Canada. And we have begun to make real progress on that. In the United States, we have created more than 6 million jobs since Joe Biden took office - the largest growth in jobs at the outset of a presidency in United States history. And our unemployment rate has dropped from 6.2% to 3.9%, also setting a record for the biggest drop in any single year in U.S. history. But this recovery will ring hollow if it is not equitable and sustainable. We must ensure that small and medium-sized enterprises, SMEs, share equally in the recovery, especially SMEs owned by women, people of color, and Indigenous peoples. After all, it is SMEs, and especially SMEs owned by underrepresented groups, that were hurt disproportionately by the pandemic. This is the way the Roadmap is stitched together to accomplish multiple, critical priorities. Building back better in a fair and equitable manner, making sure we support SMEs and their recovery, and making sure that women, people of color, and Indigenous peoples are not being left behind. Only addressing all of these issues will ensure that we are in fact building back better, as opposed to just building back. The Roadmap has guided the work of both of our countries over the past year, and I can confidently report that we have made tangible progress. Releasing the Roadmap itself was a real accomplishment; something that could only be done by the closest of partners.

And although much of our work has been constrained by COVID and other world events, we have progressed in a number of consequential ways. Most importantly, we have successfully laid the groundwork to make substantial progress across the board in 2022 and beyond. Deputy Assistant Secretary Poynter will speak in more depth about the Roadmap pillars later today, and I do not want to steal her thunder, so I will stop here. But I will leave you with one final thought on the U.S.-Canada relationship, this one from President Joe Biden, a man I have known for almost three decades, and I quote: “there is nothing we [Canada and the United States] cannot achieve when we commit ourselves to it and when we work together as the closest of friends should, we only make each other stronger.” That is truly how I feel about the U.S.-Canada relationship. The United States and Canada are friends, partners and allies in the truest sense of those words; and as we work together to advance the pillars of the Roadmap, our partnership is made stronger every day. So, I hope you have a great day, and thank you all very much for the invitation to appear and for your attention.

THE HONORABLE JIM BLANCHARD: Ambassador, thank you very much for taking the time to be with us and for your informative remarks. All the best to you as you meet the great and exciting challenges our two countries face. Thank you again. Now, I will turn it back to Steve Petras for the rest of our program.

Mr. PETRAS: Okay, so we’re going to step right into our program today with our first panel. I want to emphasize to everyone; we are delivering this in a dual capacity, right. We’re doing it virtually plus in person. So, in order for the people who are virtual to hear us, and also so we can record these proceedings for publication, if you have questions, please use the microphone. There’s one right there.

So, our first panel is being moderated by Diane Francis, and she’s put together an outstanding group of journalists who are going to focus in on supply chain challenges for the United States and Canada. Now, many of you were here last night, and you heard that Diane was the recipient of our Sidney Picker award, much deserving recipient. Diane is a well-known journalist, she is the editor at large of the National Post, she’s been published all over the world in Post Media newspaper chain, the Atlantic Council, and interestingly, the Kyiv Post. She is a very detail-oriented researching journalist. If you’ve read her blogs recently or her column on what’s going on in the Ukraine, she comes up with facts and insights that you just can’t get anywhere. So, it’s an honor and privilege to have Diane moderate our first panel. Diane.

Ms. DIANE FRANCIS: Okay, all right I’m on. I’m not sure how this is going to work; I have three panelists and they’re all remote, and I’m going to try and do a debate with them later, but I don’t know we’ll all be able to see them, or they’ll be split screen, or what. But anyway, we’ll go. Let’s go. I’m going to start, setting the scene for actually the whole conference, but the supply chain issues. And we’re going to plunge into it from the point of view of journalists, who are, you know, in the trenches talking to politicians and the businesspeople and the unions about the issues on a more granular level.

But to give you the overview: you know, we’ve been in an era of freer trade—we never quite achieved free trade, but freer trade. And you know it began with

the European Union, which was a terrific example, and then grew into NAFTA and what we have now. And more and more global trade, more and more members into the WTO, and all of that has created a global economy that's stitched together with supply chains that are very effective and very pervasive. Cracks began to appear when China was caught cheating; cheating on its books, the way it kept its books for its public companies listed in the United States, and also in its own country; stealing intellectual property, harvesting it without acceding to legal copyright and patent laws. That's when the cracks really started to appear and then, of course, on top of that was the upheaval in labor markets in the richer countries who hadn't adapted or didn't have workers or a system that could adapt to the fact that they were going to be offshore to death. So, we have rust belts in Ontario, in Ohio, and in parts of Europe as well, and this, of course, created a huge backlash against so-called free trade, which is, as I say was really never that free.

And now we have a situation where the pandemic came along, and that began to rattle the supply chain system through lockdowns, aggravating the ability to access, aggravating favoritism, healthcare supplies made in China kept for the Chinese, even though they were contractually obligated to deliver them to North America and Europe, so all of these things - understandably, they were trying to protect their own people - but all of these things have undermined the old so called free trade system, and most of the supply chains.

And then we have the war. The war with Russia has, I think, launched on the heels of the pandemic a de-globalization. We have a new world order. Supply chains are going to be politicized, supply chains are going to be completely revamped, ended in some cases, replaced with better, but not necessarily better systems. And that's the way it's going to be from now on, particularly as Russia is cratered economically by the Biden administration and the alliances which by the way, I agree with. And they're going to be put offline. Their commodities and so on are the biggest so we're also going to go through a major resource reset. And countries like the United States, Canada, Brazil, Australia, countries that are very resource-rich, are going to ascend in importance. And they are already being badgered by people who want to replace the old supply chains that they had in the old sourcing they had in Russia and in other countries with those countries with the rule of law, with rule-based trade and sort and plenty of resources. So, that that means that Canada, Australia, United States, Brazil, and other very rich resource countries are going to have more business, more activity, and more opportunities and more benefits; and it's not that they're benefiting off the horrors of war, it's just that people cannot and will not be able to trust Russia as a supplier, and they're roughly 20% of the resource mix. Not 20% of the food stuffs, but 20% of critical metals and minerals, 20% of the oil and gas supplies and things like potash and fertilizer, so they're very critical and they're going to be taken offline virtually, in my opinion.

So that's going to change everything as well, that's the bigger picture. And then, you know, grilling down, there's the specific areas. There's the energy supply lines which are going to be dealt with in another panel, the auto industry, which is critical to the United States and Canada, Europe as well, and China, that's another panel. And then you've got the supply chain issues surrounding the transfer of

technology, particularly technology that's of national security importance or industrial importance, and telecoms. So, these are going to be areas where things are going to change as well, in terms of the overall supply chain situation—military goods and course foodstuffs, naturally. And again, I would say that China runs the risk of being also partially put offline, which is even more disruptive, because of its failure to condemn the invasion and also because of other dislikes toward China going back to when the cracks began to appear over supply chain shenanigans, shall we say, and trade shenanigans.

So, the whole thing is going to be moved around and changed, there is going to be winners and losers, and I think that what we're going to see is a world that, in terms of supply chain, is going to go from offshoring to partial on-shoring, in other words let's get our jobs back and close those factories in China and Mexico or wherever, to friend-shoring: we're going to have friend-shoring, so we're going to deal with countries that we're compatible with geopolitically. Right or wrong, expensive or cheap, that's going to be more and more the trend. So, it changes the matrix, and that is sort of my take on the bigger picture and to set the scene for the whole supply chain issues that that you're going to hear today, which are critically important.

So, that's my piece now I'm going to turn, I have three terrific panelists, and they're introduced in the program, so I'm not going to reintroduce them, except just to give you their names and I'm going to start off I'm going to ask each of them to give us about seven minutes from a specific viewpoint, about what they see the supply chain issues going forward are. And then I'm going to ask them some supplemental questions and hopefully get them to engage, if I can figure out how to get them engaged not seeing them, or seeing them on a split screen, and then we're going to do a Q&A with the audience and that that should do it. I'm going to open up with Todd Spangler, who is based in Washington DC as a reporter covering Washington for the Detroit Free Press, very important newspaper in a very important part of the United States. I'm going to ask Todd to give us his seven minutes, five to seven minutes, however long he wants to take on the supply chain controversies issue solutions, whatever he wants to talk about from an American perspective. Todd?

Mr. TODD SPANGLER: Hi can everybody hear me? It's hard for me to tell. Great, thank you. Diane, thank you for having me on the on this panel, it's really an honor and hello to Governor Blanchard who I know well. I do have to say, before I start that it's also a real honor to be on here with Alex and with David. David may not remember this, but 20 years ago when I was running the Associated Press Bureau in Pittsburgh, he and I had breakfast when he was coming into the Post Gazette and it's really a pleasure to see him again.

I don't know that I have five or seven minutes really to talk to add here, but I will say that, from my perspective, supply chain issues which certainly the auto companies which I paid specific attention to are trying to work out these questions, particularly about semiconductors and battery materials and items like that. But the disruptions are such that there's really no good answer as to what's going to happen going forward; in large measure because of the war in Ukraine, and also because this question of whether or not there is going to be a recession. I mean,

when you have a Larry Summers saying that there's a 50% to 75% chance of a recession in the next two years, you know, automakers may be moving to reduce supply chains, but that could be completely tossed out the window if there's a major recession. Recessions have a very strong impact on a state like Michigan, on the manufacturing that happens in in that state and in the Midwest. If that happens, I can see those supply chains being tossed all over again. There's just so many questions out there about how to remake the supply chains. Like Diane said, the China question is a big one. If something happens with Taiwan, what happens with semiconductors? I know there's a there's an enormous effort underway to try to get semiconductor manufacturing, which is so important to the automakers, into the US, but again, if there is a recession some of that capital could dry up, some of those plans could really get tossed aside.

And so, it's really moving through a truly uncertain time that it's difficult to see where it's going to end. I will also say the other thing that comes to mind on this question is the question of friend-shoring or ally-shoring, which is how it's talked about by some folks here in DC. Politically speaking, there's been these very strange indications even between allies such as the US and Canada, where during the trucker blockade of the Ambassador Bridge that lasted a week and cost manufacturers, you know, millions of dollars. We had Democrats in the Michigan delegation least one that I can think of saying: here's another example of why we need domestic production, meaning the US, and I mean it just the sort of thing having covered this relationship for more than a decade, it's very strange to hear Michigan politicians talking about Canada in that kind of way. I mean, the relationship goes back so far, politically speaking when we start talking about, even with the US content stuff in build back better, when they talk about these the US content for electric vehicles and something that Trudeau talked to Biden about, and he's clearly not happy about, which might even violate the USMCA. Politically speaking, this is a really fraught time for that relationship and how to figure out those supply chains. So, I'll leave it at that, but it's a really unsettled time and it's going to be a fascinating time going forward.

Ms. FRANCIS: Excellent that's a good wrap up but Todd I wanted to ask you to expand a little bit more on the protection side as we go through all of this disruption. And could you tell me whether this has legs, politically, and may end up not shattering but, shall we say, corroding the US-Canada relationship in all respects?

Mr. SPANGLER: I think it has legs politically, which is the problem with it. I think that there's enough policy and enough people who are who behind the scenes are saying this is not going to work, that I think I don't know whether it will actually change the relationship, I just think we're going through a period where politically speaking, it makes sense for a lot of people to talk about this for campaigns and to try to make points. By the way, I should also throughout say it's my sense that there's a lot of that going on with line 5 we mentioned. You mentioned line 5 earlier, I mean there seems to be a lot of sort of political posturing about line 5 that just doesn't seem like it makes a whole lot of sense not to sit down at a table and work out these issues versus the rhetoric that you hear and a lot of it coming from Michigan. So, political rhetoric has a chance of becoming political

reality, and I think right now the protectionism that you hear is getting pushed back enough by people like Manchin which - I mention mostly because Toyota's doing business in his state - that it may not be part of this, but look for instance the build back better, but I think that you know, it is a really, really unsettled time and I think Ambassador Cohen's got his work cut out for them, of course, you know guy who you know did what he did with Rendell in Philadelphia is probably up to the task, so there you go.

Ms. FRANCIS: Our next journalist is Alex Panetta, who's also based in Washington D.C. on behalf of the Canadian Broadcasting Corporation. Hi Alex. I want you to address - and there'll be overlap, so change lanes, no problem, that's okay - because I'm sure many of the Canadian concerns about supply chain issues are something that was just addressed by Todd in terms of our auto industry and "buy American," all that sort of thing-so could you address the supply chain issues going forward from the Canadian viewpoint.

Mr. ALEX PANETTA: Sure, so I'll just throw out a scenario that I don't think most Canadians would have imagined they'd find themselves in a few years ago. And that's that, we may find that we arrive in a moment, where Canadians are grateful that Donald Trump forced us to renegotiate NAFTA. And, which would have been inconceivable, a few years ago, because we were dragged kicking and screaming and resolutely unenthusiastic about it, but I was having a conversation with a friend yesterday here in Washington, who was talking about the inefficiencies of our trading relationship and saying USMCA is an imperfect deal, and if you have to design a trade deal from scratch, this is not the one you would end up with. I said, well, we don't live in that perfect world, we live in the world we live in, and there had been a disconnect for years between elite opinion on trade and the popular opinion on trade, even in Canada, where free trade is generally popular. You see, it was not as popular as elite opinion would have led you to believe and I'm basing that on public opinion polling, and what you hear when you talk to people not involved in public policy. Suddenly, you've got this trade agreement that has bipartisan consensus behind it in the United States, it's not going to be blown up anytime soon, it would be shocking if it were, and not just that, it could actually act as a bulwark against future problems. I'll give you an example. You know, Canadians follow this electric vehicle tax credit debate a little bit over the last few months, when it seemed that Canadians might be potentially frozen out to a certain extent, out of this or Canadian production be shut out of this electric vehicle credit. A huge concern to our country. So much has changed in a few months, the credit appears dormant, and I'll talk about that in a second. But one of the things that USMCA might allow us to do is if and when that credit ever resurfaces as an issue in Congress - and I'm not sure it will, but if it does - there are amendments ready to go within Congress to switch the credit designed by Debbie Stabenow and others, to replace it with the USMCA standard, saying basically if the vehicle qualifies under USMCA rules of origin, that's good enough, it's eligible for the credit. And I'm not saying this is going to happen, I'm not saying it's going to arrive on the floor, but if it does, there's a decent chance that that thing gets 51, 52 votes and suddenly Canadians are grateful that USMCA exists. And that's just an example of how you know the phenomenon, I think,

Diane referred to as friend shoring, you know could occasionally act in Canada's favor; not always, but that's one example of how it manifests itself. Speaking of EVs, I just wanted to sort of touch on the latest there. I think most people here are probably aware of build back better being stalled, Joe Manchin kind of pulled the plug on it for now. It may come back in some lesser more limited form. If it does, what I'm detecting is not a lot of expectation that the electric vehicle credit, the irritant in the form it had originally appeared, would resurface. Even Debbie Stabenow, who I referred to earlier – senator from Michigan - was asked I think on a panel, a few weeks ago, if it were to come back what would you like to see, and she said, where would we just be happy to have the existing electric vehicle credit extended. So, I mean, when the provision sponsors are not even expressing much hope of it surviving in the previous form, I don't think you'd expect it to come back. And if it does come back, as I said earlier, there are amendments ready to go within the Senate, so you'd probably end up with something more palatable from a Canadian perspective.

So, electric vehicles are closely connected to the issue of critical minerals. President Biden recently invoked the Defense Production Act on that. It's funny - the critical minerals story in Canada is really a play in three acts. You know, act one is 'what are critical minerals? I've never heard of these things' and that's just a few years ago. And then you arrived in a place over the last couple years where Canadians were kind of being told or hearing that we might be some critical mineral superpower, to the point that it might be a source of geopolitical leverage for us. And I think that might have been overstated, a little bit, I think, just a few months ago, you had, you know, a union leader in Canada saying well if we suffer from these electric vehicle credits we're not going to send our minerals to the US, you know, that was that was a kind of a preemptive use of a geopolitical weapon you don't even own. Yes, these minerals sit in Canadian soil; they're hard to get, they're not always economically viable, and it's going to take some hard work to develop that that sector. And I think we're in the third stage, the third act of this play, which is a recognition of the challenge ahead; and I think you're seeing that addressed in a bunch of places, including in the recent federal budget in Canada, which earmarked - I'm going from memory here - I think it was \$8 billion over a few years, or maybe \$3 billion over eight years now, several billion dollars over a few years, for things like a mapping, infrastructure, and investments in certain projects because, like I said, they're not all these things are not commercially viable at this point, but if you're talking about a geopolitical protection against China's dominance over this space and not wanting to find yourself threatened, you know with being cut off or threatened with shortages like in semiconductors, that recent federal budget at least acknowledges the challenge and takes a step toward alleviating it.

I think we're going to have a little bit of clarity in the next bit on what this 'friend-shoring' looks like. I think a lot of people here are probably familiar with the semiconductor bill or this Chips act or Competes act, it was what it was called in the House of Representatives. Basically, a bunch of funding for semiconductor production in the United States, a big industrial policy bill. An aspect of that bill is of great interest to Canada: there's a page in there, a couple pages and they're

referring to Canada. Sorry, before I get into that I'll just say that the state of the bills - it's passed both Houses of Congress passed the House and Senate in different forms and it's going to probably go to conference committee soon and I expect that will probably pass Congress within a few months. In that bill, or there's a long reference to Canada and some other trading partners, but I'll talk about the Canadian portion for a second. It requires the US Administration to publish within 90 days a strategy for how it intends to work with Canada on issues related to China. Where do the United States and Canada agree on working with China; where does it disagree with Canada on China policy; where are the vulnerabilities in the supply chain; what are the opportunities. It's fantastic, because basically Canadians will get to see to see this blueprint published, and I think it's supposed to be mostly unclassified - there'll be a classified portion to it as well. So that's something to look out for and that will give us a sense of what this 'friend shoring' may look like. But, of course, you know you can lay out the strategies, and again Ambassador Cohen mentioned earlier that, you know, strategies are great and everything, but they have vulnerabilities too, and they can susceptible to events. Just think back four years ago: Canada was talking about sectorial trade agreements with China, and was having a really difficult time renegotiating NAFTA with the US, and was looking toward China for a possible new trade deal; partly, you know, to poke a stick in the eye at the Trump administration, and then suddenly Meng Wanzhou was arrested, Canadians have been imprisoned by the Chinese, and that kind of scrambled the entire picture. Again, think just a few months ago: how electric vehicles were going to turn into this monumental irritant between Canada and the United States. And more recently, just a few weeks ago, the Ambassador Bridge which Todd referred to. I mean I think some people were kind of spooked by that, saying if we want to 'friend shore' will our friend's goods be available easily to us? So, you know, these unforeseen events can scramble this strategy, but at the end of the day, other events bring us together. And I think Ukraine, you know these few weeks my understanding is most conversations between Canada and the United States in Washington, just Ukraine is the issue now, and some of the other stuff has taken a back seat. And you look at American public opinion polling on Ukraine, it's not all that different from Canada's. I think if I'm not mistaken something like 80% of Americans see Russia as a foe, side with Ukraine in this conflict, and two-thirds or more of Americans are willing to sanction Russia even if it worsens inflation in the United States. So then you get into these questions of fundamental values where our national interests intersect and that bolster our friendship. So, that's where things stand from what I can see, and like I said, just keep an eye on this Competes Act conference committee; I think it'll be interesting to see how the United States sees uh the competition with China and Canada's place in it.

Ms. FRANCIS: Okay thanks Alex. So, to sum it up, same old relationship; bickering at the edges but no fundamental confrontations and problems. That's a good thing for both of us. The next speaker is Professor David Shribman; he's at McGill's School of Public Policy, the Max Bell School of Public Policy. And welcome. And I'd like you to address the issues involving international supply chains.

Professor DAVID SHRIBMAN: Well, thank you. And I would say that Alex and Tom are far more informed and far more articulate on this subject than am I. I'll give you an anecdote to start: when my daughter who, was an orchestra manager - she's now the chief of staff of the San Francisco Symphony - went to Stanford Business School, in her first semester she was required to take a course in supply chain management. And I thought that was some kind of a joke; that somebody who would be involved in labor negotiations with violinists, and in trying to keep an orchestra hall open even before COVID should have had to have taken that. And she said: oh no dad. that's a serious topic. But also, say, to give some broader perspective on all of this and in the decade and a half in which I was in Washington in the Washington bureaus of the two most important papers in national papers in the country, the Wall Street Journal and New York Times, there was only one person who cared about the U.S.-Canada relationship. Of the 100 people in those two bureaus, and that was me. And everybody kind of laughed me off the stage when I, it was clear to me that the only way the best way to empty your room in Washington was to utter the three words: 'softwood lumber dispute'. So, the notion that this is front of mind in our minds those of our Canadian and American minds of the people here it's true, but it's not necessarily front of mind in Washington, particularly with COVID raging and with a war in Ukraine raging. But I would say this: that disputes about trade have traditionally, with some important exceptions, been second-tier disputes in political Washington. They have enormous economic impact to be sure, and companies and lobbyists fight furiously over them, but the general Washington attitude toward these is that they're peripheral. That's not always the case though, and it may well not be the case now. In 1828 - that was the first tariff I covered in 1828 - the so-called tariff of abominations, set South Carolina against pretty much the rest of the North, and was a precursor to the American Civil War. It was a huge dispute basically between and among agricultural interests and manufacturing interests, even though manufacturing interests at the time were quite small. Even more recently in 1984 and 1988, the presidential elections, particularly in Iowa, came down to questions about free trade. The free trade coalition and the free trade notion in the United States is very, very strong from 1945 to 1946 all the way to about 1987, when the focus really was on Japan. And Dick Gephardt, congressman from Missouri, won the uh Iowa caucuses in 1988 by virtue of his talk about protectionism. So, the great danger in all of this supply chain management issue is the threat of renewed protectionism in the United States. We saw a lot of it in the Trump years, we see traces of it, more than traces of it, in the Biden rhetoric, and I would urge you to focus on when the president talks about 'buy American'; he can sneeze 'buy American' and Canada will catch a cold, for good reasons. It's hard for me being in Pittsburgh, which is of course a manufacturing center, or was, to gauge the Washington attitude toward that. But, surely the notion that President Trump did not invent, but mobilized and utilized to protect American jobs, has been a hearty perennial in American politics for the last 25 years. And to the extent to which this new crisis poses new challenges, the great danger, as both Todd and Alex have explained, is to what extent Canada is affected by this. I mean, Chrystia Freeland was astonished when President Trump regarded America's relationship

with Canada as a matter of national security. It is, to be sure, a matter of national security on the northern part of the border, but not on the southern part of the border. It was an extremely unfortunate phrase, and Chrystia, she had a good time with it. Not particularly a pleasant one, but a very effective one. So, my warning here is the same as that of Todd; is that I worry that there are precursors to a new burst of protectionism, and that will endanger supply chain management and the entire nature of the relationship. I know a lot of businesspeople in Canada who were apoplectic about the situation during COVID, and I worry that could be something that we might see again. So, I would defer to my other colleagues, Alex and Todd, for their expertise. I just want to give you an overall sense of the salience of these issues in Washington, which is low, but the importance of them, which is high.

Ms. FRANCIS: What is the role of the union movement in the two countries? Obviously, it's been very eroded, because of so-called 'free trade', but what currency do they have politically and sociologically?

Professor SHRIBMAN: Well, it's very shrewd of you to divide it into political and social. You know, social and culturally, the union movements have been enormously important in American politics, really dating to what you might think of as an agricultural union that produced the Populist party in 1892. The Roosevelt Coalition was built, metaphorically and really, on the on the bricks and foundation of the union movement, but today only 13% or something like that of American workers are unionized. Even democrats from time to time look at scants at this. You know, the democrats were the party of the unions, and as recently as 1984, presidential candidates who were trying to challenge front runners would always call them the 'tools of the labor barons'. You hear that phrase all the time. Walter Mondale was particularly vulnerable to that. There aren't many labor barons today, and of course most labor unions today are in the service and governmental sectors, but politically they're very, very important. The democrats were the party of organized labor and of the working person - the working man as we said at an earlier time, but the working person today - and now, it is the republican party that is the leading edge of that. We've seen a dramatic switch in the profiles of the two parties; there was a time when, for example, the professors at elite American universities were all republicans. We used to say at my own college - I went to Dartmouth college, which is the most Canadian of the American colleges - that the way to get tenure in the English department at Dartmouth was to have a good backhand. Today, the American professors are on the left rather than on the right. And that's not an isolated thing. The union leadership may be on the side of the democrats, but union membership increasingly, beginning with Ronald Reagan, but turbo charged during the Trump years, union members have moved in attitude, if not in necessarily voting, but largely in voting, to the republican party, while the kind of people who were in the republican party: manufacturing, executives, bankers, people who were presidents of the local rotary club, in smaller cities, though not smaller towns, became members of the democratic party. So, we've had really had, this is a case where all the 'isms' have become 'wasms', and so, the profile of the union movement and its place in American life is, as you so eloquently put it, a question of both culture and politics.

Ms. FRANCIS: Just to return before I open it up to the three of you, and I want to get you to comment, I think the national security issue is exceedingly important between the two countries, and recently we saw in the fall the department of national defense sort of, I don't want to say shove down Canada's throat, a deal whereby they're completely in control of vigilance in the Arctic. And then Britain came along and said that they would patrol the Arctic with their nuclear submarines. And I don't know whether we took them up on that, but they made some not very nice remarks about Canada's military unpreparedness. You want to comment on that? Because I think that's going to heat up.

Professor SHRIBMAN: If I could just jump in right there Diane for just a second, you know, Chrystia Freeland quite rightly ridiculed the notion of national security in this relationship, because since 1989, there was no question about American national security anywhere in the world. Ukraine's changed all of that. Questions of national security are um salient now. And so, just that that phrase now has traded with meaning that it didn't have before February 23rd or 24th. So, national security now involves access to resources and worries about nuclear annihilation in a way that they didn't if we had held tell this conference in January. We would have used those phrases with a with a little more cavalier approach, I think.

Ms. FRANCIS: Excellent. All right I'm just going to throw out a question I'd like each of you to answer. Let's start with Todd and then Alex, and then David, can weigh in on the issue of, what is your fearless forecast as to the next supply chain controversies the next one or two, in the next year anywhere in the world? What's going to be a flashpoint?

Mr. SPANGLER: Well, I know from, I mean from my point of view, I'm very Michigan-oriented, so I'm just thinking about cars. I'm thinking about, you know, what happens next in terms of fixing supply chains. And to be honest with you - and David touched on this with his daughter's example - previous to the pandemic, I mean there's 800 top-tier suppliers to the auto industry, there's 18 000 suppliers beneath that, and no one knew who they were. I mean the auto companies did not have people who knew who the bottom suppliers were. They do now. I mean, so they've figured that out, but now they're trying to search around, and you know GM's trying to get stuff out of Australia and, I mean Chrysler's doing stuff in in Ontario - they're all trying to figure that out. The question is going to be whether or not the attack on globalism, because you have Larry Fink at Blackrock saying globalism's dead, I mean you have people saying that these supply links are not going to get put back into place, and I think a big question for me is if the auto companies are going to try to start selling more electric vehicles, and these new supply chains cost more at a time when inflation is rising and threatening a recession, how do those factors all come together and they actually sell the damn cars. Because if they don't, then it doesn't matter if they say they're going to invest and they're going to have to do something else. So, I'm really sort of watching all of that and how the Competes Act and how that just all plays together. It's just like I said, I just don't know exactly if Taiwan's still making semiconductors and making them less expensively than Intel is in Columbus, that supply chain might just go move back over there if it's more effective. I just see tremendous

uncertainty and I'm, like you, have watching this 'ally shoring', 'friend shoring' versus whether there's just a shrug and say well we're not done with globalism yet. So that's sort of how I'm watching it play out.

Ms. FRANCIS: Alex, is Alex there? Flash points next year.

Mr. PANETTA: Sorry about that. In the short-term? Energy. Todd referred earlier to line 5; at some point the Michigan government, or the I guess the United States and Canada, are talking about a longer-term solution to that issue, somebody's going to have to make a decision soon about whether that pipeline gets refurbished under the great lakes. That's going to be a short-term issue. Longer term? Critical minerals. I don't know whether this surfaces over the next year, but it could. President Biden just invoked the Defense Production Act at the same time as that his party was on the verge of introducing a tax credit that would have discriminated against inputs of critical minerals from Canada. Now, the potential disconnect there is, Canada's part of the US defense industrial base. So, if we're part of your national defense industrial base, and you're also calling critical minerals part of your national security strategy, but at the same time threatening tariffs on some of the products created in a country that is part of your defense industrial base, there's a disconnect there that has to sort of be worked out. And I think we're going to have to figure out a long-term plan on how we guarantee that we have access to these inputs that are going to be monumentally important in shifting to electric vehicles.

Ms. FRANCIS: David, in particular you're worried about protectionism, is that, does that apply to both sides of the border? And what flashpoint?

Professor SHRIBMAN: I was for 16 years the editor of a newspaper, and we used to say that "news is what the editor sees on his way to work". Well, right now no one's going to work, or in the office. And so, I would say that the two biggest challenges I would see are the two biggest things that a household has to do in the course of their economic lives. And actually, they apply to my own life as well, and that is home and car. Those are the two biggest purchases any American or Canadian makes. In terms of car, we all know that car prices are skyrocketing; you can't buy a used car, you can't buy a new car. I think that's a huge problem. And home repairs and home construction; you know, we're doing a construction project at home, kind of a renovation deal, and every week the prices of the implements and the materials go up. And I think Americans who spend more time in their homes, and who have looked around and say, "well this needs to be fixed, that needs to be fixed" and "this needs to be repaired" are going to feel this and it's going to have a political impact in a greater way than the toy crisis we thought we'd have last Christmas. So, I would say the two biggest investments a family makes are the two biggest flash points, and that would be automobiles and homes.

Ms. FRANCIS: Okay, okay now the audience. We have time for questions. I think we have about 20 minutes or so for questions. So, I don't know, is everyone's mic on? If the green light's on or do you have to push it? So, just raise your hand and ask me the question and I'll let my panelists jump in or I'll sort of suggest directly who might best answer this. When you're lawyers, you have to cross-examine here, let's go; we're ready for the cross. Larry.

UNIDENTIFIED SPEAKER: I'd like to hear what the panelists have to say about the prospects of the U.S. midterms, and what that might do not only to the relationship in general, but to the supply chain issue. Will the ground be changed substantially when it comes to Canada-U.S. issues on supply chains, critical minerals, and that sort of thing? Or will life kind of go on, perhaps with a bit more tension, but go on as it as it has up until now? So, I'm interested in what might happen as a result of the of the midterms, and we all know what the predictions seem to be.

Ms. FRANCIS: Excellent question. Okay, Todd, would you like to start? Todd, then Alex and David again, in that order.

Mr. SPANGLER: Sure. Yeah, well, I expect that there's a better than decent chance that the Republicans retake the house, and take the senate, although not by large margins. I think the impact on that going forward depends on a whole bunch of different things. Clearly, that Republican congress will set itself up against President Biden. The question will end up being how much does that congress bring Trump-ism with it. Because Trump-ism was protectionist to a great degree. I mean, again, the idea that Canada was a national security risk, you know, broke norms in a way that, if that new congress sees that as the way forward, you know, and that they need to boost their chances with union members in Michigan and Ohio, then you'll see more of that protectionism. It'll become more of a part of that. That congress will also almost certainly not want to give money or spend money; it's going to argue that Biden's overspent money and increased inflation, and every time the price goes up, they're going to use it against him, and say it's not their fault, it's his. And so, they're not they're not going to be spending money to try to help shore up supply chains, I don't think, in any great capacity. So, those are my those are my initial thoughts; it won't resolve any uncertainty, certainly.

Ms. FRANCIS: Just your take on it. My take on Joe Biden is that this is a man with a very pronounced moral compass, but he's also a deal maker, and he believes in democracy. And I would think that a change in the midterms, he will turn more moderate just to get things done. What do you think?

Mr. SPANGLER: I agree, and I think he has done that too. I think he's trying to play both the long game of I want to keep the progressive wing, which has so much energy in it, close to me by build back better and other things, but at the same time, you know, when it comes to actually getting something done, you know, he was the one working with Senators Collins and Romney and et cetera in getting the infrastructure bill done, which is still, I would argue, probably the major bipartisan achievement of his administration. And I think build back better, or whatever it ends up being, will be a scaled down version, and it may bring along some republican votes as well if it's crafted right away. I agree with you there. I think he'll try to find ways to work with the republican congress. The question will be whether or not the senate is willing to go along with him in an election year.

Ms. FRANCIS: He'll break through.

Mr. SPANGLER: Yeah, he'll break through on some things. I think he'll have his share of headaches too.

Ms. FRANCIS: Okay. Alex.

Mr. PANETTA: I'd anticipate you'd probably see a few pieces of legislation. I mean, it won't be a remarkable, it would not be a productive congress, but some things would get done, I think at some point, because both parties do have an interest in at least being able to say: "look this is what we've achieved." The question is, and the risk to Canada is, is does protectionism become the glue that unites President Biden and a Republican congress? I mean, would you see a bunch of buy American proposals get through, whatever legislation ends up getting cooked up over the coming two years. It's definitely a possibility. Some irritants will go away; I don't think you'll have this electric vehicle irritant resurfacing, as I said earlier. You'd see a congress that is friendlier to Canadian oil, but there are limits to the usefulness of that if you're in the Canadian oil sector. So, for example, under President Obama, the congress even passed a bill to get the Keystone pipeline built, and he kind of just ignored it. So, I don't think there's a major change there. Todd referred to the macroeconomic effects, and I think one thing that we want to start looking at is the debt ceiling. The way, you know, twenty-five, thirty years ago it would have been, if not inconceivable, certainly a remote possibility that we'd be living in a world where it might become impossible for a U.S. President to get a Supreme Court Justice named unless he controls congress, we may be entering a world where debt ceilings become harder and harder to extend unless a presidential party controls congress and who knows what bedlam that could cause for the global economy. You'd like to believe that they'd be able to extend it, I think they probably will, but the level of drama we've witnessed over the last decade on this issue is just continuing to escalate, and I think it could get worse and worse until pandemonium gets unleashed, and that's something to keep an eye on.

Ms. FRANCIS: David?

Professor SHRIBMAN: Diane, if you were to choose the profession, that would be from horticulturalist to barbers, who would be the least well-qualified to make predictions about American politics, I think you would have chosen journalists. My wife often says, only half in jest, that her husband, I thought Gary Hart would be a two-term president. So, to ask us to make predictions is a very risky thing. But I'll go against the grain here. I think that the Democrats will lose control in a pretty severe way, a pretty large number, almost approaching the Obama and Clinton numbers of 1994 and 2010, but that the Democrats will enhance their position in the Senate from 50-50 plus the sweetheart of Westmount High School, Kamala Harris, to 51-49. And so, I think that's a recipe for paralysis. I think Alex's analysis about the dangers and opportunities in there is spot-on, but I think you're going to have a split congress, you're going to have a President that is peculiarly unable to articulate a vision. Take a look at the column in the Wall Street Journal, it'll appear in print tomorrow, it's online today, by Peggy Noonan about the kind of rhetoric the President uses and how ineffectual it is and I think we're looking towards an unusually ineffective congress. That may seem redundant to Canadian ears, but I think unusually unproductive.

Ms. FRANCIS: I'm going to add on to what you said, David about how we are eminently unqualified as journalists to answer a lot of different question so now I'm going to go to.

Professor SHRIBMAN: Oh hang on. After something happens that we didn't predict, we will be able to analyze why it happened, and say we saw it coming all the way.

Ms. FRANCIS: Exactly, because we have the last word. One of the things I wanted to ask you was, and none of you are businesspeople or economists, but you're reporting. I'm asking you to be reporters here. What are you hearing from sources – economic, business and otherwise – as to whether or not we're going to have a recession this year?

Professor SHRIBMAN: Well, I'll go first. I took one economics course and got a B- in it, and having predicted nine of the last four recessions, I think I think that a recession is almost inevitable. Equity prices are too high. The economy still doesn't have enough workers. Inflation is raging. I don't see anything good about this. And as Charlie Schultz once said, a great economist at Carnegie Mellon down the street from where I live, "something that can't go on forever can't go on forever."

Ms. FRANCIS: Alex, what are you hearing?

Mr. PANETTA: Yeah, so the big bank economists are looking at, you know, one third to a 50 per cent chance of a recession in the next year or two. It's like, I mean it's the ultimate economist answer. You've got a 50 percent chance of something happening. So yeah, there's obviously a good chance of a recession in the next couple of years. The question is what do supply chain changes over the last few years do to a recession. The IMF had an interesting paper this week. The World Bank IMF financial meetings are happening in Washington right now, and its global economic outlook looked at some of the issues we've talked about this morning. And it describes a scenario where there is a shortage of industrial inputs and looks at the risk of this shortage, causing a recession or decline, a GDP decline, of 0.8 percent. But it says diversified supply chains would reduce the damage of such a recession by half. Something that would cause a GDP reduction of 0.8 would suddenly be only 0.4, because we have diversified our chain of industrial inputs and that's kind of the risk of protectionism, as you may make a recession worse.

Ms. FRANCIS: Todd, what are you hearing about a recession overall and sort of the auto sector, is there going to be a recession there?

Mr. SPANGLER: It's everything. I mean, in autos it's a very complicated sort of thing, because people are willing to spend more on cars because they need them right now, but they can't get them. As production ramps up, if the supply chain settles itself, then there's demand. They'll be able to sell cars, but at some point, that will hit. People are just already starting to say 'You know what? Screw it I'm not going to buy a car right now. I'll hold off until they come down.' And they might not come down anytime soon. So, that could have a sort of rolling effect to push inflation up, up, up. I will say that Alex is right about the things you could do: supply chain diversification. And there's a bunch of, I mean, no one's going to do this, but I mean there's an argument to be made that if you allow more migrants into the country, it could bring down, you know if you get rid of tariffs, that the trump administration put into place, that the Biden administration has been very slow to walk back, it could have some great impacts on inflation, of a point

or so, but whether that's going to happen, there's just such political problems with doing that. It seems like very smart people expect a recession to happen, and I take them at their word that it's likely to occur. How big, that is, how long it lasts, how aggressive the Fed is going to be in the politically charged world we live in is really a big question about that. And right now, they haven't been very aggressive; they say they're going to be, but it's just, it's tough to see that happening until there's a lot of pain on the street. And so yeah, I think it's coming, and how it gets worked out, it could not, it might be, it doesn't look like right now it's necessarily going to have to be as bad as the great recession was, but there's probably going to have to be some pretty strong action taken to keep that from happening. And I just want to jump back real quick to the midterm question too. There is also a question about if the Supreme Court overturns *Roe v. Wade*, what sort of impact does that have on the election as well, and that's up in the air.

Ms. FRANCIS: Okay, one more question.

UNIDENTIFIED SPEAKER: So, we have an online question and it says, 'You have briefly mentioned the trucker protests in Canada, and of course trucks are key to the supply chain. What are your perspectives on how that has evolved, including government reaction in response, as well as the truckers and the business community? Also, what about response in the U.S. and the impact on partnership?'

Ms. FRANCIS: Great question. Okay, let's start with David this time. So, what's the fallout effect?

Professor SHRIBMAN: I'm going to defer to the experts on this, because I don't really know. Most of us on this side of the border view that with astonishment. And the significance in this part of the border wasn't so much economic – though to be sure, economic factors were involved – it was cultural. It was those nice Canadians up there, you know, who care about hockey and maple syrup and go to sugar shacks in Quebec, that they should be behaving in such an unseemly way, that was the impact down here. It was astonishing, and of course as the only Canadian any of my friends ever knew, I was besieged by questions about why the Canadians, who don't cross the street until the signs say they can, were behaving so unruly. I think that was the principal reaction down here, culturally. Economically, I'm going to defer to my two colleagues. But I think that it's not insignificant, the cultural disconnect that it produced. I had written a piece for the literary review of Canada on something involving the United States and the last line was 'I always have a way out of this mess. I have a Canadian passport.' And the most radical Canadian lover I know in Ottawa wrote me a note and said, 'Maybe that passport's not so great anymore.' So, there you go.

Ms. FRANCIS: Okay, Alex?

Mr. PANETTA: You know, it couldn't have come at a worse time. Todd referred to a Michigan lawmaker using it to illustrate the need to re-shore auto production. It was actually, I think, two Michigan representatives that talked about it. And I made note in a story that one was Debbie Dingell, whose husband John was one of the co-sponsors of a bill banning U.S. oil exports in the 1970s because of the oil embargo. And the point I made, I think, in a story was the United States can have long memories about having its industrial inputs shut off, because that oil export embargo lasted, you know, four decades. The good news for Canada is

I think it's kind of come through it, for a couple of reasons. Number one, the big conversation in the U.S. about kind of cutting off Canada from this electric vehicle credit seems to have dissipated. On top of that, you've had major auto industry investments in the electric vehicle sector in Canada, battery production, cars. The timing of that bridge closure was brutal, but it didn't have the damage it could have had. And now you've just had this bill passed in the Ontario legislature, Bill 100, which the point of the bill is to make it easier for police to crack down on such a bridge closure, a vital infrastructure closure, in the future. That just received Royal assent, I think, last week. And now you're actually seeing similar problems on the southern border, where the Texas governor is inspecting a bunch of trucks as part of a protest against migration and that has slowed down trade on the southern border, too. So, what happened in Canada has more recently happened in Texas, so you know, no country is immune to it.

Ms. FRANCIS: Todd?

Mr. SPANGLER: Yeah, the trucker protest, which I covered from here, was pretty amazing to me in terms of, like David talked about, the norm bursting. But then Trump really accelerated that whole idea of norms being broken, and it's been coming down – actually, maybe before that, I mean Brexit was a great example of that as well. I mean, it just seems like everything we took for granted got tossed out the window. I'll come back to that in a second, but I will say on the on the question of the trucking industry, which seems like that was part of the question as well, that here a few years ago in Washington, the question was 'Are we going to have autonomous trucks that won't have drivers and what's that going to mean to the teamsters and union drivers and people like that?' It's gone, that's gone away now, we're not talking about that anymore, or at least that's not front and center. What we're talking about is, wow these truckers don't make any money, and the deregulation has left so many people, I mean, vulnerable. And then the pandemic comes and people say: 'I can get a job somewhere else,' and 'screw it, I'm not going to do this anymore.' There clearly needs to be more thought given to how to make the trucking industry more attractive and to reward these drivers because they're such an important part of the supply chain. But on the other side of that is that you see, we were talking about this earlier in terms of changing supply chains, things might cost more. There have been polls done that say people want to buy American, for instance. The Morning Consult put out something earlier last week, that said, people, we absolutely think domestic-made stuff, we want to do that, we want to buy that stuff. Oh, how much are you willing to pay for it? Well, not a lot more. And so, that ends up being the question you have. Cheap trucking was allowed to be able to move stuff around and the truckers were getting hurt by that, but it kept prices low. So, I mean, I think that all those things have to have to be worked out together. But yeah, I think in terms of just the norm-busting and where this parochialism, this protectionism leads to, is going to be extraordinary to see how it plays out and I don't know exactly where it is going, and we'll see.

Ms. FRANCIS: We have one more question, time for one more. Go again, great. Another online one?

UNIDENTIFIED SPEAKER: Another online one.

Ms. FRANCIS: Good.

UNIDENTIFIED SPEAKER: What is the impact of 3D printing on the supply chain?

Ms. FRANCIS: Of? I'm sorry, of?

UNIDENTIFIED SPEAKER: On the supply chain.

Ms. FRANCIS: What is the impact of, sorry?

UNIDENTIFIED SPEAKER: 3D printing.

Ms. FRANCIS: 3D printing, okay. Who wants to take that one?

Mr. SPANGLER: I'm going to say, I don't know anything about 3D printing.

Ms. FRANCIS: Okay I'll take that one, as a denizen of Silicon Valley and a big tech investor. The 3D printing can eliminate the need for logistical supply chains. And as it gets more and more proficient, they're now printing pretty big houses, you know, three-room houses in China on-site. And so, you will start to disintermediate the logistical supply chain altogether wherever this is doable. And so, this could include, you know, fashion, being able to make your own garments at home in a closet. This could be making kitchen cupboard gadgets and that sort of thing. So exponentially, it completely disintermediates supply chains at the end. Anybody else want to weigh in on it?

Mr. PANETTA: I don't know the first thing about 3D printing, but I would say that in a world that, like the one you just described, countries with lots of raw materials and a highly educated workforce would potentially come out better than most. So, it might not be the worst thing for Canada.

Ms. FRANCIS: David, you want to comment?

Professor SHRIBMAN: Disintermediation is where I get off the bus, I have no idea.

Ms. FRANCIS: Yeah, it'll do to supply chains what Amazon is doing to the retail sector. Think of it that way. Okay, I think that's a wrap. Okay, well, I think this has been a great panel, I think you guys have done a great job so let's give them a lot of applause here. We're ending a little bit early, so a little more time for bathroom break, cell phone breaks and a coffee, thank you.

SUPPLY CHAIN CHALLENGES FOR THE NORTH AMERICAN AUTOMOTIVE INDUSTRY

MR. STEPHEN PETRAS: So, everybody noticed, you know, your eyes are fine. The lights have been dimmed, okay, so it's easier to see the screen. I hope you have enough light to, you know, take your notes and to look at what you want to look at on your table. Ah, but we'll try this, see how it goes so it's easier to read the screen. So, before I introduce the next panel, I wanted to point out to everyone here that an organization that the Canada-U.S. Law Institute was one of the founders of is the Council of the Great Lakes Region. And they're having their Great Lakes economic forum June 26th to the 28th in Chicago. There are flyers. We encourage you all to attend. This organization is dedicated to the sustainability and economic development of the Great Lakes region, this wonderful bi-national resource of Canada and the United States. And if you look at the flyer, it's an outstanding program. So, if you're interested in higher education in the Great Lakes, the elimination of plastic waste in the Great Lakes, the creation of a sustainable economy and a circular economy in the Great Lakes as well as the integration of aviation, aerospace between the two countries, this is the conference to go to and I encourage you to do so.

Our next panel is going to look at the auto industry, and our moderator is Dr. Christopher Sands. He is the director of the Canada Institute at the Woodrow Wilson Center, and he's a senior research professor at Johns Hopkins School of Advanced International Studies. And importantly, he's a member of our executive committee. Okay. Chris has focused on issues of Canada and the United States and North American integration, and he has done policy research and published studies for The Center for Strategic and International Studies, the Hudson Institute, the American Enterprise Institute, the Brookings Institution, the Center for the Study of the Presidency in Congress, the Mitigation Policy Institute, and the National Endowment for Democracy. As I mentioned to you, he is a professor at Johns Hopkins School of Advanced International Studies and he focuses his research on international relations, and particularly the U.S. and Canada. So Chris, the floor is yours.

Dr. CHRISTOPHER SANDS: Thank you very much Stephen. The only part of that you need to remember is I never turn down work, so it's a good habit. But one thing I particularly like is the North American auto industry; and for those of you who live in this region, the auto industry was doing supply chains before supply chains were cool. They understood the importance of linking manufacturing, whether it was vertically integrated back in the 20s and 30s, to a much more horizontally integrated industry that we have today, it's really important to keep those relationships healthy, and that brings in a whole range of things. It brings in transportation, it brings in infrastructure, it brings in innovation, technology. But we're in a period of supply chain change, supply chain change because we're thinking about re-shoring or as Diane Francis said this morning, 'friend-shoring.' But also, we're thinking about much more data-driven transparent supply chains as consumers and investors want to know 'Is there forced

labor in the supply chain? Is there a carbon footprint in the supply chain?’ And this revolution, putting so much more stock in reliability than just efficiency and just-in-time, is changing the way we think about the industry and about how we get the goods that we have, and for my money, the auto industry was, is, and will remain on the forefront of this. And so, I’m really pleased we have a panel to talk about how the North American auto industry is making it work. We have a tremendous group here and I’ll introduce them in the order they are for presentations and then we’ll welcome them in. I don’t see them on the screen yet.

Our first speaker is Ann Wilson. Ann is senior vice president of government affairs for the Motor Equipment Manufacturers Association, like me, a Washingtonian, at least she lives there. Which is great. Then we’ll hear from Warren Ali, who is senior vice president for innovation at the Auto Parts Manufacturers Association in Canada. Then we’ll hear from my in crowd, the great Sarah Goldfeder. And Sarah is manager of government relations for GM Canada. But as Ambassador Cohen would have reason to know, she previously was a special assistant to the U.S. ambassador in Ottawa, and so she’s an American foreign service officer by training and another American on the panel, which is very nice and somebody I’ve known for a long time, which is good. And then we’ll be rounded out by Tim Goodman, who is a partner at Thompson & Hine, which many of you will know is Dan Ujcz’s firm so we appreciate Dan helping us to find him. He’s a former chief legal officer for litigation at the National Highway Transportation Safety Administration. I mentioned that logistics, infrastructure are also part of the picture. I think Tim will help round out the panel very nicely. So, with that, let me turn to Ann Wilson for our opening talk. Hello Ann.

Ms. Ann WILSON: Thank you, Chris and thanks everybody. I am going to share my screen. I really appreciate the opportunity to be here. Can you see the screen is up? I see it, right? Correct. And I’m sorry I can’t be there in person. We, as I was telling some folks before, are suffering some of the great resignation in the DC office and I need to be here right now, trying to deal with some of the many issues that are facing our industry members. But I am sorry not to be in Cleveland; I spent the 60s in Cleveland as a child and until we moved to northern Virginia. I have lived longer in Shaker Heights in Cleveland Ohio than anyplace else in my life. So, it’s a shame, I can’t be there this year, but perhaps in the future, I can.

So first I wanted to just talk a little bit about who we are. I would hope that many of you know who MEMA is, but you probably may not. We are a trade association. We represent manufacturers of motor vehicle components and parts. And we do this through our four divisions. We have a division for original equipment automotive, OESA, which is in Detroit, we have a division in our headquarters Raleigh, North Carolina for automotive aftermarket. We also have a commercial vehicle division and we have a remanufacturing division.

And when we look at the whole issue of challenges in the supply chain, I think it’s important to realize that suppliers - not the vehicle manufacturers, but suppliers alone - are the largest employer of manufacturing jobs in the United States. And one of the things that I keep trying to remind people and policy folks in Washington is oftentimes our tier two or tier three suppliers will be the largest employer in a county. It will be a family-owned, privately held company that’s

manufactured there, and perhaps for generations, and is real, you know, bedrock for the community. And one of the things that is of grave concern to the entire industry, and I mean from the vehicle manufacturers throughout the entire industry, is the fragility of that part of the supply base. We all count on it - we count on it to be able to make vehicles in this country, we count on it for jobs in this country and economic wellbeing. And if you look at this particular chart, this is not just a Michigan, Ohio, Indiana issue going to Tennessee and Kentucky and other places in the southeast, but our jobs are spread throughout the country. So, I think that's one of the reasons why it's important to realize why our voice is so important and why I'm particularly glad to be here today.

So, when we look at supply chain concerns, one of the things I talk about is, we have a convergence going on between supply chain, trade policy, human rights concerns, the issue of near shoring and reshoring; all of these issues are converging together. But from our Members perspective when we survey them - whether they're aftermarket, commercial vehicle, light vehicle - supply chain concerns are the number one public policy concern on their plate right now. And when we look at it, we divided sort of into all kinds of categories: one is obviously the shortage of semiconductors; it's also the price and availability of steel and aluminum; it's the price and availability of other inputs, whether it's plastics, whether it's some of the materials that we have traditionally received from Russia and other parts of Eastern Europe. It's the ability of USMCA - and I'm sure my colleague Warren will talk a little bit more about this too - to work well for all of us, because without a strong North American supply base and operations, we are not going to be globally successful and globally competitive. It is the whole issue of China and Russia; the issue of ports; and then some SEC proposals that I'm going to talk about quickly. I'm going to try to go over these fairly quickly. I'm happy to answer any questions you might have but, as you look at this, you can really understand why supply chain concerns are so significant for our Members, because it runs the gamut folks.

The first thing I wanted to talk about is probably the most important piece of legislation that is being considered right now in Washington; and it is the Competition Act/ There are two different names. Those of you who watch Washington understand the Senate passed a bill last June. The house passed a bill earlier this year. They're both trying to deal with the whole issue of how does America become stronger competition. How does America compete, specifically with regard to China, and how do we provide more R & D money, more money overall for our Members or for our manufacturing, so that we can be stronger as we look at the global competition overall.

One of the things that is most important to us is in this legislation, both pieces, the House in the Senate, is \$52 billion dollars for manufacturing of semiconductors in the United States. Now 2 billion of those dollars have been satisfied for what's known as 'mature' or 'legacy' nodes, which are really important to the motor vehicle industry overall. You think about nodes that are in your vehicles, think about something in a seat or someplace like that, these are not necessarily the high-tech nodes that might be in your phone, or in other operations, but they are very, very important to the operations of vehicles overall. The absence and the shortage

of semiconductors is probably the one issue, when you talk to everybody, that's impacting everyone. We have vehicles that cannot be completed, we have vehicle operations that are shut down from rolling for different periods of time because of a lack of semiconductors. And think about how this translates through the supply chain. That means the vehicle operation shuts a line and one of the OEMs can't get enough semiconductors to continue to do a line, then the tier ones, some of our bigger members- larger global players - will either slow down their lines or slow down their production or stop. But then you think about the tier twos and tier threes, and they only make money on volume. They've got to continue to operate and be ready to operate, but on the other hand, if they are not selling those components that are – maybe, you know, maybe it's stamped metal, maybe it's some kind of plastic extrusion- if they're not selling it to the tier ones who are not then selling it to the OEMs, they actually shut down overall. And what we see is then they're having a whole problem which many of us are witnessing, of having employees come back to continue to operate. We've actually had tier ones have to go in and bring their EVA professional staff into the tier twos and tier threes to allow them to continue to operate once those manufacturing processes start back up. And I bring this up only with regard to you as lawyers, look at some of the challenges your clients are facing. This sort-of rolling sets of shutdowns is taking an immense toll on the entire industry, and it's being felt at the tier two, tier three level; it's been all the way up through the OEMs. But that is one of the things, the US competition will not know how to deal with the immediate issues, but longer term it will allow the United States to be more self-sufficient. Not completely self-sufficient, but more self-sufficient and be able to compete, overall. It also has some language in there on IP protection there is language in there about extending the section 301 exclusion process for China tariffs. There is also language in there that might include ocean shipping reform act and the continuation of R & D deductibility so there's a very, very important piece of legislation which we really need to have passed in Congress by the July 4th recess.

At the same time as we start to look at sort of trade and supply chain convergences, then we really get into the impact of the tariffs that were put into place by President Trump really get on all of our Members.

First, there's the steel and aluminum tariffs. Now, as many of you know, with the agreement with the EU and Japan, and with the agreement with the UK, there have been quotas placed on these imports, and many of these tariffs will disappear for a time on many products. That's important, but quotas are very, very difficult for suppliers to work their way through. And it's very obvious that this administration does not have any intention of removing steel and aluminum tariffs overall. So that's one part of it.

The other piece is the whole issue of the China Section 301 tariffs. And these have been very distressing for our Members. Many of them are aftermarket members, because a lot of the parts that come in from China are aftermarket parts. But they are also inputs for further manufacturing in the United States. Some of these tariffs have been lifted in part, but the vast majority dealing with motor vehicle parts are still in place. And we're not naïve; we understand China's a big political issue. It's been understood to be very much a very hot potato, which I'll

talk about in a minute. But on the other hand, we would like to see this administration expand that exclusion process, and one of the things I would tell you as sort of unsolicited legal advice, because in my infancy, it now seems like I did go to law school: if you've got clients who're talking about steel and aluminum prices and availability, or what's going on from China, you need to make sure that they're taking full advantage of whatever exclusion process there is. We understand from our Members that the exclusion process and steel and aluminum is actually going a little bit better than it was before. And as again, there's a very narrow opportunity for exclusions in some of the 301 tariffs, but they really, really need to be taken advantage of it. I don't see the tariffs on Chinese goods going away anytime real soon; I think there's a lot of concern about our ability to compete, as a country against China, and I think these tariffs are seen as a very powerful tool, although there is some talk now from the White House that maybe they don't need to be so widespread.

So, since we're on the issue of China, I do want to talk about something that is a grave concern to us. Last year Congress passed legislation that would create a rebuttable presumption that any goods that come in whole or in part from the Xinjiang Region of China was manufactured or mined with forced labor. And this really has to do with the forced labor crisis in that area of the Uighur population. This was a bipartisan bill that was passed, it was quickly signed by the President, and it will be implemented as of June 21st of this year. Now, the Department of Homeland Security has not released implementation regulations, we don't know how they're going to implement this, we don't know what forms this is going to look like. This will really hit the textile industry hardest first. However, there are motor vehicle goods and motor vehicle inputs that come from that region, and your clients need to be aware of these issues and need to make sure that they're on top of them, because again it's a rebuttable presumption. It's not even transparency, these goods cannot come into the US unless you can meet that presumption and move forward.

I think we are all very well aware of the restrictions on trade with Russia right now. We continue to make sure that our Members are aware of the sanctions that are in place. We actually have not received a lot of questions about this. I'm sure many of them have sought your advice as outside counsel. I would tell you some of the more really heartwarming stories that we've seen overall have been the whole issue of how our Members can help their Ukrainian employees or their families who are now refugees, and that's where our Members have been spending a lot of their time and their efforts.

I think when Chris mentioned sort of where we are going also when we look at other larger issues, we have to include in this the SEC's proposal on how public companies are going to provide information on their climate portfolio, on their climate footprint. Our Members overall recognize that they are already reporting a lot of this information, either in the EU or through EPA. But again, this is a question of how this is going to translate through the whole supply base because it's not just scope one which is what a manufacturer consumes themselves or what they purchase, which is scope two, but eventually, in 2024, the SEC wants to make

this absolutely for reporting the supply base, and again, looking at the fragility of the supply base, this is a significant concern.

Finally, no discussion of supply base would be final without discussing the slowdown in the ports on the west coast, particularly. This is a real, real problem for our Members. The administration has done a good job, trying to hook up better logistics, whether it be rail or trucking from these ports, but, overall, these ports have not been able to meet the kind of needs that we've had in the post-Covid world. We are concerned, because I think, as many of you probably know, negotiations for these West Coast port workers will begin this summer, they will begin the negotiations next month. But again, this is going to be a very, very difficult set of negotiations. We are also trying to pay a lot of attention to the authority and the pressure on the federal maritime Commission to address some of these issues in the near term. And I would just recommend to any of you who have Members who have concerns about detention, demerged charges, or overall any other things that have to do specifically with the ports, let us know you can always reach out to us or really try to use your contacts at FMC to make sure that you push that through.

So, Chris, I know that was a pretty quick look at around the globe kind of issues, overall, I look forward to any questions, and I know I'm looking forward to hearing from the rest of the panelists. Thank you.

Dr. SANDS: Thank you very much Ann and you remind me when I was in school of the Peter Drucker line that auto industry's the industry of industries. There's so many industries that feed into it, it really is the heart and soul of the North American economy. Our next speaker is Warren Ali who is, as I mentioned Senior Vice President of innovation at Auto Parts Manufacturers Association of Canada over to you, Warren.

Mr. WARREN ALI: Thank you, Chris and thank you, everybody for allowing me this opportunity to speak with you. I'm very appreciative of Ann's first presentation. You've covered off quite a bit of the issues, very articulate, but also your graphics pointed to a lot of the things that our Members are looking at too.

So, a quick background on the APMA, the Automotive Parts Manufacturers Association. We're a similar organization to Anne's and NEMA. we represent the independent OEM producers of parts, products, technologies, and services here in Canada, so from the tier ones on down. Collectively, that industry is roughly 100,000 skilled women and men, and approximately 35 billion dollars annually. Our larger Members are ones that will be familiar with many of you: Magna, Martin Ray, and Linda Mar Woodbridge Group, ABC and another collection of small and medium sized manufacturers. Most of our manufacturing takes place here in Ontario, where we're home to five OEM final assembly facility groups. But the interesting thing about our members, and Ann spoke about this as well, the automotive industry in North America really only functions properly when all three countries' systems are integrated and working in harmony. Our Members actually employ as many or more people in the United States and Mexico, as they do here in Canada. And you are correct, we have quite a few Members whose facilities in specific counties and districts are the number one employer in that area, and this was something that came about and was discussed when we were

negotiating the new USCMA/CUSMA deal that came into effect, in the middle of Covid if you can believe it. So, all of the issues and legislation that was being brought up by Ann in United States has direct impact on quite a few of our Members.

We are also featuring a lot of those same supply chain issues that Ann had mentioned. The APMA has been around for 70 years, and so we've grown and developed as the automotive industry across North America has too, and, you know, the interesting thing is a lot of those traditional supply chain problems exist, but people were able to navigate and understand ways in and around them. The whole semiconductor thing now, it's like: it's a problem unto itself, and it's a problem that's only going to increase, because as intelligence increases in the operation of the vehicle, so too does intelligence within those various parts within it, so semiconductors are only going to increase in importance, and they're also going to probably for the time being, increase in number, so that supply chain problem is something that we're focusing on here in Canada as well.

We're looking at assisting in growing the domestic supply base in order to be able to address some of these challenges. Interestingly enough, Covid gave us a line of sight as to how we do it; when Covid was first impacting North America, one of the main issues that we saw here in Canada, and I think in the United States as well, was the lack of access to things like PPE and ventilators and some of those critical things that kept the frontline caregivers able to do what they do best, but also in terms of keeping citizens, and especially the workforce at our facilities, able to function. And much like our counterparts at the OEM level in the United States, many of the APMA's members pivoted their production to be able to supply critical things like face shields, face masks, and ventilators too, and a lot of that production was not located here in North America before Covid. So, we had to figure our way through it: we had to figure out new supply chains, we had to figure out dealing with ports when we couldn't bring in those materials from primarily Asia. And then, again, some of those more intelligent pieces like chips and everything else, in order to make the ventilators and some of those products as well, so it gave us a window into how we can mobilize the North American supply chain to start addressing it. But it also brought to the surface some of those challenges, and how we are going to access some of those critical materials and everything else that's going to be needed to bring it forward.

These challenges we see are going to grow as electrification of both infrastructure and the vehicles themselves is going to increase, and so the critical minerals and metals that are going to be required to make batteries. Those are things that the Canadian and regional governments here are also looking at addressing, because we have to make sure that we know that their stuff is in the ground, and we know what kinds of quantities and things we're going to need, but we also have to be able to scale up in order to ensure that we have that domestic supply chain in the event that we have offshore issues in sourcing it from those traditional places.

So, a lot of these things, and looking forward to what's going to make the automotive industry a success for the next hundred years. Which isn't necessarily based on our success for the prior hundred years is the activities and work that

we're doing at the APMA but also very closely, especially with Flavio and Ann. What we're doing with our friends and allies in the United States as well, because these are things where there's no real precedence to say how you do it? There's no real thing that you can look back on and say: 'okay well, this is what we have to do, because this is what we did before,' and so this is one of those areas where getting smart people to start thinking about it, but also having the ability to be flexible in thought, and understanding to say, 'well, we don't really have anything that we can plan or guide us, so we have to do stuff; we can't sit back and wait for it to happen,' but as we're going forward, we have to be in some form of agreement to say 'okay, let's try this and see if it's working and let's put in all of the you know the markers and the guideposts to keep us in track.' But, if we see things aren't working, we have to be able to remain flexible in order to pivot and go because again when you're looking at the front of your windshield there's a vast area in front; we know we have to go in this direction., but we're not exactly sure what that path is going to be, and we don't really have a great bearing from looking in our rearview mirror as to how we're going to find that pathway forward. So we appreciate opportunities like this to be able to share these things with the legal community, because there's a lot of great minds that are looking at other areas of challenges around the world that might be able to weigh in and feed into this discussion that will help frame some of the arguments and things that we're doing going forward, but also give us a sense of where we might be more successful if we were to try it.

I don't have much more to add because Ann was very articulate in showing some of those things there, and I agree with all that, and so I will turn it over to Chris and the rest of our colleagues to hear from, and I look forward to having a dialogue with everybody today.

Dr. SANDS: Thank you very much Warren and thanks for stepping in, as some of you know we originally billed Flavio Volpe to give this presentation. He's got stuck in Italy, and Warren stepped up, which really counts for something. Thank you very much. It shows that the Canada-US Law Institute follows that very important principle: just in time, or, just in case. We always have a backup. And that's very good. Now I'm going to give you something very special as the audience: an in-person speaker. The back of your neck might be feeling a little sore because you've been looking up, but now bring those eyes down to hear from Sarah Goldfeder from GM Canada. Sarah, over to you.

Ms. SARAH GOLDFEDER: I'm just wondering how can I manage to get stuck in Italy? It sounds great.

So, I think you know that the previous speakers, and actually in the earlier panel as well, kind of honed in on this combination of factors that have really created a perfect storm for the supply chains, you know those being not just the renegotiation of the USMCA, but also the proliferation of other trade agreements that impact, and you know all of our different arrangements, whether it be CPTPP or CIDA further negotiations within the EU, all of that is creating a, in some ways, a more restrictive trade environment, so we're really moving into an era of very much managed trade as opposed to free trade. And on top of all of that, you have the kind of politics of 'made local', and I don't want to say, 'made in the USA',

because that makes it sound like it's an America problem and it's not just an America problem. I think what you see now is in every single jurisdiction, there is a push for made local, and buy local, and really an understanding that it is important; the province of your goods and services is actually something that people are thinking about more than ever. On top of that, you have in the auto sector an incredible transformation. And I want to stop on that and talk a little more about that. Because I think it's important to understand that car makers no longer just make cars. We make all sorts of things. We do all sorts of things. And one of the most lucrative forms for the future for us will be what we do, how we manage our data that we collect and that we use, whether that be in order to work with municipalities and other jurisdictions on road maintenance and other infrastructure maintenance, or whether it is through services like Onstar and other apps that the automakers are now using as another avenue of income generation. On top of that, auto makers are moving outside of the auto industry itself into things like financial services and insurance. And so, I think it's important for what the future holds for the automotive sector; the automotive sector is defining their own future. And it's far more than just the cars you see on the road. So, in the middle of all of this, or towards the end, we have not just these challenges but also the Pandemic, and now a war that is affecting the access to many of the critical raw materials that we use in our supply chain. So, will supply chain pressures for the auto industry be lessened in the next few months? There's always the question you see every single auto CEO gets asked: "when is the semiconductor shortage going to end?" I don't know that we have a great answer on that, and I think that we really have is a real need to look on what does the future hold for a supply chain that is increasingly stressed. And I think the Government of Canada went through these consultations on this not too long ago and asked all industries what did they see as the number one challenge in the supply chain, and every single industry without fail said people. The workforce. And I think that is truly the solution to a lot of this: it's all going to come down to people. So, when you look at how the auto sector has managed through this really challenging time on supply chain issues, it comes down to our people. So, we have an entire team within every OEM that focuses on global purchasing and supply chain management. And they're not just looking at how do we buy what we need for today's vehicles that we're making; we're looking at what we need for the future. And so, you know, Chris mentioned earlier how the auto sector has gone from this vertical integration to you know really being the industry of industries. And I say everything old is new again, and what you see right now is the automakers in a race to join you know to start JV's to start supply chain or supply agreement, MOU's with many different suppliers and raw minerals companies as you look around the globe so that they have a handle on what it is they're going to need and how they're going to get it as the future really kind of comes to pass in a far faster fashion than I think we thought it was. So, when you look at the transformation into the electric vehicles, for example, what we've seen in the past on even the just the standing up of an auto factory has now been halved. The auto sector is making incredible investments, but not just the actual investment into the new facilities that we're going to need in order to make these vehicles, but there's also a level of speed at which everybody is doing it.

And, you know, a lot of this is because governments are telling us we want our cars on our streets, we want our fleets to be electric, we want them to be zero emissions vehicles, and the automakers and Prime Minister Trudeau actually said the other day when he announced the budget; there's a Zev mandate inside the budget. The Zev Mandate is mandating that automakers present a certain percentage of vehicles for sale as electric vehicles. So, that's going to be a challenge, and it's going to be a challenge on a number of levels and one of them and the most key thing is getting those vehicles into the dealerships with a whole slew of supply chain challenges that aren't going to go away. And the only way that we're going to be able to navigate through them is through the strength of our people and a combination of factors that really include the level of cooperation within North America.

Just really quickly on Canada before I move on: I want to note, being an American living in Canada - and I've lived there now for 10 years - one of the things that always strikes me is that there is a certain advantage to the asymmetrical relationship between the United States and Canada that is sometimes missed by Canadians. There is an advantage in being in Canada and not the United States sometimes, and sometimes it's as simple as the exchange rate; sometimes it is more complex, as Alex Panetta noted, we have an abundance of supply of raw materials and an abundance of supply of highly trained workforce. So, that combination of things is something that's really strengthens the economy in so many ways. So, in many ways, I think leveraging the asymmetrical advantages of the relationship is something that Canada needs to be a little bit better at; and sometimes that means being more agile and having the ability to be more agile. It's a lot easier to move some things through the Canadian government, and then sometimes all of a sudden it becomes more difficult. You know, we've talked a lot about critical minerals today in the critical mineral supply chain and, you know, one of the challenges of Canada is a very strict regulatory environment. But it's also one of the advantages. How do you know, when you're looking at your shareholders, and you're trying to explain why your supply chain is certainly climate-friendly, ethical, and quite frankly the best it could possibly be on many levels - it is because Canada has a regulatory system that requires it. And that affects trade, and we're going to see that I think we see that in the United States legislation, we see it in Canadian legislation, there's going to be, you know, a real demand for automakers and other industries to ensure that the goods and services going into their products are, you know, not part of any sort of questionable labor practices. As well as having a, you know, a high value on the carbon footprint of what it is you're bringing in. So, we'll see a localization of a lot of the processes.

So just really quickly, to conclude I want to note, you know, General Motors has in the last little while announced a lot of these partnerships that I alluded to before. Joint ventures and supply arrangements with a number of companies on rare earth minerals, on rare earth elements on processing, you know, and we just had a really big announcement where, you know, GM gets to be back in Quebec again - we left for a while, but now we're back - we're back with a cam processing facility that's going to be built in Beckham core, and this is just this is just one step along the way. This is a huge percentage of the actual battery component and

integrates the North American market in a special way when you have it being produced in Quebec, sent down to the United States for integration into vehicles that are then made either in the U.S. or Canada.

Dr. SANDS: Outstanding. Thank you very much Sarah that was terrific, and, you know, living in Washington, we often say a good man is hard to find but we have gone to the Midwest to find Tim Goodman as our next presenter. Tim is with Thompson Hine. Over to you, Tim.

Mr. TIM GOODMAN: Thank you, Chris, so I guess I'm little bit of both; I'm a native Ohioan, but I've been in Washington DC for a good part of the last 25 years. But you can't take the Ohio out of the Ohioan. And I will tell you, having been in D.C. a long time like you Chris, these Ohio people we all find each other. You know, a teachable moment is just like me and my friend Dan Ujczko who you all know but in any event. Thank you for your patience; I apologize I'm not able to join you in person. I'm an alumnus of this law school and I have very, very fond memories of my time in this building, very fond memories of being in the *Journal of International Law* and working with people at the institute and on the *Canada-U.S. Law Journal*. Let me just also just take a moment and say, you know, I know that awards were given yesterday for in the name of Henry King and Sidney Picker, and I would be remiss to not take 15 to 20 seconds to say the following. I never had Henry King for class, but several of my friends did, and to meet the man as I did was to live history, and to meet someone who gave witness to history. And Sidney Picker was a fabulous human being and a fabulous professor. I had him for international law and some other courses, so it really just warmed my heart to see that yesterday and, you know, wanted to make mention of that.

One or two items just for context, for just a couple of stakes in the ground that I thought I'd offer today and to build on you know what Anna said, what Warren has said, and what Sarah has outlined. So, you know, I'm a partner at Thompson Hine, our team is the automotive and mobility practice. So, it's safety compliance on the vehicle side, but also the customs work that Dan does, but also the emissions and mobile source regulation on EPA and California resources board. I've been in private practice, but also for somewhere around a decade it was at the U.S. Department of Transportation, and one of my jobs is I was the head of legal for enforcement litigation at NHTSA- National Highway Traffic Safety Administration. So, a number of these things uh I'd like to say I've seen from both sides of the table, and if there's two sides of the table, having been trained in foreign relations, there's like seven sides of the table, so go figure. But look, there's so many things to talk about, and there's so many great points that I won't further elucidate on that and that Warren and Sarah have outlined, but let me just give you a couple of stakes in the ground.

The first is to think about the overlap between automotive regulatory in the United States and Canada, and what we're seeing right now in terms of supply chain issues and otherwise. So, you know, look: stating what has already been talked about, we're seeing this in everything, from chips to wire harnesses and other things, and it's going to probably, you know, continue for a while. And one of the things that is just something that you're not seeing talked about at all in the literature and in the media is that the safety regulation aspect from the United

States and from Transport Canada has not changed. So, in the United States - and the media botches this constantly - we do not have the government designing motor vehicles or motor vehicle equipment. It's never been the case that the government designs motor vehicles or motor vehicle equipment. That's something called type approval. In the United States we have a version of that in transportation, and it's an agency that you've all heard of called the Federal Aviation Administration. So, the FAA - and this has been the law for time in memoriam - before a aircraft manufacturer ever puts an aircraft into production, there is an office at the FAA that signs off on specs, designs, parts, components, everything before that plane ever goes into production and is allowed to be sold to an air carrier. We do not do that for automotive in this country. Instead, it is a system of self-certification, and self-certification to see if there is a federal motor vehicle safety standard and other things that NHTSA regulates and transport Canada regulates which are known as 'safety related defects'. So, one of the overlapping challenges with the number of folks that we've been working with over the last two years or so is: what do you do in terms of self-certification decisions if you make a vehicle overseas in Germany, in Korea, in Japan. And there are key components - chips, but other things - that go into the manufacture of that motor vehicle. And the manufacturer in good faith has designed that vehicle to comply, and knows it'll comply if the right component is installed, but it does not have the components to place into the vehicle before importation. Well, I know this will come as a severe shock, but, you know, the government sort of doesn't have rules about that, but there are guideposts. And so, one of the things that has really been an exercise in once again, you know, using creativity and taking advantage of the laws that you have, is to be able to run those traps consistent with NHTSA law, Transport Canada law, customs law, and other things, to is there a way to bring the vehicle into the port and be able to marry up components at the port consistent with self-certification laws of Transport Canada, of NHTSA. And the answer is yes. So, I just don't want to get too deep into this but that's just one stake in the ground I wanted to offer to show the overlap between the regulatory safety and compliance approaches of NHTSA and transport Canada and the supply chain challenge we're seeing. The second point I want to put a stake in the ground down is just to highlight experience the last two years with folks that we work with in the industry is the increased need to assure the bona fides of who you work with, Suppliers, OEMs or otherwise. And I'm talking about all of it: safety, quality, the safety culture of the people that you work, I mean, Ann, you do with this all the time. I mean, you know, and I know you've talked about this, but look part of one of the challenges we're seeing from the regulatory standpoint with NHTSA that is just another layer of complexity on the supply chain challenges is NHTSA becoming increasingly skeptical of motor vehicle recalls across OEMs motor vehicle manufacturers that have common equipment that is the subject of a recall or other concern. and NHTSA perception that - again, this is the regulator's perception - that the issue is the equipment and NHTSA's view and perception that perhaps the supplier should be doing more in terms of everything in terms of, you know, further cooperation with the OEMs, further cooperation with the government, or perhaps even filing its own declaration of a defect or non-

compliance with the government. So, you need to go look no further than in the last two weeks where NHTSA just opened up a pursuit - and a number of you are familiar with this - on LG batteries and the challenge that, you know, certain LG batteries have been in Chevy Volts, Hyundai Konas, Chrysler Pacificas and NHTSA just opened an inquiry on this. I think that skeptics and it's you're going to see more of this. Now, this reality is this is where we find ourselves, and that we, you know, it's not anything to be upset or emotional or afraid about; it's just that this is where we're at and we know that this is another part of the complexes and challenges and we run the traps in our industry. So, that's the second point I wanted to highlight. And I guess like the last stake in the ground to put on all of this is to think about briefly the relationship between automotive logistics and automotive supply chains. So, look, I don't count, but you know any piece of literature will tell you there's some somewhere in or about 30,000 parts for a motor vehicle today that has an internal combustion engine. As the world turns, as our industry turns, and we go more towards electrification - you just heard Sarah talking about the Zev mandate in the budget in Canada - you know, that's going to go down in terms of components. What number? It doesn't matter, but it's going to be less than a thousand perhaps someday. And so, you know, I'm going to say this with the very tongue-in-cheek, because it's actually terrifying for all of us in the industry; if you liked the semiconductor shortage, just wait - welcome to cobalt lithium. I mean, again, it's not anything to be upset or emotional or afraid of, you just know it's coming, and it's happening now. And so, you know, the shortage of cobalt and lithium and all of these related supply chains that are necessary for the electrification that the Biden Administration has advocated for and you see in current streams in the Government in Canada, you know, this is going to test our existing automotive logistics and supply chains in ways that we didn't necessarily anticipate, not even maybe five years ago. And so, um that's the third point I wanted to make you think so look there's a lot of other things to talk about those are just three that show the overlap between the regulatory and compliance piece and supply chains in the amount of industry. I mean there's a lot that's been discussed a lot of things we could discuss today - happy to - in terms of our folks, you know, with folks we work with. Are people rethinking just-in-time supply chains? Sure. Are people rethinking lean? Sure. Are they going to go away? No, they're not. You know, are people thinking about broader sources? You bet. But look: these are just a couple of currents, and, you know, look forward to continuing the discussion here on this panel.

Dr. SANDS: Absolutely thank you very much Tim, and I think you'll all find as speakers the best thing about CUSLI is that we have a great audience, both online and in person and the questions you're going to get are going to be terrific. Before I subject you to those questions this is a heads up to everybody: have your questions ready and if you're watching online, send them to us. I'm going to give everyone a chance to react to each other. There's a lot of overlap in these presentations, and in the order that they presented, maybe a chance to reinforce a point or echo a point or add a nuance. Can I turn to you, Ann Wilson, first?

Ms. WILSON: Thanks Chris, I mean I do think it's important to realize that this is coming at a time of significant transformation in the industry. Automation,

electrification, the demands not just within our own countries, but globally. And it is estimated that with a fully electric fleet, the suppliers are going to lose 20% to 30% of the employment. So just as Tim was talking about, you know, the different kinds of components that may not be necessary. So, we have an industry that is trying to deal with supply chain concerns at the same time they're trying to invest in transformation. And this is very difficult for an industry to do and very difficult for a government typically to lead. I would also just reiterate what Sarah said about employment. Workers are becoming more and more important for all of our manufacturers, and the workforce issues, and the training, and the retraining, and the upscaling of workforce is going to be just a critical component of what we do every day.

Dr. SANDS: How about you Warren Ali, do you want to jump in?

Mr. ALI: Yeah, again, reiterating what Ann said, but also getting back to what Sarah talked about. Both with people but also what automotive companies now, and what is considered a supplier. You know, there's a technology transformation that's happening both in production as well as in the product. You'll find that if you look at the mission and vision statements of many automotive companies, they no longer purport to be a manufacturer but some form of a technology company. And so, again, how does this impact when all of a sudden software becomes a critical input? We've talked about safety a lot but now you know most of things in automotive have always been around physical safety. Safety of the occupant, safety of the workforce absolutely, safety of the peoples and fellow road travelers as well. But now, when you're getting into the idea about a technology company, then there's all kinds of other security that you have to talk about. And it's cyber security, cyber security of again passengers and the occupants, cyber security when it comes to infrastructure. And so, it's always been dynamic, but the level of dynamism and the level of complexity that's starting to happen in automotive and the various things that you have to start factoring in. You know, we have laws we have all kinds of stuff going on with privacy acts and you know the question of who owns the data now, you know, these are these are conversations that there's definitely no clear answer, and, you know, Tim said about when there's two sides of the table there's seven sides of the table. Well, all of a sudden now you got tables. There's not one table - you have tables, and people at the tables, and now, all of a sudden, how do you start merging these conversations where they're going to be impacts in other areas and things that are going to impact you that you're not really have a line of sight to. So again, this is such an interesting time in history. Automotive has been around for a hundred years, and I said this before and I'll say it again: the next hundred years of success in this sector are not going to be 100 percent defined or even, you know, based on where the previous hundred years has been. And so, all of the skill sets, all of the different mindsets, all of the different types of legal expertise that's going to have to be in here to help set these frameworks in place again are going to be critical. And you're starting to define them now and they haven't been defined. And the skill sets that we talked about we're starting to identify them but we got to remember what the education system looks like in order to be able to prepare that skilled workforce? What is the training on the ground inside of the production plants that's going to allow it? What kind

of cultures are we establishing when, you know, one of the things in Canada that we do really well: we do training and education, but we don't make a lot of people here. That's one thing; we make a lot of stuff, we don't make a lot of people. I am good, I've created three people of my own, so I've replaced my wife and myself, but most of the time it's one child and probably seven dogs. So, you know, we have to figure out what kinds of cultures are we creating within these to be more welcoming of a newer workforce that hasn't necessarily been established yet or is in the forming of. So, I love these types of conversations because there's no defined answer and it allows me to bring in some of these other thoughts that we work on. But, you know, again, Ann, Sarah and Tim: it's been a credit to be able to have opened the eyes from these different perspectives and be able to speak about it with our audience today.

Dr. SANDS: Thank you, Warren, and thank you also for the reminder that although we believe in supply chain transparency, the supply chain of people creation, we probably don't need full transparency on that, gets us into a very scary area. Sarah, why don't you jump in?

Ms. GOLDFEDER: One of the things that Tim brought up that I think really bears repeating is that, you know, this transformation to an electric vehicle supply chain means that there are fewer components in the vehicles themselves; and so what that means in the context of the USMCA for North American vehicles is that the value content - the regional value content - of those fewer components becomes increasingly more important. And that's what you're really seeing, I think, when you look at all of the different investing in North America that all the OEMs have taken on in the last little while. You know, there was some fear, I think, in Canada over the last year that the OEMs might be um looking to downscale, but just in the last few months, Honda, Stellantis, General Motors have all announced significant new investments into Canada and a lot of those have supply chain components inside of them. So, you know, Stellantis just announced a partnership with LG in Canada, in addition to, you know, some of these other pieces that I think you're going to see coming through in the next few years; these investments into how we extract, process, and prepare every piece of the raw material supply chain for batteries is going to be scrutinized at every level for regional value content, because we can't afford not to. We can't afford to make electric vehicles that don't comply with USMCA, any more than we can afford to make ice vehicles that don't comply with USMCA. So, I think that those pieces to me are really critical as we look forward to the supply chain. And going back to kind of the, you know, the unknowns on what the future brings; whether it's semiconductors, whether it's, you know, Tim mentioned cobalt and lithium - all of these things are things that the supply chain teams within all the OEMs are looking forward and are looking down the road at. And so. I think we've been given a mandate by really by the leadership of our countries that electric vehicles and zero emission vehicles will be will have to be part of the future; and the auto companies have all taken that on at full force, said: 'okay we'll transition, this is going to take a lot of our own investment we don't know how this is going to go, so governments, we're looking at you, how are you going to help us make sure that these vehicles get into the driveways in your countries?' And I think that part's really critical, and that's why

electric vehicle incentives are so critical on all measures, right? Whether it's a provincial jurisdiction, federal jurisdiction, or state jurisdiction, they matter, because they will ensure that the demand for the vehicles that are being made is met.

Dr. SANDS: Absolutely. Now over to you Tim Goodman.

Mr. GOODMAN: Thanks, Chris. You know, Sarah, Warren let me appreciate the context of what you just outlined and let me build on a couple of things that you just articulated. One is, we haven't really talked about the labor issues. And we've all made a note of it, but just anecdotally, I mean, Sarah, I know you have got to be intimately familiar with this challenge and a number of folks that I work with, we can't get enough people, you know, qualified people in the plants. That's further exacerbating the supply chains; so you've got to so you've got a supply chain disruption, then you have labor disruptions, and so, I mean, one OEM we work with, you know, used to be really cute: 'oh yeah, let's get the workers within 10 miles of, you know, the geographic radius of the plant, okay, how about 50, and that's not enough, how about a hundred miles, and that's not enough, how about go national'. And that may not work for you, either, because the turnover you have in the plant is if you bring in for every two or three people you may cycle in to work on the line, you may lose another one or two that very week. And so, it's just a wash and so, that's real; that's a that's a real challenge that's at ground zero of all the things that we're talking about in the automotive industry, and it's sort of like Back to the Future. I mean, growing up in Toledo, my dad being in the auto industry, you know, it was a very different time, there were very different issues, but the labor issues persist; and terms of availability, in terms of training, in terms of longevity, in terms of worker satisfaction and the investments you want to make in the human capital, so all of those things are just, you know, it's another layer of complexity that is on one hand it's a real challenge, in the same hand, it's such a great opportunity in terms of where we are going, in terms of the industry and mobility generally. So, I just wanted to highlight that for a moment.

Ms. GOLDFEDER: So, we just reopened the Oshawa truck plant - we being General Motors Canada - just reopened the Oshawa truck plant after it was idle for about a year and a half, and we had already released the workforce. And so, when we went back to hire in Oshawa, we found that we had a labor force issue; and what we saw - and this goes directly to what Tim said - it's a challenge, but it's an opportunity. So, what we did is we rethought how we were recruiting; and what we ended up with was a factory floor at Oshawa that is now 50% female. Unheard of in the auto sector before. But the reason that worked, is that we were hiring for potential not credentials, accepting that we were going to have to do training, accepting that we were going to have to spend some time and equity into these people that we were recruiting, and that we thought that they would turn around and give us that same level of respect back. And I think, so far so good, we have a very excited workforce sitting in Oshawa right now, and I think you're going to see that across North America in the coming years; that companies realize that you have to think differently about how you're going to recruit and retain your workforce because what we did before isn't working anymore.

Dr. SANDS: That's fantastic. And we always have a lot of students involved in these CUSLI conferences, and I have to say with all the fear of supply chain disruption and so on, it can be actually kind of depressing, but there's a note of optimism here if you're entering the workforce: they need you. Jobs for people, which is a great thing.

Ms. GOLDFEDER: They'll work to train you.

Dr. SANDS: Even better. Let me now turn to Q and A, with our audience both online and in the room. Who wants to start us off? It's always the hardest one, the first one. Yes, we have a question there. Could you just say it in the microphone? I'm sorry to make you stand up, but that way they can hear you online.

MS. HEATHER FERGUSON: My name is Heather Ferguson. I work for Ontario Power Generation. Really appreciated a lot of your comments, Sarah and I'm maybe going to pick up on some different themes related to critical minerals, and hopefully won't repeat too many things that have already been talked about today. But just on your last point there; that's fantastic about how you're approaching hiring with females. I guess I just wondered also, are you considering diversity in any other ways, like a broader lens to that? Or is it you're focusing on, you know, getting a 50/50 workforce of women and then branching out from there.

Ms. GOLDFEDER: Well, I think the focus is on potential, and so, it's not so much about what comes through the door. And I think what we see in the workforce of today and of the past is a very different makeup than what we're going to see in the future. And so, accepting that you may be taking somebody on board in your in your facility that you're going to need to provide some skills to, I think is now where we all start; because for one thing, the technology is changing, and as we move into this transformation into electric vehicles, a lot of what we're going to be asking people to do has not been done before. So, if you're starting from scratch, you have the ability to pull from whatever you've got in the community, and so it's not so much that we focused on a 50% ratio; we didn't. We focused on what came in the door, and what came in the door ended up looking very much like the community itself, which is what I think the overall goal should be when you're hiring; is that your hiring reflects your jurisdiction. And so, we have signed on to the diversity challenge and the 50/30 challenge in the Canadian Government as part of our agreement for the federal and Ontario funding that we received - we announced this couple weeks ago now - and so we are looking at, you know, really diversifying it. And one of the things that I'll say about GM Canada in particular is we are heavy users of the immigration system; and if you look at our facilities in Markham and Oshawa, within the technical center, you will see a very broad representation, and a lot of that is because we can't find what we need in Canada. That's where we start. But more importantly, it's what we need in order to ensure that we're able to continue to move our people around the world. We're a multinational company; we have facilities in virtually every continent, and so we need to be able to move our employees around the world through immigration systems that are friendly to worker-based and economic immigration, and Canada is a great example of that.

Ms. WILSON: Chris, if I can sort of add on to what Sarah was saying - we did a sort of a round table discussion of sort of worker needs, and obviously worker

needs and worker training is a significant issue in the supplier industry, too. But what we're also finding is just as Sarah said, you know, people looking at unique and differing ways to approach workers. We have lots of our members who are looking at people who might have previously been considered disabled to work and they're not, again, because like what Sarah was saying, the workforce itself in the workplace has changed. We have members who are using training programs in prisons, and who are bringing people who come out of prisons who are willing and able to work; very successfully, too. So, I think that what you're seeing here is the need for workers, the need in this transformative environment to train them with different skills, but I think this industry overall, from the supply base all the way through the OEMs, is doing exactly what Sarah said; hiring for the local community, trying to lean in and find different workers and trying to make sure that the training's in place so that they can help be part of this transformative industry that's taking place right now.

Dr. SANDS: Okay. Well, I can see you Warren please.

Mr. ALI: Yeah, if I could just add to that too. And so, part of the thing that we've talked about is coordinating efforts with the other stakeholders. And that includes governments as well, and so, you know, Sarah brought up some of the stuff that was put in place for funding and everything else, but we're working with the APMA is working directly with the province of Ontario on a few different initiatives. When it comes to training, we're working together to launch a digital learning platform that allows companies that might not have the internal bandwidth when it comes to both personnel and resources to develop their own training programs, but they know that it's important; we're building curriculum for that, we're building them a platform that they can then pull from that's based on content that would have come from some larger suppliers like a Magna, or like a Linamar, or Martinrea, who have those types of resources at hand, but now they're allowing it to flow down to some of the more smaller and medium-sized manufacturers. But then, when you're talking about the equity, diversity, and inclusion, there's a new program that we've done together in partnership with the government as well to help incentivize the expression and expansion of diversity across the automotive supply chain as well. And so, there are different programs that we're working with that we understand we recognize the need, you know, Sarah did talk about the immigration programs that we have here in Canada and the ability to accelerate skilled workforce development, but I've had the pleasure now of being able to, you know, attend both the announcement at Oshawa, but it also included the Brightdrop facility as well in Ingersoll. We've definitely worked with the team at the technical center in Markham - which is not far from my house - but they've brought in some pretty big rock stars in the software industry in in some of the stuff. So, you know, we can name names here but, you know, some of the people that we've had to work with there are physical and visual expressions of exactly the thing that we're doing at the workforce level and the training side.

And then the other issue is demonstrating that the actual production environment and culture has changed as well; so showing that there's, you know, a greater openness and opportunity for people of all types, sizes, shapes, colors to be able to function and thrive in this, and then it's expanding. Again, we can stick

with GM, but they've signed an agreement with a company called Lifecycle up here in Canada with regards to recycling the batteries. And so, if you look at the membership and the makeup of the APMA's board, it's really reflecting on the various changes that are happening in automotive. We have Microsoft and Siemens, we have the Lifecycles of the world, we have AI machine learning companies that are represented on the board. We have LIDAR companies for connected and autonomous technologies; the supplier of old is not necessarily going to reflect the complete supply chain of the future, and by being able to show the workforce the different legal communities that we are embracing and investing into these areas, it gives them a sense of: 'yeah there's opportunity for us to work with and through these different groups.'

Dr. SANDS: Fantastic. And Tim Goodman can I drag you in on this? I know you I grew up in Detroit, you grew up in Toledo; What's the role of universities as partners in training and recruiting people into manufacturing, and into this very software driven sector? Can you reflect a little bit on that? I think it's an area where, especially people here at CASE Western, need to think a little bit about where to find workers and our universities really doing their part?

Mr. GOODMAN: Good question. Short answer: probably not. How's that for candor? That's my perception, however. Look, and let me give you some data points about why that's my immediate reaction. So, you know – Sarah, you know this probably much better than I do - but ,you know, for by way of example, and a tribute to the role of industry in terms of lifting people up, and promoting them, and training them, is been General Motors over the years, and other OEMs, but reaching out in the universities and getting young engineers and managers interested in our industry, and getting them internships, and then setting it up in such a way so that when they graduate they have a job. I mean I work with somebody who started his career at General Motors in Detroit going through that pipeline. And so, I think that that is an opportunity that when I talk to younger people – God, that sounds terrifying, that I'm using that phrase 'younger people', I used to be one of those - and so, when I talk to younger people, it's not clicking that those opportunities exist. You know, they think, 'oh I'll go on LinkedIn'. Sure you will, uh huh, because that's how people get their jobs; a lot of people do, but not necessarily. You know, there's lots of different ways to get to where you want to go. And, you know, Chris, to your point, I think the universities, this is a great opportunity to have traditional research universities you know, like CASE, like, you know, put your short list together: Carnegie Mellon; Hopkins; and look at these things, and think about: what have we done that has worked, what has perhaps inadvertently gone into sabbatical, and what can we do to in a prospective way, if we're thinking about that one of - as we've all highlighted here in the last couple of minutes - one of the challenges is a labor disruption in addition to supply chain disruptions, what seeds can we plant now with the universities, with the industry and create, you know, double down on our existing partnerships, think about new ones things that we haven't considered before, so that we can plant the seeds for people graduating two years from now, four years from now, ten years from now. That's a real opportunity there, and that's something that I think, you

know, folks, that we the industry can be excited about, but also that people wanting to come into the industry to address these problems be excited about.

Dr. SANDS: Another question, do we have questions online? I was hoping for that.

UNIDENTIFIED SPEAKER: I'll start with the first one. The question is: in addition to the supply chain concerns for production inputs, what problems have the panelists seen in transporting finished vehicles to end users, particularly with roll-on roll-off vessels for the export market? There's a second part to this question: do they see these problems as largely driven by labor market dynamics concerning transportation infrastructure investment, or both?

Dr. SANDS: Very good question, who wants to field one first?

Ms. GOLDFEDER: I mean what I would say about that right now is that the other supply chain concerns are making that less of a supply chain concern that in what we have seen on logistics sides – and, you know, Ann went and talked some about what's going on at the ports - but I think, you know, overall what we have seen on the logistics side has been in many cases the lesser of our concerns.

Dr. SANDS: Anyone else want to jump in on this? I know earlier this year we were concerned about CP Rail having a strike, we've had issues on west coast ports, how are transportation logistics notwithstanding issues of new infrastructure, how are they affecting this sector? Please, Warren.

Mr. ALI: It may be obvious to some, you know, it's a well understood logistical challenge in terms of shipping things throughout North America, but some of the things that have exacerbated it are like things like fuel prices. So, for sure that's just a challenge from logistics in terms of adding overall cost to everything, and I mean - I mean I'm sure Sarah can - tell you the companies work on pretty thin margins, so when you're adding all these additional costs. And the only thing that we really saw here - and again it was saying same thing Sarah said - it's a smaller issue but it was when ports were shut down and there was definitely issues with regards to cars just sitting in the ports that were being sent in or being sent around, that just couldn't get off because of issues with health and wellness of the dock workers, or the people at the ports and unloading those ships, so, it had nothing to do just with health and safety versus anything more technical than that.

Ms. GOLDFEDER: Sometimes the logistics issues that we have are symptoms of greater concerns, right? So, the actual problem is the state of our infrastructure, for example, and, you know, the actual problem is the issues that we're suffering with around climate change and the situation that we had in British Columbia last fall feels like yesterday. But all of those are symptoms of really what are underlying causes that are things that we just are going to have to figure out how to weather. And so, I think what you see within, you know, the individual, I mean for me I work closely with our logistics team within General Motors, and they are some of the most creative thinkers I have ever encountered; they don't take a problem and say 'oh, that's a problem', they take a problem and find multiple solutions every single time - multiple solutions. And so, every time we hit a problem once, the next time we hit the problem we have whatever worked the time before plus anything else that didn't work, and we just keep expounding on all of that. So, I think again it comes down to people, because there's so many differing

factors around the world that are going to create supply chain logistics concerns and supply chain inputs concerns that you have to be able to work agilely and creatively.

Mr. GOODMAN: Let me just add a couple things to what Sarah just said. And, you know, Sarah, I'm so happy to hear you describe the way you just did in terms of people in problem solving. And I will tell you, I'll double down on my comments: I think that in terms of this law school, you know, I would like to think that there were people that I was exposed to in this building that I'm only virtually with you today that, you know, instilled in me source code that was the law is a tool it is not a roadblock, you know, and there's some of the great opportunities that present themselves are, you know, coming up with options. And they all run out of continuum, some of the options, forgive me, are perhaps bad or are sub-optimal, but you've got options, nonetheless. And so, you know, kudos for thinking about creative problem solving in this space.

The second point just to, you know, highlight is just thinking about this: you know the folks that we work with, you know - OEMs that have been around 100 years to EV startups, okay - it runs the gamut in terms of the logistics and where your opponents are coming from, stating what is brutally obvious, there's a difference between, you know, look; I mean, we all know the seaway just opened what in March so it's not been open a full month or it's just coming up on a month, but, you know, several people we work with, for example, a few months ago told me 'you know, look, I got parts sitting and have been sitting for months at the port of Savannah; I can't get them out because of trucking.' And so, why am I raising this? This highlights, again, the overlap between the logistics piece that Sarah is articulating and the supply chain piece, and, you know, not to turn this into a logistics discussion, but we all hear about all the time about, you know first mile, or some people call it global mile, middle mile, and last mile, and, you know, part of what may be a long term - I'm not going to say a solution - a tool is to think about you know what we're doing in terms of the middle mile; in terms of moving components from the destination port to um to the to the second port of distribution. We do that with trucking, we do that with rail, there's a number of things that you're seeing right now in the industry in terms of being able to at least in part address labor concerns and hours of service that you see on the FMCSA side, and in the industry side in terms of automation, in terms of, you know, might you be able to automate this in terms of self-driving - this is not a self-driving discussion, that's a worthy discussion but we're not going to do that today - but there's a number of other tools in the toolbox that, short term? Not a lot of relief. Long term? Lots of seeds to plant that may give us other opportunities in terms of the logistics piece.

Dr. SANDS: We are now in the last mile of this particular conversation, and so in the interest of keeping to time but also getting good questions in, we have two questions from the audience one from Michael Robinson one from Diane Francis. If I could ask you to both ask your questions, then we'll take it home and give everyone a chance to respond to those questions, so that we keep to time.

Mr. Michael ROBINSON: I'm Michael Robinson. Question for Sarah: where did all those workers who used to work at Oshawa, all the men where did they go?

Ms. GOLDFEDER: I don't know anybody remembers this, but as we shut down that facility - I'm sorry, I jumped the queue - as we shut down that facility, we worked really hard to ensure that there was this dashboard set up to find people who were not at the retirement age. A lot of them were at retirement age; if you think about when Oshawa started, up it was about 30 years ago, so a lot of the employees were actually at retirement age and took retirement pensions, and, you know, took the check and left, and are I hope are all getting to play with grand babies at this point. But the others we really worked hard to find placements.

Mr. ROBINSON: Well, I'm glad at that, and I hope they hadn't broken up with their spouses who'd then took over the jobs and they went off somewhere else.

Ms. GOLDFEDER: There's a whole series online on GM Canada - you can it on the twitter account - about the women that came to work in Oshawa, and some of their stories are just absolutely fantastic. Some of them are spouses of other GM employees, but some of them are second career, a lot of them are second career, and they have great stories. I'd really encourage you all to look at that.

Dr. SANDS: All right so now we've even had supply chain disruption in panel questions. But over to you, Diane Francis if you ask, I'll repeat yes.

Ms. Diane FRANCIS: There was a goal by both governments to do what the Europeans have done, and we were working toward it; it was the 142 country approval process to speed up the supply chain distribution between the two of us and eliminate the border. Did that ever happen? We were at the very early stages, is that important?

Dr. SANDS: So, just for those who are online, if you didn't hear the question: Diane Francis asks about whether North America has moved in the direction of the Europeans with a one port two country approval to facilitate movement within the supply chain, the logistics, and the flow. So now the question is: which one of you wants to take this on? Ann Wilson, that strikes me as a question right up your alley.

Ms. WILSON: I think it would be very difficult for suppliers to do a one port type of issue. I think one of the things that's really good for us is the ability to bring parts in from Europe on the east coast, the ability to bring them to the west coast. You know, I wasn't going to join in the conversational logistics, but that that mid place for logistics is really becoming one of the really big problems of this overall. I do think, though, that one of the things we have to demand - from the U.S. perspective and I won't speak for Warren - but we have to demand better coordination of the ports, we have to demand better coordination of computer systems within terminals, we have to demand better enforcement for the federal maritime commission - they need more authority they need more people, so there's a lot of work that we need to do, besides the fact that we just don't have enough truck drivers in this country, so that's, you know, another piece of it altogether. So, there's critical pieces that we need to shore up and do better at, but on the other hand, I think our members need the ability to bring in ports and components in different ways. Just look at what happened last week between Texas and Mexico; I mean, we've got to be able to retain the ability to move components across the Mexican border in in real time, and any type of delay, however intended from a

Governor, just causes major disruptions and the ability for my members to be able to provide components to companies like GM.

Dr. SANDS: Warren, what's the Canadian view of that? I wouldn't be able to add anything more than what Ann said there as well, and so, I mean, this isn't something that's in my purview in terms of what I do. But I mean, you know, we look at these things and these simple disruptions, you talk about what the Governor did in Texas, but we also had an issue up here in Canada not too long ago with - I won't speak disparagingly of people - but people shut down the border for whatever reason. I like what Tim said when he talked about roadblocks and tools; it was in fact the legal community in the legal side of the automotive world that actually literally unblocked the road from Canada to the U.S. across the Windsor Bridge; it was the APMA that started an injunction that actually allowed and empowered law enforcement to go and remove the people that had indeed blocked the border. So, had it not been for that, we had the province of Ontario, we had the city of Windsor, and others that joined in, but it was the automotive legal community that actually started all of the activity. We mirrored some of the things that some young people did up in Ottawa in order to do that as well, but the people that were blocking, it was the legal community that actually stepped in and actually empowered law enforcement to do its stuff. So again, we talked about the creative solutions that that Sarah had mentioned; it's these kinds of things that you wouldn't think automotive people would be thinking about and doing, because you think they'd be focused mainly on 35 billion dollars' worth of parts manufactured a year and a hundred thousand skilled women and men, but some of the best and the brightest legal minds are working there, some of the best and the brightest when it comes to government policy rules and regs development, they work there, some of the best and the brightest when it comes to software technology investment decisions work there, so it really is a real interesting open playing field for people to succeed and grow in.

Dr. SANDS: A little bit from the brand name, from the GM top of the supply chain kind of picture, to what extent on one port to country clearance or anything else are you taking a role in coordinating some of the suppliers or are helping to form some industry unity in talking to policy makers about some of these challenges?

Ms. GOLDFEDER: We do. We actually have - so our association is the CVMA, so the Canadian Vehicle Manufacturers Association, led by Brian Kingston, who has been a huge asset in the about two years now I think that he's been with the association. And one of the committees that we have is the customs and border committee, which works exactly on this issue but also at the moment a whole lot on CARM, which is something that only people that have to work border logistics would care about or understand, but there is a lot happening on, you know, some of these issues that were part of the beyond the border initiative that we both remember quite fondly, would love to see a little bit more action on that. And I think that there is a call for the automotive sector specifically, because of how important it is to us, that we continue to really you know put our shoulder into the issues of whether it's customs clearance, whether it's you know facilitating the transshipment of goods, which right now - I mean my understanding is it comes

into a port and then it's transshipped, it's not inspected by the Canadians and it goes directly to the U.S. border and is inspected by the Americans. And so, there's a lot of work still there; whether it's on the marine transportation, whether it's on roads, or whether it's on rail, our infrastructure is all in need of repair, of investment, and there's a lot of work to be done on that, and I think it's, you know, the auto sector ends up in the front of it, because we touch every aspect of it.

Dr. SANDS: Last word to you, Tim Goodman: how do you view these issues, and as somebody used to be on the NITSA side, you know, that role of government in keeping things moving or being a partner with industry?

Mr. GOODMAN: So, let me go to the last part of your question first, and maybe I'll end it there. There is a great opportunity to think of these things afresh; that's how I think that industry likes to approach these things, that I think that when you go back and you look over time, you know look, these things are always intention like most things in life, and like most things in life it's about striking the balance. From a regulatory standpoint, you know, there's a balance to be struck in terms of, you know, regulation that assures the public interest in terms of safety and other things, but also promotes innovation, and promotes you know clearing out bottlenecks in terms of supply chains, if you can, and allowing the mechanisms of the industry to do their good work. It's not an and/or type of a proposition, I think; it's very much a both type of situation, where, you know, from a government standpoint, one should be able to look at these things holistically in terms of not only promoting the public interest, but also ensuring that industry is able to innovate and employ people, and continue to employ people, and to do all these things that if we want to do this in terms of environmental protection, it's going to need to be, you know, with the industry being partnered with that. So, I think that's - I'm not sure if that's a vision, but it's a vision, and I think probably I'll leave it there.

Dr. SANDS: Thank you very much Tim Goodman, Sarah Goldfeder, Warren Lee, Anne Wilson. A fantastic panel, thank you very much, and great audience, too, applause for yourselves. And now, I'm going to turn it back over to Steve Petras, who's going to talk to us about what we do next.

Mr. PETRAS: Thank you, Chris. Fantastic discussion. What we're going to do; we're going to take a short break, but before we do that, I do want to make a special shout out to our sponsors, who have really made this possible and I want to give you their names in recognition for what they've done. Our platinum sponsors, we have two: Cleveland Cliffs, Inc. and DLA Piper; gold sponsor, the Canadian Consulate of Detroit; silver sponsors are Ontario Power Generation, BakerHostetler, Cassidy Levy Kent, Suncor Energy Dickinson Wright; bronze sponsors, Quebec Office in Chicago, Barudan Inc., Pyle Dynamics Inc., Formica Corporation, and Taft, Stettinius & Hollister. And, of course. our community sponsors; the Council of the Great Lakes Region, the Greater Cleveland International Lawyers Group, the Cleveland Council on World Affairs, and the Woodrow Wilson Center for Scholars and its Canada Institute. I think we should give them a big round of applause. So now, now we have lunch available for everyone; there are boxed lunches out there. What we'll do is we'll take a break,

everybody will grab their boxed lunch and we'd like to start our luncheon speaking program at about 12:30, okay? So, see you back here then.

FRIDAY LUNCHEON KEYNOTE

Mr. STEPHEN PETRAS: All right everyone. It's time to start our luncheon program. We're very happy today to have a special presentation from a U.S. Government official. And here to introduce our luncheon speaker, Rachel Poynter, again, our Jim Blanchard. Jim.

THE HONORABLE JIM BLANCHARD: Steve, thank you. Thank you again and to all of our conference participants, it has been a very enlightening and informative morning. We thank you for your time and presentations. I should mention, Steve introduced me the other day. I should mention the two things he didn't mention that I want you to know. Number one, I am chairman of the National Archives Foundation in Washington D.C. and I want us to someday have a meeting there in the rotunda. We house all the founding documents of the United States of America, plus we have regular exhibitions, which are really great exhibitions. So, I want to add that to our civic responsibility duties in the future. The second thing I want to mention is I'm also on the board of directors of the International Spy Museum, so be careful about what you tell me. One of the requirements to be a board member was that that I had to watch reruns of *Get Smart*, if anybody remembers that – missed it by that much.

Anyways, the thing about my background is I spent a lot of time working with the foreign service, both as an ambassador, actually as a Governor and a member of congress. We have a fabulous foreign service and a public service as you do in Canada, and we're pleased to have a leader in that area as our luncheon speaker. I'm speaking of Rachel Poynter, who is Deputy Assistant Secretary for North America, which is a big deal. She oversees the bilateral relationships with Mexico and Canada, and that's in the Bureau of Western Hemisphere, but those are the dominant players in that Bureau to be honest - also happens to be NAFTA and everything else. She's also been a coordinator for COVID response and recovery, which as you know is a huge, huge responsibility. Again, a career member of the Senior Executive Service, she served as the Director of the Office of Policy Planning and Coordination in the Western Hemisphere. I note that she was a Director for North American Affairs at the National Security Council. She also spent five years working in the Bureau of East Asian and Pacific Affairs at the State Department. She was a Brookings Fellow working with the U.S. Senate Finance Committee, which not only oversees healthcare and taxes, but trade, and that's really important. The only flaw in her bio that I can see is that she has a Masters of Arts and Public Affairs in Latin American Studies from the University of Texas, and that's not the University of Michigan or Michigan State University, but I think we're going to forgive her because she's given a lifetime of public service to our country and to better relations in this hemisphere, so it's my pleasure to present to you the Deputy Assistant Secretary for North America, Rachel Poynter. Rachel, welcome and thank you for joining us.

Ms. RACHEL POYNTER: Thank you so much for that introduction, Ambassador Blanchard. And I hope that you can forgive me for my background at University of Texas at Austin, but I will tell you that my son, who is the middle of applying for college admission, is definitely looking up north in case that helps.

I want to give you a sense today of the breadth and the depth of the bilateral relationship, and it is truly a pleasure to be with all of you today at the Canada – United States Law Institute’s 46th Annual Conference. As Ambassador Blanchard noted, I am the Deputy Assistant Secretary for North America in Bureau of Western Hemisphere Affairs here at the Department of State. Thank you for welcoming me to speak about US policy priorities for this really important bilateral relationship. I’m so pleased to have the opportunity to hear directly from our terrific ambassador, David Cohen, this morning, and I hope my remarks can really give you a sense of just how deep the relationship is from the Washington perspective.

The theme for this year is supply chain challenges for North America, and as Ambassador Cohen indicated, I’ll nest that theme today in an overview of the road map for a renewed US - Canada partnership. But first, I’d really like to start with a broad overview of why the US - Canada bilateral relationship is so very important. Then, I’ll talk about how we at the State Department are working to strengthen that relationship, and then finally open the floor for questions.

I can say without exaggeration that the past year or so has been one of the very busiest in US - Canada relations. President Biden’s first virtual meeting with a foreign leader was with Prime Minister Trudeau on February 23rd, 2021, the same day they announced the road map for a renewed US - Canada partnership. A few days later, Secretary Blinken took his first virtual trips to Canada and Mexico. During those virtual meetings, our leaders set us on a path of renewed friendship and partnership, as we tackle some of the most pressing issues facing our country and the world today. The list is daunting; a global pandemic, economic upheaval, supply chain disruptions, a deepening climate emergency, growing rivalry with the People’s Republic of China, a technological revolution that is reshaping every aspect of our lives, and most recently, Russia’s premeditated and unprovoked war against the sovereign nation of Ukraine and its people. We’re certainly living in a time of unprecedented challenges, but also, unmatched opportunity.

In addition to addressing these challenges, we’re also advancing our shared values with a particular focus on global alliances, democracy, sustainability, and diversity and inclusion. Under the leadership of President Biden and Prime Minister Trudeau, our countries are working together to meet these challenges and advance our shared national interests.

Now, let me get into an overview of the road map for a renewed US - Canada partnership. The road map lists the bilateral priorities that President Biden and Prime Minister Trudeau have jointly committed to, and I know that Ambassador Cohen gave you a sense this morning of those key pillars within the road map. So, what I’m going to do is give you some detail about those pillars.

First, combating COVID-19. Our top priority is the health and security of our citizens, and we’re doing what we can to address new variants, follow expert advice, and support global affordable access to vaccines. You all know better than most, the United States and Canada share a 5,525-mile border that sees approximately 1.7 U.S. billion dollars in bilateral trade each day. The border is now open to all fully vaccinated travelers. We have worked closely with the Canadian government throughout the pandemic to facilitate travel across our

shared border and to minimize supply chain disruptions. Our intention is to ensure the health and safety of our citizens while enabling the flow of goods and people between our countries, so that we're ready to face the next pandemic and to continue to work on this pandemic and other health threats. The United States and Canada joined Mexico in pledging to re-envision and update a plan we created over a decade ago: our North American Plan for Animal and Pandemic Influenza. I also want to acknowledge in this realm the unfortunate exacerbation of the opioid crisis - the rises in drug use and overdoses in both our countries in the wake of the devastating COVID-19 pandemic. Our office here at the Department of State helped to implement the US - Canada Action Plan on opioids, which addresses the epidemic from law enforcement order, security, and public health perspectives.

Now, looking at Building Back Better, which I know Ambassador Cohen mentioned this morning. As we all know, the COVID-19 pandemic has had devastating economic effects. In our bilateral roadmap, President Biden and Prime Minister Trudeau agreed on a vision for a sustainable, and key here, inclusive economic recovery that strengthens the middle class and ensures people have good jobs and careers on both sides of the border. They also recognized the opportunity for clean growth, driven by worker's communities, businesses, and innovation. We want to make sure that we're driving a robust economic recovery that benefits everyone. President Biden and Prime Minister Trudeau underscored the need to build back better together, in a way that addresses the disproportionate effects of the pandemic on women, youth, underrepresented groups and Indigenous peoples. Our governments are working together to allocate resources to support women, minority, and Indigenous owned small and medium-sized enterprises, as these are the backbone of our economy. For instance, we're working to better connect small business development centers and minority business development centers in the United States with their counterparts and Canada to ensure the sharing of networks and best practices.

The supply chain disruptions that we've seen during the pandemic have emphasized the importance of working with allies to ensure resilient supply chains in strategic areas. President Biden and Prime Minister Trudeau committed to creating a bilateral supply chain working group, which was launched December 13th in Ottawa by our NSC - National Security Council - and counterpart agencies. The working group covers seven sectors: critical minerals, electric vehicles and batteries, information and communications technology including semiconductors, public health, medical devices and personal protective equipment, defense, solar, transportation and logistics. As you can see, there's a lot for our two countries to talk about. The working group builds upon the US - Canada joint action plan for critical minerals, which is an effort that I chair here in the Department of State with my counterpart agencies and our Canadian counterpart agencies. It's a whole of government approach to strengthen our supply chain for critical minerals that are crucial to our mutual defense, strategic industries, and energy transformation. While the PRC is our largest supplier for many of these minerals, our engagement with Canada builds on our relationship with a reliable supplier that respects market principles and advocates for transparent mining governance, right here in North

America. And it's certainly a hope that we will begin processing the majority of our mineral output closer to home instead of relying on the PRC.

I would now like to talk a bit about accelerating our climate ambitions. Addressing climate change is a core priority for both of our countries. President Biden understands the critical role the United States has to play in the global climate effort and the administration has wasted no time re-engaging the global community on the sheer challenge. President Biden announced the US plan to achieve a 50 - 52% reduction from 2000 levels in economy-wide net greenhouse gas pollution in 2030, and we certainly recognize and applaud Prime Minister Trudeau's leadership and commitment for Canada to reduce emissions 40 - 45% by 2030. Our two countries have worked together closely, including in advance of the COP 26 in Glasgow, and afterwards, to urge countries to align climate targets with the goal of limiting global warming to 1.5 degrees Celsius. For example, we cooperate on taking action to reduce emissions of short-lived climate pollutants, such as such as methane, via the global methane pledge. We truly appreciate Canada's leadership in this area, including at the Major Economies Forum ministerial where Canada proposed a goal of 50% of new light duty vehicle sales and 2030 to be met with zero emissions vehicles, really recognizing the transformation that needs to occur in that sector. Our government agencies continue to discuss a broad range of technical issues related to the climate crisis, including the clean energy transition and carbon border adjustment mechanisms.

The United States and Canada, as I mentioned, share the world's longest peaceful border, 40% of which is water. Our two countries enjoy 20% of the world's surface freshwater resources and cooperate in the management of the lakes and rivers that shape our regional environment and economy. The Boundary Waters Treaty of 1909 established the binational joint commission to advise our two governments, and this includes recommendations on water quality and water flow in trans-boundary waters. And that Commission continues to provide expert advice for us, our two countries. Our Bureau also leads negotiations with Canada to modernize the Columbia River Treaty region, which provides the region with renewable hydro power and flood risk resilience, especially in the face of climate change. We are also seeking opportunities to strengthen environmental cooperation in the basin.

Next on the roadmap, we can't be credible advocates for democracy and human rights abroad if we are not demonstrating our commitment to them at home. President Biden and Prime Minister Trudeau share a strong commitment to combatting systemic racism, unconscious bias, gender-based discrimination, barriers for persons with disabilities, and all other forms of discrimination. To that end, our leaders are directing our governments to modernize approaches to community safety and address systemic racism and discrimination, including through meaningful engagement with civil society and community leaders. Our Embassy and our Consulates are facilitating cross-border information sharing and collaboration to help both countries ensure women's participation in a post COVID-19 economic recovery, and I do believe Ambassador Cohen mentioned this this morning. In the United States, we're taking a whole of government

approach to apply a much-needed diversity and inclusion lens to assess all of our policy making.

No conversation about US - Canada relations would be complete without acknowledgement of our highly integrated partnership on defense and security. The United States and Canada are long standing allies. Our military leaders have met regularly since 1940 through the bilateral permanent joint board on defense. Both bilaterally and through NATO, and other multilateral platforms, our countries cooperate on many of the most pressing regional and global issues facing the international community. Our close coordination of security is particularly critical during times such as these, when an unpredictable Russia is further destabilizing global security with clear implications for the collective security of Canada and the United States and for our allies and partners in Europe and elsewhere. We appreciate Canada's role as the framework nation in charge of a battalion size battle group in Latvia, and a contributor of hundreds of troops there as part of NATO's enhanced forward presence through Operation Reassurance. NATO's enhanced forward presence in Poland and the Baltics is an important component of NATO's deterrence and defense posture in the eastern parts of alliance territory and ensures that our commitment to Article Five of the Washington Treaty remains iron clad. We also appreciate Canada's many contributions of lethal and non-lethal military assistance, humanitarian aid, and budgetary help to Ukraine, both before and since the outbreak of Russia's unprovoked war. As our coordination of foreign policy, humanitarian aid and sanctions against Russia demonstrates our close bilateral relationship allows us to better leverage all of our instruments of national power, not just the military, in service of our shared interest. Speaking of shared interest, President Biden and Prime Minister Trudeau, have affirmed that our collective security is a shared responsibility, and that we must invest in modern, ready, and capable forces in line with commitments to NATO under the 2014 Wales Summit Defense Investment Pledge. At NORAD, Americans and Canadians stand watch side by side, jointly conducting aerospace warning, aerospace control, and maritime warning in defensive North America. NORAD is the crown jewel of US - Canada Defense cooperation. After 60 years in operation, it remains the only binational military command in the world. But as threats evolve, NORAD needs to evolve with them. The Prime Minister and the President share the view that modernizing NORAD is critical to defending our countries now and in the future. Last year's August 14th joint statement on NORAD modernization between our defense ministers defined many of our priorities for this process. In the month since then, the urgency to fulfill our leaders' intent to modernize NORAD has only increased. Canada's decision to negotiate the purchase of 88 F-35 fighter aircraft is a step in this direction.

The last section of the road map signals our recommitment to work with our partners to find multilateral solutions. President Biden and Prime Minister Trudeau affirm their sheer dedication to addressing global challenges, and reiterated their firm commitment to the United Nations, the G7 and the G20 as well as to NATO, the World Trade Organization, and the Five Eyes partnership. And in November of last year, President Biden met with Prime Minister Trudeau, and President

Lopez Obrador at the North American Leaders' Summit for a trilateral discussion. That conversation focused on three pillars: ending COVID-19 and advancing global health; fostering North American competitiveness and creating conditions for equitable growth; as well as addressing irregular migration. Since then, our three countries have met several times and at various levels to advance these goals with an aim to make significant progress by the half year mark since the summit on May 18th. We also look forward to working very closely with Canada and other partners in our hemisphere at the ninth Summit of the Americas in June in Los Angeles. We're also working closely to align our approaches to the challenges the PRC presents to our collective interest and to the international rules-based order. This includes pushing back against the PRC's coercive and unfair economic practices, national security challenges and human rights abuses, while cooperating with China on areas where it is in our interest, such as on climate change.

Our close partnership with Canada includes humanitarian issues as well. After the United States military completed its withdrawal from Afghanistan in August 2021, Canada quickly offered to resettle 40,000 vulnerable Afghans - of those at least 5,000 Afghans whom the United States directly referred to Canada for resettlement based on agreed parameters. We are also closely coordinating bilaterally and among other allies and partners on how we can best support Afghans in Afghanistan. Earlier, I mentioned our ongoing coordination regarding the unfolding humanitarian disaster that Russia is causing in Ukraine. To borrow a phrase from Secretary Blinken, our alliances are force multipliers; they are a unique asset. We get so much more done with them than we could without them. There's truly no better example of this than with the close alliance we share with Canada. This close alliance between Canada and United States, as I've indicated through my remarks, is incredibly deep and it's incredibly broad. At this point I'd be happy to answer any of your questions regarding the US - Canada relationship.

Ms. PETRAS: People are taking their time with this very thoughtful series of remarks that you gave us. Yes, there's a question.

Mr. LAWRENCE HERMAN: Thank you very much. Lawrence Herman from Toronto. Thank you very much for that very thorough review of the relationship. You talked about all of the good things, all the positive things which we all appreciate. But there are some challenges and difficulties and bumps in the road, and some of those bumps are higher than others. Can you talk about what you see as the challenges in continuing the relationship on a positive trend and what might impact the unfolding of the roadmap that you talked about? We'd like to hear about where the difficulties are as well as where the bright spots are.

Ms. POYNTER: Thank you very much for that. I know that Ambassador Cohen talked this morning about how deep our partnership is and noted that it's unlike any other in that it covers trade, treaties, cooperation on defense, and global cooperation. But it also is about our connection through families, through neighboring communities. There is bound to be differences of opinion at times in such a close partnership, and, of course, you know that the Government of Canada has raised several concerns with us. Particularly relevant, as you all talk about supply chains today. So, we look at concerns, for instance, that may be on some of our provisions, for instance on buy American, or on tax credits for electric

vehicles, I think the key here is to note that we are deeply committed, as President Biden indicated to Prime Minister Trudeau when they met in November, to that conversation and ensuring that we find a good path forward for our two countries and that we make sure we understand Canadian concerns on issues like this, particularly in that trade realm. I think the key to this is ensuring that we handle disagreements just as well as we handle agreements, and I know Ambassador Cohen indicated that this morning, and it's ensuring that we have a good line of communication, which we do with the Government of Canada at all times.

Mr. PETRAS: A follow-up. Okay.

Mr. HERMAN: What I'd be interested in knowing is in the broader context, in the geopolitical context, leave aside softwood lumber and all of the, if you'd like, parochial issues that Canada tends to raise with the United States - let's talk about global issues. Where do you see Canada improving its position or playing a better role in a global context? The United States is a global power. What do you look to when you look at Canada and where do you see areas where Canada, in a global sense, in a geopolitical sense, taking into account the war in Ukraine, could do a better job in supporting the United States as a global power?

Ms. POYNTER: I think one of the things that I would stress is that we welcome increases in defense spending that get our NATO allies closer to our pledged goal of 2% of GDP - we certainly welcome an increase in that area. And I think our two countries working together, talking together, and making sure that there is a Canadian robust package of NORAD modernization, to ensure an adequate defense of the entire North American continent, but also to ensure that we have that commitment for our NATO allies. We certainly are focused in that area, and I think we again deeply acknowledge and respect the leadership that Canada has shown, and certainly will continue to work with them on Russia/Ukraine, right now, as we look at the range of tools that we are utilizing to address Russia's unprovoked and unprecedented war, and certainly we have been in lockstep with our Canadian colleagues as we look at the various tools, including sanctions, and aid to Ukraine.

Ms. DIANE FRANCIS: Two things - Canada's lack of defense preparedness in the Arctic. I would like you to comment on that. I know that there was an agreement reached in the fall that the Americans would either centrally take over all the surveillance and the British offered to patrol submarines in the Arctic, because Canada doesn't. Number two - line five - the controversy concerning line five.

Ms. POYNTER: Thank you very much for that. We were very pleased that we were able to finally convene a dialogue with our Canadian counterparts on the Arctic. This is something that, as you note, is incredibly important to us, but across the entire range of issues, economic and security as well, and so again, as we think about defense modernization and NORAD modernization, of course issues in the Arctic are front and center for both of our countries, and I think that is certainly one area that we want to continue the conversation with Canada on with a particular emphasis of how we address security and economic issues, as well as inclusion, when we look at the communities in the Arctic. It makes sure that we are

very forward leaning given what we are seeing right now vis-à-vis Russia and concerning trends.

On the issue of line five, on October 4th, Canada invoked the negotiation phase of the dispute resolution provision of the bilateral 1977 Transit Pipelines Treaty. Both parties have engaged in very constructive discussions and recognize the great importance of this matter for both countries and our bilateral relationship. Because Canada invoked that dispute resolution provision of the Treaty, discussions on this issue between our two countries are being conducted through legal channels, and I don't believe at this point, a date for the next on negotiation session has been set. Although they have met twice at this point. I'll leave it there, but mainly with the statement that Canada remains a key partner on energy trade, and in our joint efforts to tackle the climate crisis and protect the environment, so we look forward to continuing to work with Canada on this particular issue as well.

Mr. PETRAS: Christopher Sands.

Dr. SANDS: Hi Rachel, Chris Sands here. Nice to see you on the screen again. I just wanted to ask you a little bit about another process that you're involved in and that's the North American Leaders Summit. And the Roadmap is sort of a bilateral thing that nests in a trilateral conversation. Can you talk a little bit about Mexico? How Mexico is contributing to Canada's relations in this North American agenda and maybe for an audience that focuses on Canada, the US, what's your outlook for Mexico as a partner in many of the same areas that you've outlined?

Ms. POYNTER: Thanks, very much for that question, Chris. Really appreciate that. I think that as we look at what we do in each of our bilateral relationships, there's so many synergies, and the North American leaders' summit that occurred in November offered an opportunity for our three leaders to really talk about where those synergies are and, of course, the issue of North American competitiveness and supply chains is key to that. So, I'll give you some examples of where there's some really nice overlap and bilateral work that feeds into a trilateral component.

Canada and the US have really taken some leadership in terms of our governments working on and creating a supply chain working group, recognizing that we need to have input from the private sector very much about what it is that the governments can do to ensure resiliency and to guard against disruptions and making sure we know what the priorities are for the private sector. That provided a nice model for us to also do a working group on supply chains also with Mexico. And the notion is that both of those bilateral efforts of course tie into how we look at North American competitiveness and competitiveness and the trilateral notion of course of supply chains, as we look at chains that go up and down our three countries. That's one example, when we look at COVID-19 and recovery efforts, there's a real need for all three governments to think about this area and what it is, including on supply chain disruptions that we saw during the pandemic, but also how we get out ahead, and how we make sure that we guard against some of the disruptions that we saw and the things that we can do in a trilateral sense. And that there's a really great conversation happening among all three governments right now that is very much aligned with what we see in the bilateral roadmap, as well as in our bilateral efforts with Mexico. For instance, with Mexico, we have a high-

level economic dialogue that focuses also on some of these issues. To me, there's a lot of synergies here. I'll also note that there was absolute agreement that all three countries should be looking at what we can do in the diversity and inclusion space and ensuring that, as we assess North American policies, we're doing our best to address those issues, particularly because on both borders, we have Indigenous tribes that that straddle the border. And it's important for us to think about these issues together as well with our Mexican colleagues. I would be remiss if I didn't note that we are absolutely tracking what has previously just in the last few weeks occurred in Mexico on some of those energy reforms. We are watching closely, along with our Canadian colleagues about possible impacts for us in that space.

Mr. PETRAS: Thank you very much for that outstanding presentation, it's been an honor to have you give us your remarks today. We're glad that you're there in Washington over - wait. We have one more question, one more.

UNIDENTIFIED SPEAKER: Sorry it took me a bit to get up. And it's a little bit of a change of topic, but I know that the United States is hosting the Council of the Americas later this year in June, and I'm just wondering, especially as we look at the forces that affect migration from South America into North America, if there are ways that you're looking to speak to Canada on how Canada, the United States can work together to kind of mitigate some of those pressures.

Ms. POYNTER: Thank you so much for that question, and that is absolutely a topic that is front and center for us in this Bureau and for the administration, and we have had a terrific conversation with candidates, specifically on the issue of irregular migration and our hemisphere. As you all know, we're seeing unprecedented flows in the hemisphere, part of which are a result of what the hemisphere has been through with COVID-19, and the pressures that we're seeing worldwide for many vulnerable populations. Canada has been a tremendous partner when we look at the issue of migration, including migration flows in the hemisphere and we are absolutely having a good conversation with Canada and with Mexico about possible ways that we can address these issues. Of course, it is first and foremost, as you know, imperative that we think about the drivers of migration; and for us, we have a strategy that's focused on some of the root causes of migration in the hemisphere and particularly from Central America. And Canada is talking with us and with Mexico about how they can work with us in addressing the root causes of migration. In addition, when we look at some of our collaborative migration management strategy here in the United States, we're looking at things like labor pathways. And so, we have had a good conversation with Canada as well about how they may be able to work with us and with Mexico, and certainly there were deliverables on migration, specifically about migration within the North American Leaders Summit, and so it provides a nice avenue for us to have this conversation trilaterally as well as bilaterally with our Canadian colleagues.

Mr. PETRAS: Great well. Deputy Assistant Secretary Rachel Poynter, thank you very much for being part of our conference, we appreciate it.

Ms. POYNTER: Thank you for having me.

Mr. PETRAS: Okay, so we're going to take a break now and we will resume our program starting with our third panel at 1:30pm, so back in your seats at 1:30.

BUILDING THE FUTURE OF ENERGY SUPPLY CHAINS IN CANADA

Mr. STEPHEN PETRAS: Our third panel. And by the way, this panel is a special treat because they are all in person, they are all here. Which is a first, right? For us. Before I introduce our moderator for this panel, I did want to point out I mentioned earlier to you the Great Lakes Economic Forum in Chicago. They are actually, if you are interested in attending, be sure to use the CUSLI, C-U-S-L-I, passcode because you get a 15 percent discount off your registration, as a part of CUSLI. So please do that.

So, our panel today, our third panel, is 'Building the Future of Energy Supply Chains in North America.' It is an honor to have as our moderator, Martha Hall Findlay. Martha Hall Findlay is the Chief Climate Officer of Suncor Energy and importantly, is a member of the Executive Committee of the Canada-United States Law Institute. She is also a twice-elected member of Canadian Parliament, where she served in the official opposition's shadow cabinet for international trade, finance, transport, infrastructure and communities. She is currently a member of the Minister of International Trade's Trade Expert Advisory Council. As Suncor's Chief Climate Officer, she leads Suncor's efforts to address the nexus of climate change and energy, and to build an environment that supports a future for Canadian energy. This includes, by the way, leading the multi-company oil sands pathways to net-zero by 2050 initiative. She was named a Canadian climate champion in 2021 by the British High Commission and the Canada Climate Law Initiative. She was also named by the energy council as a top global female oil and gas executive. She has worked in public policy think tanks, written dozen of essays, articles, and op-eds for national publications, and has over 30 years of experience as a corporate lawyer, international trade expert, senior executive and successful entrepreneur. So, Martha, the floor is yours.

Ms. MARTHA HALL FINDLAY: Well, thank you. I am about to introduce my panelists by saying the bios are in the materials. So, I am not actually going to do the whole bio, so I am feeling a little embarrassed, but thank you so much Stephen. And isn't it great that we are all back here together, mostly in person so thank you again for you and the team in pulling all of this together. Before I forget, if you have not had a chance, the butterfly exhibit is extraordinary so even if you have a chance, sneak out for half an hour – I was assured when I came in this morning that it is in fact open – great venue to be able to do this. This panel is to talk about building the future of energy supply chains in North American and really, when we talked about what we were going to discuss at this panel, there are two aspects of that, there are lots of aspects of that.

So, there are two aspects to the concept of energy supply chains in North America. One is the supply chains that are needed for the production of energy. So, we will have some conversation about what are the elements required, to build, to produce electricity? What are some of the supplies that are needed to build

transmission lines, for example pipes, because of course there are many sources of energy, natural gas, oil, electricity, which is produced from a variety of other sources-uranium, coal, natural gas, etc. But there is another aspect that I think recent events have really highlighted and which I hope we will have a good chance to discuss today - and that is the supply of energy itself. That has become even more important given what has happened with Russia and Ukraine, because there is a greater sense, yes we have supply from Canada to the United States – those of us old enough to remember the original free trade agreement, there is language in there where Canada had leverage because we are such a big energy source of oil and gas and at that time the United States was not so much, and it was very important to the United States to have that security. So, there is language in the original one, the original FTA, to prevent Canada from doing anything, I'm paraphrasing, don't do anything stupid that will hurt our supply. Fast forward to, you know, I think you heard my friend Goldy last night talking about the President Biden going to talk to Maduro in Venezuela and some of the others and we are here in Canada going 'we have a lot of that stuff', and maybe we should speak more openly and more deeply. But there's also the opportunity, I think, for North America to work collectively in terms of the security of global energy supply. So, how can Canada and the United States and Mexico work collectively as like-minded countries to ensure and to help ensure global energy security for others around the world? And so, there are two aspects of that discussion that I am looking forward to doing today.

This is a map; it was done by CSIS at the request of the Canadian Embassy in the United States. You are not going to be able to read any of that. The whole point of this map is to show you just how extraordinarily complex energy infrastructure is in North America. It's really complicated. In Canada, we can't even get pipelines from our oil supplies in the west into eastern Canada. The refineries off the east coast actually do not take Canadian - they take some by boat ironically - but they actually take an awful lot of oil from other parts of the world. Again, global changes, geopolitical changes are forcing some changes in some of those discussions. But, enough to say, it's not an easy answer, it's very complicated, so that is the only reason I put that up. I am not actually talking about numbers; it was really just to show the complexity.

The panelists that we have - and I am not doing their full bios, because they are in your materials - Heather Ferguson is going to go first. Heather is the Senior Vice President of Business Development and Strategy in Corporate Affairs for Ontario Power Generation. Pete Sheffield will go next. He is the Vice President of External Affairs and the Chief Sustainability Officer for Enbridge. Third will be Gary Sutherland, Director of Strategic Affairs and Stakeholder Relations at Hydro Quebec. And filling in with some of the more supply chain to be able to produce supply energy is J.B. Chronister, Senior Director of Business Development at Cleveland Cliffs Inc. and Chairman of the American Iron and Steel Institute Automotive Applications Council. So, our panel. We will start with Heather.

Ms. HEATHER FERGUSON: Thanks, I hope everyone can hear me okay. So, just to further, I think, Martha's point there. So, this map back here, I actually took it back to my team about a week ago and said 'can you just try to produce

something a little bit more simple on this' and I just do not think there is any way that anybody will be able to understand that and they actually took three stabs at it, and every time they came back with something that was pretty much just as complicated. So, I really do think, to Martha's point, either my time just does not get it, or it really is complicated.

I will tell just a little about Ontario Power Generation, or OPG is the acronym. So, we are the largest generator in the province of Ontario, produce about half the power. We are not the transmitter or the local distribution company but we just generate. Our portfolio is pretty diverse. We are actually one of the most diverse generators in North America, but predominately nuclear, hydro and then we have also got our gas facilities, we have got some solar, we have got some biomass and a whole host of other things. But predominately nuclear and predominately hydro. But we also have some U.S. assets, hydro assets, under the subsidiary Eagle Creek Renewable Energy, ECRE, if you have seen that around. So, we have a long history in the province of Ontario, and whenever I am out, I am always reminded by my team to sort of mention we closed all of our coal facilities. It culminated in a decade's worth of effort. We took nine thousand megawatts of coal out of the Ontario system in 2014, and really what enabled that was in large part our base load generation in our nuclear facilities and hydro facilities. So, 2014, we burnt our last piece of coal, and what we have really been doing since then is going through, what many other utilities are doing, is going through a clean energy transition. We came from a very clean place once we closed the coal, but we continue to look at things to improve our portfolio, and we have made our own climate change commitment to be net zero by 2040 and we are on a pathway to do that. A handful of the things that we are looking at are around many of the things that we have spoken about today: electrification of transportation; electrification of the economy; hydrogen; small modular reactors, I am going to spend a moment or two talking about that in a second. So, a whole host of things.

Today, I think this panel is going to be focusing on what is happening in the world of energy. A lot. I going to try to focus on a couple things that are quite relevant to Canada-U.S. relations. Just a couple things. I am not going to talk about the geopolitical forces, because they are people here that are way more knowledgeable and educated to have probably covered that and can cover it than me. But it is a huge influence obviously on what is going on in the world of energy, in terms of gas prices, in terms of availability of things in the supply chain. I am not going to talk about economic recovery post-COVID, but I would just mention, and I think everyone can appreciate, what a huge enabler the energy system is to economic recovery. Just in terms of jobs, GDP, supply chain at the local level, at the regional level, at a cross border level, so a huge one. But I am not going to talk about that. I am going to talk about climate change and the drive to net zero. And net zero means different things for different jurisdictions. Federally, we have a drive to net zero by 2050 in Canada. At OPG, we have a drive to net zero by 2040. But perhaps most critically and concerning is the drive of our federal government to get its electricity system to net zero by 2035, which is an incredibly aggressive target. So, there are a couple of opportunities, that I will talk about, that are relevant to our relationship with the U.S. and really important opportunities, for

collaboration, but there is a huge amount of risk that is wrapped up in that; and I think probably everyone can appreciate, in a world where you are trying to electrify everything, because of climate change, if you drive your electricity system to net zero too quickly the cost will be exorbitant, and the reliability will not be there, which will in turn deter and slow down your ability to electrify, because if your grid is not reliable, people aren't going to buy EVs, fleets are not going to electrify and the whole system will not hang together. So, that's sort of the context of the risk, but the opportunities, and this is the Canada-U.S. piece and a bit through an Ontario lens or an OPG lens. And the two pieces that I wanted to mention, one around critical minerals, and I know there has already been some really great conversations already today about critical minerals but I will take a little bit of a different angle and then the second one is going to be small modular reactors. And can everyone in the room, if you have ever heard of a small modular reactor, or know what it is, put your hand up. I will spend some time explaining what the heck those are.

So, on the critical minerals piece: again, I think there are a couple angles. There is the obvious one, I think you have spoken about it already today. Canada has vast resources in the critical minerals area that have not been explored, and there is tremendous potential. And they are critically important for EV batteries, for solar panels, for windmills, for a huge ton of clean technologies that will be important as we think about climate change and electrifying. The U.S. is not sitting in as good of a position there, but we are very fortunate to be close partners, allies and there is tremendous potential there for us to supply the U.S. with those resources so they are not at a disadvantage. But then I also think a little bit more beyond that, and this is maybe a bit of a more unique Ontario thing. So, if we think about Ontario and the vast critical mineral resources that we actually have in Ontario. There is a small area in Northern Ontario called the Ring of Fire. Many of you have probably heard the Johnny Cash song Ring of Fire. Same idea. So, it is a very wealthy region in terms of those untapped resources, and I actually asked someone today, is said 'ok come on Mike, how can I explain how bountiful this is or how rich this is or what could this mean?' No one could really come back and tell me how vast the resources are, of course because they have not been explored fully yet. There are only estimates of what this could mean. But the estimates are billions and billions of dollars in GDP, billions and billions of dollars in terms of mining, and we are talking about things like chromite and all the critical resources that you would think of needing as we look to electrify the economy. So, it is a huge untapped resource, and I think it would be very beneficial to Canada and the U.S. to explore this. But also surrounding that area in the Ring of Fire, which is, to give you a sense, about 500 kilometers north of Thunder Bay. So pretty far up there. There are no roads, there is no transmission, there is no access, some roads are being built, some early days roads, but it is largely in a very access-challenged part of Ontario. But there is tremendous potential there, and there are Indigenous communities that surround this Ring of Fire. They're called the Matawa communities. They are in that area. And I think there has been a couple times where companies have tried to get this off the ground and I know Cliffs had made an earlier attempt to kind of get this going because such it is an incredibly

important area for exploration, but they were not able to. So, we are working with those communities, the province is working with those communities, and I think there is a tremendous opportunity given the immense importance here and now, to liberate those crucial minerals, but also to connect the north and the south in Ontario. So, a chance where you can actually enable these critical minerals out of a part of Ontario that would benefit the Indigenous communities and connect it to the auto manufacturing, the EV auto manufacturing, the battery manufacturing, all that is going on in the south as well and creating an economy around that that connects the north and the south. So, kind of wrapping up critical minerals before I go on to SMRs is this U.S.-Canada tremendous potential, but also, within Ontario, the tremendous potential between north and south and Indigenous communities which is going to become a pretty important focus area, I think.

And then SMRs. So again, Ontario is kind of unique and I always remind myself when I look at maps of the makeup of generation across the U.S. and across Canada. We are pretty unique, we get sixty percent of our generation from nuclear. It is only thirty percent of the installed capacity, but the energy that comes out provides us the sixty percent of our generation, and it is what enabled us to get off of coal. And we are taking another look at the next iteration of nuclear generation technology in Ontario, and that is in the form of small modular reactors, so SMRs. There are roughly 300 megawatts, so sort of a quarter or a fifth of the size of your standard large nuclear plant, much smaller, and as the name would imply, they are produced modularly. They are fabricated off-site. Then they are brought in, and you construct around that. They are simpler to operate, they are cheaper to run and they are modular. You can add on to them as your load goes up. So we are looking at that, and we are going to be setting one hopefully at our Darlington facility in 2028. We already have an EA in place, and we also have a site preparation license from the Canadian Nuclear Safety Commission, so we're in a good place, but there is still lots of work to be done. But again, getting back to the collaboration piece. So, we are collaborating with the U.S. on that, so we are working closely. We have chosen a technology partner GE Hitachi, and we are working very closely with the Tennessee Valley Authority and I think there was just an announcement that came out the other day so TVA, the largest public utility in the U.S., as I understand it. We are working alongside them with the view that we will go first, and they will follow very quickly with their deployment of SMRs at Clinch River, I believe. Another very important piece of collaboration between Canada and the US. And then also, the second side of that, which is equally important, is we are collaborating across Canada with multiple provinces on the deployment of SMRs, so we are collaborating with Saskatchewan, Alberta, and New Brunswick. I think the importance around the collaboration here is to take those first-of-a-kind risks and costs and spread them across multiple users to help improve the economic and the economies of scale for these SMRs. They really are seen as going to be critical, I think, for jurisdictions that want to get off fossil fuel that maybe don't have plentiful hydro resources and other technologies that can support that. So, those are two key pieces of work that we're very focused on, and I will stop there.

Ms. FINDLAY: Thanks Heather, over to you Pete.

Mr. PETER SHEFFIELD: Thank you, Martha, thanks Heather. I for one was really pleased that Martha did not read our bios because after hearing hers, I felt very insecure.

Ms. FINDLAY: I am way older than you.

Mr. SHEFFIELD: I do not think that is true. So first off, it is a privilege to be invited to speak here and on this important and very timely topic, series of topics that have been covered throughout the day. It's also, a couple of broad observations and then I will hit a few points, and disclaimer - I wrote some notes on the plane so I would not forget. But I did think, when I was reflecting on my way in, that it is fitting that we are having a conversation about energy and the importance of energy in Cleveland, which is a city rich in its energy traditions, and certainly appreciates the transformative power of energy and the importance of investing in all elements of the energy value chain. There are probably many folks in the room that can speak to that with greater command than me. Also, I thought it was even more relevant that we were here at CASE Western Reserve, which has a rich history as well, and is almost 200 years old as an institution and had at its founding a focus that was quite unique at the time and remains extremely important in terms of a focus on innovations and applied sciences, which also very much extend to the conversation around energy and energy transition that Heather spoke to. It is also fitting that today is Earth Day. It's the 52nd annual celebration of the planet, and this year's theme is "invest in the planet". So, I thought I would acknowledge that.

We are in a moment, that Martha rightly underscored, where the importance of energy security, the importance of global energy markets, what that means, what we have been reminded of in the context of Russia's invasion of Ukraine, the energy supply crunch that Europe is facing and the opportunities that extend, lessons that we can learn from a North American perspective but also opportunities to support our global allies. That is extremely important, and so is addressing climate change, and that's maybe the first point that I would like to make, and I think the theme will keep coming back. But it is this notion that - and Goldy, for those of you who were at dinner last night, hit on some of these themes, we did not compare notes, I promise but maybe we have a similar worldview - too often, in really all public discussion, they are choices that are simply yes or no that are, this or that, all or nothing and certainly it feels like that in the context of energy and in the environment these days. But I think what we need to do from a U.S.-Canadian perspective when we think about what is happening in a global context but also on our shores is really think about energy security and energy transition as not a binary choice. But - and Tim used this in an earlier panel - but this sort of "yes and" proposition. And to be clear, at Enbridge we fully believe and are actively participating in the transition that Heather described and that our organizations and that the U.S. and Canada are fixated on that has, as its true north, an ambition to align to the goals of the Paris Agreement and get to net zero. We may have different time scales on how we get there, and different pathways to achieve it, but we are very much focused on that, and we think that the pace of that transition needs to be, and will be, driven by technology and innovation, as I referenced earlier and policy. And hopefully - I would observe as well that policy's

typically very much a lagging indicator to public sentiment - but hopefully, and we have lacked this in terms of energy policy and climate policy, as well from a, certainly from a U.S. perspective but I think in a North American and global context as well, sort of a durable long-term orientation to this transition and how to do it in a way – certainly, this is important for policymakers, but important for operators throughout the value chain as well – to ensure that we are focused on all three elements of the three-legged stool in an energy systems context which is energy security, so it's reliability, not just the supply, but access to that supply in an affordable manner while focusing on an ever-cleaner energy source. I think we all represent or have connections to energy sources that fit two of the three, but it is hard to find, because there are really no perfect energy solutions I would observe that have all three at scale today but that is what I think everybody on this panel is focused on.

Another observation, because I think it speaks to energy in a global context and the developed world versus the developing world, is that access to energy is not today universal. I think we have the luxury in the U.S. and Canada of, not necessarily giving that short shrift, but not necessarily absorbing what that means when you think about the fact that there are 2.6 billion people on the planet that don't have reliable access, or even predictable access, to electricity or to natural gas for cooking or other rights that we take for granted, much less in an affordable or reliable capacity.

Another observation, pulling the lens back and looking at this from a global perspective, of the non-OECD nations, I think roughly half of those nations still rely on coal or traditional biomass. I will leave it to you to fill in the blanks there. That is what they count on for their primary source of energy, and not just for power generation, but for all different sources. So, there is tremendous opportunity when you pull the lens back and think about energy in a global context and the abundance of resources that are available in a U.S. and Canadian context.

I had a few more data points but I am starting to bore myself on that, so I will keep moving. And maybe back to where I started; so, society is going to need more energy and we have to address the climate. So, to meet the dual challenge, we are going to have to drive emissions reductions from conventional sources of energy, which as we were reminded in Martha's bio, is very much what she and other producers are focused on in terms of the transition pathways initiative. I will speak to that in brief from an Enbridge perspective. So, we are going to have to find ways to use conventional energy in a way that is far less impactful from a climate perspective, and there is a lot of energy and focus and resources behind that. We are also going to have to ramp up investments in renewables and low-carbon solutions and things like small modular reactors that Heather spoke to. So, it is "yes and" Canada and the U.S. are well-positioned to do both.

The map behind me I am not going to go through in excruciating detail, but I thought it might be useful, because it represents our portfolio of businesses from an Enbridge perspective. It gives you a sense of how we think, and what our reference point is when you think about energy. Also, it gives a little bit of visibility to our direction of travel in terms of the energy transition. As you might

imagine, by all of the infrastructure that hugs the Canadian-U.S. border, we think an awful lot about North American energy supply chains and how that is changing.

I am going to give a quick flyover; certain of these assets garner more attention than others; It was gratifying to hear a question about our Line 5 pipeline, and I hope you were satisfied with the answer that you received. But Line 5, for example, represents an element of a much larger system that we operate, but it is indicative of this critical infrastructure that we operate. It moves 540,000 barrels a day. That's roughly 23 million gallons of light crude and natural gas liquids on a daily basis and it moves product. Typically, that product is coming from Canada. We are picking it up in superior Wisconsin. We are moving it through Wisconsin and Michigan to Sarnia, Ontario. It is coming back to the U.S. in the form of gasoline, jet fuel, propane and it's supporting millions of consumers, thousands of businesses, and critical elements of the economy throughout the Great Lakes region. That's one pipeline. Just from a crude oil perspective, we move about 2/3 of Canadian crude oil exports. Virtually all of that is moving to the United States today, and all to support Midwest refineries, which makes its way into Canada and back, which I described earlier. Interestingly, about probably 50% of that 2/3 is single-sourced. So, Midwest refineries have no other alternative than to rely on heavy crude or medium crudes or light crudes that are coming off of our system as a conduit to Canadian production. So, just a bit of a reference point.

Beyond our crude oil business, which gets a lot of attention, we have been transforming our business for the last couple of decades. So, we are the largest gas utility in Canada and Ontario, and in Quebec. We moved through our natural gas transmission and storage business in the U.S. and Canada, about 20% of the gas that is consumed on a daily basis, and we touch about 170 million customers in the U.S., and we have a renewable power business that, over the last 20 years, we have grown organically and continue to invest in that business. We have got wind and solar assets onshore in the United States and Canada, and we've invested heavily over the last five to 10 years in offshore land in Europe and continue to invest in those opportunities. And I think importantly, in the context of the dual challenge of energy security and energy transition, each of these businesses are actively pursuing low carbon opportunities, and those may be opportunities to reduce our own operational emissions. We have a net 0 commitment. That's a bit of my remit to ensure that we are building the architecture internally to ensure that we can deliver on those goals. The emissions targets that we have set, the diversity and inclusion commitments that we have made and what that means in terms of how we engage with our future workforce, but also our host communities and Indigenous people, but in the context of emissions and emissions reduction, we are leveraging our "know how" from a renewables perspective and beginning to integrate that, and how we operate those more conventional infrastructures. And so, we are powering our pump stations and compressor stations with renewable power that we are developing, that has the added benefit of actually controlling one of our more variable costs, certainly on the liquids business, which is the power it takes to drive or energize those pump stations to move Martha's and other products to market.

We are also extremely focused on how to help our customers reduce their emissions and focus on the larger societal objectives of moving to low carbon solutions in a way that actually leverages that existing network that we own and operate because we see our pipelines and related infrastructure being used and useful through the transition. So, some examples of that is in our Canadian gas utility. We were actually the first in North America to develop jointly with a company that is now part of Cummins, a green hydrogen powered to gas facility. So, an electrolyze-er that as a result we are pulling hydrogen and blending that into our utility in Ontario. We have a pilot in Quebec as well, where we may blend up to 15% hydrogen, which has a significant benefit in terms of reducing the greenhouse gas emissions associated with that delivered natural gas, but also gives us some early learnings into the potential for us to use that existing infrastructure to scale up hydrogen overtime. More immediate and equally sort of beneficial from a GHG perspective, at least in the context of the blue hydrogen, we are pursuing renewable natural gas in a big way, and have actually through the last decade at our utility and increasingly looking upstream, so our gas transmission business is partnering with renewable natural gas developers and companies like Starbucks and other company public companies that may have different motivations but are looking for opportunities to take their waste and offset it with a renewable solution. We will continue to scale that up overtime. The big opportunity is around “carbon capture and utilization and storage” or “carbon capture sequestration” depends on how or which acronym you want to rely on. Back to reducing the emissions associated with conventional fuels and where The UN’s Intergovernmental Panel on Climate Change has landed where the International Energy Agency and their net zero modeling have landed, is: we can’t get there from here without carbon capture. There are any other, any number of other options that need to be sufficiently explored, not the least of which is back to the developed world’s huge potential, just from efficiency and the wasteful nature and how we use energy and consume energy from an OECD perspective. But Carbon capture is a huge opportunity, and we are pursuing that. We recently announced a partnership with Capital Power, an Alberta power company and a cement company in Alberta, and our other partner is a collaborative of First Nations who are also going to support the project from an equity standpoint. This has the potential, we have got an early support from the Government of Alberta, got a very positive signal out of the Government of Canada in the form of some incentives that were contained in their budget that provide a price signal analogous to what exists in the U.S. today. It is a 45Q tax credit that drives investment for those carbon sources, at least the ones that we are partnering with today and could sequester up to 4,000,000 tons a year of carbon emissions. If you can scale that up and they are tremendous, there is a lot of focus in Alberta, certainly a lot of focus from major integrated companies throughout the world to figure out how to scale up this technology and how to leverage it, not just at production but, you know, there is a scenario where we could use carbon capture to reduce the emissions associated with our gas fired compressor stations that move gas through our system.

So, five things. Five things and they are just headlines, but how do we from a U.S.-Canadian perspective, capture the opportunity to marry energy security and

energy transition to bring that to bear from the North American perspective, but also to meet the moment, if you will, in terms of providing support to our global allies and reducing global emissions in the process. First off, this will not come as a surprise. We need to do everything we can to support the existing energy supply chain by maintaining critical infrastructure. It is incumbent on us as an operator to make sure that we're maintaining that infrastructure, that we are modernizing it, that it is operating more efficiently, that if there are ways to further reduce safety or environmental risk that we are bringing those to bear. Line 5 is critical infrastructure and the implications of an economic scenario without Line 5 in the near-to-mid-term are catastrophic. And there are many more examples. We have an abundance of supply in this country and we still have a policy that is very much focused on the idea of scarcity in some respects, and certainly when we think about it outside of our shores, from a natural gas perspective, there is a huge opportunity in the U.S., and in Canada to build the infrastructure to permit, take away capacity, to move more volume of liquefied natural gas to Europe to Asia. I referenced the amount of coal that is being used in the rest of the world to generate electricity, that alone is worth pursuing in a bigger way. But you think about Europe and the situation that they are in. It is that much more prevalent.

I said 5, Martha is giving me the hook, so, I am just going to offer two more. One is just the observation - and I think the previous panel spoke to this- in terms of you know what was described as sort of an ethical value chain. From a North American perspective, we think about that as, in the context of environmental social governance, ESG, and from a full ESG perspective, energy production in Canada and the U.S. is rivaled maybe by Australia, but nowhere else in the world are barrels produced or is energy produced in a way that has emissions in the social impact and human rights considerations as we do in North America. We should continue down that path and leverage it in a global context. The last part which I think many of my remarks have focused on, we have to continue to reduce emissions at a pace that the science suggests is required, while we supply the world with energy. It is a tremendous opportunity that is staring us right in the face from a North American perspective and hopeful that Canada and the United States will make the most of it.

Ms. FINDLAY: I would add, Norway as an oil producer that is unashamed of being an oil producer and in fact right now has increased production because they are very publicly saying 'why on Earth would we cede market share to OPEC plus'. I do think there are lessons that we can learn. In other parts of the of the world, for sure, and I just want to say just when Pete described, we both had maps, to show how complicated it is and Pete mentioned all of the oil, for example, oil and gas that goes down into the United States, but in particular the oil because Suncor is a big oil company, lots of that oil goes down to the States, but what an awful lot of people do not realize is that it goes down to the States, so our heavy goes down into the Gulf Coast refineries, it then goes all around the world. So, my point on reinforcing that is that this is a North American activity that services the rest of the world. So, it is not just Canadian oil serving the United States. It is a North American opportunity. We are already living it. The opportunities I think are even greater. Okay. Over to Gary.

Mr. GARY SUTHERLAND: Thank you, Martha. Can I grab the clicker from you too. Thanks. So, I am going to take you to a little bit of a different context. I work for Hydro Quebec, so the leading utility in the province of Quebec, and I think my remarks are probably going to touch on some of the main themes that both Heather and Pete touched on. So, definitely the energy transition, definitely questions of energy security but maybe much more affordability as well for our clients. So, not to be undone, I have got my complicated map as well and I am not going to spend a great deal of time on this, but sometimes I do like to talk a little bit about what Quebec looks like in terms of energy. So, we are primarily a hydropower-generating province. We have 61 generating stations that are located across the province and 177 terawatt hours of energy – this is what energy geeks love to talk about BTUs or terawatt hours or something. To give you an idea. I was surprised actually to find out that, Ohio in an entire year, will use 100-143 terawatt hours, New York State is about 156. We theoretically have enough energy stored in our reservoirs to handle all of their electricity needs, either one of those states but not both, for an entire year. So, we have a very big reservoir system. Of course, have a small population, but a small population that lives in a northern climate with heating needs that are a little bit different from what you will see in the continental U.S. and about 80% of our residential customers do actually use electricity for heating. In addition to that, we have got a whole lot of other capacity on our system, so a lot of wind about 4000 megawatts these days and calls for tenders in the last 2-3 months have pretty much totaled about 3000 megawatts for the coming years. Biomass, biogas, and we have been even looking at solar a little bit - and I will explain why later it is not because we have that much sun shining on Quebec. We're not California, definitely not these days. It snowed Tuesday morning. But there is a reason that we're looking a lot at solar. The third aspect that I would like to look at is this figure: 99.6% clean energy on our grid. So, we are blessed by a fabulous geography. This was not based on decisions in the past that we are looking at clean energy, that we are looking at decarbonization and deciding that this was the way that the world had to go. It is just because we have a lot of water; 22% of our territory is covered in water. It was the natural go-to when we were looking at what we should be building throughout the 50s and the 60s and the 70s. Of course, fast forward to today, it is a fabulous resource that we can build on. We can add different types of other types of renewable energy to it and come to something which is really a quite amazing and almost carbon free grid. The point people ask me about this a lot it is mainly imports of energy that we bring in from New York.

Now this is all brought together and makes us pretty much the largest renewable energy generator in all of North America. We have a very vast transmission grid as well, which brings all of that energy from up north down into our population centers down in the southern part of Quebec and beyond, because we spend a lot of time looking at our electricity markets. This is what I would like to get into a little bit; we have a very, very good handle on the generation portion of all this. The transmission portion is a different thing. The green line that you see behind me is the last line that you see behind me is the last line that we were able to build into our new into our Northeast markets in the U.S. It was over 30

years ago. So, we have been working on a transmission grid and increasing gradually our footprint in terms of exports. But we haven't managed to build a new line in all of that time.

Just to give you an idea of where we sell. So, we send energy into Ontario, we send probably about half of what we sell year-in, year-out into New England. In New England these days we represent about 17% of the entire electricity supply of the region. New York is about 25% of our energy that we send there, we're 5% of New York's energy supply these days. Then a little bit into Atlantic Canada, and a little bit into markets that are a little further south. So, decarbonization has been a pillar of our corporate strategy now for a very long time, both in Quebec, where we work on a lot of the same things that Heather was discussing – electrifying the transport grid, bringing charging stations right across the province so that people can feel confident about buying electric vehicles and being able to circulate on the territory and have access to those charging stations. Looking at other types of transport, heavier transport that may be using hydrogen or other industrial uses that may be using hydrogen. We do a lot of work on both hydrogen and battery storage, as well. That is an important part of some of our research work these days. Solar, I mentioned a few minutes ago, solar is, of course, one of those sources of energy that is really implanting itself throughout the markets that are around us. And our hydropower has a very important characteristic: it is that we are able to balance the intermittency of other energy sources like solar or like wind. We have a lot of wind on our system. We balance it ourselves with our hydropower. So, when the wind is flowing, we turn our hydro off. When wind slows down, we turn our hydro back on. That is the beauty of a reservoir system, is that you have that flexibility to be able to follow what other sources of energy are producing on your system and what your load is looking like at any given time, and our biggest stations can ramp up and ramp down from pretty much zero to their full capacity in about 5 to 6 minutes. So, it is a very high performing system, and we want it to be able to do the same thing with solar energy, but the pattern of solar energy is not quite the same as wind, so we do have to kind of try it out in house. So, we brought on pretty close to 10 megawatts of solar capacity in southern Quebec to be able to look at that. Now, of course, we do want to in addition to be working on the Quebec market and working on all of these issues that are at our door today.

Look a little bit towards the future and we see ourselves as basically, being the motor of decarbonization in Quebec. As we move through a decarbonization scenario of course there is many fuel switches that are going to be made, so those remaining customers using heating oil or natural gas to heat their residences will probably be moving more towards electricity. So, recently we have released our strategic plan and it calls for actually a huge increase in the resources that we have available to us, because if we are going to get to carbon neutrality by 2050, we estimate that we will probably need to bring on 100 Terawatt hours more of generating capacity. We currently generate year in year out of about 210. So, it is an incredible revolution, I would say, in the way that we do things; this is basically bringing on 50% extra from a generation perspective. Where is it going to come from? Well, there is a lot that we can do in our existing facilities through

refurbishment to increase generation. The wind energy that I was speaking about before is another big aspect of this. We are looking at this globally, not only in terms of what is going on in Quebec, but what is happening in our markets, because of course, it is great for us to reduce our emissions at home, but if we can reduce them somewhere else, that is just as good for the planet. It's a planetary problem, so there should be a planetary solution for that. So, we have also started to look at some new transmission projects and there are a couple here. So, I am going to speak very quickly about the two of them.

This is the transmission line that goes from Quebec into Maine. In 2018, Massachusetts concluded a clean energy RFP, so a request for proposals. Hydro Quebec was chosen as the supplier for that RFP, but to be able to fulfill that contract, we had to build new transmission into New England. So, our transmission these days when demand is high in New England is completely saturated. It is like the highway where the cars are no longer really moving, so we need a second highway if we are going to be able to increase substantially those exports. This line would carry close to 10 terawatt hours. Massachusetts in total uses 55, so it is a considerable portion of their future electricity supply. This project was completely permitted both at the level of the Maine state authorities and the federal authorities in Washington, but last fall through a citizens referendum ran up against some very big difficulties. The citizens referendum basically voted the project down and said to legislators we want you to revoke the permits for this project and to put it to a halt. It was already under construction in Maine, so construction activities have been stopped and right now, the project is at a standstill and is before the courts. So, we will be seeing probably between now and the fall what the outcome of this this project would be.

Ms. FINDLAY: So, to be clear, it is Maine that has cancelled the project, but the power is destined for Massachusetts.

Mr. SUTHERLAND: Yes, a small level of complexity for everybody. There are two states involved, which of course doesn't help, but it is the reality, really of that region is that the demand for electricity is in the south of New England and we have to work with the states in the north to be able to build new transmission infrastructure.

Ms. FINDLAY: And we could talk about pipeline infrastructure challenges. We probably will.

Mr. SHEFFIELD: We, so not to steal your time. The power mix in New England is about 50% natural gas, currently, but in peak periods in the dead of winter or in the hottest periods of summer that is closer to maybe 18%, and that's all driven by a mismatch in terms of infrastructure. The power generators in New England are not encouraged to purchase capacity on a pipeline on a long-term basis, and so they have not invested and when we have tried to advance incremental upgrades to get more natural gas to New England, we have run into some of the same problems that Gary and Hydro Quebec have.

Mr. SUTHERLAND: Yes, Pete and I realized that we maybe have more in common than we thought that we did originally. So, to kind of speak to that, there are some very aggressive public policies in place in New England and notably Massachusetts, although it is not the only state with this type of policy to bring

more clean energy onto the grid to really move towards an emission free grid for their state. But this is a region that has six states under one what we call the independent systems operator, which is really what regulates the flow of energy. So, it is a rather complicated region to work in from that perspective. We'll see where that goes, but I do want to move on to a second one here.

This is on the New York side, Champlain Hudson Power Express, which is a similar line. Once again, New York has some very aggressive and probably even more aggressive targets in terms of decarbonization than New England does. New York wants to move to 70% renewable energy by 2030, which is in an electricity perspective basically tomorrow, by 2040 to an emissions free grid. And while the northern portion of New York State is actually in a pretty good space as far as that is concerned, they are probably about 85-90% renewable already, the southern portion, i.e., New York City, Long Island etc. is sitting at 90% fossil fuel use, and they want to move to 100% clean energy in a very, very short space of time. Now we all know anybody who has been to New York knows that there is tons of space all over the place where you can put new energy facilities and build wind farms, and put lots of solar, so it really should not be a problem, right? Well, apparently, they think it is a little bit of a problem. So, the New York authorities decided to add a new class under their clean energy standard, which was to say anybody who can build a transmission line into the New York City pocket and bring clean energy will be eligible to receive renewable energy credits. So, very recently, as recently as actually last week, we received the final authorization for this project from New York authorities so we're clear to move forward with our, basically our construction on the New York side. This would bring a little more than 10 terawatt hours into New York City, and will represent once it is online in 2025, 20% of the electricity in New York. So, it is an exciting proposal for us, it is one that has been a long time coming. I realized I have a 13-year-old daughter. I began working on this project just before I went on parental leave with her. So, both have grown up. Both are considerably different than they used to be - and anybody who has got a 13-year-old, you can imagine what that gives - but it is ready. I think New York is ready for this project now. There has been an upwelling of support for it at a whole lot of different levels. This will bring clean energy into neighborhoods like Queens and the Bronx, which have typically had a whole lot of heavy industry imposed on them. They've got all the fossil fuel plants that currently supply Manhattan, and they have very high asthma rates. So, they equivocate clean energy with part of the solution to really improving their air quality in this region. Now touch wood, we were in the same situation with the main project. We had gotten all of our permits and we were ready to go forward with construction on this project and right now, there is nothing much going on. So, I am hoping that New York will go forward. All the signs seem to be there, but it does raise a question as far as how do we actually get some of this big infrastructure built in North America. And that is a big for me, that is a big part of the supply chain issue, is we do have to move that energy from point A to point B towards its end user, and if we are not able to do that, is anybody else going to be able to do that as well.

Maybe one more aspect that I want to touch on; we talk a lot about clean energy replacing other types of energy, but there is a whole lot of other phenomena

that are happening in North America right now. We are talking about building tons of offshore wind all down the eastern seaboard. New York is definitely one of the top motors of that; they are looking to bring on 9000 megawatts of offshore wind, currently they have none. It is moving very quickly. We hope that it will move very quickly, but those are all intermittent sources of energy. So, they are great when they are working. But when they are not working, you flip the light switch on and it doesn't work. I do not think anybody is really in a space these days where they are willing to accept that, and that is where we kind of see a future role for our resource is that as far as we can get these grids integrated and we can get lines up and running and these lines are bidirectional. We can flow power down south, but we can also pull power back from those markets. So, we envision a time in the future when there will be times when would be selling into New York City and supplying their energy needs, but probably their offshore wind, probably in the middle of the night, will be generating too much energy with respect to what they need. We can pull that energy back up, store it in our reservoirs, it's like a huge liquid battery, and then flip back to them the next day or maybe five weeks later. So, what we are creating here is an energy system which is vastly different from what we see today, and will necessitate a great deal of collaboration between states and provinces and between the two countries if it is really going to get off the ground. So, we call that the battery of the Northeast. And I will leave it there.

Ms. FINDLAY: Perfect. Thank you. It is a theme. This is the North American collaboration and I will probably, if no one asks a question I will in advance. I think we need to talk about the challenge of project-by-project analysis of net zero. We end up with way too many, for example, environmental activist groups who pick on a project. We end up with too many government policies that will say that the project has to be net zero without understanding how capital markets work, for example. So, this is a great example of, if we want to have clean energy, why on earth are we not actually collaborating and cooperating more where clean energy is sourced, and where it is needed? So, I think there are some really interesting opportunities.

Mr. SUTHERLAND: And, if I may, I think we can go even further with that reasoning, that by doing projects on a piecemeal basis, we are not necessarily getting the best deal for the ultimate ratepayer who is paying for all of this. So, the energy transition is going to cost us something, it is going to cost somebody something, and there are really only two sources of financing for this: one is the ratepayer, you are going to be paying more for your electricity; or its the taxpayers and you are paying more for your taxes. Now I do know nobody is really crazy about either one of those two things. We have got other stuff to do with our money, so we have to find a way to plan this in a little more of an efficient way, so that we can reduce those costs. There has been a lot of great work done, notably by MIT most recently about how we can kind of integrate - they have done work on the Northeast region *per se* integrate Hydro-Québec resources with New England and New York - and keep those costs down. It is about 4 billion per year once you get up to 2050. So, it is not negligible.

Ms. FINDLAY: Well, and, for businesses like ours, where we have all the Petro-Canada decisions, so we have direct line to five million Petro-Canada points

members across Canada. Those are customers, they are not paying because they're rate payers, they are not paying because it is a utility. And we witness what is happening politically when prices at the pump go up, President Biden, and a lot of other politicians around the world, in fact, some countries where there is massive civil protests and deaths, because of people protesting high energy prices and correspondingly a lack of sufficient government subsidy how quickly things change right. So, it's taxpayers, its utility payments but it is also customers who see some of these challenges immediately. It all speaks to being able to look for efficiencies which we are not finding right now.

Mr. SHEFFIELD: Just another thought on top of that, which is very consistent with what you both said. But even just in the context of what the policy goal is, the overarching policy goal - New England's a great or maybe not a great example - but in terms of a very aggressive approach to greenhouse gas emissions and a very laudable set of goals, over time. As a result, so I referenced in you know peak periods, where gas power generation is not able to run, because they do not have sufficient access to the feedstock, and Gary reminded us that they don't today have incremental capacity to move more Hydro down from Québec. So, in January and February, these peak periods, New England is generating more electricity from fuel oil, than any other part of the country. And their renewable opportunities are burning wood and trash. So it does not make sense - the same things played out in Europe, you know, burn more coal over the last twenty months because they have pulled nuclear off the table, and not invested or diversified created optionality in terms of global LNG. So, we need to be mindful of how to consider what's in the best interest of ratepayers and also what aligns to the most efficient solution from an environmental perspective as well.

Ms. FINDLAY: Alright, over to you J.B.

Mr. J.B. CHRONISTER: Thank you and thanks to CUSLI and the group for putting this great event together. I really appreciate the opportunity to speak. I am from Cleveland-Cliffs which most people if you know Cleveland-Cliffs, you probably think of us as an iron ore company. That is no longer the case. Although we still are a major producer of iron ore, it has been transformed into a steel company over the last two years. I remember the date very well, I was March 13, 2020 about the day the world shut down with COVID, is when Cleveland-Cliffs took ownership of AK Steel, where I was a long-time employee. It was the day that the lights went out in most of the automotive assembly plants across the Midwest and North America entirely. So, it was a challenging time, and it was a really gut-check moment in the strategy of Cleveland-Cliffs to invest in one of its largest customers, and then continue on that path and building their steelmaking assets large enough to be the biggest flat roll supplier of steel in North America.

What does that mean to the industry? The steel industry gets a bad rap, in my view of being a major carbon dioxide emitter and we are a huge energy consumer. However, we would say we are the solution. We are a steel producer that makes all things that go into electrical transmission and our ghost products. We have solutions for nose traction motors, and we have large play products that can go into wind towers and some of these other large, small nuclear reactors. So, there are lots of things that we would love to be able to invest in and make more of in

North America as we make this energy transition, and it is coming and it's coming fast. So, as we look at the vast operations that we have I did not list the iron ore mines in Minnesota and Michigan, but you can see where we have various operations, including a small tooling and stamping operation in Canada. So, it is not just an American story, this is much to the theme of the conference. It is Canada and the U.S. working together.

So, looking at some of the markets that we serve, although automotive is really our primary focus in terms of the more demanding products that we make, we have a huge portion of our business that goes into the trade, both for end users, think of the heating and air conditioning, as well as plants markets - whirlpool, one of our largest customers, as an example. But also, for small manufacturers - Lennox if you go to some of the heating and air conditioning units that they are making in North America, we are a critical supplier to them and others. But also, for energy, I mentioned the electrical steel products I have highlighted in green some of those products that go into what would be green energy. So, it is advanced high strength steel for light weighting key to the automotive industry being able to take weight out without going to more environmentally impactful products like aluminum or carbon fiber that takes six or ten times the amount of energy to produce versus steel. So, again, we see ourselves as a major solution there and we have been and will continue to be a major supplier to the automotive industry for architecture, both on ice and hybrid and battery electric vehicles. It does not change the fact that steel is still the economical and value choice when it comes to all things ESG and building that architecture for economically built cars. Then you go down the list: plate products are huge into infrastructure, we just got the support of the U.S. Government for a large infrastructure package which is going to generate lots of construction jobs - we need more people to help fill those jobs, fill those projects that are going to be done here in the next five to ten years. That is starting to generate some momentum. The plate products that go into wind towers: there is a huge portion for the onshore wind, as well as offshore. You think of the monopile system and that is even more steel that goes into the base units for those individual pieces of equipment that helped to generate that green energy. Then the obvious ones for the grid: they are a small portion of our production but we are making electrical steels with our EAF technology in Butler, Pennsylvania and finishing some of our nose products in Zanesville, Ohio. So those are key critical operations for supplying the products that are needed for this transition, both from the energy generation side as well as the automotive companies that are looking to go to battery electric and hybrid vehicles.

So, just talking a bit about what is unique about the American - and the Canadian steel industry is making this transition as we speak they have announced significant investments to go to more EAF technology. I would say there is a zero-sum game there. There is a limit on how much scrap exists in the world, and that limit is increasing in some areas and decreasing in others. I will show you a slide here in a second about the U.S. industry, and how scrap is becoming a more precious resource for this very reason, which is more and more countries around the world are looking at scrap as an opportunity to build their industry in a cleaner way. The prevalence of scrap in the U.S is largely based on the manufacturing base

that was built in the early 1900s, so we have generated a lot of end-of-life scrap as a result. As opposed to China, which just started to really build their steel industry up over the last 20 years, so they're just starting, they are just the tip of the iceberg on a lot of those products that they had built in the early 2000s and 2010s are now coming to the end of life and a lot of building products last for 30 or 40 years in use, so they are not going to see the end of life for those products for years to come. We have a prevalence of natural gas that allows for cleaner energy versus coal or oil or some of the other older fossil fuels, but natural gas is primarily hydrogen, and it is a much cleaner source of energy than some of those other older fossil fuels.

I just wanted to highlight the challenges that we have had as a manufacturer in the U.S. with the shrinking scrap supply. There are a couple different factors here. We have offshored a lot of our intermediate manufacturing which has taken the scrap with it, and you have also lost some of the scrap because we have become more efficient in being able to produce higher grades of steel with less scrap as a by-product of our production. Every ton of steel generates its own by-product of scrap along the way. We have slitter scrap and caster scrap and all the things that go into the production of that product, but we have become incredibly efficient with longer sequences at the caster, longer runs through the hot mill, longer runs through our coating lines, and finishing units. This generates less scrap as a result which just means that there is less prime scrap available to use for critical sheet products. Then again, this just gets into a little more detail without getting too far into the weeds about how much steel goes into generation of green energy. So, if you think of wind energy, it is about 130 tons of steel per megawatt for the generation. For solar, our galvanized products make the support systems for the galvanized panels that sit and collect the solar energy. There is about 40 tons per megawatt in that source. Then the GOES grid. If you think of every megawatt of electricity goes from a power source so it is generated at a certain voltage, you step it up to go to the high voltage power lines that pass that electricity to the substations, that then distribute it and it steps down to your 110 or 220 feeds that go into your house. Those are all going through transformers, and they are relatively simple but not so simple type devices that there are only a few producers of those very critical pieces of infrastructure that you need to have in order to get electricity from the power generating source, whether it is hydro, or wind, or a fossil fuel generating site to your house.

Then just a commitment to our environmental sustainability improvements. Cliffs has been on this path long before it became cool, but just to highlight again, we are working to stretch our hot metal, use less coke in our generation of the liquid iron that we are using in a lot of our integrated processes to make steel and that just means that we are generating a lot less CO₂ per ton of steel that goes out the door. We're not trying to do this by making less steel; we need the volume to help spread those fixed costs that we have, but it is not just about tons it is about making the right tons for the right applications and we are doing that through both the innovation process that my product research group is doing every day looking at not just what we make now but how do we make better products for the future in all of these markets, and then also how do we make the products that we are

making the process that we are making those products with every day cleaner. How do we do it with less carbon dioxide generation? So, our goal is to get down to 33 million metric tons of carbon dioxide emitted. We are well on that path. 2020 would have been very close to that goal for the wrong reasons - we were making less steel because of some of the impacts of COVID. But we see ourselves very much on that path to be able to get to that goal by 2030 and we will be setting new goals. We have not set the aspirational targets yet, because we need the electricity generation to be greener, we need the infrastructure to be in place for green hydrogen for example that is not there today to be able to commit to bigger targets that we really need to achieve by 2040 and 2050. Thank you and I look forward to the questions.

Ms. FINDLAY: Great, thanks. So, we have 15 minutes left for questions, but I see that there are some questions but I don't have a machine in front of me, so is it possible to just get a summary, and then obviously, Ambassador, if you have a question, but I just do not want to miss the questions that we have online.

UNIDENTIFIED SPEAKER: The first question is, what is your sense of what is behind Maine's decision regarding Hydro-Québec? And are there any free trade agreements that cover transmission or might there be?

Ms. FINDLAY: We have a train specialist in this area right over there.

Mr. SUTHERLAND: I was afraid you were going to say that was a question for me. So maybe I will start and if anybody wants to jump in. So, this was a citizen-led referendum, and I debated whether I was really going to bring up the inner workings of this referendum, because there were a whole lot of different forces that were behind this. There are certain gas generators, I would say fossil fuel generators because not only gas, in the region that stand to lose a great deal of market share, and a great deal of profit once Hydro-Québec arrives. We are a little bit of a target in this region, as we are in other regions, because contrary to other sources of renewable energy, we perform the same energy service that a fossil fuel generator performs. So, we are there with a reliable source of energy and a competitively priced source of energy. We do not have the intermittency that wind or solar does. So, it's a threat from a competitive standpoint, and there were three companies that are from outside of Maine but that supply energy to the Maine consumers, who got together and funneled a lot of money into opposition groups on this, which I find is very unfortunate. I think we have a realization in the energy sector that we are going to be using fossil fuel for a very long time. And, you know, what Pete was talking about is that there are a lot of great companies out there that are trying to look at other things and trying to reduce their environmental footprint from their core business. But I think there are others out there that are looking to kind of derail clean energy projects because it does mean a change in their bottom line. So that was the intention behind this referendum. There are constitutionality questions that are linked to this, because we had all of our permits that were given after a 36-month review by the public utilities commission of Maine. So, that is after expert testimony; this is a quasi-judicial branch of the government that does have to emit a permit, and now what we are doing is giving a mandate to the legislative branch to overturn that. So, there are questions here that really have to be looked at and there's a secondary issue which is vested interest. Those permits

had been given, the money had been invested, and construction had begun. So, you go through a three-year permitting process to be able to build a project and then the goal posts are moved. So, to what extent does that hold up, and to what extent does that really herald a strong investment future for the state of Maine. Those are questions that honestly, we are asking ourselves these days.

Ms. FINDLAY: I think both of our countries have really suffered in the last few years from political decisions that have given a flip-flopping impression. Anybody who knows anything about the investment community - they need predictability, and they need certainty, especially for long-term projects. So, we have had our share of them in Canada - and you know Keystone is another one, where there is a legal action in place now because commitments get made and then they get flipped and it does not do North America any good. Again, from a North American perspective, we suffer from flip-flopping as a group. Were there any others from online and ambassador do you have a question?

UNIDENTIFIED SPEAKER: Heather, on small modular reactors, how much energy do they provide?

Ms. FERGUSON: Your typical on-grid small modular reactor is around 300 or 400 megawatts, but there are what is called very small modular reactors, VSMR, and there are micro modular reactors called, MMRs, So, they can go all the way down to one megawatt and probably below that but you know typically what I see is sort of your one, five, fifteen, fifty, and then three hundred. It is sort of those sizes but they can become very small. There are ones that are actually seen as sort of almost a battery that you could put in the back of a truck and drive up somewhere in a remote setting and locate it there and then take it away when it is done. There is a growing abundance of evidence that it is not physically possible to get to it, so that is the beauty of these reactors. So, yeah, I think there is a lot of work though that we as an industry or the nuclear industry need to do about the public acceptance of nuclear. Most particularly, I think for new jurisdictions to feel comfortable or jurisdictions that are not nuclear jurisdictions to feel comfortable with them. And then the other Achilles heel that I am going to raise because I almost always get this question and no one has asked it yet, maybe it is because we only have four minutes, but it is the nuclear waste paradigm. The industry again, we need to do so much better at how we talk about it. We need to stop calling it waste, and we're working on that. Because every generation form is going to have waste, absolutely every generation form. It doesn't matter what you are talking about and one of the benefits of the by-products, as we are starting to call it, or the waste in nuclear is that it is a very small amount. People often say if I had a coke can, it would contain all the used fuel that would have been generated by nuclear in my entire lifetime if I had used nothing but nuclear energy. So, we are not talking about vast quantities. It is fully accounted for that all the nuclear generators that produce this waste have to know exactly where it is and have to set aside funds to pay for its long-term disposal, and everybody knows exactly where that waste is. You cannot say that of other wastes, so you cannot say that of solar panels, and batteries, and where do those products come from.

UNIDENTIFIED SPEAKER: Can you comment on the fact that the French, who are also very nuclearized, are working on recycling?

Ms. FERGUSON: Yeah, there are some nuclear technologies, new SMR technologies they are called Generation Four, the next ones that can consume, this used fuel in their processes. So, you know maybe we really do, and I am terrible I still call it waste. I mean, we need to call it used fuel, and it is fuel that still has radioactivity in it that can be used for things. As an industry we just need to do better and we're working on that, and we will.

Ms. FINDLAY: We need heat, we need thermal power, not just electricity, so we are looking at projects for example the small the 15 to 30 megawatts, but a 15 megawatt provides us the equivalent of 30 in terms of thermal. So, there are some really interesting things being developed. Another thing I would say is the safety record: the statistics are that the number of people who die have died historically from radiation or nuclear is infinitesimal. You know the number of people who died from Fukushima was, as I understand, one, but had nothing to do with the nuclear reactor it was the evacuation. So, those of us who actually want to reduce emissions globally, we need to be able to have these conversations with real facts, real evidence, and the right language.

Ms. FERGUSON: I think almost every person that we have invited to come out and tour one of our nuclear facilities and to tour our waste management facilities where we are currently storing the waste, and this includes community members in the region and stakeholders, politicians, and Indigenous communities. After people have had an opportunity to come through and see the facility and understand how we run our nuclear plants, how we store this waste on an interim basis, I think they appreciate things much differently and their views can be changed. So, we just need to do much better at sharing that information and sharing in a way that is understandable, and then also getting feedback from the communities and understanding their perspective. I am speaking most particularly about Indigenous communities. We've been spending an awful lot of time lately with Indigenous communities and speaking about nuclear, because it's growing. If we cite one at one of these SMRs at Darlington that will be in the backyard of Indigenous communities and we need to listen to what their interests are and they can often very often help us to understand some of the issues that are going on with climate change in a way that we can't. So, I think it is really a two-way conversation, there's some more work to do.

Ms. FINDLAY: Who here has been to San Diego? Big harbor, right? An awful lot of big ships. Those ships have been using small modular nuclear reactors for decades. So, there are some opportunities here for us to actually get our heads around what we need to do from a climate perspective and how we can do it. Any of the others from on from the crowd or from online?

UNIDENTIFIED SPEAKER: Do the panelists think or feel that climate disclosure rules coming from the regulators, including those that might eventually be finalized, will those have an impact on some of the net zero anticipated dates or other related impacts?

Mr. SHEFFIELD: We're all jumping to answer that one. It's an interesting question. I think I'll avoid the temptation to get into the details of what has been proposed either in Canada or in the U.S. by securities regulators, but consistent with the question, there is more disclosure in terms of climate risk that's on the

horizon and I think what it will likely do is encourage certain issuers that may not be on the path that the companies represented on this table are in terms of robust disclosure commitments targets and a level of assurance to validate their data. It will force others to get on that path sooner. I guess the reverse is, in a net zero context, if you push too far too fast you may encourage certain issuers to go private, but others may have a perspective.

Ms. FERGUSON: I think most organizations are prepared to be completely and fully transparent on the status of things, and we are certainly at OPG, and Selma here I think you sort of help spearhead and she sits on the board of OPG and helps spearhead our ESG efforts. I think the more transparent we can be about where we are at with the things that we are doing, particularly around climate change is expected from our shareholders, it is expected from our communities, it is expected from our employees, our board. I see no significant risk, but I know we are a bit of an odd duck.

Ms. FINDLAY: It is really time consuming. It is like other securities regulations, there is a temptation to be private because it is just so cumbersome, but certainly any of the organizations that we and any of others are on there is embracing of yeah it is going to be cumbersome but it's something we need to do.

Mr. SUTHERLAND: Yeah, maybe I would add, and it is not directly linked to disclosure, but I think we have to get better at actually determining what our carbon footprint is in various industries. We have all got methodologies, and those methodologies are modified with time as science evolves, because this is a fairly recent kind of thing that we're looking at. We took a long time to get our minds around how do we compare an industry like ours, that does not have emissions during its operating phase but does have indirect emissions when reservoirs are created and when plants are built and compare that to an industry which has regular emissions that we usually call smokestack emissions throughout its entire generating life. How do you compare those two things? Right now, it's a life cycle analysis over a hundred-year period. Already, that is a tough thing to get your mind around, because we have to factor in so many things into that, and we have to make sure that when we are looking industry to industry that we are comparing the right things so that we are really getting a good portrait of what is going on before we get to the point of being able to disclose.

Ms. FERGUSON: Well, it has to do with the plants, like when were they built, and I mean it is incredibly complicated and there is not really enough clarity coming on how to do that in a consistent way. But I think most organizations are doing their best, but it is not clear.

Ms. FINDLAY: There's a micro-industry that is being set up for exactly this. I think we are at 2:59 so we have one minute. That will give me enough time to say Heather Ferguson, Pete Sheffield, Gary Sutherland, and J.B. Chronister thank you, great panel, and as Chris Sand said earlier, please join me in thanking this panel but also thank yourselves.

Mr. PETRAS: Okay, thank you very much Heather for the energy panel. You guys were outstanding, very interesting discussion much appreciated, much to think about thank you very much. We are going to take a break until 3:15, and we are going to come back and talk about a very interesting and exciting topic about

the ESG, Environment Social Governance, challenges in the North American supply chain. So back here at 3:15. Thanks.

ESG CHALLENGES AND OPPORTUNITIES IN NORTH AMERICAN SUPPLY CHAINS: HUMAN RIGHTS, FINANCIAL AND NATURAL RESOURCE SECTOR DIMENSIONS

Mr. STEPHEN PETRAS: Okay, everyone if you could take your seats. Alright, so we're now here for our fourth panel on the ESG environment, social governance challenges and opportunities in North American supply chain, human rights, financial and natural resource sector dimensions. And we're honored to have as the moderator of this panel Selma Lussenberg. Selma serves as a director of MAG Silver Corp, Ontario Power Generation and Muskoka Airport and, of course, is a member of our executive committee. Most recently Selma was the Vice-President of Governance, Corporate Safety and Security, General Counsel and Corporate Secretary at the Greater Toronto Airports Authority. Ms. Lussenberg served as General Counsel Corporate Secretary for the Ontario Municipal Retirement system and AT&T Enterprises Canada. Prior to these, she practiced corporate law, commercial law and trade law at major law firms in both Canada and Australia. She is the Canadian representative on the NAFTA 2022 Committee on Resolution of private commercial disputes. She holds a Bachelor of Law and a Master's in Globalization and International Development from the University of Ottawa and an LLM in International Trade and Business from the Australian National University so over to you Selma.

Ms. SELMA LUSSENBURG: Thank you and welcome. I am very mindful that this is the last Council, after a long day and on a Friday afternoon, so we're going to try to make this as interesting and engaging as we possibly can, and we appreciate your patience and staying with us for the rest of the afternoon.

In this panel, we are going to talk about the increasing importance of environmental, social and governance matters in the supply chain, and I think it builds very well on the energy panel that we had just before us, because we cannot possibly have an energy transition without looking at the ESG issues.

The focus on ESG has increased substantially over the last couple of years. Larry Fink, many of whom I'm sure you've heard of, the CEO of Blackrock and one of the largest investors worldwide, in his letter to CEOs in 2021, diametrically shifted the discussion, highlighting the impact of climate change and the need and the importance of sustainable investing, the need for successful transition to a net zero the economy which he characterizes as one that must be just equitable and protects people's livelihoods, and that is very much what we're talking about when we're talking about ESG. In that context he focused on the importance of open and transparent disclosure by companies with respect to climate change and its impact on the environment, the impact of a company on its stakeholders, human rights, diversity and inclusion. I think we all know that, increasingly, when we talk about the stakeholders of the company, there's no longer just the investors, it is the communities that they serve, it is the customers and it is their suppliers, so the landscape has changed significantly in the last number of years. Larry Fink has

called these companies to issue sustainability reports which address the long-term plans to improve diversity, equity, and inclusion. and highlighting dependence between environmental and social issues. And that's again sort of just came up at the end of the last panel as an area, and I guess, I would add that, in my view, what is going to happen in terms of increased demands for disclosure and I think our panelists will have us on this as well. Is that with better disclosure or a requirement to disclose more, companies that did not previously have a strategy on how to get to net zero or how to deal with the environment or climate change are now being forced to address that and to document it, and can be held accountable. And that's very important, and in the long run, I think, a very beneficial impact of the focus on the ESG. In his 2022 letter, letter Larry fink focused on the power of capitalism to create value for businesses to be purpose-driven and making this the foundational the relationship with stakeholders and how an organization deals with ESG is very critical to this.

As the discussion we've seen throughout the day, it has become very clear that business and companies are not islands; they depend on many different actors in the supply chain, very few companies control their whole destiny. And hence, when we talk about ESG, we must look at ESG in the supply chain, in the procurement practices, and in the structures that we depend on within companies. Rating agencies such as ISS, Glass Lewis, now rate companies on their ESG performance. It is anticipated that for publicly traded companies, say on climate, say on sustainability is going to be on the proxy circular. We've already seen that, with respect to equity diversity, and inclusion, there's a requirement to make public disclosure. And there is a movement afoot, which I believe will come into effect in the U.S. in 2023 and apply to certainly dualistic companies, Canada and the U.S., that chairs of governance committees that are publicly traded companies will either have votes withheld or will be voted against if they have not addressed EDI both in terms of their board memberships and also in terms of senior management and companies. And we're seeing this trend, increasingly, I guess the question for those that are involved with publicly traded companies is, where does it end? I've been living at a number of proxy circulars recently, and there are an incredible number of shareholder proposals where people, shareholders or investors, want to have say on something else. Many of these are related to ESG, whether it is the level of compensation between the CEO and the lowest paid employee, whether it is are they auditing their supply chain for human rights violations, how are they dealing with harassment and discrimination in the workforce, the list goes on and on. So, it is a changing landscape, and ESG plays a very important part in that process.

To tackle this discussion today, I'm very fortunate to have four very distinguished and knowledgeable speakers with diverse and extensive experience, and we will address several aspects of ESG and I welcome you to come forward with your questions. The format that we've opted for is no PowerPoint, knowing that it is late on a Friday afternoon, so I've asked each speaker to speak about five to 10 minutes and thereafter, so they'll do them sequentially and they're going to speak in the following order; Jon Drimmer, Reg to my immediate left, Michael

Torrance, and then Professor Fen Hampson. I'll say a little bit about each of them and then I will leave it to you read their bios.

Jonathan Drimmer is a partner at Paul Hastings, and he will start the discussion by looking at how human rights issues have become integral to the supply chain and different legal approaches, including development to resolve law and potentially hard law and regulation.

Reg to my immediate left and I want to thank him for making the time and coming to sit on our panel and be here in person, is the recently minted VP of ESG and external relations at Lapis Energy, which is a new world for him, but he has been deeply involved in ESG for many, many years, and I don't know whether you would consider it a claim to fame, but you cut your teeth on talisman in Africa, which had significant ESG issue issues a number of years ago. So, he's going to speak, as is everyone, from their own personal perspective, but one of the things he's also going to look at is how we move from CSR to ESG; what does that mean, is that all the same thing, and I think that's a debate we're all having is like what is the difference between all these things. At the end of the day, it seems to me it's all about disclosure.

Michael Torrance, who joins us from Toronto, is the Chief Sustainability Officer of the Bank of Montreal, one of Canada's largest financial institutions. It has operations across Canada and in the United States via the Harris bank. Michael will look at the role that financial institutions play in driving responsible ESG practices. Including lending practices, but also other aspects of ESG within the financial services sector.

And last and certainly not least, we are fortunate to have Professor Fen Hampson speak. He is a professor of international affairs at the Norman Patterson school at Carleton University in Ottawa, and he's President of the World refugee and Migration Council. And he will address many of the public policy aspects around climate crisis, ESG, and market regulation. And he's also going to try to stir the pot, so that we have a healthy and lively debate so without further ado, I would like to turn this over to Jonathan Drimmer who will start the discussion, thank you, Jonathan.

Mr. JON DRIMMER: Thank you, thank you for having me and it's nice to see a lot of friendly faces and people I know and work with in the ESG and CSR space for quite some time. So let me start by talking a little bit about what we've seen in the last few years in terms of the migration from soft law norms to hard law norms as it reflects the 'S' within a ESG and, within that, the business and human rights space, more specifically, with an emphasis on the supply chain. And I think, by way of introduction, what I would say is: first and foremost, the growth in business and human rights related legislation hard law requirements, has just been explosive. What we've seen over the last few years - and it goes back to about 2015 where this this growth pattern really originates, before then it was a little bit more ad hoc, a lot more reliance on some soft law principles, but since 2015 it's just expanded exponentially as countries are looking at each other and what others are doing and putting into place their own versions of laws and regulations that they see peter countries but ultimately pursuing, and that includes the United

States, and that includes Canada, from the North American side within that spectrum.

The laws generally can be broken down into three different categories, each one of which impacts value chain activities that we should say, its suppliers, as well as downstream actors, consumers and users just something that's becoming more and more relevant legislatively.

They fall into three categories, the first are transparency and disclosure type law. And modern slavery act laws are a perfect example of that; The UK modern Slavery Act, the Australian Modern Slavery Act. Canada has been actively considering for the last couple of years, a modern slavery act, and I believe something should pass in the near term. And these effectively require companies to disclose what it is they are doing in terms of their activities typically in their supply chain that focus on modern slavery. Whatever you're not doing you never disclose, you don't have to do anything, you just have to disclose what it is you have in place; policies, procedures, training, due diligence processes, the nature of the risk you're facing those kinds of things.

The second kind of law, and this is one that's really been picking up steam recently, and again I do think we may end up seeing, I know that there's a proposal floating in Canada we're definitely seeing a lot of activity in Europe and the EU around this less so in the United States, are mandatory human rights due diligence laws. And these laws require more than just disclosure as part of it, what they really require is that companies effectively have policies and procedures in place around due diligence connected to human rights, typically upstream in their supply chain. But sometimes also downstream in terms of consumers and then users. You have to have policies and procedures in place to address due diligence. Number two, you have to conduct (TECHNOLOGICAL ISSUES) human rights abuses. Number three, you have to put into place mitigating measures that are designed to prevent and reduce the nature of risk and impact associated with what you find. And, and then you have to evaluate the effectiveness of those measures and have processes to evaluate whether the steps you put into place are working and then, finally, you need to a report on all of that, that same disclosure requirements, but that ultimately exists when we think about modern slavery acts. The U.S. version of this, the closest that we would have in the US, would be around conflict minerals which does require a level of due diligence, if you do have any of the three t's: tin, tungsten, tantalum or gold coming from the DRC or a contiguous country. But this is a set of activities, the legislation moving very rapidly again in Europe, we now have laws that have been adopted in Germany and in Norway those go into effect, soon, we have a lot in France that's been in place since 2017. We have a thinner version of the law in Switzerland, we have proposals in the Netherlands proposals in Spain, many other European countries. And most significantly, at an EU level for a draft directive that would require mandatory due diligence throughout anybody doing business in the EU above a certain size and non US companies doing business in the EU, that would effectively again compel human rights due diligence upstream with your supply chain downstream with consumers and users, including the mitigating measures and reporting that we that we talked about, along with a number of other components that are associated with it.

And then the third kind of legislation that we're seeing, transparency, mandatory diligence and a third kind is really around sanctions and penalties also, which has a human rights related focus for a good piece of it. In the United States, for instance, we have the International Trafficking Victim Protection Reauthorization Act, ITVPRA. Which allows cases to be brought against individuals or entities who knowingly benefit from participating in a venture that involves forced labor or traffic labor often which means looking up in your supply chain. In the UK, the Criminal Finances Act allows for the seizure of profits from companies will ultimately benefit or profit from gross human rights violations. So increasingly, we are seeing legislation and sanctions that do penalize companies in different ways for human rights abuses connected to their own activities or their supply chain. And we have a big law coming into effect in the United States in about two months the, Uyghur Forced Labor Prevention Act, which allows Customs and Border Protection to seize goods, if they are created in Xinjiang region in whole or in part, or have other indicators associated with forced Labor coming from China, which is an expansion of an existing regime that Customs and Border Protection in the US puts into place around good suspected of being created with forced labor. Canada has a similar to that that they started enforcing in earnest of last year.

Where all of this really ends up leading around these hard law norms is a couple of places. First, increasingly, human rights, through these broad legal requirements are now becoming more and more of a business imperative. It isn't just a question of, you know, we're going to do a little bit of due diligence and then call it a day, but by mandating human rights due diligence throughout the value chain, as countries are increasingly doing by putting into place these kinds of penalties/sanctions related regimes as countries are doing, it is compelling companies to effectively take human rights and treat it much as the way that they treat anti-corruption issues. It is part of their policies and procedures, it as part of their contracting process, it is part of their due diligence whether they're bringing on a new vendor or an employee, or engaging in a in a transaction or applying for obtaining lending or finance; it becomes a business imperative and simply part of how business ultimately it's done. And so, as we see this migration from soft law to hard law, what we see coming with it is a shift in terms of human rights now becoming the 'S' of the ESG, now becoming an unexpected part of simply how business is done and that is only going to grow over time.

But the second issue, which is perhaps less of a positive, and it's a place where I do want to end before handing it back: there is criticism that by effectively creating mandatory requirements around human rights you lower the bar. Yes, there may be greater levels of compliance in terms of more people, but it reduces best practice and companies that are already doing a lot more than what the law requires are going to feel incentivized to reduce their best practice activities down to the legal required minimum. It becomes much more of a check-the-box exercise around legal compliance, than it does around human rights best practice that a number of leading companies are exercising around the world today. And so, the point of dispute, and the point of potential controversy, and this is definitely coming up when we think about the EU directive that I mentioned, is: do human

rights laws end up lowering the bar but encompassing more people? Or, are they in fact going to drive forward in an aggressive way the kinds of positive reaction that we do and behaviors that we really do want and expect when we think about ESG-related legislation and some more activities? But with that, let me hand it back and eager to hear from my fellow panelists.

Ms. LUSSENBERG: Thank you, that's great. I've been scribbling a few notes, because I've got some interesting things to ask you once each panelist has spoken read. Reg, our next I'm actually going to run the timer on my phone, and then you don't have to watch your watch, and I'll put it so you can see it. Thank you so much.

Mr. REG MANHAS: Jonathan, it's a shame that you're not here. Been great friends, for many, many years so would have been good to have you here in person, but the next time. I want to say thank you to the CASE Western Law School and the Canada-US Law Institute for inviting and hosting me here these last couple of days and. want to thank for today Chris Sands and the Wilson Center for suggesting and supporting my attendance here today, so really great to be here. We have an excellent panel; we've got some amazing academics and thought leaders and human rights lawyers like Jonathan and Finn, and people who are practical financial experts like Michael as well. I thought you know what, what can I bring to the table here, and also recognize that it was a Friday afternoon, you know, how can I kind of create a bit of a narrative in terms of my own personal journey in this whole world of the last 20 plus years and through that maybe weave some of the trends that I've seen. And I've seen a real evolution of, you know, what we call today's ESG. I've been in this space since probably 1997/1998 when I was in Talisman Energy in Calgary. Over the years, you know, there's been a real evolution of the drivers, the stakeholders, the terminology and the policy frameworks, and I think my career kind of mirrors a lot of that evolution, so I thought I would just hop skip and jump around and kind of talk about what I've seen over the years in terms of drivers in this space, and how its evolved to, I think, a much more positive place. Because certainly, when I got involved, it wasn't a very pleasant place. I think you know, in the late 90s early 2000s CSR was really a new concept. There were not a lot of standards; there weren't real policy frameworks; there was no EITI, certainly there were no guiding principles. It was very much an open space. And I think what happened was, we had a lot of companies, natural resources companies, falling into potholes, so to speak. There was Exxon in Indonesia, BP in Columbia Talisman in Sudan – and I happened to be at Talisman during that time, and for those of you who were familiar – I know Diane, you wrote a book about it at the time, and Chris, that's how we first met day, and Goldy Hyder and I became veeery good friends during that crisis – but I was asked by our CEO at the time, Jim Buckee, to leave the legal department where I was counsel, at set up a CSR function. Basically, to respond to Lloyd Axworthy at the time, who wanted Talisman to put in place a high level position to deal with human rights, stakeholder engagement, and Jim basically came to me and said 'go figure out what they want - go to Ottawa go to Washington go talk to human rights watch, go talk to the red cross - tell me what we need to do, you know, what's our role?' And I think Jim would even say today that, you know, the company

stumbled into what was a major crisis at the time. The issues were really around, you know, human rights the company's role on the ground in Sudan, and facilities and equipment being used by the government and what was the demarcation between the company and the government in terms of those issues. What were, you know, things around use of revenues in terms of prosecuting a conflict - you know what was the role of a company in terms of managing revenues that were going to a state. Some really difficult issues and some really bizarre conversations had you know frankly with people in Ottawa who somehow felt that we had more control than we really did in terms of what could be done. So, at the time like I said there were no real standards, and so we jumped into the space it was very much crisis management, it was very much around shareholder divestment, it was about U.S. sanctions, you know - we were potentially going to be delisted from the New York stock exchange because something called the U.S.-Sudan Peace Act that was weaving its way through Congress. And so, over years we built the frameworks, we built the policies, we built the approaches when it came to human rights, we became leaders in terms of transparency on use of revenues, transparency around due diligence on human rights, and I think eventually we're recognized as being one of the leading companies in Canada in terms of this space but it came through not a lot of carrots, a lot of sticks frankly. But that was the driver and I think a lot of companies at the time, CSR was a relatively negative frame, because it was all very much sanctions and penalties and criticisms.

Over time, you know, we built that up, and very proud of what we ended up accomplishing at Talisman, of course they're no longer around - bought by Repsol. We took that approach, we applied it proactively to other aspects of our operations around the world, we became very risk tolerant I guess you could say, but we felt we had good systems in terms of managing risk so we entered into the Kurdish region of Northern Iraq, we were exploring in Peru, we were in Colombia, we were in - Papua New Guinea, we were one of the first shale gas explorers in Poland, and a pioneer here in the United States. And we use all that experience in terms of our due diligence, our risk management approaches, our stakeholder engagement - to try to proactively position the company in a very positive way.

I eventually left Talisman in 2012 and I joined a start-up company, well not really a start-up but a company that had just IPO'd, based in Dallas, Texas, called Cosmos Energy; fabulous company - I always describe them as an IT company that just have to be looking for oil and gas you know just - the cutting edge of technology and explorationists and had vast success off the west coast of Africa in countries like Ghana and eventually discovered the biggest gas reserves off Senegal and Mauritania, which are currently being developed into LNG. And I joined them a year after they went public so I missed the IPO but went down there and the approach was 'Reg, we want you to come down here and help us build a function where we think we're as good above the ground as we had been below the ground.' And so, it was a rare opportunity to join an organization that really looked at it in a proactive sense and said look: we understand the risks of where we operate and we want to be proactive and we want to take the lessons of other companies, which doesn't happen all that often in terms of how companies learn. And so, that was a positive in terms of not having a stick or a carrot, it was

recognizing the risk and recognizing opportunity in building systems and building approaches and engaging in a way that positioned the company in a very proactive positive manner. Interestingly enough, you know, when I joined, Cosmos was still 60 plus owned by Warburg Pincus and Blackstone, private equity players from New York and they were very much supportive, and, you know, I spent time with each of the directors and those were the folks in both Warburg and Blackstone in terms of what are we doing why are we doing it and had their absolute support. So, it was an interesting space for PE firms which hadn't had a lot of experience, I don't think, in these areas, but they understood the risks - these are smart guys, smart men and women - and they recognized and supported the need to be proactive.

Over time, you know, we became involved with things like the guiding principles on human rights led by the great John Ruggie, who we lost a year ago, we became involved with sustainable development goals the, SDGs, where there is now a real positive proactive framework that companies can hang various activities on to demonstrate their positive contribution to whether it's environmental issues, or the strengthening of institutions, anti-corruption, community development, et cetera. So, you saw the whole space moving into a much more positive, proactive place where - there's real guidance out there.

I eventually left Cosmos about two years ago before the pandemic, before the wheels fell off the industry for a little while, at least it seemed, and actually, over the past year have been working on a business model that is focusing now on a totally new space within ESG where it is not really about sticks or being proactive in terms of risk management, it's around the carrots of national policy frameworks whether it's in Canada, the federal budget when it comes to carbon sequestration, or as I think our friend from Enbridge talked about, United States 45q being you know carbon capture credits. And so, the company we formed is called Lapis Energy, and it's a start-up. It's purely focused on carbon sequestration, energy transition issues on a global basis, but, you know, right now our major focus is in the United States. And so, it's interesting that the entire company exists because of national policy and tax policy, you know. So, it's a long way from the days at Talisman, we were being banged on the head. It's now - the whole business model is around, you know, taking advantage of, you know, government recognition of the importance of dealing with climate change in a proactive manner and putting tax credits on the table, and, you know, we're probably a few days away from announcing our first deal where we are, we're working with an ammonia producer here in the United States - I'm not going to name them, obviously - but they will be offering probably half a million tons of carbon CO₂ per year. We will sequester that, we'll gain 50 per ton credit for that, we can make money at that price. Beyond that, they see a market - so we're talking about supply chain - they see a market now for ammonia marketed as blue ammonia. They have clients, they have customers in Japan, they're already marketing this blue ammonia; we're not going to be injecting in probably 2025 but they're already beginning the sale of contracts, because they see an opportunity. So, it's about the decarbonization of the supply chain in the ammonia fertilizer business and carbon sequestration is a very large part of that.

So, it's in a really exciting place for us to be, where there's only six of us so we don't have an office yet, but we've landed a pretty big contract, so I think there's a lot of upside, a lot of potential. But it's been an interesting journey in terms of, you know, starting with something that was very negative and very, you know, reactive, to something now which is incredibly proactive and quite positive not only for the environment but for demonstrating there's a new path to be taken by you know former energy people, you know oil and gas folks as well. But through that, you know, whether you call it CSR, whether you call it sustainability, whether you call it social performance or ESG, and, you know, no matter how many rules are in place, I don't think the concepts really have changed. It's really about how a company looks at its risks, how wide of an aperture it has when it's looking at risk, the stakeholders it's engaging with when it's talking about those risks, and when you make a decision who do you involve, and when do you make that decision so you can actually modify your approach. And if you do that, you're not going to have to worry about hard law or soft law that, you know, Talisman learned its hard lessons on so with that I think I'll - end it there but look forward to a conversation.

Ms. LUSSENBERG: But wouldn't you say that it's changed, where you were reactive with Talisman and today - and that was not unusual because it wasn't front and center on the stage- today, it's front and center; if you are looking to raise capital, ESG is right out there, whether it's through the various pieces of legislation that Jonathan has referred to in Europe and we may see similar, you know, regulation coming out, either through the stock exchanges or through legal frameworks that people are now being held accountable for something that before we tended to shove aside. I mean, there have been some seminal situations like the Joe Fresh situation in Bangladesh, with the Rana Plaza fires, where people are horrified, absent a situation where there is an incredible transgression and I'm not trying to tar and feather our friends at Weston or Loblaws because they've taken an extraordinary amount of action to try to deal with those issues but it used to be, unless it was really bad nobody really looked at it, and I think today, to your point, it's way more proactive. The expectation is that you're going to address that topic.

Mr. MANHAS: Absolutely. Well, I mean back in the day it wasn't only Talisman which was caught flat-footed - it was our major investors who were flat-footed. I mean, I spent a lot of time in Toronto with the Ontario teachers, I spent a lot of time in Montreal with Case, in Victoria with BCIMC, in New York with the with the controller's office - OMERS, you name it. None of those organizations really were focused on CSR or advocacy. It all came kind of after the fact. So, you look at them today, I mean that's front and central in terms of how they operate and absolutely you couldn't get where you are without an ESG function now, because everyone's looking at it. It's incredible. Watch CNBC for an hour and see how often ESG is raised.

Ms. LUSSENBERG: Yeah, so that's actually a good segue to Michael, because Michael's going to talk about ESG in the context of the financial services industry, and in particular, we've asked him to talk about responsible lending practices. So again, I think financial institutions have had to consider the issues that ESG brings forward quite beyond just the financial disclosure, whereas, you

know, our own Mark Carney was a real leader in pushing for a framework, and we still haven't come to closure yet on whether that is going to be the final framework, but at least there's an acknowledgement that we need some framework for disclosure. But Michael, speak with us about responsible lending practices, what the financial industry is doing and - I think I've raised this before - with the current refugee situation, what can financial institutions do to help those that are displaced coming into Canada or the United States, where some of the traditional norms and due diligence that you might do on your client, and we all know you're subject to challenging know your client rules, so how are you straddling that fence?

But please start first with this concept of responsible lending, and what changes have you seen in terms of what banks are requiring and how they're dealing with ESG? Thank you.

Mr. MICHAEL TORRANCE: Thank you, Selma. Thank you for organizing this great panel I've been totally enraptured in the discussion and it's a real privilege to be on a panel with people like Jon Drimmer and Reg and Fenn, and I've had the benefit of being able to speak with Reg and John over the course of my career as I've as I've entered this really fascinating field, and I think it's worth pointing out that a couple things about the panel being composed of lawyers, many of whom have had times in their career in you know private practice or in corporate practice dealing with very complex and unstructured problems, and then really becoming incredible problem solvers, and then leveraging that expertise and that knowledge to work with governments and coming up with really innovative ways of thinking about regulation and governance and corporate governance and I think, that's maybe the buried lead that I'll pull out of the two previous speakers discussions; is speaking to an audience of lawyers, I think really what this is I think probably the most interesting to me at least topic around this panel is how what we're talking about is a very innovative way of looking at regulation and corporate governance and historically how this has evolved - the financial sector has played a very significant role or - maybe be better to say has been a real focal point - of how this conception of corporate governance and regulation of the corporation has evolved over the last 20 plus years. So, Reg has told the story about work he did with Talisman in the 1990s, and he rightly pointed out that you know there wasn't really much of a playbook with how to handle those kinds of challenges at that point. I just got out of AGM process, and in advance of that AGM I had investor engagement with about 10 major institutional investors and almost all of them wanted to talk about ESG and climate change, and we were dealing with about four shareholder proposals on those topics advocating about how we've integrated these topics into corporate governance.

We were referring to standards, we were dealing with good practices, showing very elaborate disclosures we've put together. I think that's where we've come from those early days, and it's really incredible to have been able to observe in the course of my career, how - that evolution has taken place.

I think one of the key drivers of this topic from a legal perspective is the international nature of the problems that we're talking about; the real topic of this panel is around supply chains and human rights. That's a great example of, in a globalized economy where you have multinational companies that have supply

chains that stretch across multiple jurisdictions, you have issues around human rights related to international trade but also the movement of people, we can broaden that topic easily out to environmental topics. Jon Drimmer gave interesting discussion of US legislation around human rights, the Uyghur forced labor legislation that's coming into effect, I've read recently about similar legislation around illegal forestry and using similar types of approaches to try to address illegal forestry in developing countries by prohibiting or restricting the import of goods made from those illegally harvested wood into the US, and imposing fines and penalties for companies that don't do adequate diligence on this. There's actually a regulatory strategy around all of this and interestingly enough, the financial sector investors play actually an important role in, I would say, in alignment of companies with good practice. So, if you look at standards like the Modern Slavery Act for example, you know it's a comply or explain type of framework; it requires disclosure, but it doesn't prescribe content. There's many examples of that where regulators have limited tools to be able to prescribe how companies undertake things like due diligence how they manage their business. They may not even be well positioned and as knowledgeable about topics like human rights or as or like climate change, or have access to data, or even have jurisdiction to enforce rules in traditional ways, and so the way that they get at these challenges and try to have solutions to multi-jurisdictional policy concerns like climate change or human rights is to set out the parameters about information disclosure; what the market becomes aware of, how companies have to discuss their practices, what kinds of frameworks for disclosure they might put out to the market and then there's an implicit role of the financial sector, or by NGOs, or by others, to digest all of that kind of information, be able to make informed decisions - whether they be in relation to investment, or campaigns, or activism, or purchasing decisions of the consumer - and then that in and of itself imposes consequences through the market that can align behavior with good practice. And so, when globalization really happened in earnest in the 1990s, there was a real fear that there would be a race to the bottom in terms of corporate good practices, and it didn't actually turn out to be the case. And I was fascinated to hear John even say that now there's thinking about how the imposition of regulation could actually lower performance the reason why that wouldn't necessarily be the case in the absence of regulation is because of the fact that companies that have these global footprints that are subject to such strong stakeholder pressure are themselves adopting their own self-governance approaches, whether it's in a supply chain having auditing protocols and setting standards for factories, or their own suppliers labeling goods as sustainable as we see in the in the palm oil context. Or now, even in the financial context, actually seeking capital based on qualities of a company around sustainability or environmental social and governance performance. That kind of pressure and context is actually driving up performance, and so it's true to say that if you were to simply impose a regulatory regime over top of that, one might kind of change the approach to say well, instead of actually advancing to achieve the best practice because I view this as a competitive advantage, you might actually just seek to achieve the minimum requirement because now it's turned into a legal compliance dynamic.

So, it's a very fascinating context in which lawyers have to, I think, be much more attuned to the full scope of rules and expectations, and the role of this broad array of stakeholders, and how their expectations define a set of normative parameters for companies that they must respond to. There's an imperative for them to respond to it, because it relates to management of their brand, of their reputation, of their relationships with their own customers, with their own investors, and I think, I'll just use that context to pivot into the question that was put to me around the role of, it was responsible lending, but I think it's even broader than that. In the financial sector, there are standards around responsible lending that have developed like the Equator Principles, for example, that started off as a standard that was put out by the World Bank to define how they would undertake due diligence in relation to investments that they would make, particularly in developing countries.

That standard emerged into a private sector voluntary framework called the Equator Principles, which also prescribes due diligence approaches for environmental and social risk in the context of certain types of project finance or asset-based lending. The scope of that and the types of issues that that covers has grown quite substantially over the last 20 years. The most recent update to that framework was put out last year and it includes a lot around human rights; it includes considerations of free prior and informed consent of Indigenous peoples, there's discussion around human rights due diligence, climate change as a focal point of due diligence topics. And these are, for now, for projects that are all over the world – even in developed countries, including in North America. So, a company, for example, that wants to finance a project through banks – there's over a hundred global banks that are a part of the Equator Principles – they have to be alive to the due diligence that will be undertaken, and that they'll be evaluated against, that the Equator Principles sets out. And it creates this framework of normative expectation that includes, but also goes beyond, what might be minimum legal requirements around some very complex topics around human rights. I think an important fact is that it imports, and is often drawn upon and defined by, international standards. So, these include things like the Taskforce on Climate-Related Financial Disclosure's disclosure framework, but which also sets out approaches to good governance around climate change, it includes the UN guiding principles on business and human rights, or it includes concept like FPIC, which are actually derived from international instruments, like UNDRIP, the United Nations Declaration on the Rights of Indigenous Peoples. These kinds of standards are the 'soft law', if you will, that John talked about, that can not only transform into hard law when they become regulation, but they cannot also transform into legal expectation when they're embedded into contracts, when they become conditions of financing, when they are conditions have access to capital. And in that respect again can be really come core to legal expectations on the on the company that is receiving funds, and on the financiers that are providing funds.

Beyond that project finance context, there is increasingly a whole world of financial product we call sustainable finance, or responsible investment products and services, where financial institutions around the world are competing with one another to try to be more sophisticated on the topic of sustainability, because you

have 10s of trillions of dollars worth of assets under management by asset owners or asset managers that have committed to integrating ESG, that have pension funds or clients and others that are demanding that they are sophisticated on this topic and integrate ESG considerations, and you have an evolving conception within the marketplace that in fact good management of these topics by a company is actually necessary in order to preserve the long-term value of the corporation. And so, therefore, it's actually potentially material in the view of the investor and could affect their decision to invest or not invest. And this is what has really heightened the focus onto ESG in terms of how investors engage with companies. That engagement has caught the attention of executive management of boards, so it's driven a lot more engagement and emphasis on committing the resources necessary to have very strong ESG and sustainability programs.

The thing I'll close with is probably the most exciting development to date on this, which is going to be a major game changer to cement all of the things that Jon and Reg, and I'm sure Fen will talk about and really transform this into the world that we lived in as we were, you know, coming up in this field. This has legal implications, but it's largely non-legal, to the future state is the role of Securities Regulators. There are already proposals on the table from the U.S. Securities and Exchange Commission, the Canadian Securities Administrators, the UK has implemented rules around this, as has the EU and the IFRS has created an International Sustainability Standards Board to embed these concepts in that global accounting framework to require disclosure of very detailed and complex climate related disclosures. And, When the case of the ISSB even broadening that out to sustainability disclosures more broadly, which in the in the phraseology that is being adopted by the ISSB, have an effect on the long-term value of the company. So, changing conceptions of materiality, how do you even assess a question like that, sometimes, deeming disclosure to be required even regardless of what the actual assessment of materiality would be. So, as that world unfolds, this will become even more embedded into the control functions of companies, part of the clear investor dialogue that is already happening, but will happen, even more so, and the subject of regulatory oversight. So, that's going to be a catalyst for making this whole way of thinking about corporate governance even more embedded into legal, regulatory, and good governance expectations.

Ms. LUSSENBERG: That's a lot to digest. I'm just going to play devil's advocate here; so, that's all good and well for large publicly traded company to invest in ESG disclosure. It's got the horses for courses. There's a whole new industry out there of people who are doing the ESG disclosure helping companies, but you need to have the money to do that, and so there were a couple of things that ran through my mind, as you were talking. Is ESG disclosure a benefit for the rich for the big companies? What about small companies? We heard earlier on today a lot about, you know SMEs, which I found very refreshing, as someone who for years have sat on the NAFTA committee now a CUSMA committee where our biggest dialogue between Canada/the United States was what was a SME in the US was a big company in Canada. And you know, I find it interesting that we're now talking and the number of our speakers, particularly publicly elected officials, are talking about how the SMEs are the drivers of our economy and on

our road to recovery, but they can't afford all of that. And then the other question I would have to you is the cost of capital. Is going to cost me more money to borrow money? Or is a financial institution not going to lend to me if I don't have that ESG disclosure or that ESG platform? or are they going to help companies move forward? And CPPIB in Canada was quite interesting; it took the position not too long ago that it wasn't going to disinvest from companies that were not ESG I'll say friendly doing disclosure doing the right thing, it was going to continue to hold the investments, but it was going to demand that those companies try to move the needle forward, and were prepared to work with them to move that needle forward. I know it's a bit of a large question, but I don't want to lose that thought, as you were talking about, all the great things that are happening within the financial services sector. But is that really just for the big and the rich? or how are we dealing with the smaller companies which drive our economy and create opportunities?

Mr. TORRANCE: Yeah, these are these are great questions. So, on the first point, I think, and I would say that these aren't necessarily great developments. I would just say that they are developments, and many people can have different views of whether they're good or bad, but they're empirically happening.

In terms of the role of the of the SME and the view of the SME, there's good news and bad news, and I'll start with the bad news for the SME. A lot of these developments, when we're talking about supply chains, for example, the supply chain of big companies are SMEs. So, if there's rules or expectations around how big companies manage supply chain human rights, then there's going to be a market imperative for SMEs to consider this issue as well. So, they won't be insulated from these developments by virtue of size, insofar as they have consumers and customers who are also responding to these kinds of interests, the same even more so, it looks like will be the case with climate; the proposals of the SEC are good example, where there's an actually, surprisingly early integration of what's known as 'scope three emissions and disclosure requirements' by these regulators, which will mean that large companies have to quantify and disclose the emissions of their supply chain. So again, if you're in that supply chain, then your ability to quantify and disclose emissions could be required in order for you to be able to participate in the supply chain, and could be a competitive advantage, potentially, if your emissions are managed better than others, or competitive disadvantage, depending on the circumstance. So that's the bad news.

The good news is that with some limited parts of sustainability where there may not be flexibility, I always counsel companies, people who are interested in developing programs around this, to understand that really you should focus on what's important for your business. And so, you don't actually have to boil the ocean; you can do an assessment of what is Important for your company, and you can focus on those areas, and then you can focus your efforts around disclosure or around stakeholder engagement on those kinds of topics. And so, it can be scaled to the nature and the size of the business.

But increasingly I think there's going to be certain things that are table stakes, including, you know, your impacts on human rights issues, you know, your ability

to maintain positive stakeholder relations, and your emissions profiles, which will increasingly probably be needed in a variety of contexts.

On your second question I guess around the idea of, you know, is this is this more kind of well, maybe you could you repeat your second question? I don't want to misstate.

Ms. LUSSENBERG: That was a while ago. I was asking about the cost of capital. Right? And how banks are dealing with that? And you know, are we ostracizing those who you know who can't afford to do that disclosure, right?

I mean, I certainly know that from speaking to people, doing your scope three emissions and quantifying that is no small task. So, does that mean that we are taking people out of the supply chain? And maybe that's for a broader discussion. But my question was really about capital and what trend you're seeing? You know, it's all good and well if you're Maple Leaf Foods, or you're Xerox, or you're Honeywell, or one of these large companies, but if you're a smaller company and you need access to capital, are you being penalized for a lack of ESG disclosure? And what is sort of the approach of the financial institutions? And I don't want to belabor this, because I do want to get to Fen, and we can come back and the question session as well, but if you had some quick thoughts.

Mr. TORRANCE: So, just briefly I would agree with the CPP view. Like I don't think it's about that, it's not about, you know, taking a punitive and divestment approach and that's certainly not the approach that we take in most if not all contexts. I mean, you have to manage risk appropriately, and if there's undue risk, you'd have to govern yourself accordingly. But I think this is more about actually trying to drive positive impact, and you can do that better through incentivization than you can through breaking relationships and having what in the human rights context is known as leverage, which is a concept that I really like; the idea that you can have leverage in commercial relationships that can help drive better performance, and even under the UN guiding principles which is dealing with some of the most severe issues of human rights views breaking that relationship, and therefore losing leverage, as a very last resort. So, I think that it's not about imposing, you know, penalties; in fact, with sustainable finance the drive is actually to provide incentives so you can have sustainability linked loans, where the achievement of key performance indicators on sustainability actually provides financial benefit. We're seeing in green bond markets and other types of sustainable finance markets where investors are willing to pay a premium in order for companies to be able to achieve these kinds of outcomes. I think carbon markets are going to play a similar role.

So, you know, there's definitely going to be carrot and stick elements, but I think incentivization of good performance is a better strategy from a sustainability perspective and will be more effective to achieve positive outcomes.

Mr. LUSSENBERG: With apologies to Fen, Reg has asked just to have one point, and then Fen over to you.

Mr. MANHAS: In terms of cost of capital and accessing and capital, we've just gone through a private equity roadshow, and we've closed the deal with a private equity investor. Contacts in the oil and gas business tell us that, you know, PE firms are not going look at you unless they can garner at least a 30-40% return

on their on their capital. When you're talking about sustainable funds, when you're talking about the ESG kind of focused organizations, we were told and, ultimately, we were only required a 10% return. So, it's an incredible difference, actually. So, there's a huge financial driver out there right now.

Ms. LUSSENBERG: Because you're doing good?

Mr. MANHAS: Doing good, and we fit them in the right funds of these firms.

Ms. LUSSENBERG: So now, over to Fen because we in our discussions I don't see Fen popping up on my screen but I'm sure he will pop up soon. Fen is going to try to stir the pot a bit and talk about policy and Canada-U.S. policy alignment. Fen, you're going to keep me honest, if I'm misstating what you're going to talk about. We also had debates about loss of sovereignty; a topic very near and dear to Canadians hearts when we look at what's happening south of the border and for years, certainly we've said, you know, when it happens south of the border it's like to become North, it's just a matter of time. But also talking about financial or the regulation of our financial markets, ESG, the role of central banks.

Fen, over to you, and thank you for your patience. And Fen, while he is a professor in Ottawa, is currently joining us from California, and has been following the proceedings diligently all day for which we thank you.

Mr. FEN HAMPSON: Thanks very much Salma, and I want to thank the organizers for inviting me to participate. The discussion has been fascinating, and I've learned a lot, including from my fellow panelists just a few moments ago.

There are three questions that I would like to pose: the first is why is ESG with the emphasis on the "E" become the new mantra of financial institutions, central banks, and the business community? Secondly, what are the implications for Canada-US relations? And thirdly - big question - is this good public policy?

First, I think it's important to recognize that politicians, especially in the United States, are pushing ESG enforcement onto financial market regulators and financial institutions because there's gridlock in the U.S. Congress. The administration can't get new climate change laws and regulations passed, so they've turned to what some would call second-best rulemaking. But it's not just the politicians. Social activists for a long time have been demanding behavioral change, and the change has been dramatic. Even ESG investing has evolved into a \$35 trillion industry; by 2025 some estimate that global assets managed and ESG portfolios will reach \$53 trillion, almost doubling. The latest epistle comes from the Security and Exchanges Commission's new climate disclosure regime. As the SEC purports and we've just heard, climate change disclosure is not about giving investors information about climate risk, its primary purposes to force companies provide information so that shareholders, interest groups, and others can enforce so called net-zero targets.

A sticking point is - and we just heard about it again - is when the SEC will mandate disclosure of scope three emissions. Those are emissions through supply chains. And I think it's you know, fair to say that that's going to be a very complicated process. But the jury is really still out whether this is sound public policy. Given the highly integrated nature of financial markets, and it's not just financial markets in North America, Canada and Mexico are going to find their own policies dictated by US financial regulators with an attendant loss of

sovereignty. There are no unified reporting standards on ESG performance; companies are rated differently by different rating agencies, and because the reporting rules are so variable, they're very strong incentives for companies to cherry pick their ESG performance measures to boost their sustainability and social ratings. And as the Globe and Mail recently reported, it's pretty much of a Wild West out there when it comes to the rating game.

The problem is further compounded by global supply chains, which support the operation of many North American companies, and I know we've heard a lot about this de-globalization, especially this morning but globalization isn't going to go away. I think the other point that was just made is that outside of North America, certainly in Europe, there is a movement towards unified reporting standards. When it comes to leveling the playing field, the German Parliament has its own Supply Chain Due Diligence Act, which goes into effect in 2023. The European Union has its own sustainable financial disclosure regulations introduced last year. The UK is developing its own ESG legislative framework, and, at the international level, I think it's fair to say - and our chair drew this to my attention in our earlier discussion - the Financial Stability Board has pinpointed the need to coordinate the large number of growing initiatives to develop some common standards and the International Sustainability Standards Board established by the IFRS foundation is going to be focusing its work on climate change-related reporting to develop some common standards, which I think is a good first step.

But it does raise the question - and this could be a good question for discussion - is whether Canada and US in particular need to coordinate better our collective efforts to harmonize reporting standards and develop a made in North America approach? But there's some bigger issues here.

First of all, from a Canadian standpoint, our producers are being hit with a double whammy. And we heard some of that this morning. ESG and carbon taxes are going to erode the competitiveness of the Canadian manufacturers and other industries vis-a-vis the U.S., because the US won't have carbon taxes anytime soon.

A second negative externality is that vigorous ESG will drive businesses out of the public domain. This is already happening for other reasons, but ESG may well accelerate this trend by driving costs up — the cost of capital, as we just heard. With all due respect to my fellow panelists, I'm not a lawyer, but it does mean more lawyers and more forms. And if you sat on the Board of Directors, you know just what I mean. Private equity. I'm sorry?

Ms. LUSSENBERG: Let's look at that. There are sustainability, ESG consultants that are out there, and their fees are right up there with lawyers.

Mr. HAMPSON: Exactly. A third negative externality is that the ownership may well be pushed offshore. We see virtuous and unvirtuous markets emerging, the holy and the unholy, or the partially virtuous, and call that re-globalization through the back door.

Fourth, our governments are being forced to make bargains with bad actors who are weaponizing supply chains. And I think it's fair to say, in the long term, this will not lead to an efficient allocation of capital. We may be achieving the

worst of all possible outcomes, we won't reach our ESG targets, and we will be creating a lot of market distortion and deception. And from a global perspective, the world isn't better off if bad things happen in supply chains somewhere else. The perverse consequence of current policies is that governments may end up losing control and the ability to manage ESG sensibly and responsibly. And I think it's fair to say, sound public policy should be based on a cardinal principle; that if you're going to regulate, if you're going to set rules, you want to control consumption, production at source, or both, that is, the rationale for carbon taxes, which are directed at both consumption and production and it's best to keep it simple, not complicated. Thanks.

Ms. LUSSENBERG: Thank you. So, here's my question to the panelists, and then we'll see. I don't know whether we have questions that have come in online, but here's my question to each of the panelists: you get a minute and a half, no more. Who pays for ESG? Is it the consumer? Is it the employee? Is it the investor? Because there's a cost, and I'm not saying it's a bad thing. But, there is a cost associated with all of the ESG measures, and one of the things, certainly, I've had the opportunity to debate, is if you're not making money it's all good and well if you have no profits, you've got no money to deal with all of these great disclosure initiatives, and prepare the reports, and issue your sustainability report; which is a big sucking sound at many companies at the moment. And I'm not exaggerating, you know, if you do your AIF and you do your MDNA, and now you've got your sustainability reporting, you need another whole team of people who are going to do that. You need to audit, you know, the information has got to be audited if you're going to disclose it publicly. And I'm not certain I agree with the view that it's going to drive everyone, or it's going to drive privatization, because private equity is not stupid. Money has to come from somewhere, and they too will have expectations. They may not require the same level of reporting, but they're going to require certain information so that they know that their money is being put to good use. But I'll start with the question of, who pays?

Mr. HAMPSON: Well, I'll take a crack at that, Selma. I think it's fair to say, it's going to be producers and consumers. When anybody pays their winners—and I think you answered your own question a bit earlier when you talked about lawyers and consultants, they will be the winners in this—but, but at the end of the day, the costs get passed on to the consumer, and I think we will see, we're already seeing that, in the form of higher prices.

Ms. LUSSENBERG: Jonathan, if you'd like to chime in.

Mr. DRIMMER: Yeah, I think there's no question about it, I completely agree with Fen. I mean, I think, you know, Fen's right. And your point as well; It absolutely does cost, an ESG does cost. And I think anybody who has been in a position in-house, like Michael, like Reg, like me, we've all seen the fact that acting ethically, acting in a way that is consistent with responsible business conduct, isn't free. That's why child labor can produce goods that are so cheap. Slave labor can produce goods that are so cheap. And I do think coming into line with these norms, the market will adjust, and these costs will be absorbed. And it's going to be with investors and consumers. I don't think there's any question because, as you said, companies do need to stay in business, and they will stay in

business; And that's how they're going to look to do it. And I think the big question, and the point I'll end on is, how much people are going to be willing to pay for more expensive items, or goods, or services, because they are "ESG compliant" or friendly, versus, you know, goods that may evade those laws and those norms. To me, that will be a very interesting market question as things progress and the ability of legislation to perhaps close any of those gaps.

Ms. LUSSENBERG: Thank you. Reg?

Mr. MANHAS: It depends on the industry you're in. Like I said, we're talking to ammonia producers, fertilizer producers; they feel that they can mark it as a decarbonized product and get a premium price for that. So, in that situation, it will be the consumer who will pay more, because they are demanding a particular product, or companies up the supply chain are demanding a certain product. But in other ways, you know, in the United States, I agree, there won't be a carbon tax, but there's a tax credit, so, at the end of the day, it's the taxpayer that will pay more ultimately. In Canada it will be more of the consumer paying, so, it depends.

Ms. LUSSENBERG: Michael?

Mr. TORRANCE: Well, I think there's a couple of ways of thinking about that: one is that, sometimes the cost implications are kind of the point of this. If you have a carbon tax regime, that's exactly about increasing costs associated with one way of approaching the development of a product, or an activity, and making it, therefore, more economical to pursue alternatives, and presumably as those alternatives become more common than that particular costs will no longer apply. So, that part of the regulatory regime imposes costs on consumers, or on producers or others. I would say, it would be the same for regulatory regimes that are imposing costs of due-diligence; those costs could be, like Jon said, slave-produced goods are cheaper. So, if you create a regime around creating more cost to doing business in weak-governed areas, and requiring due-diligence, then either there will be pressure, maybe on those areas, to change the way they manage these topics, or to source goods from other areas; and that could well impose costs in both management sourcing from those jurisdictions, or increased costs in doing business in jurisdictions that have higher standards, but again, that's probably the intention, and what's used to try to adjust behavior.

I'd also say, though, that I think that probably the most important one that doesn't get enough focus is on the potentially unintentional costs that are imposed, particularly when regulators get involved. And I think we're going to see this a lot as regulators get more involved around disclosure requirements. And, also the perverse incentives that regulation can create, so there's some examples like with some of these disclosure rules where, if you have a target around climate, you must disclose and by implication, if you don't you don't have to disclose. So, what are those who want to avoid the cost of having to disclose going to do? They won't set a target, and how does that advance any kind of policy goals around emissions-reduction? And there's lots of examples like that.

Another one, which I think speaks to the idea of coordination that Fen talked about, would be carbon border adjustments, or even alignment of disclosure requirements across multiple jurisdictions. There's a lot of these efforts around increasing these requirements and having these regimes were originally intended

to be complimentary of one another. But because very different approaches are being taken in different jurisdictions, or by different centers, you've actually exacerbated the problem- having even more frameworks, or more rules, that are actually not compatible with one another and that creates, I think, a really problematic regulatory burden; because it's not actually increasing disclosure, or market information - it's simply duplicating processes that will require companies to not just comply with one, but perhaps multiple ones. And that's a totally wasted kind of effort and wasted costs.

On carbon border adjustments; I'm not an expert in that area, by any stretch but, that's an example of coordination between the US and Canada, I think will be very important if either country is adopting that, about how you assess that, so that there aren't unfair or inappropriate methodologies being used to quantify the costs associated with production of goods that would impede trade in a way that again isn't addressing the problem. I think in the first category, there may be some deliberate cost-increase that is actually trying to adjust behavior, the second one, though, is inefficient regulatory systems, which we can and should avoid.

Ms. LUSSENBERG: So, I'll start by asking if there are any questions in the room, and if there are a significant number of questions in the room, I'm then going to suggest we alternate between those online and those in the room, in fairness to those who have been so good at following the conference remotely; which is not without its challenges.

And if I might ask our technical support; if you could give me a split screen, so that if we have a question I could see the hands of our speakers as to whether they want to, or are particularly enthusiastic, about tackling the question that's being asked.

First question is, are there questions in the room? Oh, Chris Sands; there's trouble. Do you mind speaking up, sorry?

Dr. SANDS: Sure. I guess because we've been talking so much about Canada-U.S. relations; to what extent do you think we could have common Canada-US standards and guidelines, so that our businesses work on both sides of the border, and they're working from a common set of goals? I know it's two different regulatory systems, two different sovereign systems, but what can we do to bring the two countries together around common definitions, to advance what I think are ultimately some shared objectives?

Ms. LUSSENBERG: That's great, thank you. Okay I'm going to take this. I don't have a split screen yet with the four speakers on it. It's coming I see. So, I'm going to start with Fen, because I know that this was a topic he was keen to embrace, and then, after Fen, I'm going to turn to Jonathan, and then we'll see whether or not Michael or Reg have an appetite, or whether we'll just move on to another question; which might be the better approach. And we'll pick on Reg and Michael in the next round.

Mr. HAMPSON: So, Michael did have his hand up.

Ms. LUSSENBERG: Oh did he? I didn't see that.

Ms. TORRANCE: I accidentally pressed that, I was just testing it and it went off so.

Ms. LUSSENBERG: Sure. We might have believed that two years ago, when you were new to Zoom. but you know. Anyways, Fen, are you willing to tackle this? I know it's something we've talked about.

Mr. HAMPSON: Yeah sure. I'll take a crack at it. I mean, I think we do need common standards and, you know, at least some common guidelines, because right now, when it comes to rating agencies, it's kind of all over the place. And companies are going to pick their favorite rating agencies so that they can game the system; and why wouldn't they? That's just rational behavior, and I think it is going to require political leadership from both governments to say, 'there's going to be a big problem here if we don't work on it'. It will involve, I think, some kind of engagement, obviously, by the key regulatory agencies to develop a framework. And there should also be engagement as one is thinking about standards, and don't just leave it to the rating agencies; engage the key stakeholders who are going to be affected by this. I think if we're talking about a new sort of governance approach, it's got to be multi-stakeholder and it's got to involve the private sector.

Ms. LUSSENBERG: So, Jonathan, I was picking on you as the next person to speak, are you good with that to address the topic, or would you prefer to pass? I can't hear you, Jonathan. I'm sorry, you're on mute.

Mr. DRIMMER: I think the idea around consistency, in terms of standards around ESG, is a critical global issue. I think it's certainly relevant in the US and Canada and their interrelationships- particularly given the trade and trade agreements. You know, some human rights provisions ultimately included for consistency there. But I think when we venture into what Fen's talking about, in terms of globally consistent frameworks, we do have proposals that are being developed around consistent reporting. We are seeing more regulatory requirements, like out of the EU, around certain consistency on a disclosure side, including for financial entities and instruments. And I completely agree with Fen that I think there is going to be a serious regulatory element to this, but I think there also has to be a business, but also a consumer consensus around this. What is the information that is relevant and important, salient to individuals who are the consumers of that information? And how can they get that information in a way that is usable and meaningful as they're making decisions, whether it's from a purchasing, or an investment, or voting or otherwise? So, I do think that there's a government element, I think there's a company element, I think there's a consumer element. I would say the final point is, it's kind of a mess right now in terms of consistency and reporting and standards. And I think the patchwork is, in part, a result of relevant youth of the industry, youth of the space, and hopefully it will become clearer. But it is a problem right now that we do have patchworks, both in terms of the regulatory and on the reporting side.

Ms. LUSSENBERG: I'm going to ask you to give us one of the questions from people online. Thank you.

UNIDENTIFIED SPEAKER: The question posed is: there's been a lot of discussion about the difficulties and costs related to ESG reporting. Can anyone touch on some possible solutions or better avenues toward solutions?

Ms. LUSSENBERG: Reg is going to tackle this one first.

Mr. MANHAS: First, obviously, Jonathan went through that there's a plethora of work being developed and a plethora of regulations globally. I would take a much more practical approach and have a risk-based lens, in terms of what are the key risks to various corporations, and then have those companies or have those industries report in a risk-based manner. It's a targeted manner; it actually gets to the stakeholder concerns versus a blanket approach, where you end up with a lot of nonsensical reporting, or reporting for the sake of reporting. How many people read those reports? How many people actually will hold companies to account that it's being reported? I think it needs to go through a risk-based lens.

Ms. LUSSENBERG: So, what are you saying? Are you saying, high-risk lots of reporting, low-risk not so much reporting? As that, sort of how you'd straddle the fence or?

Mr. MANHAS: To some degree. There needs to be some consistency, but I think that the element of understanding what the stakeholders - what are its human rights issues? What are the communities? What are the risks, and how was the company engaging with stakeholders? From that engagement, how is their development, and a set of metrics, that actually make sense - versus all being developed in Ottawa or Washington.

Ms. LUSSENBERG: Michael, did you want to chime in briefly?

Mr. TORRANCE: Yeah, I think that's a good point of allowing for the assessment of issues or risks, within the context of the company itself. It goes back to this idea of materiality, either from an investor materiality or a stakeholder materiality lens, which most reporting frameworks use as a threshold condition for what gets disclosed.

Some of the differences that we're seeing in recent regulatory proposals is that that threshold, or that test, is not always being applied. And so, there's a requirement to take steps to undertake processes or disclose, regardless of whether there's an assessment that it will be material, either to a stakeholder or to an investor, or both. So, that's one way that I think costs can be managed better. Then again, I think it goes back to the idea to what extent does this need to be a regulated area? Versus simply allowing markets to drive better performance, because of the competitive advantage it can provide if companies are able to do this well? And they are then able to make an assessment for themselves, whether this is relevant to their consumers, to their investors, or their capital providers.

One quick response to the earlier question about collaboration, or alignment, around North America. I think that it would be very powerful, I think there's reasons within our political systems, why we can't, as two federal states in North America, do that as well as we should. But there would be enormous opportunities for North America to have a unified vision around things like energy security, the role that plays, where energy comes from, how we consider things like human rights in that context, as well as managing ESG in a joint and coordinated way that I hope does come about.

Ms. LUSSENBERG: Thank you, Fen I can see your hand up, was that by accident or you'd like to chime in?

Mr. HAMPSON: It's not an accident. I think right now, the way the rulemaking structure is evolving in the North American context, is that we're

sanctioning a market for imperfect information through the absence of having common standards for reporting. And is that a good thing? I would say it's not a good thing, because it's contributing to uncertainty in the market, when you can do something about it, by developing some common standards.

Secondly, in the absence of a North American approach, as Michael just talked about, we're going to be yielding the ground to the Europeans, and where have we seen that before? We've seen that in the digital realm in privacy, where the Europeans have been the first mover in developing a rather elaborate regulatory architecture around privacy.

And the same thing - I referred to it in my remarks, Jon referred to it in his remarks - the Europeans are moving to first base here, and we're still trying to figure out where first base is, to be honest. Is that a good thing? I don't think it's a good thing. I think, for the reason you just mentioned; we're energy producers and consumers in North America, quite different from the European situation, and standards in the ESG space should reflect that. And it shouldn't be a beggar thy neighbor approach, which again in the absence of the common framework we're going to move in that direction, and Canadians are going to be on the short end of the stick. So, this does require leadership, it does require engagement by regulators at the fed/prov level, at the federal/state level. If we let things slide, it's going to, at the end of the day, hurt consumers and contribute to a lot of uncertainty in the market.

Ms. LUSSENBERG: Thank you, that was great. I see we have five minutes. I saw that Michael Robinson wanted to ask a question. I don't know if there was someone else who had put their hand up before Michael. Otherwise, I'll ask Michael to ask his question and to be brief. And I will, in advance, ask our panelists to be brief, so that we might get to another question, after Michael's question.

Mr. MICHAEL ROBINSON: It's Michael Robinson again. Very short. I haven't heard the OECD mentioned as a standard setter here. They're certainly qualified for - they produced in the 90s, principles of international business. And they certainly have the respectability. What do you think of them as the standard-setter?

Ms. LUSSENBERG: Can I just respond to that very quickly? I would just say, Michael, we've got the STGs, we've got the Equator Principles, we've got the, whatever it is, the task force for financial disclosure, we have ISSV. We have got too many people that are out there, in my view, and I've asked the camp panelists whether they agree, that pod is already huge. There are all sorts of people out there. And to Fen's last comment, we need to get our act together and decide what the right level of disclosure is, what we're going to disclose, and at what cost. That would be my response. I personally - and I expect, and maybe I'll ask our panelists, they can nod yay or nay - is the last thing we need is another organization to step in with another series of disclosure requirements and standards? Because we've got lots. That would be my response. Quickly, gentlemen, am I on the right page? Do you have different views?

Mr. DRIMMER: I actually think, you know, it almost supports your point, Selma, that we need a convener to bring this together. And I think the OECD is a great convener. And so, I would view them less as a standard. They are critical,

and the standards that they've set continue to be used as the absolute framework for responsible business conduct. And you see them incorporated now into legislation and proposed legislation. But for this purpose, convening and trying to get that consensus that you talk about. Selma, that would be as good a group as any, and would have, you know, the power that very few others would.

Mr. TORRANCE: And I would say that that is the role that they have played. And Jon's alluding to this with anti-corruption standards that have become the benchmark for OECD countries legislation. As well as I think they've raised the profile of the UN guiding principles and all their work. And then, on the Equator Principles – which I talked about – there's actually an equivalent for export credit agents that the OECD played a role in, actually creating legislation across the OECD countries, to embed the kind of due diligence that's done in the equator principles into export credit agency processes. So, they actually have a pretty prominent role already on this.

Ms. LUSSENBURG: One more question from people online?

UNIDENTIFIED SPEAKER: The question posed is: how difficult is the data element in the ESG space? For example, how do we reconcile disparate data, data that means different things for different industries, differing standards and expectations, or data that may not be readily available at all?

Ms. LUSSENBURG: Great question. I don't know that it will have a short answer. Reg do you want to tackle that first? And I see that Fen would like to address it as well.

Mr. MANHAS: And that's where the Price Waterhouses and others have such a market. And you talk about expensive consultants, I mean, there's a huge industry just in terms of that issue alone. I'm not sure how productive it is at the end of the day, and so. My view.

Ms. LUSSENBURG: Fen, your hand is up.

Mr. HAMPSON: Yeah. Sure, I mean I think that's a great question and it's a huge problem. It's a bit like, those of you with longer memories will recall when, you know, the GAT got into services. And people were scratching their head, you know, what's a service, how do we define it? You know, that's simple in comparison to data here. Because we also have to recognize that if you start getting into supply chains, these are companies that operate in different jurisdictions. In many cases, authoritarian jurisdictions. I mean a lot of supply chains continue to run into China or run to China. And they're already seeing huge data restrictions there. Makes it very difficult to do business. So, I think it's a very big problem. I like the idea of, you know, parking this issue in a positive way with the OECD. But that's going to require cooperation from, you know, the rest of the multilateral machinery that is engaged in this. And governments are going to have to say, we want it to be at the OECD, bring your marbles there, so that we can look at them.

Ms. LUSSENBURG: Great. I've been asked to wrap it up. We are coming up on 4:45 and we're going to get the, I am quite certain, excellent summary from Chi, shortly, of the day's proceedings.

I do want to thank my four panelists for your excellent contributions. Very much appreciate all your hard work and your insights and comments. And I hope

that those who were not able to join us in person this year, might consider joining us in person next year.

I see that we have, it looks like, 10 questions still that are unanswered. So, I'm going to go out on a limb and say, if anyone has a true burning question, perhaps they can reach out through CASE and I could circulate it and see whether any of our panelists would want to address it. Or maybe those are old questions and there really aren't 10 questions out there.

Okay, thank you very much. My thanks to the audience for hanging in there, to the end of the day.

CLOSING REMARKS

Mr. STEPHEN PETRAS: Excellent discussion. Very challenging. You know, let's see where it goes. Right?

Okay. So. It's 4:45, and we've come to the end of the substantive portion of our program. But here to help us assimilate what it is we've learned today. We have a tradition here to have Chios Carmody, who is our Canadian National Director of the Canada-United States Law Institute, give us a summary.

Chi is an associate professor at the University of Western Ontario's Faculty of Law. He teaches courses in public international law, international trade law, and international business transactions. He's been a visiting professor at Georgetown University Law Center, and the Emile Noël Fellow at the Jean Monnet Center for Regional and International and Economic Law and Justice at NYU School of Law. Chios is a noted and published expert on legal issues concerning international trade and climate change. So, Chi, we're looking forward to your summary.

Professor CHIOS CARMODY: Thanks very much Steve. For those of you I haven't met, I'm Chi Carmody, the Canadian National Director of the Institute. I've attended these conferences since 2000, and this year's subject promised to be one of the more immediately compelling ones. I've been asked to provide some brief closing remarks, virtually this year, since, unfortunately, I haven't been able to join you personally in Cleveland.

The broad subject of the conference - our conference - this year was interdependence. A phenomenon that's rooted in biology. We humans are members of a uniquely interdependent species. We create and rely upon a lot of different goods that couldn't be produced in a single human lifetime. And this includes things like vaccines, it includes jet travel, it includes the Internet. In the latest phase of our interdependent life together from 1990 on, we have entered into an era of hyper globalization, which has left the impression of the world as flat. And although there are some indications now that this hyper globalizing trend has moderated, interdependence in the form of global supply and value chains remains enormously important. But, as was pointed out this morning, this massive offshoring and hollowing out of economies linked to globalization since that time, has created a number of vulnerabilities and emphasized how markets have become over reliant on a few globally efficient sources of supply. I think it's fair to say that in this contentious atmosphere, there seems to be a growing ambivalence about the net benefits of interdependence.

Our day began with a reminder from U.S. Ambassador Cohen of the benefits of cooperation; the fact that Canada and the U.S. are long standing partners, and that this partnership, the latest iteration of which takes the form of the roadmap for renewed U.S. - Canada partnership, must continue to flourish, but can only do so if equitable and sustainability considerations are front and center. He suggested that we must not only build back from the pandemic, but we have to build back better.

At the same time, as our first set of panelists reminded us, that may be difficult to do. Diane Francis, who chaired our first panel, observed that we're in an era of free-er trade, but cracks have begun to appear in the current free trade framework.

Communities have been offshored to death. This has caused backlash. In addition, the pandemic has aggravated weaknesses in supply chains, and now we have the war in Ukraine to complicate the situation. Supply chains are being politicized and revamped. The big question is, what does this revamping and re-politicization look like?

Alex Panetta has tried to provide some clarity on what this latest phase of interdependence would look like. This comes from U.S. legislation, in the pipeline, but it also comes from the realization of the two countries need each other. A few years ago, Canada had proposed sectoral trade agreements with China, and there were differences with the United States over renegotiation of NAFTA. Now Ukraine and wider geopolitical threats have brought us together. However, as both Todd Spangler and David Shribman reminded us, there's a lot of uncertainty out there. We could be on the cusp of a recession.

Our second panel was chaired by the incomparable Chris Sands, on the subject of supply chain challenges in the North American auto industry. Chris reminded us that the auto industry was doing supply chain before supply chains became cool. This was a wonderful introduction to comments by Ann Wilson, who noted that in the auto sector, we have a convergence between auto parts issues, trade policy, and human rights concerns. A closure at a tier one manufacturer can have a cascading effect on tier two and tier three manufacturers. Rolling shutdowns are something that are not uncommon today and have impacted the North American auto industry across the board. There are also new pieces of legislation. Several mentions were made across the course of the day of laws like the U.S. Uyghur Forced Labor Prevention Act that are complicating the regulatory environment.

Sarah Goldfeder pointed out, in addition, that the North American auto industry is facing a perfect storm, encountering stressors and preferences that need to be addressed, and often this can be traced to issues of people.

As Warren Ali memorably pointed out, in perhaps the most colorful of the comments for today, these days it's one person and seven dogs. In other words, there are significant demographic challenges going forward for both of our countries. Goldfeder made the associated point that it's potential, not credentials, that count in this modern working environment, as the experience of General Motors has profiled at its Oshawa truck plant. In a tight labor market, there's a need to be creative. Beyond that, as Ann Wilson has observed, considerations of inclusion may require going to some unconventional places, like band areas and prisons, to train and hire future personnel.

At lunch, U.S. Deputy Assistant Secretary Rachel Pointer spoke about the importance of shared goals in the Canada-U.S. relationship in the fields of trade, climate change, resource extraction and supply chain resilience and competitiveness; in addition to the importance of human rights protections including community safety dealings, the issues of systemic racism, and anti-discrimination. The two countries, she asserted, cannot hope to convincingly advocate for human rights protections abroad, when these same rights are not fully protected at home. She reminded us that the Canada-U.S. relationship is a force multiplier for both countries, but also stressed that, in such a kaleidoscopic

relationship, there have to be ways to respectfully disagree and seek mutually acceptable solutions.

Our first afternoon panel on the future of energy supply chains in North America highlighted the fact that there are a number of energy issues that enter into the consideration of our joint relationship. Gary Sutherland asked: how do we address the energy needs of some communities versus others, while assuring environmental objectives? What is the best interests of ratepayers while meeting green targets? There was some indication on the panel that the energy industry feels it's been unjustifiably focused on in terms of emission reductions. The commentary suggested that better, more holistic, and comprehensive planning are needed in the energy sector. Heather Ferguson also reminded us that every type of energy generates waste. This is a given. J.B. Chronister also chronicled how for them, and for his company, the real challenges arise in trying to confront the issue of greenhouse gas emissions. For a company like his, a major steel producer, that's trying to achieve a 25% GHG reduction target by 2030.

In our second panel of the afternoon chat, chaired by Selma Lussenburg, we looked at ESG issues in North American supply chains. Companies are being held responsible for ESG targets. Few companies are islands, as Selma pointed out to us; and publicly traded companies are being rated for the ESG performance now. However, it's a changing landscape and expanding ESG considerations play a role in that process. Jon Drimmer spoke about human rights. What we've seen is a transition from soft law norms to harder norms in business and human rights, particularly since 2015, especially as countries have looked to each other's experiences. Jon pointed out, however, that these laws can be broken down into three clusters: those of transparency and disclosure norms, those of mandatory human rights diligence -- due diligence laws, and sanctions and penalties. All of this ends up leading to human rights as more and more of a business imperative. An expected part of how business is to be done. But there's also criticism that mandatory requirements potentially lower the bar for companies. The thought is that mandatory requirements reduce best practices and may incentivize less stringent corporate behavior. Following that, Reg Manhas looked at the transition from CSR to ESG of the last three decades through a very personal lens. He identified a move from a negative and reactive posture, what companies should not do, to sort of more positive and proactive posture, what countries should do, and on to incentives tucked into national policy frameworks. Michael Torrance also shared with us, what ESG obligations require in the domain of financial services. He also suggested that the problem identified earlier, of downward drift in standards, may not be so serious because companies are essentially self-regulating and in corporate competition with each other. A somewhat different approach was taken by Fen Hampson, who asked, sort of, three major questions. First of all, why is ESG the new mantra? Second, what is the impact of this move on Canada-U.S. relations? And third, a more general question, is it good? And Fen's opinion is that it's really gridlock in the U.S. political system that has prompted the move to ESG, with an attendant loss of sovereignty for both Canada and Mexico, who wind up being the takers versus setters of standards in this domain. There are no unified ESG standards, he noted, and so it's a bit of a wild

west. ESG introduces an enormous amount of complexity and cost. Fen says that, as a result, governments may wind up losing control, so that if you're going to set rules, keep it simple, not complicated.

The speakers that we heard from today, and many of the interventions, left much food for thought about -- for this and future conferences. I think they highlighted how it's tough to speak of supply chains and interdependence where everything is potentially related to everything else.

In closing, however, I'd like to thank our sponsors. Particularly, our platinum sponsors Cleveland-Cliffs and DLA Piper; our gold sponsors the Consulate General of Canada in Detroit; and our silver sponsors Ontario Power Generation, BakerHostetler, Cassidy Levy Kent, Suncor Energy, and Dickinson Wright. I'd also like to thank my fellow institute co-directors, Stephen Petras and his lovely wife Colleen Fitzpatrick Petras, who I spied smiling in the audience today; the Institute's managing director Ted Parran; as well as this year's program director Steve Paille.

Ted and the Steves have worked very hard over the last few months to put this conference together, and they continue to do so with great efficiency, imagination, and skill.

The organizers have asked me to remind everyone that there's a post-conference dinner at Michelangelo's Italian Restaurant and Wine Bar at 2198 Murray Hill Road in Cleveland. Unfortunately, the post conference dinner is something that I can't join you at this year. I have very warm memories of the conference in past years, and wonderful post-conference dinners, with plenty of red wine and enormous cannoli the size of tree trunks, in Cleveland's Little Italy neighborhood on Mayfield Road just behind the Law School. However, as the father of a one-year-old girl here in London, Ontario who has just learned to crawl, I have to get home to give her a bath, a bottle of formula, and maybe some stories, and put her to bed. Nevertheless, the organizers have asked me to remind you that transportation from the conference to the restaurant, and back to your hotels, will be provided.

So, thank you very much to everyone. Merci beaucoup. Stay safe. And we look forward to seeing you next year in 2023, hopefully in person, in Cleveland for the 47th annual CULSI annual conference. Thanks very much.

Mr. PETRAS: Thank you very much, Chi, for that outstanding summary. I also want to say thanks to our technical staff, which was led by Eric Siler, as well as Martin Raska and his personnel, who made all the technology happen correctly. That's been a great 46th annual conference of the Canada United-States Law Institute. Thank you all for coming. Keep your eyes and ears open. We will be back for our 47th. We will have our Experts' Meeting in Washington in the fall. So everybody - we stand adjourned. Thank you for attending.

CANADA-UNITED STATES LAW INSTITUTE 2022 EXPERTS' MEETING: A DEFENSE PERSPECTIVE ON A RELIABLE AND SUSTAINABLE SUPPLY OF CRITICAL MINERALS

The following is a transcript of the Canada-U.S. Law Institute's Nov. 2022 Experts' Roundtable held in Washington, D.C. The Roundtable focused on the supply of critical minerals in the Canada-U.S. trade relationship.

Mr. STEPHEN PETRAS: First of all, I would like to start off with a big round of thanks to Cleveland Cliffs and James Grant, who have provided us this wonderful lunch. So, thank you. Very nice to have the support of James and Cleveland Cliffs.

Now, we're at the luncheon program, and for our speaker, we are very fortunate to have Mathew Zolnowski, who serves as a highly qualified expert and portfolio manager in defence production and Title 3 program at the Department of Defence. Ms. Zolnowski joined the Department in the summer of 2019, leading analytical work on critical minerals, supply chains, and the Department of Defence's policy on tariffs and international trade. In March of 2020 – you can understand why, during that period of time – they took this highly talented individual, and decided to put him in charge of their healthcare portfolio and response to the Pandemic. In this role, he oversaw 200,000,000 in projects supporting the N95 respirator, swab test kit, and syringe manufacture. After the propagation of Executive Order 14017, Mr. Zolnowski led the inter-agency reporting exercise in critical minerals, and in close coordination with the White House, he guided the development of the presidential determination to support sustainable development of domestic mining, beneficiation, and value-added processing of critical minerals for large capacity (UNKNOWN). He now manages the deployment of over \$750,000,000 from the *Inflation Reduction Act*, and the *Ukraine Supplemental Appropriations* law to support domestic critical mineral investment. And he's here today to talk to us about the Department of Defence, and the challenges of critical minerals. Matt.

Mr. MATHEW ZOLNOWSKI: First, Steve, thank you very much for the kind introduction, and similarly, I'd like to thank the U.S./Canada Law Institute, the Wilson Center for the invitation to speak after our distinguished guests this morning. In my remarks this afternoon, I have deliberately decided to break from Department of Defence tradition, by denying you the single pleasure of a fifty slide PowerPoint, and instead I would like (to speak to you about) strategic and critical materials, and how we are approaching risk management for the defense in the essential security and industrial base.

Critical materials – or in DOD speak, strategic and critical materials – are the building blocks of the thriving economy and a strong national defence. They can be found in nearly every electronic device, from personal computers to our appliances, and they support high-wage jobs in the mining and chemical processing industry as well as production of high-value goods in fast-growth markets like the (UNKNOWN). Strategic and critical materials also enable the conventional and strategic overmatch of the U.S. Armed Forces and those of our allies and partners. Taking a page from history, industrialized nations that do not have secured, reliable access to these materials at war time have suffered significant performance trade-offs, which have contributed to their defeat. In sum, strategic and critical materials touch almost every facet of our daily life; and the opportunities and challenges in this sector, for the private sector and for governments, are a microcosm of the geopolitical and geoeconomic challenges and competition that are shaping the twenty first century.

Now, sitting as we are in November of 2022, we might be tempted to look at the COVID-19 Pandemic as the inflection point that has dried the industry, the U.S. Government, and the others to shore up our supply chains. Yes, COVID-19 is important. Every company in this room has grappled with the Pandemic in one, or, more likely several, ways at once; be it limitations on travel, compounding logistics constraints, or facility closures. And this says nothing about the personal toll the COVID-19 pandemic has extracted from each one of us in the form of cancelled weddings, missed birthdays, and unfortunately, the empty chair at the kitchen table. As important as the shared COVID-19 experience will be, it's worth observing that COVID-19 did not create fragility in global supply chains. Rather, it's highlighted the fragility that has been built in for several decades as all industrialized nations shifted towards lean, just-in-time supply chains. COVID-19 is simply the most recent shock in a long series of disruptions that have been increasing in frequency and severity over the past decade, to the point the new normal for C-Suite supply chain risk management now includes proactive auditing through sub-tier suppliers for child and forced labor, preparedness for extreme weather events, constant defence against cyber-intrusion or ransomware by pure amateurs or state-backed hackers, and much more. At the Department of Defence, and in our shop, the Office of the Assistant Secretary of Defence for Industrialized Policy, a core mission is clear-eyed analysis of the risks of global supply chains and developing risk-mitigation plans around them. With that in mind, the global supply chains on which DOD and commercial markets rely for critical materials have brought significant benefits, and in the DOD's case, a material benefit has tightened our alliances and security partnerships abroad. To give just one example, we've purchased many of our critical chemicals from our NATO allies to produce (UNSURE) bombs. We also procure rare elements from Australia, Japan, and Germany to produce gasoline and electric motors. Our foreign partners also helped us to fill in the gaps in our domestic supply chains; the United States binds zinc in Alaska, which is subsequently refined in British Columbia in Canada to produce purified zinc and germanium compounds. These compounds then move back to the United States and to our European allies, where they ultimately produce infrared optics and satellite solar cells on defence platforms.

On the other hand, U.S. competitors are also working to turn our global engagement into a vulnerability, and they actively intervene in markets to capture valued gems; often working both ends of that chain, such as mineral processing and the origin supermarket, against the middle. Or, to borrow a quote from then-Deputy Director of Intelligence Robert Gates in his 1984 remarks at the National Defence University to the National Strategic Materials and Minerals Advisory Committee: ‘My concern is that as production of these materials increases in part through foreign government support, foreign competitors may build up enough capacity to discourage U.S. firms from moving into these areas. And if this happens, the relevant production technology for military applications may never be established domestically without expansive Defence Department programs.’ The administration has taken a very clear position in its national security strategy that the United States relies on the fair and open trade and international economic system; however, longstanding rules that govern international trade have been violated by non-market governments, such as the People’s Republic of China. And so, the United States must rally our partners around rules that create a level playing field to enable broad-based economic growth and prosperity. For DOD’s part, China remains our most consequential strategic competitor. It is the only country with the intent, and increasingly the capability, to reshape the international system. We will continue to prioritize the defence of homeland, deterring strategic attack, building a resilient joint force and deterring aggression, while being prepared to prevail in conflict when necessary.

I would like to pause on this latter part, because it truly is the fundamental question that drives our posture on strategic critical materials: namely, if we were called upon to execute the national defence strategy, are we ready? Thankfully, the Department has a robust, data-driven process to answer this very question through our National Defence Stockpile Program. Every two years, our stockpile economists and engineers canvas industry, the military services, and our non-defence agency partners, such as the Department of Commerce, Energy, Interior, and many others, to identify materials properly and that painstakingly collect the data that is necessary to build forecasts for those material markets. Our non-defence agency partners are critical to this effort, and we also have highly prized collaboration with industry, foreign and domestic, to process those business proprietary data, and show how the territory of the day-to-day market departs from the map for international trade statistics. For those in industry that do work with us on this effort, I’d like to express my thanks, and similarly, I would like to open the door for any other companies that are interested in working with us on this project. Taking a step back to this process, with then perturb our market forecasts with the unique conditions of the wartime scenario to produce estimated shortfalls of defence and essential stability needs. We report these results to commerce every two years, and the next one is scheduled to be delivered in January of ‘23. As you would imagine, this portion of our work is in black box, at least to the outside world; but what I would offer is that we once again rely on critical inputs from numerous stakeholders from across the joint staff, the Office of the Secretary of Defence, the intelligence community, again to appropriately capture the work we have done. That said, the 100-day report on critical materials under section order

14017 has offered a glimpse behind this curtain. In that report, we have 53 materials that have unclassified shortfalls to defence or essential civilian needs. During the postulated national emergency conditions of this scenario, the United States is likely to face inadequate supply of these materials due to an inability to access foreign sources, among other factors.

I will not belabor the point in listing every single material that is in shortfall, but, reduce it to its simplest as they span the alphabet – from aluminum to yttrium, as well as a myriad of product forms, be it stable isotopes, raw ores refined metals, and chemicals. For the vast majority of these materials, the DOD is a very small consumer of critical materials relative to the U.S. civilian market demand. This civilian-centric nature of the challenge drives us towards an all-of-the above approach, in which we leverage the unique capabilities of every component of the Federal Government to bring to bear.

To that point, we highlighted four key pillars, which nest under the industrial strategy that Ms. Fazili outlined in her remarks earlier today. One, to drive demand; we must develop and foster new sustainability standards for critical material-intensive industries. Second, to stimulate supply; we must expand sustainable production and processing to include recycling and non-traditional mining practices. Third, to hedge risk; we must strengthen U.S. stockpiles. And last, to promote equity; we must work with our allies and partners to increase traceability and transparency in global supply chains. Our core recommendation for this report is the development of sustainability standards for critical materials and putting these standards into federal procurement practices. Just as organic food labelling created market space for higher margin produce, sustainability standards are meant to catalyze the burgeoning market force for responsible investing and ESG standards in general. I'm happy to note to this audience that the U.S. Government is already on path to implementation of these standards. To give just one example, through the Environmental Protection Agency's leadership, new criteria for the sustainable use of resources under the EP eco-label for consumer electronics. To ensure that we have a reliable source of critical materials, we will also need to consider stockpiling what we will need to take on an emergency. Some of this means new resources, but a more significant portion means dusting off some of our longstanding authorities to procure critical materials to create the time that our industrial base needs to mobilize and respond to a national emergency. Again, I am happy to report that the President signed an executive order that will streamline our ability to release materials from the stockpile in the event of an emergency, and this Congress has made the first direct appropriation to a national defence stockpile since the end of the Cold War. Now, as is common sense to this audience, critical material markets aren't equal, and facts, or in this case geology, is a stubborn thing. This reality compels us to work with our allies to develop sustainable sources of critical materials to ensure that these materials are produced, processed, and recycled in a manner that supports the ability of all countries to realize the full economic benefits of their geologic endowment. Our colleagues at the Department of State, through the Mineral Security Partnership, have been doing incredible work in this space, and the receptivity from our allies and partners across the board has been both positive and very well-received.

Lastly, I'd like to offer a few words on the supply side of the question - or, as Steve pointed out, the \$750,000,000 DPA Title 3 question. In short, we are under no illusions about the competing pressures that are facing incumbent producers, nascent junior miners and explorers, and downstream manufacturers. We are also under no illusions about the scale of the challenge we face, as well as our investment partners in the Department of Energy, the Export-Import Bank, [UNKNOWN] among others. As such, our approach to critical minerals is one of a patient, strategic investment. Wherever you are in the development side be it preliminary economic assessment, PEA, feasibility study, we want to work with you to accelerate the transition from the lowest cost technically acceptable sourcing to one that reflects our values and brings resilience to critical materials supply chains. I am happy to talk to our investment approach and strategy more generally during Q & A. Going forward, Americans, our allies, and our trading partners have never been so confident about our supply chain future. Our industry needs the world of innovation and production, for entrepreneurs and small businesses, power and unrivaled capacity to create everything from cars and satellites, to airplanes and industrial robots. The U.S. Military, in combination with our allies, is the most powerful in the world. Our capacity to create value for consumers in unrivaled, especially when we work together. For Americans, perhaps the most powerful tool in our arsenal is that the entire country is united in our commitment to this task; there is bipartisan, bicameral, and broad interagency consensus on the need to build resilient supply chains; and we are committed to working at home and abroad to ensure that we have the leading edge capabilities needed to support the defense industrial base and broad-based economic growth. A comprehensive strategic approach to address supply chain resilience will take time, take innovation, and resources, and yes, we are working to solve the problem that to many decades to evolve. But the actions that the administration has taken to date are a significant down payment towards accomplishing those goals. Thank you again for allowing me to speak with you this afternoon, and I look forward to your questions.

Mr. PETRAS: Thank you, Matt. Please, don't leave the podium. So, Ladies and gentlemen, the questions for you speaker. Yes, in the back.

Mr. JOHN GALLAGHER: Hi, John Gallagher. Sorry if I missed, maybe, part of your remarks, and you addressed this. But I'm listening to what Minister Champagne was saying, even in the last week, in Canada, the Deputy Prime Minister, everyone here, some of our speakers talked about it. It's Canada really identifying itself as they're ready to be a global leader in this area. How seamless can we be in working with them across North America, so that authorizations and funding and the Defence Production Act and other things we saw - we saw some money go to MP materials, for example - when I hear President Biden say domestic sources are rare birds for climate reasons, and countering everybody else, I want that word 'domestic' to cover Canada and the United States. How true is that?

Mr. ZOLNOWSKI: Well, it's really quite simple; it's a matter of law, settled law. Since 1992, Canada has been considered a domestic source of the Defense Production Act. So, and investment in Alberta or Quebec or Nova Scotia would

be no different than those in Nebraska or anywhere else in the United States. So, as a matter of law, that's absolutely, just a reality. To your point though, many of the companies that we are working with on critical materials issue have never done business with the U.S. Federal Government before, American or Canadian, and quite frankly, if we want those companies to participate in the government process, be it the TPA program or any others, we have to come to them. So, as I'm sure some folks from the Canadian Embassy and some of our Department of Commerce colleagues can note, we're participated by way of webinars with Canadian industry through the MSP Program, the Canadians and many other partners have signaled priority projects that we should consider. And so, we are actively engaging those firms, trying to bring them into the process and educate them on just how do you consider a TPA investment – or any other – and is it the right fit for who you are as a company and where you're trying to go. So, the short answer is, it's a duck on a pond; looks very quiet on the surface, but there's a lot happening.

UNIDENTIFIED SPEAKER: Actually, a follow-up, we were chatting about the before lunch. But there's misnomer specific in Canada – so we have a Canadian Embassy project, you know, we look at this as an opportunity to, you know, find funding and secure our commercialization path. But, the misnomer is that, if you were to provide funding under this, the Defence Production Act, that that material would be going into defence, so it would just end up in something that might be used in the military. And from an investor point of view – and this is who owns our company, we're publicly traded – there will be concerns potentially among them. So, I understand now that that's a misnomer for the most part anyway, so maybe just touch on why the Act is there, and what it's actually meant to do – it's not necessarily what Canadians are perceiving it as.

Mr. ZOLNOWSKI: Sure. So, first thing's first: with the duck in a pond reference, I just want to make sure it's abundantly clear – I did steal that from the movie 'The Replacements', so that's not created. But when it comes to this consideration, the key - when the word 'defence' is in the Defence Production Act, it immediately triggers folks to think 'ah, this must mean the U.S. Military and the U.S. Military are involved'. That's partially it, because the way the Defence Production Act works, it's about a shortfall to national defence, and to dive into a bit of extreme legalese, there's two different bodies of law that govern the way the Department of Defence functions: Title 10, and Title 50. Title 10 is exclusively the body of law that deals with military activities – US Army, US Navy, etc. Title 50 is [UNKNOWN]. And so, in that sense, are there military contingencies that fall into Title 50? Yes, absolutely. Are there non-defence contingencies that fall into Title 50, like a pandemic? Also, yes. And so, specific to [UNKNOWN], the shortfalls we are looking at are related to not just the Defence Department's need for resilient supplies of lithium, nickel, and cobalt, etc., batteries that we purchase; it's also about essential civilian industry. If you think about the role of these batteries in transportation and green storage, the impact on the U.S. economy is massive. And so, we need to have a resilient supply chain. Again, not just for military purposes, but for the broader civilian economy. And so, that's why the DPA is an incredibly flexible instrument to get after not only hard defence requirements, but again, essential civil needs as well.

UNIDENTIFIED SPEAKER: I think last year, the last version of the NDAA which passed the House – has included some provision to have aluminum added to a special category for the DOD, and then in addition to that, I think another section of that bill had looked to have aluminum have a specific DOD or DPA Title 3 usage. And I'm just curious if you think that's something that congress is going to move forward with? Do you think that's necessary? I've noticed that aluminum is very much needed for a lot military uses.

Mr. ZOLNOWSKI: Sure. So, just very briefly, I believe the special category you're referring to is a proposal to have aluminum add to what's called the 'special metals' clause. The 'special metals' clause, just describing the group, is a requirement that this class of metals and alloys be melted or produced in the United States or a qualified country. And a 'qualified country' includes most NATO allies and several other key allies in the Asian Pacific – like Australia or Japan, for instance. It was proposed; it was ultimately not included in the NDAA, so that's not what I can kind of speak to why that was not the case. I was certainly tracking that development. In terms of a requirement for aluminum under DPA Title 3, we do have a reporting requirement on that area subject which is making its way to Capitol Hill right now. And to your point; not all aluminum is created equally. There's a difference between just typical London Metals Exchange P-1020 aluminum, high purity aluminum, as well as the specialized aluminum alloys that are used for military purposes, and so on. It's not as simple as saying 'aluminum is great for the country'; you really have to break the issue down to the specific product.

UNIDENTIFIED SPEAKER: Early on in the NDAA this past year there were efforts to expand work into Australia and the UK as well; where does that stand? From a company that we work with in the Indo-Pacific, we would love to see it, but very curious where it stands.

Mr. ZOLNOWSKI: So, that language is still pending in the Congress, and the Defence Authorization Bill for the fiscal year '23. So, now that the elections are over, I presume that Congress will come back to both the NDAA and our appropriation cycle for this year, so, ultimately, it's still in their court to make a decision on where that proposal goes.

UNIDENTIFIED SPEAKER: We've worked with your agency lab, we appreciate all your work. You mentioned that aluminum, much like aluminum steel, has very unique products that serve the military in particular [UNKNOWN]. But I wanted to ask; you mentioned the DPA and [UNKNOWN]. Can you provide a little more color on what the path forward looks like, and if you'd need more authorization from Congress, or what the next steps are, you know, if you have funding and will be seeking our proposals, or sort of how that works under the authority that was give [UNKNOWN]?

Mr. ZOLNOWSKI: Sure. So, I'll take it in two rounds. So first, when it comes to GOES, as a product in particular; independent of the defence production maps, and in addition to that DPA expansion revision, one of the other revisions that is also currently pending before Congress is to give our stockpile the authority to buy materials for their inventory. One of those materials is grain-oriented electrical steel. So, we are certainly hopeful that that should come to pass. In terms of the

defense production map itself, I'd certainly be happy to follow-up offline to give this a little more detail to anyone in the group. But reduced to its simplest, the way our acquisition vehicle is set up, we can do two things simultaneously. One of them is the typical government procurement process; we issue a request for information or request for proposals, we tell you exactly what we want, when we want it, and how much money we have, and it's very much a rote process, for lack of a better way of putting it. It's not that difference from any other government or public procurement process you would [UNKNOWN]. On the other hand, our contracting vehicle also allows for companies to submit an unsolicited white paper at any time and on any subject, again, the intent being that, you know, for all the wisdom of the federal government, we don't actually know all of our requirements at any the time; and sometimes, market conditions are shifting so quickly, that if we were to follow this rote government procurement process, we would never actually be capable of responding to the crisis in time. And, really, this white paper process completely puts the initiative in the hands of industry to come to us and say: 'I found this problem, here's how I think we can solve it, and here's roughly how much I think it costs.' And when you submit that white paper, that is sufficient for us to basically do one of four things. One, we can read it and say, 'no, we don't want to do this', and completely reject it. Another option is we can look at it and say: 'hey, we really like this thing, there's technical merit here, but we don't have enough money for it right now,' and that's usually a trigger for us to go to Congress to get the money we need. The next two options are going down the important path. So, 99% of white papers, we will look at them and say, 'this is really good, but -insert thing here-'; either we want to do additional diligence, or perhaps the scope of work isn't as well defined as we want it to be, but something needs to be addressed. In that circumstance, we give that technical feedback to the company, and we invite them to submit in detail [UNKNOWN]. And that's very much a normal 50-plus page document – you've got vendor quotes, and all that. Total time when you go down that path is approximately 6-9 months. On the other hand, there are occasions where two things happen; this is the fourth path, which again, I'm going to preface this with every company wants this, but less than 1% are going to get this one. And that is the initial white paper that comes in is sufficiently well-defined that we could write a contract immediately based on just what you described in your initial offer. The second thing that happens is that based on what you identify, there's an urgent and compelling need that we must work against this right now; and in that circumstance, we can get on contract withing 30 calendar days. During the Pandemic, our course record was six days; again, that process from initial submission of the company to money in their pocket. Again, everybody in the industry will want a six-day turnaround, but again, it's as much on the company putting forward a no-kidding offer that [UNKNOWN], as well as is there truly and exigent need for the government to act immediately. So, things like N95s, things like swabs – you know, things of that nature – would rise to the level of: we must go forth and do that now. But those are, again, the five-paragraph essay response. All the potential options to engage in the Title III program, we'll be happy to distribute basically some how-to guides for anyone who's attended here today.

Mr. LARRY HERMAN: I thought I would just mention that our relationship with the United States, in terms of trade, is governed by the new NAFTA, or the Canada-U.S.-Mexico Agreement. And that covers things like tariffs, and goods between the countries. On the defence side, those are not covered by the Canada-U.S.-Mexico trade agreement; they're covered by defence-sharing arrangements. In the Second World War, Canada and the United States included arrangements; they weren't treaties, they weren't agreements, they weren't approved by Congress, they were defence production sharing arrangements, which continue to this day. And so, when a company is qualified under those arrangements, whether it's under the U.S. Defence Production Act or the Canadian Controlled Goods Act, those companies qualified goods in the defence sector can be exchanged between Canada and the United States free of duties, free of tariffs, and basically means duty-free trade for qualifying projects and qualifying companies in the defence production area. I just thought I would mention that. It's a very important framework for bilateral cooperation and collaboration between our two countries that, frankly, from experts like yourself, isn't often discussed and probably not appreciated enough. But this is an important area where the two countries – not three countries, as you have in the Canada-U.S. Mexico Agreement, but our two countries – collaborate very closely in the defence production sharing arrangement. I just thought I'd mention that.

Mr. ZOLNOWSKI: The only comment I have on top of that is, again, also through our office, not in my section in particular, we have our own security and supply arrangements. One of the things that our security and supply arrangements allow is that, when you have priority-rated orders under the Defence Production Act, our security and supply partners in Canada, Italy, and a handful of other countries, they can access the U.S. market on a priority basis, and then similarly, we have access to their markets on a priority basis to meet national defence needs. So, short answer is you are absolutely correct, that is an incredibly important tool. If I remember correctly, the agreement between the U.S. and Canada actually dates back to World War Two, if I am correct– it's gone through a couple of different iterations since then, it's now part of the Defence Production Act, but that would have been well before DPA was the law, since I was a kid.

Mr. HERMAN: It actually originated at Hyde Park, New York, when President Roosevelt and Prime Minister Mackenzie King met, and that was the origin of this pre-trade security arrangement, the defence production arrangement, between Canada and the United States. I think it was 1942 that those arrangements started. A little bit of trivia.

Dr. STERN: I'm going to ask a question that you might have [UNKNOWN], but I'll ask it anyhow. Pursuant to the export control announcement on semi-conductors, one of the topics that everyone's speculated on it: is how will China retaliate? If they retaliate. As defence planners, I can imagine that you're spending some time over at the Pentagon thinking about critical minerals that we have access to from China. So, could you address that in any way and in as much depth as you feel comfortable?

Mr. ZOLNOWSKI: Sure. What I would have offered is, to that, in my remarks I talked about our stockpile plan process. One of the key pieces of that analysis,

again, is to try to assess what would have been the marketplace simply as a matter of baseline conditions, and then thinking about in a specific wartime contingency, how are different countries likely to act? That can be both belligerent parties, neutral nations, and non-belligerents. So, it's part of a routine assessment and planning process that we do every two years.

Dr. STERN: And where are we on it now, in regards to any contingency that might happen to China will retaliate on some critical metals?

Mr. ZOLNOWSKI: So, I'll politely defer the question.

Mr. ALEX PANETTA: Hi, I'm from the Canadian Broadcasting Corporation, so the media, full disclosure. So, just had a few questions about funding models. So, one of the funding models you're keenest on pursuing in potential cross-border partnerships – we're talking grants, loans, purchase agreements, and so, yeah what sort of time frame are you looking at for potentially getting some of these projects going?

Mr. ZOLNOWSKI: Sure. So, the principle instrument that we are offering, the best way to analogize them, we call it grants – so, they're not offering loans or loan guarantees, so, that's the first piece. But that stems from the fact that when the President gave us his authorization for better materials, he authorized grants and contracts, he did not authorize loans, so that's pretty straightforward. In terms of the availability of companies to apply for assistance, the way our procuring process is set up is that we have one perpetually open contract in the vehicle. And the intent is: this vehicle is always open, so that way, no matter what's happening in the world, there's a single landing point for all defence production investments – doesn't matter if it's submarines, hypersonic weapons, N95s, or critical materials, they all go to a single landing spot, which we're distributed to our Canadian Government colleagues and many others to try to shepherd industry to that locale. In terms of the types of things we're interested in, we have released some procurement guidance – I believe at the end of May – that outlined five key areas of groundwork. And again, this is synchronized both in time, in terms of when we are looking for supply to arrive in the system, as well as, frankly, the kinds of companies we're looking for. What I'd say about the time is there are a handful of opportunities in industry to get new supply into the system in the short term – the short term being between now and 2025. At the same time, if the demand for these materials is as advertised, that's not going to be enough. We need to start making those we're calling 'condition-setting investments' today, so that way the next generation of projects in 2026 and beyond are ready to go. So, part of our challenge is to make sure that we're doing the satisfying thing of getting stuff built and doing it now, versus 'I have to do the front-end of engineering and design work to actually get ready the project ready'.

So, there's five things that we want to work on. The first one is bankable or definitive feasibility studies. Again, the life of the money project is a PEA - preliminary economic assessment – a pre-feasibility study, and a bankable feasibility study. It's pretty well known that the winnowing effects at each of these stages, and especially getting into production, is pretty extreme; it's very, very significant. And in some cases, you have very good projects that by the time they get ready for the bankable feasibility study phase, they're sufficiently leveraged

up that they just can't get that last big capital to do the final engineering study to get then into production. And so, that's what the first piece is designed for. It's really for the juniors, the mature juniors, to get them across the hall and get them into production. The next three bits are really more designed for some more mature mining companies. The first one is - again, Ms. Fazili mentioned this up front - [UNKNOWN] extraction. There may be existing mine projects out there today - say it's a boron primary, but they have some lithium in their tailings or waste rock - where, again, it's [UNKNOWN] to an existing facility with existing compartments, with an existing management team, and existing cash flows. Again, it just drives the risk into the ground as a project. But again, that's driven by geology, so there's only going to be so many projects where you can do that. The next part we're calling facility modernization. So, it means the obvious things: how do I improve my flow sheet, and I use less water, less power, things of that nature. But it also means what we're calling transformational changes in the mining process. So, there's fascinating developments happening in the mining community with the integration of battery electric vehicles, or fuel celled-powered vehicles with autonomous systems, and the amount of productivity you can gain from doing that, either for significantly expanding or improving productivity or operations, reducing carry-back at your mine site - really fascinating things like that. So again, it's trying to get more out of the resources that we have. The next piece is recycling. Again, this is a priority area, not as large - not because recycling is not important, but just in light that the Department of Energy has a lot more money than we do. The bipartisan infrastructure law gave them over \$7 billion to invest in the battery sector, including recycling, and I kind of shudder to say that we only have \$750 million. So, there are very good projects out there that aren't as capital intensive, and so we will be pursuing those. It's just that we know that mining and mineral processing is a power core element, so that's what we focused on. The last one that I'll refer to is really a key lesson learned from the pandemic: which is, if all of this build-up in the mining sector is going to occur, that is going to create rippling stress through other sub-tier suppliers of the supply chain. And it's going to be things like getting diamond-core drill bits, it's going to be things like getting field service support, it's going to be workforce; are we actually training enough chemical engineers and mechanical engineers and mineral economists to actually do the work that needs doing. And especially if you think about workforce, let's assume, for argument's sake, it takes four years to get somebody through college, another two years to actually get good at the job - because they don't come out of school and just know what to do right away - that means that if we start right now, that first wave of people won't be ready until 2028 or later. So, that's a perfect example of a condition-setting investment that you do now, fully noted that it's not going to pay off for several years, but if you don't do it, you'll never catch up to the demand curve. [UNKNOWN], but if you want, it's actually publicly available, that procurement guidance, it's also on our policy website as well, so happy to distribute that to the group as well so everybody can read that.

Mr. PETRAS: Thank you, that was fabulous. One small question before we leave today is we've got Jim Blanchard here, former Governor of Michigan,

former U.S. Ambassador to Canada, and traditionally, a commentator to the Canada-United States Law Institute on what election results mean to us. So, three minutes, Jim; what can you tell us?

THE HONORABLE JIM BLANCHARD: As a Democrat, I'm happy.

The election results surprised everyone; nobody expected it, but they knew what was going to happen. Almost everyone was betting on the fact that the Republicans would not just gain the House, maybe the Senate, but by a large margin, and that didn't happen. Normally in a mid-term election – you know this – the party out of the White House has substantial gains; sometimes 40 seats, sometimes 50, we don't even know what it will be. After California went [UNKNOWN]. But the bottom line is: normally, with the White House under Democratic control, high inflation, low Presidential ratings, COVID, people have to worry, normally there would be a real strong surge to the Republicans. They didn't get that. Now we can speculate; we were hoping the quality of our candidates would make the difference, in a close election, which does make the difference. So, I think that helped us a lot. Even though people are upset about inflation, I think that – and they were prone to protesting what's going on – I think they're worried about the lack of civility in our society. When we talk about Crime, they're also thinking about people storming the capitol. [UNKNOWN]. People were worried about violence, lack of civility. I think the attack on Paul Pelosi, the impact of people voting; it was a huge number of straight party voting for the Democrats. So, I think all that combined to give the Democrats some resilience in the election. That doesn't mean the House won't be above them; I sense that it will, but by a narrow margin.

But the Republicans are going to drive Kevin McCarthy crazy, they will, because he's got 60 people in the Freedom Caucus, and he's no Nancy Pelosi; he has not been able to keep that group together in a unanimous way to enact legislation. In the meantime, Joe Biden, he's got all these new laws that are passed – the bipartisan infrastructure plan, the Build Back Better, Inflation Reduction Act, the CHIPS Act – Joe Biden and this administration could spend the next ten years making all that work. They can turn a shovel and cut a ribbon all over the country for the next few years, and they'll probably invite the Republicans to come to the party. Every member of Congress loves to dedicate projects. So, he's got a lot to work with.

In the meantime, by the way, Michigan, where I was, we had a historic victory – not yet had, actually – in modern history. We swept everything there, and that was not expected. We thought she'd get re-elected, but she got re-elected by 11 points. The only person who got higher than that was me, but that was many years ago.

The final thing is this: Donald Trump is a big loser in this. In Florida, Ron DeSantis is a winner. They are going to be two scorpions in a box. We're going to watch that; that's going to be really interesting. And the next thing I should say to all you is, well, it really won't affect the relations with Canada. No matter which party's in power, people value, in Congress, the relationship with Canada. They do, despite some of the kookiness of the Trumpsters over time, the truth is, we did get the new, modified, improved NAFTA. That's one of the major achievements

of the Trump administration. It took longer, you know; it took a year longer than it should have. But the fact is that the relationship with Canada, regardless of all the politics down here, will be very good, and hopefully it improves some more. There are some areas where we need to improve, but I'm not going to get into that here. But thanks for listening.

Mr. PETRAS: Thank you. Before we go, remember: mark your calendars, April 20th and 21st in Cleveland, for the Canada-United States Annual Conference. So, meeting adjourned. Thank you.

15TH ANNUAL CANADA-UNITED STATES LAW INSTITUTE DISTINGUISHED LECTURE: PILOT, NOT PASSENGER: CANADA'S ROLE IN SPACE

Professor Michael Byers

The following is the text of the 15th Annual Canada-United States Law Institute Distinguished Lecture, delivered by Prof. Michael Byers on 26 Oct. 2022 at the University of Western Ontario Faculty of Law. Professor Byers holds the Canada Research Chair in Global Politics and International Law at the University of British Columbia. He also co-directs the Outer Space Institute, a global network of space experts.

So fantastic to see such a young audience. This is why I teach. I'm going to take you on a bit of a journey in the next forty minutes or so. I'm going to leave as much time as I can for interaction with you, so save up your questions or your opinions. It doesn't need to be a question. If it's an opinion, just keep it respectful and short. We have a lot that we could talk about today. This is a topic that I care a great deal about, and it's one that will shape all of your lives in quite fundamental ways. So, let's start.

The title of my talk is 'Pilot, not Passenger: Canada's Role in Space.' I don't know if any of you got the reference there to a line in a fantastic movie about the American astronaut program. The line is from *The Right Stuff*, spoken by the actor Scott Glenn who played Allan Shepard. And Shepard says to the German-American rocket designers, and I quote, 'that is a spacecraft, sir. We do not refer to it as a capsule.' Making the point that they were pilots, and not passengers—that even the early spacecraft had to be flown, and that in this particular case the astronauts were insisting that it had to have a window. Now, when you hear that title 'Pilot, not Passenger,' some of you may have thought that I was referring to the United States and Canada, and particularly the relationship between the Canadian Space Agency and NASA, because the Canadian Space Agency in Canada in space has generally been the junior partner in exploration activities. We build a lot of high-tech pieces of equipment that go onto NASA spacecraft, and you might legitimately have thought that that would be the focus of my talk. Well, we could talk about some of that, and when we get to the discussion phase someone might ask me about the prospects for a completely Canadian space mission. I would love to talk about that. But the focus of my initial half hour of comments is actually going to be a little bit different. It does concern Canada and the United States, but in a different way, because I don't want to talk about spacecraft in the sense of pieces of metal and electronics constructed by humans to send into space. I want to talk about the spacecraft that we live on called Planet Earth. Now this is

not a unique insight. You've all heard about Spaceship Earth. You all know about the famous photograph 'Earthrise'. And you know about the pale blue dot. This recognition that Planet Earth is our spacecraft in the infinite universe is one that's been talked about for at least a century and a half. But I want to make an argument for all of you who are law students that international lawyers from Canada, the United States, and elsewhere have major roles to play in the safety and sustainability of this planet and of our species in space. That the future of humanity in space has to be significantly a legal and a government's activity, and not one that we leave to the space scientists, and the engineers, and the corporate titans that want to dominate outer space. But, the lawyers are an integral and necessary part of humanity's expansion into the final frontier. And I'm going to make this argument by talking about the main topics that I have addressed in my research and in my writing over the course of the last four years. And a very important credit at this point, all of my space research now is done in full partnership with an astrophysicist named Aaron Boley at the University of British Columbia—everything that we do now is fully co-authored, including a book that's coming out in January entitled 'Who Owns Outer Space?' So, everything I talk about is not just me; it's my understanding of a very challenging collaboration between an astrophysicist on the one hand and a lawyer/political scientist on the other. I have literally broken my brain on hundreds of occasions in the last four years to try to understand the physics. It's not easy. But nothing that we publish includes an equation that I do not understand; I insist on understanding everything in our papers, and Aaron does the same, as he rapidly becomes, I believe, a fantastic space lawyer.

So, let's talk about things that we've been doing. And I'll start closest to the surface of the earth and move outwards, just as a way of organizing this. So, is anyone here planning a trip just a little bit to the south of here in about, oh I don't know, two or three weeks' time? Let's imagine that you're going to spend a weekend in New York City. And in roughly two or three weeks' time, there might be a risk associated with traveling to 41 degrees north—we're at 42 here in London, Ontario—but traveling to 41 degrees north in two or three weeks' time might actually introduce a risk into your life that you were not aware of until I just told, right now. Because in the next couple of days, the Chinese Space Agency is going to launch a long march 5B rocket carrying a module for its new space station, the Tiangong-1 Space Station. And this rocket, which is rather large, has a core stage, a main stage, that will be abandoned in low-earth orbit. And because the orbit is rather low, it will encounter gas drag, the upper regions of the atmosphere, which will then bring it back to earth roughly two to three weeks after the launch. Now this core stage weighs twenty tons. And significant pieces of it will survive re-entry, and in fact we know this because they've done this on three occasions in the last couple of years, and on two of those occasions, pieces were actually discovered on the ground in the Ivory Coast and most recently in Malaysia, I believe. So, 20 tons of rocket stage is going to be coming back to earth, and because of the inclination of the space station, and therefore the launch and the orbit in which the stage is abandoned, the risks are highest at 41 degrees north, 41 degrees south. Ergo New York City. Imagine what a 20-ton rocket stage, even

broken into large pieces, would do to Central Manhattan. That's what we call a low-probability, high-consequence event, because chances are that it will land in the ocean somewhere. But as I said, two of the last three actually resulted in pieces on land.

It would be easy to criticize the Chinese for this. It would have been relatively easy to design this rocket in a way that enabled a controlled re-entry; in other words, engines that could be re-started with enough residual fuel to bring the stage back into a re-entry that ensured that it would land in the middle of the ocean. Ideally, the south Pacific Ocean, which is actually a spacecraft graveyard—that's the unofficial name for an area of the southern Pacific Ocean that is used for controlled re-entries. But the Chinese space agency, for whatever reason, decided not to go through the trouble of designing a controllable rocket stage, and instead are abandoning these in orbit. They're not the only ones who do this. There are stages that are abandoned because they cannot reignite their engines some boulder rockets that are still in use, and there are other rockets that are able to engage in controlled reentries where the operators choose not to do so in order to maximize the performance for their customers. SpaceX very famously has pioneered landable first stages, and generally does controlled reentries with their second stages, but from time to time we'll abandon this stage in orbit in order to maximize the performance to be able to lift the customer satellite as high as possible. And as a result, we have a lot of rocket stages that come back to earth or will come back to earth in the years ahead, including stages that have been up there, in some cases, for decades. So, there are literally hundreds of rocket stages, some of them dating to the Cold War era, that will come back at some point, and will have pieces that survive. One of the things that Aaron and I have done working with one of our PhD students been to begin to look at this issue; first of all, to identify that with available technologies and with available mission design you can pretty much have a controlled reentry regime of the vast majority of rockets that are currently being launched or in the future being launched coming back through controlled reentries - that is possible. The other thing we've identified is that the burden of risk is carried predominantly by countries in the global South. Historically, most of the rocket bodies abandoned in orbit and many still today are ones that are used to launch to geosynchronous orbit near the equator, to launch to 36,000 kilometers up where the satellite then rotates at the same speed as the earth and therefore is about the same location on the planet to provide things like satellite TV. And we've actually plotted the geographic distribution of risk and discovered that the risk is roughly four times higher if you live between 30 degrees and 30 degrees south as opposed to living in one of the major space fairing states- the United States, Russia, China, and Europe if you want to talk about Europe as a whole being a major space fairing state.

So, what's been happening for decades is the major space fairing states, the big countries of the North, have been accessing space using the cheapest available method, which is disposable rockets, and imposing the pollution risk, the safety risk, on the countries of the global south. Now, does that sound like any other topic that you might be aware of? Like carbon dioxide emissions? It's a standard exploitation- the externalization of your costs onto people who are not

beneficiaries of your activity. And so, one of the things we called for is for the countries of the global south to insist on a controlled reentry regime, to have a multilateral process that leads to an agreement that there must be a transition to all rocket body re-entries being done in a controlled manner. Now someone here in Q&A is probably going to say: well, is that really possible? And my answer to that is yes. So, prior to 1989 on the oceans the majority of oil tankers only had a single Hull. That's because industry says it was too expensive and too difficult to have double hulls; it just wasn't practical, and how could you get everyone to agree to a double hull requirement anyway? This is a transportation issue in an area beyond national jurisdiction not dissimilar from space. Single hull tankers – that's what industry wanted, and is what industry got, until the Exxon Valdez accident off the southern coast of Alaska, which decimated an otherwise pristine coastline, attracted a massive amount of public attention and outcry. And in response to that, the U.S. government unilaterally banned all single-Hull tankers from U.S ports. Within two years, the international maritime organization had adopted the same rule and modified the relevant conventions, and today ninety-nine percent of tankers on the world's oceans are double hull as a matter of international law and industry practice. So, if the shipping industry can do it, if we can transition to a safer regime with regards to oil tankers, why can't we transition to a safer regime with regards to rocket boulders? It might seem like a small problem, but given the dramatic increase in the number of launches and the fact that it is an externalization of risk issue onto the global south, I think there's real potential. If we can do it, why shouldn't we? And it has to be done through the law, because if you don't do it through international law, you will get what are called 'free riders': or to adopt the language of the law of the sea, you will see flag with communion states, big potential issue in space as it was on the oceans. So, rocket wise, our next project on rocket bodies is the risk to civilian airlines. I could really have you worried for your next flight, if I took the time.

The next issue I want to talk about are satellite mega constellations; and here, I am speaking most centrally about Starlink, which is a system of communication satellites in low earth orbit that's being built by SpaceX, which of course is controlled by the richest person on the planet-and sometimes the most erratic person on the planet-Mr. Elon Musk. I tell my students when I teach my course on space governance that the course is driven by Elon Musk, and every issue relates to him-I've already mentioned his landable rockets. SpaceX is now responsible for half of the operational satellites in Earth orbit, and this has all happened in just the last two weeks. So, we have roughly 7000 operational satellites in orbit. I haven't counted the latest number of Starlink satellites; they launch roughly 50-55 per week on average, but the number is going up dramatically. They have licenses from the U.S Federal Communications Commission-that's a national regulator, not an international regulator-for 12,000, and an application that is in the works for thirty thousand more. And these are not small satellites; current ones are approaching 300 kilograms per satellite, and they are designed to provide broadband communication anywhere on the planet with very low latency, very little time delay, eliminating the tiny but problematic delays that come with communications from geosynchronous satellites at 37,000 feet. These satellites are

low down, they're 350 to 550 kilometers above the planet. And the idea of having broadband accessible around the planet is really exciting if you live in a small community in Canadian Arctic, for instance, or if you are a mariner at sea, and there are lots of people in remote and rural areas who are deservedly excited about the prospect of this technology. But it does come with problems; and Mr. Musk is very much a product of the Silicon Valley culture of moving quickly and breaking things, and learning from breaking things - making mistakes - and that's why he was able to develop landable rockets so quickly, by actually having lots of accidents as he tried to perfect it. And the Starlink mega constellation is an exercise of learning through doing, and it is premised upon what's called the 'consumer electronic product' model. So how many of you have a cell phone that's more than five years old? The old guy at the back. Yeah, I had one of those just until a week ago. But the idea is that if you have a system that results in rapid turnover, you can transition to newer, better technology very quickly, and therefore improve your systems, and therefore stay ahead of the competition. So, the idea has been extended from the consumer electronic world now to space, with every single one of SpaceX's satellites designed to have an operational lifespan of only five to six years. And you could only make this model work if your launches are really cheap - i.e. land-able rockets that you can reuse again and again - and if you're prepared to overlook some of the externalities that are associated with this.

So, externalities associated with mega constellations. It's a great idea, wonderful for remote communities, for instance, but, there are certain problems. One of the greatest externalities is being born by the astronomy community in the form of light pollution and also radio pollution, because these are communications satellites, and a significant part of astronomy is done with radio telescopes. But it wasn't until 2019 that the astronomers realized they had a problem, when an image from a telescope in Chile was damaged by a streak of light from one of the first Starlink satellites. And very quickly, the international astronomical community has organized to try to push back against this existential threat to the world's oldest scientific discipline by trying to, among other things, encourage SpaceX and other satellite companies to mitigate some of this light pollution. And the companies - SpaceX in particular - have tried to work with astronomers. Right now, they're putting visors on their satellites to reduce the glare. The biggest problem is that these satellites in the night sky will often catch sunlight that's coming around the planet. So even though it's dark where the telescope is, the astronomers are looking into the deep universe, you have a satellite that's going across the sky that's catching the sunlight that's coming around the planet and it's lit up like a Christmas tree. And that, in itself, can cause a streak across your image or just the proliferation of this can simply raise the ambient light in orbit and therefore what you need to look through. And if you get enough of these satellites, all of a sudden you start to get them actually obstructing, by their sheer physical presence, what's called an occultation, actually impeding the image. So that's an externality that I'm pretty sure Elon Musk had not thought of when he designed this.

But there are others. One of the issues is that many satellites, when they re-enter at the end of their lifespan, or if they're abandoned and not actively brought back, when they eventually are brought back naturally through gas strike, many of

them have components that survive re-entry. SpaceX with its first generation of satellites claimed to have avoided this problem by building their satellites almost entirely out of aluminum, so they'd burn up completely. But now they're proposing to build much larger satellites, in excess of 1,000 kilograms, and it's hard to imagine that there won't be components that survive from those. So just like the rocket bodies, we have a casualty risk associated with these.

But, there are other issues, and I won't touch on them all because they get more and more complicated. There's a climate change issue, and you would think automatically that this has to do with the launches, and it does. You have the combustion of the rocket engines, particularly in the upper atmosphere. They do a lot of damage, a lot of potential risk, for instance, to the ozone layer. And that wasn't an issue when launches were relatively rare, but now there's a launch almost every day somewhere on the planet, and so the issue of climate impacts on launch is growing. But perhaps the issue of greater concern with regards to climate change are the actual re-entries, the so-called burning up of these satellites. So, imagine you have 40,000 satellites in the Starlink constellation, the SpaceX constellation, and let's imagine that they are being de-orbited actively-which is a relatively responsible thing to do, it's what SpaceX is doing - at the end of a five-year life cycle. How many satellites are re-entering each year? 40,000 divided by five, that's 8,000 satellites a year coming back and burning up in the atmosphere. Now, if each of them is 300 kilograms of aluminum, that's a lot of aluminum. It is going to dramatically increase the amount of aluminum particles in the upper atmosphere. This exercise of actively de-orbiting satellites that are designed to burn up entirely are going to dramatically increase the amount of aluminum particles in the upper atmosphere.

Now, it just so happens that proponents of geoengineering - so using engineering to save the planet from climate change - have been floating the idea of deliberately depositing large amounts of aluminum into the upper atmosphere so as to reflect solar energy back into space. And Elon Musk is enough of a visionary that I can imagine him actually having identified that all of his Starlink satellites, by burning up in the atmosphere and adding all this aluminum, might actually be doing something positive with regards to climate change. He cares about climate change; that's part of the motivation behind Tesla, right, is to change the world automobile fleet to a more climate friendly version. And he's not the sort of person who believes in peer review or government approval for what he does. So, it's possible that he is engaged in a geoengineering experiment as a side consequence of his building a mega constellation in space to dominate global telecommunications and fund his mission to mars. And perhaps not; perhaps he hasn't thought of this, but that doesn't mean that it's not happening and that it's not a potential problem, and that maybe we should have some serious science on this and have some government assessment of the risks associated with this plan. Now here's the thing: the U.S. national regulator, the Federal Communications Commission, decided some years ago that it did not need to do an environmental impact assessment of the Starlink constellation, because space is not an environment. As you can see, there's a problem. First of all, space is an environment. Secondly, the atmosphere is an environment, and all of it is part of

our planetary environment in very direct ways. There's no bright line between the earth, environment and space; It's a spectrum going out and depositing massive amounts of aluminum in the atmosphere is an environmental consequence of an activity that the FCC decided didn't need an environmental impact assessment. There's a case that's been going through the U.S. Federal Court on this precise issue, taken unfortunately by one of SpaceX's competitors that has an obvious interest in derailing SpaceX not for environmental purposes, but for competitive reasons.

And then there's the issue of space debris, which I'm sure you've all heard of by now. Low earth orbit is becoming very crowded. SpaceX is going to make it much more crowded, and they're counting on automatic collision avoidance technology to avoid collisions of their 12,000 or 40,000 satellites in space. And Elon Musk is actually on the public record as saying that with collision avoidance technology you could put up to a billion satellites. Now, that assumes a whole bunch of things. First of all, that there's only one operator; secondly, that there are no failures, right, because a failure is a dead satellite that cannot be controlled; and it also ignores the fact that not only are there big pieces of debris that we can identify and track-at the moment down to about eight or ten centimeters in diameter-but there are millions and millions of pieces that are too small for us to track with ground-based RADAR, and even in the future with better, space-based, space-situational technology. And a piece as tiny as a paint fleck can destroy a satellite, or punch a hole in an astronaut's spacesuit during a spacewalk. And Elon Musk seems to be willfully ignoring the untraceable, lethal debris issue with regards to this constellation.

And there are other issues, but we have a case here where you have a company, owned by the richest person on the planet, that is moving so quickly that it is ahead of the regulators, it is ahead of the development of new international law. And you can look at the situation and imagine the kinds of rules that you would want to have to govern this kind of activity, to deliver the benefits while guarding against some of the risks. Like a rule that said that you have to have an environmental impact assessment before a project like this. And one could imagine a scenario also where satellite companies were required, both domestically and internationally, to not use the consumer electronic product model; to do what they want to do with a smaller number of longer lived, higher quality satellites with higher capacity, that would have redundancies built in, and that could actually be used for ten, fifteen, twenty years. Canada's major space company, MDA, has a fantastic satellite that is in orbit right now, doing exceptionally good work, that was launched in 2007; RADAR SAT 2 is fifteen years in. That is redundancy; that is resilience built into the system. It's expensive as a unit, but that kind of approach, a different approach, solves some of the externality problems here. I'm conscious of time.

Anti-satellite weapons. I've told you about space debris; well, you can make the space debris situation worse by not only having accidental collisions from time to time, but actually having intentional collisions. And in the case of an anti-satellite weapon, that might be one satellite intentionally colliding with another-or, more likely, a ground-based missile targeting a satellite in space. And indeed,

in November of 2021 Russia used a ground-based missile to destroy a Soviet-era satellite at an altitude that was quite close to the International Space Station. Now, the debris kicks out in every direction, because the high-energy impact - I mean we're talking about a combined velocity of over 30,000 kilometers per hour, right? Massive jolt of energy, debris going in all directions, but particularly heavy debris at the altitude of the collision, and close to that, and just two days ago the International Space Station had to do a thruster burn for five minutes to move out of the way of a piece of trackable debris resulting from that test, from that Russian anti-satellite test from November. So, one way that you could make the debris issue really bad, really quickly would be to have not just testing of these weapons, but their use in actual armed conflict. And it gets worse, because at some point if you have enough debris, you get what are called 'collisional cascades', where pieces of debris start colliding with other pieces of debris or active satellites, and they create more debris, which increases the risk of substantive collisions, because every time you have fragmentation you increase the overall surface area of the material, which increases the risk of further impacts, and you get what's called the 'Kessler Syndrome' of runaway space debris which could in the course of the next few decades if we don't do something about this, render significant portions of low earth orbit inaccessible, unsafe for a long period of time. And we need low Earth orbit for all kinds of reasons; everything from imagery for disaster relief, to food production for agriculture to fisheries, it just goes on and on. I mean, we are so dependent on this global commons of low Earth orbit that having someone engaged in kinetic warfare would be to destroy very significant human interests. And I would suggest that part of the reason we haven't seen the use of anti-satellite weapons in warfare yet is because the major spacefaring powers are aware that this is a kind of mutually-assured destruction; that they destroy their own interests in space at the same time that they're targeting others. Space debris does not pick and choose its targets. We can talk more about that if you want, particularly in the context of the Ukraine war during the questions.

I'll talk very briefly about space mining - couple of faculty members here at Western that are working on space mining - simply to say that space mining is another issue where we have a strong industry, based in the United States predominantly, seeking to capitalize on the potential of extracting and using resources in space. And the most exciting prospect in space is not actual minerals in the sense that we normally think of them, but water ice; the prospect of using water in space to make rocket fuel that doesn't need to be lifted out of Earth's heavy gravity. And there's a lot of water in space, it turns out. We're discovering more of it all the time, including on the moon, and on Mars, and on some asteroids, in the form of ice. And this issue of space mining parallels in many respects the issue of deep sea bed mining, in another area beyond national jurisdiction, where we have seen for decades an ongoing lawmaking struggle between mostly the United States and mostly the global south on the other side seeking to determine whether this is something that is available for exploitation by private companies for profit, or whether to some degree it needs to be multilateralized with benefit sharing going to the non-technologically capable states. If this is a global resource,

or a common resource, then the global south would say that there needs to be benefits that flow to everyone.

Now, the country that is most able to further its interests in international diplomacy and law-making is the United States. A decade ago, I actually counted how many international lawyers work for the U.S. Government, and I got to over 700 people who do international law for the U.S. Government. They're very, very good - if you want to learn how to become a good international lawyer advancing policy, study what the United States does. It's highly strategic, very sophisticated; full credit to my friends and colleagues at the U.S. State Department and in other departments and agencies that do their work so well, do their work for the interests in the United States. And because of the way the U.S. Government system works for the powerful lobbying interests that operate in Washington on behalf of Industry. Just the way it is. It also happens that on issues like deep sea bed mining, that from time to time the global south collectively bargains against the United States. And so, you have issues that play out in places like the United Nations where you have the global south coming together, usually through what's called the G77 - Group of 77 - which now is made up of 133 of the 194 member states in the United Nations, and they collectively bargain against the United States. And sometimes they manage to shift outcomes. So, we have something called the international sea benefit. We have something called Part 11 of the United Nations Convention on the Law of the Sea because of this collective bargaining by the global south. And right now, with regards to space mining, we're in the same kind of lawmaking moment, where the United States is pushing forward with something called the Artemis Accords, seeking to advance a position where the commercial exploitation of extracted resources is widely accepted internationally. On the one hand, they're pushing it through something called the Artemis Accords, building a coalition of allies that can be persuaded to sign on to this, sometimes in return for astronaut slots on NASA spacecraft; and on the other side, you have the global south, coming together and beginning to collectively bargain on this issue and pushing for multilateral negotiations that might, in the end, result in some kind of global regulation of this activity and some degree of benefit sharing. That's where we are right now. And all I can say here is that, thanks to the global south, thanks to the G77 plus China, we now have the beginning of multilateral negotiations on this taking place in a working group established under the United Nations Committee on the Peaceful Uses of Outer Space. So, I'm not expressing a personal opinion here, but describing the landscape in terms of international law. Now, it's curious that Canada is one of the countries that has signed on to the Artemis Accords and chosen to take a position on one side of this issue.

Okay, very briefly: planetary defence. I don't know what planetary defence is, but just two weeks ago, NASA struck an asteroid - or actually, more specifically, the moon of an asteroid - with a small spacecraft in an attempt to alter its orbit around the asteroid slightly. It was successful; we have actually changed the orbital dynamics of a celestial body for the first time, as I understand it. So, we have left our mark on the universe as a species, in that respect. But we've also demonstrated that, in an emergency situation, we could smash the spacecraft into an asteroid that was on track to strike Earth, and hopefully change its trajectory slightly, change

it's velocity so that it misses Earth. And this is actually more of an issue than most people realize, and we will collectively as a species come to an even greater realization in the next few years, as more and more of these near-Earth objects are identified thanks to new telescopes. And at some point - hopefully not in your lifetimes, but at some point - we are going to have a dangerous asteroid identified that is on course to strike Earth. Now, whether it's 150 meters across, or 350 meters across, or 10 kilometers across like the one that destroyed the non-avian dinosaurs, we don't know yet. We're working very hard as a species to identify these objects; most of the really big ones we think we've identified now. It's hard to spot the ones that are coming from the direction of the sun, or coming from the opposite direction of the sun, because they don't move much relative to the stars. In 2013, a small asteroid blew up on striking the atmosphere above a Russian city, Chelyabinsk, and over 1000 people had to go to the hospital because of injuries, mostly to their faces and their eyes, because they saw a bright flash outside and rushed to the window to see what it was, and then the shockwave hit the windows of their house and the glass shattered. That was a small asteroid, but in response to that incident, the international community established two bodies: one was the International Asteroid Warning Network, the collaborates on identifying these, and the other is the Space Mission Planning Advisory Group, that built out mission plans for what you would do or what you should do if we get into a situation like this. There are all kinds of issues associated with this; some of them involve lawyers. The big question with regards to lawyers is, who decides? Who decides to attempt an asteroid redirection? Is it the United Nations Security Council? This would be a threat to international peace and security, a large asteroid on track to strike Earth. Can the Security Council agree, or not? If the Security Council can't agree, can one or more states decide to proceed unilaterally? Which government department or agency takes the lead on this? Is it the space agencies, who actually know something about asteroids, or is it the military, which tends to lean forward in these situations, and tends to be by far the most powerful department in any government, in terms of political power? Now the good news here is that an intercontinental ballistic missile cannot achieve escape velocity, so it cannot be used for a planetary defence exercise. They need the spacecraft to do that. But one can imagine all kinds of legal situations arising with regards to the issue of who decides, and then issues arising with respect to, for instance, liability; what happens if you redirect the asteroid only slightly, and it hits another country that it wasn't going to hit before you intervened? Who's going to compensate India for the loss of Mumbai, for instance, and what does international law have to say on that matter? You get into all kinds of what look like extreme hypotheticals, but they're perhaps not as hypothetical as the non-scientists would think. And I will close with that; there's so much to talk about, but I will close with a plea to all of you who are interested in working on international law and pursuing careers or further studies in it: context is everything, and in the context of international law, the scientific context is essential. If it's in the ocean, you need to speak to the oceanographers, rights? In space, you need to speak to the space scientists. If you're working on climate change, you need to speak to the atmospheric scientists, right? You need to understand the context in which you operate. One of the biggest

challenges, and for me the most intellectually rewarding aspects of working on space, is actually learning about the incredible complexity, not beyond our planet, but the incredible complexity which our planet is. And that, I guess, is the point I would end with. There are no sharp lines in our universe—everything exists on the spectrum, and everything is connected in all kinds of essential ways. And that's the same thing between disciplines; the scientists, and the engineers, and the generals, and the admirals, and the politicians, they need you. They need the lawyers in order not just to give them the laws and regulations, but to help them get to those outcomes through the negotiations that are involved, and also, in so doing, to devise better rules, better procedures, better institutions than anyone might have intuitively thought possible. And I come back to the Exxon-Valdez and the double-hull anchor; I could give you the example of the Montreal protocol that eliminated 98% of the chlorofluorocarbons that go into the atmosphere, and is now saving two million lives per year globally from skin cancer. International law can work in highly effective ways; most of the time it doesn't, for other reasons, but when it does it's beautiful, it's brilliant, it's an essential part of human purpose, and you are all the future of that. Thank you.

OPTIMIZING MUSICAL CREATIVITY THROUGH NORTH AMERICAN COPYRIGHT LAW

*Mikayla O'Neill**

ABSTRACT: This article weighs the competing views on music copyright law in North America: exclusivity versus idea sharing. After laying out the basic structure of music copyright law it is found to favor individual exclusivity. While this might seem to be beneficial to musicians, it can make artists releasing new music fearful of copyright claims against them since their work may resemble a song that already exists. The *Pharrell Williams, et al. v. Bridgeport Music* decision heightens the stringency of copyright by finding a song could infringe on another song because of its “groove”. These progressions in music copyright law will negatively affect the creativity of artists going forward who will face copyright claims whether they intended to copy another musical work or not. Furthermore, the law is unforgiving to sample artists who use snippets of existing works in their new creations. This paper proposes changes to music copyright law in North America to encourage musical creativity while still respecting individuals’ autonomy over their work.

TABLE OF CONTENTS

I. Introduction.....	171
II. Overview Of Music Copyright Law	171
III. Should Copyright Fiercely Protect Creations, Or Allow Them To Be Shared?.....	177
IV. Plausible Changes To The Law	180
V. Proposed Changes To The Law.....	181
VI. Conclusion	183

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I. INTRODUCTION

There are two competing views regarding the effect copyright laws have on musical creativity in North America. The first is that copyright laws protect musical works from being copied and create an economic incentive for artists which in turn promotes creativity. The second view is that music is a public good and sharing ideas freely between artists and building off one another enhances the creative process. North American copyright laws and music litigation aim to strike a balance between protecting an individual's work and allowing ideas to be shared for the public good. While there is merit to both perspectives, sharing works and artistic expression is a positive practice that promotes musical creativity more than the protection of exclusivity. Changes should be made to the law in both Canada and the United States, which currently prioritize exclusive rights over idea sharing. I propose amending the law by lowering statutory damages for copyright infringement and adding sampling into the current copyright framework. These changes will encourage musical creativity and idea sharing, without losing sight of original authors' exclusive rights.

II. OVERVIEW OF MUSIC COPYRIGHT LAW

To begin, an explanation of how copyright law protects music is required. Something is protected by copyright in Canada when it is an original expression.¹ *CCH v Law Society of Upper Canada* determined that exercising skill and judgment when expressing an idea is required for something to be protected by copyright.² The idea must be fixed in a tangible form.³ Once those requirements are met, the owner of a song retains a group of rights such as the right to reproduce the song, perform the song, and authorize others to use, among others. Similarly, in the United States, copyright protects original works of authors that are in a fixed form.⁴ This includes musical works and sound recordings. This also allows artists the freedom to do what they like with such works, including creating derivative works, making, and distributing copies of it.⁵

A. Musical Works – Copyright Protection and Infringement

Most discussion of music copyright focuses on a combination of three elements: melody, harmony, and rhythm.⁶ While all of these elements can be subject to copyright, melody, which is the combination of notes and their duration,

¹ Laura J. Murray, Samuel E. Trosow, *CANADIAN COPYRIGHT: A CITIZEN'S GUIDE* at 45 (2nd ed., 2013).

² *CCH v. LSUP*, 2004 SCC 13 (Can.).

³ Murray, *supra* note 1 at 47.

⁴ The Copyright Society of the USA, *Copyright Basics*, www.csusa.org/page/Basics.

⁵ *Id.*

⁶ Aaron Keyt, *An Improved Framework for Music Plagiarism Litigation*, 76 Cal. L. Rev. 421, 403 (1988).

is the most important element that will be taken into account.⁷ In comparison rhythms and harmonies can be reused in many more instances than melody because they are the building blocks of a piece of music. Certain chord progressions and styles of rhythm are not copyrightable because they fall under mere ideas, not expressions of ideas that constitute a copyrightable work.

While musical works are much more complex than the aforementioned three elements, things such as tempo and performance style are not copyrightable. Furthermore, the *scenes a faire* doctrine makes it so that key elements of a musical genre cannot be owned by copyright.⁸ For example, in *Velez v. Sony Discos*⁹ the eight measures found in both the defendant and plaintiff's compositions "had been a widely used structural device for over 50 years, therefore the use of this structural element is not protectable and cannot form the only basis for establishing substantial similarity."¹⁰ I will explain substantial similarity more in depth below.

A finding of copyright infringement occurs when someone unauthorized to do so uses a copyrighted work as if it was their own. This can either be the style of the work as a whole or a small portion of it. In Canada, section 3(1) of the *Copyright Act* states copyright means the sole right to produce or reproduce the work or any substantial part thereof.¹¹ In *Cinar Corporation v Robinson*,¹² the Supreme Court of Canada elaborated on what "substantial part" in section 3(1) means. Substantial part is a flexible idea that must be decided by quality rather than quantity.¹³ This means that taking a small part of the work is the same as copying the entire thing from a copyright perspective. A substantial part is something that represents a substantial portion of the author's skills and judgment. This is not determined by looking at each copyrightable element, but rather the cumulative effect of the copied features together.¹⁴

In the United States there are some situations when unlicensed sampling and infringement is acceptable. Infringement is allowed if it falls within the de minimis range as established in *Newton v. Diamond*.¹⁵ In *Newton* two notes lasting less than 6 seconds of another song were used. This was decided to be so minimal that it did not constitute infringement.¹⁶ Moreover, American copyright infringement revolves around substantial similarity. Substantial similarity, not virtual identity is required to substantiate a copyright infringement claim.¹⁷ For example in *Three Boys Music v. Bolton*, five elements of a song, that individually would not be

⁷ *Id.*

⁸ Stav Iyar, *Musical Plagiarism: A True Challenge for the Copyright Law*, DePaul J of Art Tech & IP, 2014, at 20.

⁹ *Velez v. Sony Discos*, 2007 U.S. Dist. LEXIS 5495 (SDNY 2007).

¹⁰ Stuart Anello, *Musical Innovation's Sworn Enemy: The Infringer*, 36 Cardozo AELJ 797, 813 (2018).

¹¹ Copyright Act, 1985 (C-422 § 3(1)) (Can.).

¹² *Cinar v. Robinson*, 2013 SCC 73 (Can.).

¹³ *Id.* at para 26.

¹⁴ *Id.* at para 36.

¹⁵ *Newton v. Diamond*, 349 F.3d 591 (9th Cir. 2003) at 598.

¹⁶ *Id.* at para 598.

¹⁷ John Quagliariello, *Blurring the Lines: The Impact of Williams v. Gaye on Music Composition*, 10 Harv. J. Sports & Ent. L. 133, 140 (2019).

copyrightable, in combination amounted to infringement by becoming substantially similar to the copied work.¹⁸

B. Second Circuit & Ninth Circuit Tests

There are two main tests used in the United States for copyright litigation cases. While there is no case law in Canada on this issue, Canadian courts would likely be influenced by the tests used in the United States as well if a case were to arise. The precursor for both substantial similarity tests is proving the defendant had access to the plaintiff's copyrighted work. This is a very easy hurdle to surpass if the song in question has been commercially released.¹⁹

The first test is the second circuit approach. The essential elements of it are exemplified in *Arnstein v. Porter*.²⁰ The first prong of the test requires proving the defendant copied the original work in fact. This is usually done through circumstantial evidence, showing they had access to the work and that there are similarities between the two works.²¹ Expert evidence can be used to prove this point. For the second prong of the test the ordinary lay listener determines whether the works are similar enough to establish the defendant infringed the plaintiff's work. This prong only considers the parts of the plaintiff's work that are protected by copyright.²² When elements of a composition that were original to the plaintiff have been wrongfully appropriated then infringement is found.

The Ninth Circuit approach is laid out in *Sid & Marty Krofft Television Productions Inc v. McDonald's Corp.*²³ The first step is the extrinsic test where the trier of fact must identify similarities of "concrete elements based on objective criteria."²⁴ This step requires expert testimony to determine if works are objectively alike. If not, the inquiry ends here to prevent cases from going to the jury when the works in question are substantially different.

The second step is the intrinsic test. This asks whether an ordinary reasonable person would find the concept of the two works to be substantially similar.²⁵ The Ninth Circuit test was used in *Gray v. Hudson*²⁶ where Katy Perry's single 'Dark Horse' was claimed to have infringed another song. A descending ostinato minor scale was the main point of contention between the two songs. However, on appeal it was found that a descending scale is not copyrightable. It is a common place musical element that no composer can monopolize.²⁷ The lower court made the mistake of allowing this to proceed to the second prong of the test where the jury found there was substantial similarity, which was overturned.

¹⁸ Three Boys Music Corp. v. Bolton, 212 F.3d 447 (9th Cir. 2000) at 485.

¹⁹ Anello, *supra* note 10 at 815.

²⁰ Arnstein v. Porter, 154 F.2d 464 (2nd Cir.1946) at 468.

²¹ Anello, *supra* note 10 at 806.

²² *Id* at 807.

²³ Sid & Marty Krofft Television Prods., Inc. v. McDonald's Corp., 562 F.2d 1157, 1164 (9th Cir. 1977).

²⁴ *Id* at 808.

²⁵ *Id* at 810.

²⁶ Gray v. Hudson, No. 20-55401 (9th Cir. 2022).

²⁷ *Id* at 98.

Overall, both the Canadian and American approaches to musical works favor protecting individual rights. The law is set up so that unless the phrase in question is a basic building block of music, part of the required sound of a genre of music, or such a small amount that it can hardly be recognized as a copy, then infringement is likely to be found. This also applies to subconscious copying. Inadvertent plagiarism can easily occur due to the sheer quantity of music that has been created around the world which can result in artists facing infringement claims.²⁸ I will argue later in this paper that these regulations discourage creativity in artists who become fearful the music they release will be subject to copyright claims.

American music litigation takes the stringent copyright rules a step further than Canadian laws in the *Pharrell Williams, et al. v. Bridgeport Music*²⁹ case regarding the song ‘Blurred Lines.’ The Gaye family brought a claim that ‘Blurred Lines’ infringed Gaye’s song ‘Got to Give it Up.’³⁰ To much surprise, the jury’s finding of infringement was upheld on appeal.³¹ This was the first case that found a song could infringe another song because of its “groove”. As I will argue later, this case will negatively affect creativity in music creation going forward by allowing the feel of a song to constitute grounds for copying.

C. Sound Recordings – Copyright Protection and Infringement

The law around sound recordings differs from that of musical works. Sound recordings are audio versions of a song, a podcast, a lecture, or other sounds. In Canada, section 18 of the *Copyright Act* establishes that the maker of a sound recording has the exclusive right to publish, reproduce or rent the entire work or a substantial part of the work.³² This means if an insubstantial portion of the sound recording was sampled it would not constitute infringement. However, there has been no music litigation in Canada to help define what constitutes a substantial part of a sound recording.

In the United States, the owner of a sound recording also has the right to duplicate it directly or indirectly into another recording.³³ Sounds can be emulated or imitated from sound recordings but a substantial part of it cannot be sampled, as established in section 114 of the *Copyright Act*.³⁴ *Bridgeport Music inc v. Dimension Films* set out the precedent that the de minimis rule from musical works does not apply to sound recordings. The court found a license is required, or sampling could not take place. However, in a subsequent case, *VGM Salsoul, LLC v. Ciccone*,³⁵ the *Bridgeport* decision was overturned. In *Salsoul*, Madonna used two very short horn notes from another song and successfully argued that they fell under the de minimis exception. As I will argue in this paper, *Bridgeport* set out a

²⁸ Anello, *supra* note 10 at 812.

²⁹ *Williams, et al. v. Bridgeport Music Inc.* LA CV13-06004 JAK (AGRx) 2016.

³⁰ Quagliariello, *supra* note 17 at 137.

³¹ *Id.* at 140.

³² *Copyright Act, supra* note 11 s. 18(1).

³³ *Copyright Act of 1976, USC tit. 17*§114.

³⁴ *Id.*

³⁵ *VGM Salsoul, LLC v. Madonna Louise Ciccone*, 824 F.3d 871 (9th Cir. 2016).

dangerous precedent by not allowing small portions of sound recordings to be sampled. This caused shock throughout the musical community and forced people to license every little sound they used in their songs. The *Salsoul* decision is an improvement, but the law still needs to change its treatment of sampling.

D. Sampling

Sampling is when snippets of songs made by previous artists are used in new creations. This practice has become increasingly popular in modern music production because the “digitalization of music and its availability on the internet have made sampling and remixing easier to do or find than ever before for an increasingly wider audience.”³⁶ Sampling poses challenges to copyright law. Evidently, taking someone else’s music infringes copyright, unless it falls under an insubstantial portion of the original work or one of the exceptions. This leaves sample artists, who sample substantial portions of other songs, with two choices. The first option is to get a license from the copyright owner to use the sample. This includes paying a fee and there can be restrictions imposed on how the composition can be used.³⁷ While this seems easily done, it can be difficult to locate the rights holders and consult them, and the licensing fees can be too exorbitantly expensive for some artists to afford, especially if they use a lot of different samples. For example, mashup artist Gregg Gillis does not obtain licenses for his works because he states it would cost him millions of dollars and take years to negotiate.³⁸

The second option that remix artists are left with is using the copy without permission and risk the potential lawsuit.³⁹ They can distribute their work non-commercially or illegally on the internet and hope to build a music career another way such as by touring.⁴⁰ This can have costly ramifications for artists who take the risk.

Recently, many artists are bringing claims against people for stealing their music. While sampling is an art form that is on the rise, artists can be hesitant to release their musical works because neither of the two options currently available appeal to them. If they are caught stealing someone else’s music, they will have to pay a steep price.

E. Damages

In Canada, statutory damages for copyright infringement are laid out in section 38.1(1) of the *Copyright Act*. Infringements done for commercial purposes range

³⁶ Lisa Macklem, *This Note’s For You - Or is it? Copyright, Music and the Internet*, 4 J. of Intl. Media & Ent. L. 249, 255.

³⁷ *Id* at 260.

³⁸ Staia Famili, *Mashed Up In Between*, 5 Berkeley J. of Ent. & Sports L. 97, 99 (2016).

³⁹ Joanna Demers & Paul G. Lyons, *Steal This Music: How Intellectual Property Law Affects Musical Creativity*, Syracuse Sci. & Tech. L. Rev., 2008, at 6.

⁴⁰ Christopher J. Norton, *Little Bits Can’t Be Wrong: The De Minimis Doctrine in the Context of Sampling Copyright-Protected Sound Recordings in New Music*, 7 Berkeley J Ent & Sports L. 14, 29 (2018).

from \$500 to \$20 000 in damages.⁴¹ For infringements done for non-commercial purposes, the statutory damages range from \$100 to \$5000. Section 7 establishes that getting statutory damages does not affect the rights of the copyright owner to get exemplary or punitive damages if they are entitled to them. In the United States, statutory damages for infringement are even higher, ranging from \$750 to \$30 000.⁴² For American cases of willful infringement, the maximum rises to \$150 000. The current system for statutory damages poses a huge risk for artists who use unauthorized samples. I will propose later in this paper that changes should be made to lower these statutory damages to relieve some of the fear artists who sample and even those who are creating music without sampling carry. This will encourage them to be creative and let their musical ideas come to life without fear of costly damages.

F. Exceptions

While I take the stance that the current legal framework in both Canada and the United States limits idea sharing, there are some exceptions to copyright that encourage creativity. In Canada, the fair dealing defense for infringement can be utilized. Section 29 of the *Copyright Act* states that fair dealings for the purpose of research, private study, education, parody, or satire do not infringe copyright.⁴³ Furthermore, fair dealing for criticism or review is not considered to infringe copyright as long as the source is mentioned. *CCH v. Law Society of Upper Canada* laid out the test for fair dealing. First it must be determined if the dealing was done for one of the categories in section 29, and then it must be determined if the dealing was fair.⁴⁴ This includes looking at the purpose, character, amount, alternatives, nature of the work and effect of the dealing on the work.⁴⁵

In the United States, the equivalent of fair dealing is the fair use exception. For certain uses such as criticism, comment, news reporting, teaching, scholarships, and research there are exceptions to infringement. There are four factors the court uses to determine if the fair use defense can be used; the purpose and character of the use (including if it is for commercial purposes), the nature of the work, the amount used, and the effect upon the potential market for value of the copyrighted work.⁴⁶

These exceptions, however, do not favor mashups. Mashups can be seen as a threat to the primary work's potential market, especially if they are for commercial use. This can weigh against them in the factors for both fair dealing and fair use. Mashups could be considered parody in some cases, but in the United States satirical works that provide general commentary or criticism were not deemed to be transformative and therefore are not protected.⁴⁷ Thus mashups must comment

⁴¹ Copyright Act, 1985 (C-422 § 38.1(1)) (Can.).

⁴² Copyright Act of 1976, USC tit. 17§35.

⁴³ Macklem, *supra* note 36 at 263.

⁴⁴ *CCH*, *supra* note 2 at 53.

⁴⁵ *Id.*

⁴⁶ Macklem, *supra* note 36 at 109.

⁴⁷ *Id.* at 106.

on the original work to receive this protection, which does not coincide with the stylistic form of a typical mashup.

Lastly, Canada has another exception for user generated content. Section 29.21(1) allows people to use a published work provided the source and author are identified for non-commercial purposes, and if there is no substantial adverse effect on the exploitation of the original work.⁴⁸ This allows mashups and remixes to be created with a copyrighted work for amateur purposes and people not making a profit. This is a positive distinction that will encourage creativity. However as soon as one of those non-commercial songs becomes popular on the internet and begins making money, the protection is lost. Therefore, it is a limited exception.

G. Concluding Remarks

Overall, copyright laws surrounding musical works and sound recordings in North America do an excellent job of protecting the creators' works. However, this makes it difficult for new artists to produce music that might sound like something that has already been released, and even more difficult for sampling and remix artists to perform their craft. In the next section of this paper, I will argue that these laws are preventing creativity from thriving in modern day music, and in the last section, I will propose changes to improve this issue.

III. SHOULD COPYRIGHT FIERCELY PROTECT CREATIONS, OR ALLOW THEM TO BE SHARED?

The copyright laws illustrated above are seen through one of two competing views on creativity. The first is that strong copyright laws that protect individuals' creations encourage people to be creative. The other view is that to truly promote creativity, copyright law should be relaxed to allow more communal idea sharing and focus less on individual protection. Is it more creative to make an entirely original song or to build off someone else's? Long before copyright laws were created, creative works flourished in the classical music era. Musical borrowing has been used since the beginning of time in works that we think of as "originals."⁴⁹ Modern day copyright laws changed the conception into an individualistic and autonomous process. While both perspectives hold merit, it is my view that copyright laws favor individual protection too heavily.

Today, musical similarity is so common because musical ideas are a limited resource. There are only so many possible combinations of notes and chords to create a song, especially in popular music.⁵⁰ There are three main explanations for musical copying: coincidence that portions of both works overlap, influence from previous songs and composers, and wrongful appropriation when someone claims another's work as their own.⁵¹ Wrongful appropriation is what is central to the

⁴⁸ Copyright Act, 1985 (C-422 § 29.1(1)) (Can.).

⁴⁹ Olufunmilayo B. Arewa, *From J.C. Bach to Hip Hop: Musical Borrowing, Copyright and Cultural Context*, 84 N.C.L. Rev. 551, 551 (2006).

⁵⁰ Iyar, *supra* note 8 at 3.

⁵¹ *Id* at 6.

debate about what copyright should and should not allow. I elaborate on these two different perspectives that are taken on musical appropriation, theoretically for both the United States and Canada.

A. Approach One: Stronger Laws, Stronger Quality of Music

This approach takes the view that current copyright laws allow for too much infringement. This property-based conception of intellectual property laws concludes that the *Canadian Copyright Act* is based on recognizing the property of the author in their creation. This also frames copyright's purpose as to "protect and reward the intellectual effort of the author."⁵² This approach implies that any public benefit produced from music is a by-product of private entitlement.

Someone who uses another's work is not seen as contributing to the store of knowledge. Their actions are thievery rather than participation in dialogue and production. Virtually everything is suspected to be theft until proven otherwise.⁵³ This approach takes the view that copyright laws should be made stricter to discourage infringement and artists who use other people's work. The creators who remain will be those who can successfully bring their audience new and exciting works. Creators who copy others and do not add to the artistry of musical creation will be removed from the industry.⁵⁴ This approach sees individuality and protecting somebody's work fiercely, as having the most beneficial effect on creativity in the music industry.

B. Approach Two: Encouraging Using Other Works

In stark contrast to the previous approach, this approach takes the perspective that copyright laws should be relaxed. It has been argued that there is no such thing as an uninspired piece of music.⁵⁵ Even when someone thinks they are being original with their music "we all stand on the proverbial shoulders of giants."⁵⁶ The public domain consists of all the raw materials of authorial creativity that are then used to produce works.⁵⁷ This view sees copyright law as lagging behind changes being made in transformative appropriation, which is when an artist engages with another's work.⁵⁸ While some authors despise this and see it as not being truly original, others argue it is a legitimate form of musical creation.

A historical perspective realizes that it was very common for European composers to reshape previously composed materials, and that plagiarism only

⁵² Carys Craig, *Locke, Labour and Limiting the Author's Right: A Warning Against a Lockean Approach to Copyright Law*, 28 Queen's L.J., ¶ 23 (2002).

⁵³ Anne Barron, *Copyright Law's Musical Work*, 15 Soc. & Leg. Studies 101, 104 (2006).

⁵⁴ Anello, *supra* note 10 at 801.

⁵⁵ Brandon P. Evans, *Let Me Get My Glasses, I Can't Hear You: Sheet Music, Copyright, and Led Zeppelin*, 24 Vanderbilt J. of Ent & Tech L. 157, 159 (2021).

⁵⁶ Carys Craig, *Resisting "Sweat" and Refusing Feist: Rethinking Originality After CCH*, 40 U.B.C. L. Rev. 69 ¶ 2 (2007).

⁵⁷ David Fewer, *Constitutionalizing Copyright: Freedom of Expression and the Limits of Copyright in Canada*, 55 UT Fac. L. Rev. ¶ 53 (1997).

⁵⁸ Demers, *supra* note 39 at 3.

occurs when someone else's work is taken without anything new being added to it.⁵⁹ This approach sees the trend towards being protective of one's work, increasing licensing fees, and taking a strict approach to illegal sampling as having the potential to stifle creativity and the exchange of cultural production.⁶⁰

C. Promoting Idea Sharing is Promoting Creativity

The second approach is the most beneficial to musical creativity. Copyright should be rationalized as the intellectual production of a social good, because it recognizes that underproduction of artistic works is a danger that should be avoided.⁶¹ The first rhetoric, that plagiarism and stealing music from others should be entirely prohibited, fails to see the benefit of building from previous music and overemphasizes the importance of exclusive rights.

The benefits of sampling are that it allows artists to engage in a new form of creativity and brings remixed forms of music into society. Sampling can bring back older songs that are no longer popular and can become a good source of publicity for older artists.⁶² An example of this is when Taylor Swift made her song 'Look What You Made Me Do' based on 'I'm Too Sexy' by the group Right Said Fred. She interpolated their song into hers, and they claimed to be honored and glad it was reaching new fans 26 years after its original release.⁶³ Whole genres such as hip-hop have been developed from the practice of sampling and now entire albums are being produced made of just sampled works. Sampling is growing into a form of musical genius that takes something old and makes it new.

Furthermore, non-sampled works that happen to sound like another song add to the public arena of creative new works. They should not be strictly discouraged in every case from a creativity standpoint. For example, in the *Williams v. Gaye* appeal, Justice Nguyen wrote a compelling dissent about the danger of that decision for creativity in the United States.⁶⁴ She argued this was the first time style or groove was allowed to be copyrighted. This should have been an unprotectable idea because musicians going forward will have a diminished store of ideas for which they can build their works upon.⁶⁵ This has the serious effect of stifling creativity going forward in the United States. With already so many sounds covered under copyright that artists cannot use, copyrighting style as well will further limit the creative possibilities of musicians. Going forward from this case in the United States musicians will need to be less open about their sources of information and may need to be more proactive about obtaining samples and licenses when creating songs.⁶⁶

⁵⁹ *Id.*

⁶⁰ *Id.* at 7.

⁶¹ Craig, *supra* note 52 at para 9.

⁶² Jessica Mauceri, *Why the Bridgeport Rule is No Longer Vogue*, 36 *Cardozo Arts & Ent. L.J.* 541, 566 (2018).

⁶³ *Id.*

⁶⁴ *Williams v. Gaye*, No. 15-56880 (9th Cir. 2018) at para 1138.

⁶⁵ Quagliariello, *supra* note 17 at 140.

⁶⁶ *Id.*

There is a counter argument that copyright protection is an incentive for creators to generate new works. The Intellectual Property Clause in the US Constitution states it promotes progress of science and useful arts by securing limited times to authors and inventors the exclusive right to their receptive writings and discoveries.⁶⁷ There can be no music market without copyright because all incentive would be lacking. This view argues copyright encourages artists to produce original works to make a profit to therefore make a living.⁶⁸ If anyone could take their ideas, remix them, and potentially produce more money than them, it would disincentivize the production of their original works.

Centuries before copyright laws were in place and enforced, creative works flourished throughout the world.⁶⁹ However, before statutory protection, Beethoven was said to have made his piano sonatas exceptionally difficult to control use by others.⁷⁰ By the end of the nineteenth century, European composers could begin to take to financial rewards of their compositions. Therefore, although music and creativity existed before copyright laws, there is an argument to be made that artists such as Bach and Beethoven would have been advocates for copyright protection of their works.⁷¹ There is merit to this counter argument, but it must be asked how much protection is required to provide incentive?

Evidently, rewarding creativity is not the only goal of the copyright system.⁷² It does provide financial rewards for artists and acts as a strong incentive to produce creative works. With the changes I will propose in the next section, the economic incentive that copyright currently provides will still be in place. The copyright systems in both Canada and the United States can be altered slightly to maintain the economic incentive, while also decreasing the strictness and fear that limits the creative ability of artists. This will strike the perfect balance between protection and creation.

IV. PLAUSIBLE CHANGES TO THE LAW

There are a few directions the law could go from here to promote creativity. The first is to increase individual rights for musicians and strengthen copyright laws. These would be laws that make it easier to find there has been copyright infringement. For example, currently, access to a musical work must be proven before infringement could be found. This could be changed to a rebuttable presumption for the defendant to prove that the plaintiff did not have access to their work. Assuming someone had access to the work not only takes into account that anyone with a computer can find a piece of music, but also makes it slightly easier for infringement to be found.⁷³ Next, what constitutes substantial similarity in a musical composition could include musical features that arise in the studio,

⁶⁷ Olufunmilayo B. Arewa, *Creativity, Improvisation, and Risk: Copyright and Musical Innovation*, 86 N.D. L. Rev. 1829, 1830 (2011).

⁶⁸ Jason Toynbee, *Musicians in MUSIC AND COPYRIGHT*. 123-134 (Second ed., 2004).

⁶⁹ Macklem, *supra* note 36 at 252.

⁷⁰ Arewa "Creativity", *supra* note 67 at 1835.

⁷¹ *Id* at 1838.

⁷² Dennis S. Karjala, *Copyright and Creativity*, 15 UCLA Ent. L. Rev. 169, 172 (2008).

⁷³ Anello, *supra* note 10 at 815.

even if they are not notated within the song itself. This could include having sound designers and engineers as witnesses instead of strictly musicologists to be able to spot these similarities in production technologies.⁷⁴

If these proposed changes to the law were implemented, they would not benefit musicality and creativity. Increasing copyright law to be able to find infringement more easily through the access step and by including musical features when recording, will further limit and scare off musical creations that happen to be influenced by other sounds. While this would successfully have the effect of weeding out artists who sample, remix, or base their songs off someone else's, I argue this will discourage creativity. This will take exclusive rights and protection for artists to an extreme.

In the opposite direction, North American copyright laws could be altered to share ideas more freely. This can be done by utilizing the creative commons and legalizing amateur remix culture in the United States. The creative commons are where songs can be released with some rights reserved rather than all right reserved.⁷⁵ This grants the use of a work for non-commercial purposes so that people can share and build on each other's works. Legalizing amateur remix culture in the United States would free younger artists from the expensive licensing agreements professionals currently face. However, once novice artists begin to profit from their creations they would be required to gain authorization before using copyrighted works.⁷⁶

This approach is moving more in the correct direction copyright law needs to go. However, these would be major changes to the American copyright legal system. They risk taking the sharing ideas for the public good argument too far out of balance with protecting exclusive rights. Legalizing amateur works and the creative commons approach is similar to Canada's user generated content exception which allows a defence for copyright infringement as long as the works are not being used for commercial purposes. As laid out within the law section of my paper, there are limitations to that exception. Non-commercial works can unexpectedly become extremely popular and then the line between commercial and non-commercial becomes blurred. Therefore, these are not the ideal changes to be made.

V. PROPOSED CHANGES TO THE LAW

There are two proposed changes to the law that strike a balance between respecting individual rights and encouraging creativity.

A. Limit Damages

The current system for statutory damages, in both Canada and the United States, poses a substantial risk for artists who are using unauthorized samples. As previously stated, \$20 000 for statutory damages in Canada, and \$30 000 for

⁷⁴ *Id* at 822.

⁷⁵ *Famili*, *supra* note 38 at 112.

⁷⁶ *Id* at 111.

statutory damages in the United States are large enough amounts to scare off artists who use unlicensed samples. This has the potential to impact not only sampling artists, but also artists who create their own original songs and are worried there may be another similar song that already exists. This severely limits creativity and stifles artists who are hesitant to try to remix or produce new music.

I propose that the statutory damages should be reduced. In Canada, infringements done for commercial purposes should have the maximum amount of \$10 000 instead of \$20 000. In the United States, the maximum for commercial infringements should be lowered from \$30 000 to \$15 000. Willful infringement statutory damages in the United States can currently go up to \$150 000. This amount should be reduced to \$50 000. I believe that by lowering the maximum statutory damages artists will be less fearful to use samples which will in turn allow them to be more creative. Simultaneously, the statutory damages will still punish people from using others' works and leaves a sizeable incentive in place for the original artists whose work was stolen. In addition to statutory damages, there are several other damages artists can claim as well. This ensures that the economic incentive to produce original creative works remains in place.

B. Integrate Sampling into the Existing Copyright Framework

The next major change that I suggest is to distinguish between different types of sampling and to integrate them into the existing copyright framework. Sampling should be broken down into three categories. The first category would be sampling in which the original source is not recognizable. A compulsory licensing system that is patterned as closely as possible to the existing one in the United States should be implemented, except that the section 115(a)(2) limitation on changing the melody or fundamental character of the work should be eliminated.⁷⁷ This will allow sample artists to take unrecognizable portions of an original song and change them however they wish. This should apply to both musical works and sound recordings as well. Courts have generally found that trivial unrecognizable uses of existing musical works fall under the *de minimis* exception.

A compulsory licensing system does not exist in Canada. Canadian artists who want to record or duplicate another artist's song must obtain a license through CMRRA or similar sites. A licensing system for sampling should be implemented in Canada that is like the United States example. Artists would give consent for their works to be used before they are entered into the system for others to add to or sample. This too would account for sound recordings and musical compositions.

The second category would be sampling in which the original source is recognizable but *de minimis*. Things falling into the second category would not constitute copyright infringement, and the existing judicial standard should be codified. The third category would be for sampling in which the original source is recognizable and not *de minimis*. This would also involve codifying the existing judicial standards for *de minimis* use, meaning these would only constitute infringement in certain circumstances, as explained above.

⁷⁷ Arewa, "JC Bach", *supra* note 49 at 642.

The main issue with implementing a compulsory licensing system in Canada, some may argue, is that it would take away the power of the original artists to decline someone else using their song.⁷⁸ While this would be beneficial from a creativity and sharing perspective, this loses sight of the hard work and effort a musician put into their song and their say over how it can be used.

In response to this, it should be noted that while Canada currently does not have a compulsory licensing system, CMRRA and SODRAC represent most songwriters and publishers. When artists apply to use another song permission is usually granted, and therefore it is almost as if a compulsory system already exists. Having a compulsory licensing system for strictly unrecognizable samples allows artists to have more control over recognizable versions of their songs and share unrecognizable portions more readily to up and coming artists who wish to sample. This still allows for balance between autonomy and idea sharing. While the CMRRA and SODRAC can currently decline uses of samples, this will still be allowed for recognizable samples, because the interests of the original creator may be heightened when their work is recognizable.

VI. CONCLUSION

Current North American copyright laws do not encourage creativity as effectively as they could. Moving in the direction of stricter copyright laws to create pure original works excludes the rich musical creativity that stems from remixing, sampling, and building off previous musicians' ideas. Major changes such as legalizing amateur remix culture and the creative commons take idea sharing too far. Lowering statutory damages for plagiarism and incorporating types of sampling into the copyright frameworks in both Canada and the United States are minor changes that will effectively encourage creativity. This will allow new artists to use ideas that were put out before them, while keeping most of the previously existing legal framework intact. These proposed changes strike a balance between respecting individuals' creations and their autonomy over their work and encouraging creativity. The current copyright system in Canada and the United States is overbearingly harsh on artists who sample, remix and use others music. Making artists fearful to make new sounds and share them commercially only hurts society who will not get to benefit from hearing these creations. Creativity is a vital aspect of music and using others' works to make new songs is innately creative. North American laws should encourage this artform and allow creativity to flourish beyond the current boundaries of the law.

⁷⁸ Keyt, *supra* note 6 at 462.

PREPARING FOR THE CRYPTO WINTER: COMPLEXITIES IN CRYPTOCURRENCY EXCHANGE INSOLVENCIES

*Roula Khairalla***

ABSTRACT: This article canvasses the tensions between the complexities inherent to cryptocurrency exchanges – and crypto-assets generally – and the Canadian and American insolvency frameworks which exist to deal with these exchanges when they fail. It then briefly considers the insolvency frameworks applicable to corporations, securities firms, and banks, and their respective suitability for a failing cryptocurrency exchange. This article concludes by identifying a number of policy objectives which an insolvency regime applying to cryptocurrency exchanges should reflect.

TABLE OF CONTENTS

I. Introduction.....	186
II. What is Cryptocurrency?.....	186
III. What are Cryptocurrency Trading Platforms?	187
IV. The Cryptocurrency Winter	188
VI. Selecting the Proper Regime: Which Framework Should Govern Cryptocurrency Exchange Insolvencies?	198
VIII. Conclusion.....	200

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I. INTRODUCTION

Cryptocurrencies have quickly become the boon of the financial world and the bane of the insolvency practitioner. With a rapidly increasing number of “cryptocurrency exchanges” becoming insolvent, critical questions have arisen regarding what cryptocurrency is, how cryptocurrency platforms should operate and be regulated, to whom and where crypto assets belong at specific times, and most importantly, how to determine the value of cryptocurrencies.

Following a brief introduction to the concept of cryptocurrencies and their trading platforms, this paper will canvass the tension between the complex realities which cryptocurrencies present and the capacity of existing insolvency regimes in Canada and the United States to deal with these complexities. This paper will conclude by considering the types of existing insolvency frameworks which best suit a failing cryptocurrency exchange, including those for large corporations, securities firms, and banks, as well as outline some general policy recommendations.

II. WHAT IS CRYPTOCURRENCY?

Cryptocurrency is a digital asset based in distributed ledger technology - “a digital transaction ledger whose purpose is to record transactions between two parties in an efficient, verifiable and permanent way.”¹ Importantly, the transactions which are recorded on the digital ledger are “protected using cryptography and [are] stored as a set of linked blocks of information,” known as the “blockchain.”²

A foundational element of a cryptocurrency is the ability of holders to trade ownership without the involvement of a central authority, such as a bank or government institution.³ However, this “decentralized” nature of cryptocurrency contributes to its most troubling feature: its volatility. As cryptocurrencies have no intrinsic value (not considering “stablecoins” which, though they are derivatives which are “tethered” to some actual, underlying asset, are still themselves the subject of uncertainty),⁴ their value is almost entirely speculative and fluctuates dramatically.⁵

On a logistical note, holders of cryptocurrency may only access these digital assets if they have two alphanumeric codes: the public and private keys. A public

¹ Vanessa Allen & Dean Hutchison, *Asset Realizations in the New World Dealing with Cryptocurrency and Cannabis Assets*, 2019 Annual Review of Insolvency Law 25 (2019).

² *Id.*

³ Adam Maerov, Kourtney Rylands & Joseph Osborne, *After Quadriga: The Future of Insolvent Cryptocurrency Exchanges*, 9 Journal of the Insolvency Institute of Canada (2020).

⁴ Shaya Rochester & Lindsay Lersner, *What Happens When Crypto Meets Insolvency*, LAW 360 (Feb 7, 2019, 4:47 PM), <https://www.law360.com/articles/1116999/what-happens-when-crypto-meets-insolvency>.

⁵ Catherine Rousseau, *Cryptocurrency Offerings in Canada: Why and How We should Modernize the Securities Law Framework*, 35 BFLR 63 at 68 (2019).

key acts as an “identifier” of the digital wallet in which cryptocurrency assets are held, while the private key is a special code known only to the wallet owner, permitting the user to spend and exchange the cryptocurrency.⁶ While the truly private nature of the key is critical to the decentralized character of cryptocurrency, it is also a cause for concern: owners of cryptocurrency cannot recover a private key if it is lost, misplaced, or stolen.⁷

Cryptocurrency can be acquired in several ways, including:⁸

- (a) initial coin/token offerings (“ICO/ITO”): a finite amount of cryptocurrency is created and offered by a company on a cryptocurrency exchange, in a manner similar to stocks in a company’s initial public offering (“IPO”) on a stock exchange; mining: a party receives payment of cryptocurrency for verifying new transactions on the blockchain of the digital ledger;
- (b) buying/selling on secondary markets: holders of cryptocurrency buying and selling on an exchange in order to profit off of the spread resulting from cryptocurrency’s speculative and volatile nature; and
- (c) commercial transactions: vendors accepting cryptocurrency as value for goods.

III. WHAT ARE CRYPTOCURRENCY TRADING PLATFORMS (EXCHANGES)?

Cryptocurrency trading platforms, commonly called “exchanges,” allow investors to buy and sell cryptocurrency, either using fiat currency or other cryptocurrency.⁹ Importantly, cryptocurrency exchanges operate globally, and in many cases with little to no government oversight or institutional regulation.¹⁰

There are two main “structures” that cryptocurrency exchanges may adopt: decentralized and centralized. Where decentralized exchanges do not depend on a single company to control customer assets, using blockchain technology to facilitate trading, centralized exchanges depend on a single party (usually a corporation) to operate the exchange.¹¹ Ironically, the nature of centralized cryptocurrency exchanges “negate[s] the promise of security offered by blockchain technology by allowing the exchange to control the storage of, and access to, users’ cryptocurrency.”¹² It is this centralized control of purportedly decentralized assets which oftentimes leads to the downfall of cryptocurrency

⁶ Josephine Shawver, *Commodity or Currency: Cryptocurrency Valuation in Bankruptcy and the Trustee’s Recovery Powers*, 62 B.C. L. Rev. 2013 at 2023 (2021).

⁷ *Id.*

⁸ Allen & Hutchison, *supra* note 1.

⁹ CANADIAN SECURITIES ADMINISTRATORS, CSA STAFF NOTICE 46-307: CRYPTOCURRENCY OFFERINGS 40 OSCB 7231 (2017), <https://www.osc.ca/en/securities-law/instruments-rules-policies/4/46-307/csa-staff-notice-46-307-cryptocurrency-offerings>.

¹⁰ *Id.*

¹¹ Maerov, Rylands & Osborne, *supra* note 3.

¹² *Id.*

exchanges as directors mismanage funds, defraud investors, and fall victim to some of the most untimely deaths without sharing their private keys.

IV. THE CRYPTOCURRENCY WINTER

The term “crypto winter” refers to “an extended period of trouble [which] may . . . be settling over the crypto market, with prices likely to contract and remain low for some time.”¹³ While this is not the first period of trouble the crypto world has seen, “[f]inancial distress in this crypto winter has been more significant and widespread than [previous periods],” which can be attributed to a number of factors:¹⁴

- (a) increased participation in crypto markets (particularly by retail investors);
- (b) broader range of debt and leverage due to the rise of decentralized finance (“DeFi”) markets and lending platforms; and
- (c) greater financial interdependence between firms, causing a “domino effect.”

The current news cycle reflects the beginning of this crypto winter, with a long string of cryptocurrency exchange insolvencies occurring in quick succession, including: Three Arrows Capital on July 1, 2022, Voyager Digital on July 6, 2022, Celsius Network on July 14, 2022, and most infamously, FTX on November 11, 2022.¹⁵

V. ISSUES IN CRYPTOCURRENCY INSOLVENCY: CAN CANADIAN AND AMERICAN INSOLVENCY REGIMES KEEP UP?

Existing corporate insolvency regimes in both Canada and the United States have struggled to keep up with the legal complexities which arise when a cryptocurrency exchange fails. Tensions between the nature of cryptocurrency exchanges and existing insolvency frameworks include:

- (a) Determining the owner of cryptocurrency assets: Investor or exchange?
- (b) Legal classification of cryptocurrency: Intangible, currency, or commodity?
- (c) Valuation: How and when to value creditor claims to cryptocurrencies?
- (d) Cross-border issues: Where do cryptocurrency exchanges exist?
- (e) Practical challenges: How to access and liquidate cryptocurrency assets?

A. Determining the Owner of Cryptocurrency Assets: Investor or Exchange?

¹³ *Weathering the Crypto Winter: Tools for Insolvency Practitioners*, KATTEN (Oct. 20, 2022), <https://katten.com/weathering-the-crypto-winter-tools-for-insolvency-practitioners>.

¹⁴ *Id.*

¹⁵ *Factbox: Crypto’s string of bankruptcies*, REUTERS (Jan. 20, 2023), <https://www.reuters.com/business/finance/cryptos-string-bankruptcies-2023-01-20/>.

In both Canadian and American law, commencement of the insolvency proceeding implements a stay of proceedings against the debtor.¹⁶ However, this stay of proceedings only protects assets which form part of the bankruptcy estate — this does not include the property of others held by the debtor (the bankruptcy estate takes the debtors assets, *subject to prior property rights*.)¹⁷ As such, a critical determination in the insolvency of cryptocurrency exchanges is whether investors in the exchange have a property right to the cryptocurrency held in their wallets (and thus may withdraw the cryptocurrency itself), or whether the cryptocurrency assets form part of the bankruptcy estate, leaving investors with only an unsecured claim in the *pari passu* disposal of the debtors assets.¹⁸

In the liquidation of Canadian cryptocurrency exchange Quadriga CX, Hainey J of the Ontario Superior Court of Justice recognized the cryptocurrency held by Quadriga as “property” of the bankruptcy estate as per s. 67(1)(c) of the *Bankruptcy and Insolvency Act* (“BIA”).¹⁹ Similarly, in the Chapter 11 filing of another cryptocurrency exchange, Celsius Network, Glenn J of the Southern District of New York Bankruptcy Court held that: based on Celsius’s unambiguous Terms of Use . . . when the cryptocurrency assets . . . were deposited in Earn Accounts, the cryptocurrency assets became Celsius’s property; and the cryptocurrency assets remaining in the Earn Accounts on the Petition Date became the property of the Debtors’ bankruptcy estates.²⁰

While Hainey J’s endorsement did not discuss in any great detail the reasons why cryptocurrencies held by Quadriga should form part of the bankruptcy estate rather than be returned to investors as their property, Glenn J’s reasons in *In re Celsius* rely on the strength of the language in the Terms of Use which customers agreed to when signing up for Celsius’s services. Specifically, account holders were found to have unsecured claims against Celsius because the contract formed between investors and the exchange was “unambiguous with respect to whether Account Holders retained ownership or transferred ownership of cryptocurrency assets by depositing the assets into Earn Accounts.”²¹ This unambiguous contract, found in Version 5 of the Terms of Use, provided that “Account Holders ‘grant

¹⁶ *Bankruptcy and Insolvency Act*, R.S.C. 1985, c B-3, ss 69, 69.3 [BIA]; 11 USC § 362 (1978).

¹⁷ BIA, *supra* note 16, s 67(1); 11 USC § 541(b).

¹⁸ BIA, *supra* note 16, s 136; 11 USC § 507.

¹⁹ Re Quadriga Fintech Solutions Corp et al, CV-19-627184-00CL (31-2560674), CV-19-627185-00CL (31-2560984) and CV-19-627186-00CL (31-2560986) (Mar. 1, 2021) [hereinafter *Re Quadriga*]. See also Zena Olijnyk, *As cryptocurrency nears a ‘Lehman Brothers’ moment, lawyers look at how insolvency law will cope*, CANADIAN LAWYER (Nov. 29, 2022), <https://www.canadianlawyermag.com/practice-areas/corporate-commercial/as-cryptocurrency-nears-a-lehman-brothers-moment-lawyers-look-at-how-insolvency-law-will-cope/371938>; Davies *Insolvency Now: Financial Gloom and the Increase in Insolvency Filings*, DAVIES (2022), <https://www.dwpv.com/sites/Insolvency/Trends-2022/Issue7/en/6/index.html> [hereinafter *Davies Report*].

²⁰ *In re Celsius Network LLC*, No 22-10964 (MG) (Bankr SDNY, 2023) at 4 [hereinafter *In re Celsius*].

²¹ *Id* at 38.

Celsius . . . all right and title to such Digital Assets, including ownership rights' (the 'Transfer of Title Clause')."²²

Not discussed in Glenn J's decision, however, was another product provided by Celsius to its users, namely Celsius's "Custody Service - which is described as being more akin to a traditional deposit or custodial account."²³ Under this Custody Service, "title to any deposited crypto shall at times remain with [the customer] and not transfer to Celsius, who may 'not transfer, sell, loan or otherwise rehypothecate' such crypto without the customer's consent."²⁴ In this case, the issue of whether an investor has a property right to the cryptocurrency assets becomes much more complicated, and the analysis turns on whether the cryptocurrency was a custodial asset held by Celsius for the benefit of its customers.²⁵

In the United States, the Court in *In re Joliet-Will County Community Action Agency*²⁶ held that "property held by the debtor as custodian or other intermediary who then generally lacks beneficial ownership rights is not an asset of the bankruptcy estate."²⁷ To determine whether the relationship between the debtor and those who transferred funds to the debtor was "custodial" the Court looked at "'the terms under which the grants were made' and the 'relationship between the holder of the funds and its customer.'"²⁸ Importantly, the *Uniform Commercial Code* ("UCC") reflects this holding of the Court in *In re Joliet*, but specifically in the context of assets held by a securities intermediary.²⁹ In Canada, s. 67(1)(a) of the *BIA* similarly provides that "[t]he property of a bankrupt divisible among his creditors shall not comprise . . . property held by the bankrupt in trust for any other person."³⁰

To summarize, in both Canada and the United States the issue of the ownership of cryptocurrency assets is to be decided on the basis of contract construction. Germane to this determination will be the nature of the transfer of assets and whether a custodial relationship existed between the investor and the exchange. In light of the discussion above, it is imperative that investors rethink contracts of adhesion with cryptocurrency exchanges, and at the very least "shop around" for the right trading platform or product offering, preferably one which does not provide for a transfer of title upon the customer's deposit of their cryptocurrency in their digital wallet and/or account with an exchange.

²² *Id.* at 39.

²³ *Crypto Exchange Bankruptcies: Are Prepetition Crypto Withdrawals and DeFI Loan Repayments Avoidable Preferences?* MORRISON FOERSTER (Nov. 18, 2022), https://www.mofo.com/resources/insights/221118-crypto-exchange-bankruptcies#_ftnref18.

²⁴ *Id.*

²⁵ *The Other Side of the Coin: Cryptocurrency Assets in Bankruptcy*, PROSKAUER (Jul. 15, 2022), https://www.proskauer.com/alert/the-other-side-of-the-coin-cryptocurrency-assets-in-bankruptcy#_ftnref2 [hereinafter *The Other Side of the Coin*].

²⁶ 847 F.2d 430, 431 (7th Cir. 1988) [hereinafter *In re Joliet*].

²⁷ *The Other Side of the Coin*, *supra* note 25.

²⁸ *Id.*

²⁹ UCC § 8-503(a) (1994).

³⁰ *BIA*, *supra* note 16, s 67(1)(a).

B. Legal Classification of Cryptocurrency: Intangible, Currency, or Commodity?

Arguably the most contentious debate concerning cryptocurrencies is how these assets should be legally classified. While the question of whether cryptocurrencies are properly classified as securities is certainly of great importance, particularly as it pertains to the issues of regulation and the disclosure requirements applicable to exchanges, more relevant to the context of insolvency is:

- (i) the classification of cryptocurrency under personal property law and the resulting “negotiability” of these digital assets; and
- (ii) the classification of cryptocurrency as either currency or commodity in the context of:
 - (1) the applicability of safe harbor provisions against the stay of proceedings; and
 - (2) the trustee’s powers of avoidance of fraudulent or preferential transfers.

(i) Classification Under Personal Property Law

In both Canada and the United States, there seems to be some consensus that cryptocurrencies are not considered legal tender and that, of “the many categories of personal property, cryptocurrencies would most appropriately fit within the definition of an ‘intangible.’”³¹ Furthermore, intangibles are known to be “the least negotiable of all UCC [and PPSA] forms of property,” meaning that while many forms of property are negotiable instruments which “circulate free and clear of security interests,” the same might not be said for cryptocurrencies.³²

Scholars concerned with the classification of cryptocurrencies as intangibles envision a scenario whereby a debtor grants to a lender, as collateral, a security interest over all of its present and after-acquired property, including its cryptocurrency intangibles. If the debtor then pays a third-party with the cryptocurrency which has the lender’s security interest attached, without the secured lender’s consent to the disposition, the lender has a superior claim against the third-party payee and may assert it upon the debtor’s insolvency.³³ By way of contrast, if cryptocurrency is considered money under the UCC or PPSA (and its equivalent provincial statutes), “transferees would take the cryptocurrency free of a security interest.”³⁴

³¹ Gregory Azeff, Stephanie De Caria & Matthew McGuire, *Governing the Ungovernable: Cryptocurrencies in Insolvency Proceedings*, 2018 Annual Review of Insolvency Law 9 (2018). See UCC § 9-102(42) (2010); *Personal Property Security Act*, R.S.O. 1990, c P-10, s 1 [PPSA].

³² *Davies Report*, *supra* note 19.

³³ See Timothy Jones, *Cryptocurrency Assets Under Insolvency and Personal Property Security Law*, AIRD BERLIS (Feb. 15, 2018), <https://www.airdberlis.com/insights/publications/publication/cryptocurrency-assets-under-insolvency-and-personal-property-security-law>.

³⁴ Rochester & Lersner, *supra* note 4.

However, even the above analysis presents something of a false choice, as it is not entirely clear how a security interest in cryptocurrencies, classified as “intangibles,” is to be perfected by a lender such that they may assert it in the event of insolvency. Under both the PPSA and UCC, a security interest in general intangibles is to be perfected in the jurisdiction where the debtor is located, however the nature of both cryptocurrency assets and platforms create uncertainty regarding the proper jurisdiction in which lenders should register their security interests.³⁵

(ii) Classification as Currency or Commodity

(1) Safe Harbor Provisions

One of the greatest implications arising from the currency versus commodity classification debate is whether cryptocurrency transactions are contracts which may qualify as Eligible Financial Contracts (“EFCs”) under Canadian law, also known as “swap agreements” under American law. If cryptocurrencies are indeed currencies in the traditional sense, then cryptocurrency transactions would be subject to legislative carve-outs for which the stay of proceedings against a debtor would not apply.³⁶ In both jurisdictions, a non-defaulting party to an EFC or swap agreement is exempted from the stay and may terminate and net out their obligations with the debtor.³⁷ The concern with an overly broad interpretation of currency, such that cryptocurrency transactions fall within the scope of EFCs and swap agreements, is that investors may deplete the bankruptcy estate to the detriment of the exchange’s other creditors.³⁸ If cryptocurrencies are commodities, they would be subject to significantly fewer protections under American law, and only if the transaction at issue constituted a “‘forward contract,’ providing for the commodity’s delivery two days in advance of the contract’s maturity date.”³⁹

Of note, however, is the uncertainty in Canadian law as to what qualifies as an EFC. While American legislation provides a cleaner divide between swap agreements, commodity forward contracts, and the protections afforded to each, the Canadian catch-all of “eligible financial contracts” has been the subject of much litigation, rendering it unclear whether a commodity contract will be considered an EFC and therefore subject to the same protections as other financial contracts such as swap agreements.⁴⁰ It does not seem that Canadian insolvency

³⁵ *Expert Q&A on Cryptocurrency and Insolvency*, PRACTICAL LAW (2019), [https://ca.practicalaw.thomsonreuters.com/w-018-1084?transitionType=Default&contextData=\(sc.Default\)&firstPage=true](https://ca.practicalaw.thomsonreuters.com/w-018-1084?transitionType=Default&contextData=(sc.Default)&firstPage=true); *Davies Report*, *supra* note 19.

³⁶ *BIA*, *supra* note 16, s 65.1(8)-(9); 11 USC § 362(b)(17), 560, 101 (53B).

³⁷ Adam Driedger, *Bitcoin and Bankruptcy: Implications for Canadian Insolvency Law*, INSOLVENCY INSTITUTE OF CANADA (2018), https://www.insolvency.ca/en/iicresources/resources/Bitcoin-and-Bankruptcy_Adam-Driedger.pdf, at 7.

³⁸ *Id* at 7-8.

³⁹ Chelsea Deppert, *Bitcoin and Bankruptcy: Putting the Bits Together*, 32:1 Emory Bankruptcy Developments Journal 123 at 148 (2015); 11 USC § 101(25)(A).

⁴⁰ See Ky Kvisle & James Reed, *The ABCs of EFCs: Eligible Financial Contracts and*

legislation specifies carve-outs for commodities, as differentiated from other EFCs, in the same way that American legislation does.

(2) Avoidance of Fraudulent Transfers

The legal characterization of cryptocurrency as a currency or commodity also has implications on the trustee's power to avoid fraudulent or preferential transfers. Under both Canadian and American legislation, trustees can effectively reverse transactions leading up to the debtor's insolvency which are considered fraudulent or preferential.⁴¹

However, under Canadian law, there is once again a carve-out which exists for EFCs such that they are not subject to the trustee's powers of avoidance.⁴² Furthermore, neither Canadian nor American legislation specifies when the trustee, in exercising their avoidance powers, is entitled to the recovery of the actual assets transferred or only the value thereof.⁴³ Generally, where the assets in the fraudulent or preferential transfer are classified as currency, the approach has been to return the cash value of the transfer. However, if the assets subject to the transfer are properly characterized as commodities, the transferee will be required to return the assets to the estate.⁴⁴

The volatile nature of cryptocurrencies means that the recovery of the coins themselves as a commodity, rather than the recovery of their value as a currency at a particular point in time, may result in vastly disparate returns to the estate. This exact issue confronted the Bankruptcy Court for the Northern District of California in *In re Hashfast Technologies LLC*,⁴⁵ where the transferee argued that Bitcoin should be classified as a currency, and that he was liable only for the value of the Bitcoins as of the date of the fraudulent transfer. The trustee in this case argued that Bitcoins were more similar to commodities, and that they were entitled to the Bitcoins themselves, or their value as of the date of recovery (if the Bitcoins could not themselves be recovered).⁴⁶ Unfortunately this case provided no clarity on the currency versus commodity issue, as the Court deferred answering the question and the parties then settled out of court.

Of note to this debate is another American case which came out of the U.S. District Court for the District of Massachusetts. In *US Commodity Futures Trading Commission v My Big Coin Pay Inc*,⁴⁷ the Court determined that, as there exists futures trading in virtual currencies, which was deemed to be analogous to futures

Energy Company Insolvency Proceedings, 59:2 Alberta Law Review 297 (2021).

⁴¹ *BIA*, *supra* note 16, s 95(1)-(2); 11 USC § 544.

⁴² *BIA*, *supra* note 16, s 95(2.1).

⁴³ *Id.*, s 98(2); 11 USC § 550; Shawver, *supra* note 6 at 2029.

⁴⁴ Shawver, *supra* note 6 at 2030.

⁴⁵ *In re Hashfast Technologies LLC*, Case No 14-30725DM (Bankr ND Cal, 2016); Joanne Molinaro & Susan Poll Klaessy, *Crypto As Commodity, And The Bankruptcy Implications*, FOLEY & LARDNER LLP (Oct. 17, 2018), <https://www.foley.com/en/insights/publications/2018/10/crypto-as-commodity-and-the-bankruptcy-implication>.

⁴⁶ *In re Hashfast Technologies LLC*, *supra* note 45 at 1-2; Molinaro & Klaessy, *supra* note 45.

⁴⁷ *US Commodity Futures Trading Commission v My Big Coin Pay Inc*, 334 F. Supp 3d 492 (D. Mass. 2018).

trading in natural gas, virtual currencies met the definition of “commodity” under the *Commodity Exchange Act*,⁴⁸ and were thus under the jurisdiction of the Commodity Futures Trading Commission (“CFTC”).

Some commentators have suggested that the classification of cryptocurrencies as commodities may be the preferred approach of bankruptcy courts as it precludes the complicated question of whether cryptocurrencies should be quantified as fiat “currency” as of the date of the fraudulent transfer, or at the time of the petition for bankruptcy.⁴⁹ However, others have noted that the valuation issue is far from avoided by a commodity classification, as the reality is that — in many cases — theft or other logistical issues will mean that the cryptocurrency assets are unrecoverable, and so the question then becomes how to properly assess the fair market value of these assets.⁵⁰ This question is also left unaddressed by insolvency legislation, and it will be up to the courts to make this determination. However, scholars have suggested that cryptocurrencies should be valued as of the date of petition where necessary, as this provides greater certainty and effectuates the goals of insolvency legislation.⁵¹

In all, it seems that the currency versus commodity debate is far from over in the context of insolvency proceedings. As discussed above, this determination will have far-reaching implications on the applicability of a stay of proceedings to cryptocurrency “contracts,” as well as on the scope of the trustee’s avoidance powers.

C. Valuation: How and When to Value Creditor Claims to Cryptocurrencies?

When a cryptocurrency exchange is liquidated, the salient question becomes the proper point in time at which to quantify creditors’ claims such that the value of cryptocurrency can be considered “crystalized” for the purposes of the insolvency proceeding.⁵² Once again, the reality of the volatility of cryptocurrencies means that “there will necessarily be winners and losers,” and it will be up to the courts and policymakers to strike the proper balance.⁵³

In the Quadriga liquidation, Hainey J determined that the cryptocurrency claims of creditors were to be valued as of the date of bankruptcy for three principal reasons:⁵⁴

(i) the cryptocurrency claims are analogous to debts in a currency other than a Canadian currency, which s. 215.1 of the *BIA* provides are to be converted as of the date of bankruptcy;

⁴⁸ 7 USC Ch 1.

⁴⁹ Shawver, *supra* note 6 at 2042.

⁵⁰ *Id* at 2044.

⁵¹ *Id* at 2047.

⁵² Driedger, *supra* note 37 at 9.

⁵³ *Id*.

⁵⁴ *Re Quadriga*, *supra* note 19 at 2.

- (ii) the exchange platform can be analogized to a securities firm under Part XII of the *BIA*, which provides that, in most circumstances, customer pool funds are to be valued as of the date of bankruptcy; and
- (iii) valuing cryptocurrency claims as of the date of bankruptcy is an efficient approach in line with principles underlying bankruptcy claims processes.

In his reasons, Hainey J made two implicit conclusions: first, that cryptocurrency should be considered currency rather than a commodity, and second that cryptocurrency exchanges are akin to securities firms and that as such, the securities firm insolvency regime should apply, which will be discussed further below.

Notably, American courts have yet to see a cryptocurrency exchange undergo liquidation, as bankruptcy proceedings have thus far been Chapter 11 filings. However, even in the context of Chapter 11 filings, American courts will not have evaded the question of how to properly value creditor claims to cryptocurrencies, as the *Bankruptcy Code* requires that a creditor's interest in a restructuring be adequately protected, such that they would not be under-secured should the case be converted to a Chapter 7 liquidation.⁵⁵ The provision of adequate protection means that the trustee is required to make cash payment(s) to the extent that the stay of proceedings deplete the creditor's interest — this necessitates a valuation of the creditors claim to cryptocurrencies held by the debtor, a process which is severely challenged by the volatile price fluctuations of cryptocurrencies. As such, it may become relevant that § 502(b) of the *Bankruptcy Code* provides that the court “shall determine the amount of [a claim] in lawful currency of the United States as of the date of the filing of the petition.”⁵⁶

D. Cross-Border Issues: Where Do Cryptocurrency Exchanges Exist?

The global operation of cryptocurrency exchanges means that an insolvent exchange will likely be the subject of bankruptcy proceedings in several countries, and the process of selecting a “main” proceeding in the spirit of comity and cooperation will be challenged by the jurisdictional uncertainty inherent in these lean, decentralized, and almost wholly online operations. The intricacies of cross-border insolvency proceedings is beyond the scope of this paper, but it is suffice to say that the dominant approach, adopted by 53 states in a total of 56 jurisdictions, is the UNCITRAL Model Law on Cross-Border Insolvency (1997).⁵⁷ The Model Law provides that, in selecting the “foreign main” proceeding, which is in effect deferred to by the states in which “foreign non-main” proceedings have been commenced, the debtor's “center of main interest” must be identified.⁵⁸ While the Model Law does not define the meaning of “center of main interest,”

⁵⁵ 11 USC § 362, 363, 364.

⁵⁶ 11 USC § 502(b).

⁵⁷ United Nations Commission on International Trade Law, *UNCITRAL Model Law on Cross-Border Insolvency With Guide to Enactment and Interpretation with Amendments as Adopted in 2008*, UNCITRAL (2014), <https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/1997-model-law-insol-2013-guide-enactment-e.pdf>.

⁵⁸ *Id* at 9.

the Guide to Enactment provides that the formulation of this concept in the EC Regulation corresponds to that of the Model Law.⁵⁹ The EC Regulation defines the center of main interest as “the place where the debtor conducts the administration of his interests on a regular basis and is therefore ascertainable by third parties.”⁶⁰

Applying the concept of a “center of main interest” to cryptocurrency exchanges will prove particularly problematic, as “a lack of physicality on the part of virtual assets [will] frustrate the [analysis] due to the absence of . . . traditional establishing factors . . . such as offices, employees, and in some cases even bank accounts.”⁶¹ Taking the Quadriga case for example, the company had none of the traditional, traceable operating assets or personnel; it was largely operated from the director’s laptop.⁶² While Quadriga’s Director, Gerald Cotten, was “relatively static” in his domicile in Nova Scotia, Canada, this will not be the case for all cryptocurrency exchange operations. In fact, a significant barrier in the Quadriga insolvency was the fact that Mr. Cotten died when he was operating the company from his laptop while on vacation in India.⁶³

Looking to the location of creditors in these contexts will sparsely help the determination of a center of main interest, as the creditors of cryptocurrency exchanges will be globally dispersed. Furthermore, there can be no clear determination of the location of the cryptocurrency assets themselves, as they “arguably [exist] only in digital form,” although some proposals have suggested that the location of the private key should act as a jurisdictional indicator, while others have focused on the “location of the server on which the asset is stored.”⁶⁴ In all however, it is likely that there will be no clear approach to determining the location of assets which “exist both nowhere and everywhere.”⁶⁵

E. Practical Challenges: How to Access and Liquidate Cryptocurrency Assets?

The last challenges to the insolvency practitioner that this paper will discuss are the practical barriers to accessing cryptocurrency assets, the effect of forced liquidation on the value of these assets and the strategic considerations which must be considered when disposing of crypto assets.

(i) Accessing Cryptocurrency Assets

⁵⁹ *Id.* at 44.

⁶⁰ *Id.*

⁶¹ Myles Bayliss, *Virtual Assets, Real Insolvency Issues*, 36:1 BFLR 107 at 117 (2020).

⁶² *Id.*

⁶³ Yvette Brend, *Sudden death of cryptocurrency leader sends Quadriga into tailspin, panicking clients*, CBC NEWS (Feb. 3, 2019), <https://www.cbc.ca/news/canada/british-columbia/quadriga-cryptocurrency-bitcoin-exchange-gerald-cotten-death-india-1.5002955>.

⁶⁴ Megan McDermott, *The Crypto Quandry: Is Bankruptcy Ready?*, 115:6 Nw. Univ. L. Rev 1921 at 1950 (2021).

⁶⁵ *Id.*

As discussed above, one of the key features of cryptocurrencies is that they are accessible only to the private key holder and that there is, as of yet, no known method to decode the alphanumeric code which unlocks a digital wallet. This poses a significant barrier to recovering cryptocurrency assets which in theory belong to the bankruptcy estate, particularly in cases of theft, non-cooperation, and the untimely death of CEOs. In such cases, “existing enforcement mechanisms such as mandatory or prohibitory injunctions, stays of proceedings, contempt proceedings, etc., may be rendered meaningless.”⁶⁶

Furthermore, even if the private keys are not beyond the reach of the insolvency practitioner, cryptocurrency exchanges are oftentimes intricate webs of digital wallets, with value changing hands beyond the control of the judiciary. In these situations, it may be that any efforts to track down the cryptocurrency assets risk depleting the entire value of the bankruptcy estate before creditors see even a cent on the dollar returned. Similar concerns were at play in the decision of a Canadian court in *British Columbia Securities Commission v Einstein Capital Partners Ltd.*,⁶⁷ where an interim receiver over \$16 million of cryptocurrency and cash found that “an effort to sell the assets of the estate would outweigh any recovery.”⁶⁸

In the United States, the “Cryptsy” receivership illustrated similar practical difficulties in recovering cryptocurrency assets. The report of the receiver in this case listed a number of practical barriers, including but not limited to the fact that: there were numerous wallets belonging to the exchange which carried alternative coins, each of which required its own unique software to run its own blockchain; the entire block chain history needed to be linked with the recovered wallets in order to verify the current balance of coins in the wallets; and that many wallets had become corrupted or unresponsive, requiring further time and effort to recover the remaining coins.⁶⁹ This does not take into account further challenges which may result from the attempts of employees or directors of the exchange to “obfuscate or dissipate the assets.”⁷⁰

(ii) Cryptocurrency Fungibility

Adding to the list of grim realities in cryptocurrency insolvency is the fact that “not all tokens are created equal in terms of discoverability and fungibility.”⁷¹ While there has been a relatively strong appetite for Bitcoin over the past few years, the same cannot be said for all cryptocurrencies, which number in the thousands. Many have generally low demand and therefore low liquidity in the

⁶⁶ Azeff, De Caria & McGuire, *supra* note 31.

⁶⁷ *Interim Receiver's First Report to the Court*, GRANT THORNTON LLP (Nov. 14, 2019), docs.grantthornton.ca/document-folder/viewer/docul8LWscWho7J/102442047215004804?ga=2.210310485.113131668.6.-1574106687-1211224294.15728978344.

⁶⁸ *Davies Report*, *supra* note 19.

⁶⁹ Jones, *supra* note 33.

⁷⁰ *Id.*

⁷¹ *Id.*

hands of a practitioner looking to dispose of the bankruptcy estate quickly and efficiently.⁷²

To provide one example of this fungibility issue we may return to the case of the American class action against cryptocurrency exchange, Cryptsy, where the interim receiver divided the exchange's assets into two categories: high and low-to-medium liquidity cryptocurrencies.⁷³ While high liquidity cryptocurrencies such as Bitcoin, Ether, and Litecoin were quickly disposed of with minimal market impact, the interim receiver advised the court that "any attempt to liquidate a significant amount of [the] low to medium liquidity coins" would yield adverse effects on their value and net proceeds which "were significantly less than the posted market value."⁷⁴

Although it was not strictly an insolvency case, the court-supervised liquidation of NextBlock Global Limited also involved a series of complex liquidity issues, resulting in the Court ceding discretion to NextBlock to dispose of the assets when it was "commercially reasonable," as well as including an alternative sale process for "comparatively illiquid cryptocurrencies," which were to be sold by privately targeting sophisticated parties.⁷⁵

(iii) Ripple Effects of Forced Liquidation

Even after the insolvency practitioner has spent the time, effort, and funds to secure the cryptocurrency assets, the question of how to properly dispose of the assets introduces further complications. Forced liquidation risks diminishing creditor recovery as large exchanges can, and often, hold a significant amount of a particular coin or token. This issue is exacerbated by the expected sell-off that holders of a token on other exchanges will engage in once it is anticipated that the insolvency practitioner will be looking to dispose of the debtor's position.⁷⁶

The expertise and timing decisions of the insolvency practitioner are therefore crucial considerations, as their decisions on when and how to dispose of assets will determine what kind of return creditors can expect. The reality is that the courts can be of no help in this respect as they "cannot compel the value of the assets . . . to remain stagnant."⁷⁷

VI. SELECTING THE PROPER REGIME: WHICH FRAMEWORK SHOULD GOVERN CRYPTOCURRENCY EXCHANGE INSOLVENCIES?

In light of the intricacies and complexities that cryptocurrency exchanges create in the process of liquidation and restructuring efforts, it may be time to "zoom-out" and consider whether the insolvency regimes that courts have been resorting to are indeed the most suitable. Thus far, cryptocurrency exchanges have

⁷² *Id.*

⁷³ Azeff, De Caria & McGuire, *supra* note 31.

⁷⁴ *Id.*

⁷⁵ Azeff, De Caria & McGuire, *supra* note 31.

⁷⁶ McDermott, *supra* note 64 at 1945.

⁷⁷ Azeff, De Caria & McGuire, *supra* note 31.

been treated as large corporations under the *BIA*, *CCAA*, and *Bankruptcy Code*. According to some scholars, these statutes are the “most well-suited to handling the restructuring of a cryptocurrency exchange or the insolvency of a company with significant cryptocurrency holdings” due to their flexibility and at times remedial nature, particularly in the case of the *CCAA*.⁷⁸

However, as noted above, courts have at times looked to frameworks beyond the corporate insolvency context to resolve issues seemingly unique to cryptocurrency exchanges, such as Hainey J’s reference in the Quadriga liquidation to the pooling of customer funds in securities firm insolvencies under Part XII of the *BIA*. Similarly, in the United States, failing brokerages will fall under the purview of the *Securities Investor Protection Act* (“SIPA”).⁷⁹ *SIPA* is “designed to protect customers of brokers or dealers from loss” in case of a firm’s financial failure by requiring the trustee to “distribute securities to customers to the greatest extent practicable in satisfaction of their claims,” rather than simply converting securities to cash as quickly as possible, as would be done under the *Bankruptcy Code*.⁸⁰

Some commentators have looked beyond the categorization of cryptocurrency exchanges as securities firms, and considered whether they are corporations at all, or rather banks.⁸¹ The rationale for treating banks differently than regular corporations arises from the unique characteristics of these institutions, including the fact that they hold highly liquid liabilities in the form of deposits, the mass withdrawal of which may threaten the bank’s solvency in a typical “run on the bank” scenario.⁸² Furthermore, banks perform financial services which are considered fundamental to the functioning of the economy, and are also a means of transmitting monetary policy.⁸³ Given these unique institutional features, bank insolvency legislation generally creates “special rules” to govern these proceedings, such as unique triggers for supervisory action which precede an actual state of insolvency, and procedural differences in the administration of the estate which afford to stakeholders more restrictive roles, as the focus is on allowing a supervisory authority to manage the estate without extensive negotiation.⁸⁴

In Canada, these unique, policy-driven goals of bank insolvency are found in the provisions of the *Winding Up and Restructuring Act*,⁸⁵ while in the United States the insolvency of commercial banks are exempted from the *Bankruptcy Code*⁸⁶ and instead subject to the provisions of the *Federal Deposit Insurance*

⁷⁸ Maerov, Rylands & Osborne, *supra* note 3.

⁷⁹ 15 USC Ch 2B-1.

⁸⁰ *Securities Investor Protection Act (SIPA)*, UNITED STATES COURTS, <https://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/securities-investor-protection-act-sipa>.

⁸¹ See Jhanile T. Smith, *Bitcoin Exchanges in Bankruptcy: The Square Peg in the Round Hole* (2016) 35:12 Am. Bankr. Inst. J. 46 (2016).

⁸² Eva H.G. Hüpkes, *Insolvency: Why a Special Regime for Banks*, in CURRENT DEVELOPMENTS IN MONETARY AND FINANCIAL LAW VOL 3 (2005) 471 at 472.

⁸³ *Id* at 473.

⁸⁴ *Id* at 476-77.

⁸⁵ R.S.C. 1985, c W-11.

⁸⁶ 11 USC § 109(b)(2).

Act.⁸⁷ While a comprehensive review of the ways in which these regimes differ from those which govern corporate insolvencies in both jurisdictions is beyond the scope of this paper,⁸⁸ it is worth considering whether these special rules should only apply to banks, or whether cryptocurrency exchanges have unique characteristics which similarly warrant special treatment.⁸⁹

VII. GENERAL POLICY RECOMMENDATIONS

If special rules are to be created to either supplement or supplant existing corporate insolvency regimes in Canada and the United States in the case of cryptocurrency exchanges, commentators have suggested a number of key considerations which should be reflected in a customized approach, including:⁹⁰

- (a) a comprehensive definition of cryptocurrency in the insolvency context;
- (b) a stipulation that cryptocurrency is a unique or distinct form of personal property;
- (c) clear negotiability rules with respect to cryptocurrencies;
- (d) rules clarifying what constitutes ownership and control of a cryptocurrency;
- and
- (e) priority rules with respect to security interests in cryptocurrency.

In addition to the above, this paper highlights the need for legislative guidance on the treatment of cryptocurrencies as either currency or commodity for the purpose of defining the scope of a stay of proceedings and a trustee's powers of avoidance (or, if no single determination can be made, guidance on what features of a cryptocurrency will militate in favor of one characterization or another in a given proceeding). Furthermore, specific enforcement mechanisms in a custom cryptocurrency exchange regime should empower courts to minimize the logistical complexities in these proceedings, which parties can exacerbate by obfuscating legal proceedings and taking advantage of the digital nature of cryptocurrency assets.

VIII. CONCLUSION

Cryptocurrencies are unwieldy assets by nature. The uncertainty in their ownership, value, purpose, and security makes legislating to control their use — and the potential harm that they can cause to retail investors — equally as unwieldy. A proactive approach is needed to address the complex realities of cryptocurrencies in the context of insolvency proceedings, as the frontiers of financial innovation will not stop for regulators, nor the courts, to catch up.

⁸⁷ 12 USC § 1821-1825.

⁸⁸ For comprehensive discussions see Stephanie Ben-Ishai, *Bank Bankruptcy in Canada: A Comparative Perspective*, 24:3 Banking and Finance Law Review 59 (2009); Robert Bliss & George Kaufman, *US Corporate and Bank Insolvency Regimes: An Economic Comparison and Evaluation* (FRB of Chicago Working Paper No 2006-01, 2006).

⁸⁹ Hüpkes, *supra* note 82 at 497.

⁹⁰ Driedger, *supra* note 37 at 9-10.

The task cannot be to create the perfect framework today, in fact such a goal would fly in the face of the ever-evolving nature of cryptocurrencies. Instead, some clarity and guidance must be given so businesses operating as exchanges know the scope of their liabilities and what a trustee's powers are, should they become insolvent. Similarly, investors should be provided with greater certainty on the extent to which the judicial system can assist them if, and when, these exchanges fail.

PRECARIOUS WORK AND INDEPENDENT CONTRACTORS: AN OVERVIEW AND COMPARATIVE ANALYSIS OF RECENT DEVELOPMENTS IN CALIFORNIA AND ONTARIO

Lou Beckett^{***}

ABSTRACT: This article offers a detailed definition for the concept of precarious work, how the independent contractor classification can be misused, some brief context on the classification of independent contractors in California and Ontario, and finally an analysis of factors that influence misclassification and the rise of precarious work. Factors include the economic status of the worker, gendered and/or racialized status of the worker, the jurisdiction of the employer, and the test for classification itself. This article concludes by reviewing recent developments in this area of the law and providing predictions about possible future developments.

TABLE OF CONTENTS

I. Introduction.....	203
II. Independent Contractor Classification In California.....	205
III. Independent Contractor Classification In Ontario.....	207
IV. Factors Influencing Misclassification	210
V. Conclusion.....	213

^{***} J.D. (Thompson Rivers University, 2024); Kamloops, British Columbia.

I. INTRODUCTION

A. Definitions of Precarious Work

Several leading scholars in the field of Canadian employment law have documented the recent proliferation of precarious work.¹ In Ontario, it has been noted that the rate of non-standard employment, such as self-employment and precarious work, has increased at double the rate of standard employment over the 20-year period preceding 2016.² As of 2017, nearly 40% of Canadians are making a living through non-standard employment.³

The 2006 report “Fairness at Work: Federal Labor Standards for the 21st Century” (the Arthurs Report) defined a new era in Canadian employment law.⁴ In many industries, change has been exponential for the past several decades. While this report may be out of date in certain respects, the findings presented and conclusions reached are highly relevant to understanding the current trends in employment.

The Arthurs Report defines precarious work as combining “relatively low pay with one or more of the following: an unstable or at-risk source of income, few or no benefits, limited or inaccessible legal protections, and uncertain prospects for future advancement, profit or other compensatory opportunities or advantages.” The Report also noted that “as many as 75% of temporary employees would prefer permanent employment, as would approximately 25% of self-employed workers. About 25% of part-time workers would prefer full-time work.”⁵

Precarious work can also be defined by its contrast to the standard employment relationship (the SER). In *Law of Work*, precarious work is defined by working conditions with “few if any employer-provided benefits, lower wages, and less job security than under the SER model.” Many workers who may be legally considered independent contractors, and therefore ineligible for all or most of the law’s protections for employees, are still experiencing working conditions least as precarious as that of employees.⁶

B. Classification and Misclassification of Independent Contractors

The independent contractor classification is standard in the common law of employment. Being legally and appropriately classified as an independent contractor should not result in any disadvantage to the worker, and for many, it

¹ See GEOFFREY ENGLAND, *INDIVIDUAL EMPLOYMENT LAW* 18 (2d ed. 2008); HARRY W ARTHURS, *FAIRNESS AT WORK: FEDERAL LABOUR STANDARDS FOR THE 21ST CENTURY* (2006); Judy Fudge, Eric Tucker & Leah F. Vosko, *Employee or Independent Contractor - Charting the Legal Significance of the Distinction in Canada*, 10 *CANADIAN LAB. & EMP. L.J.* 193 (2003).

² See ANNELI LE GAULT & MATTHEW CURTIS, *YOUR EMPLOYMENT STANDARDS QUESTIONS ANSWERED: FEDERAL AND PROVINCIAL GUIDE* ix (2016).

³ See DAVID J DOOREY, *THE LAW OF WORK: INDUSTRIAL RELATIONS AND COLLECTIVE BARGAINING* 26 (2017).

⁴ ARTHURS, *supra* note 1.

⁵ ARTHURS, *supra* note 1, at 27.

⁶ DOOREY, *supra* note 3 at 26.

does not. For example, many independent contractors have more flexibility with working hours and location, better tax benefits and a greater potential to retain ownership of their intellectual property. However, the relative benefit of the independent contractor classification for a worker is highly dependent on the type of industry and work being performed.

The reality is that many independent contractors are also precarious workers. They require income to provide for themselves and their dependents, and precarious work is the only work available, so they have no choice but to take it.

Historically, the justification for the independent contractor classification related to the relative level of sophistication of the worker and their capacity to administer their own business.⁷ This is theoretically reflected in a higher rate of pay for independent contractors, because they are relieving administrative responsibilities from the employer such as tax and insurance payments. In a typical independent contractor relationship, the worker's sophistication and autonomy is recognized and compensated by the employer. However, it is possible, and unfortunately common, for employers to utilize the independent contractor distinction in a predatory way for the purpose of evading minimum wage requirements in legislation. This comes with the added benefit to employers of evading all other employment standards, but drastically increases the vulnerability of precarious workers.

Essentially, there are three distinct tiers of classification: (1) independent contractors or workers with sophisticated business operations who enjoy a higher level of pay and autonomy due to their specialty; (2) standard employees protected by legislation; and (3) precarious workers, many of whom may be legally classified as independent contractors without their knowledge, consent or understanding.

An independent contractor in the first tier is generally properly classified, but a worker that is considered an independent contractor in the third tier may be misclassified. Misclassification of workers as independent contractors has contributed to a substantial increase in the category known as precarious work.

C. Potential Responses to Cultural Trends

The trend in employment law away from the SER may be leading to a short-term increase in vulnerable and precarious workers. However, this does not indicate that the SER is ideal, or that the solution to the problem of precarious work is to maintain and expand the application of the SER. Given the unlikelihood of current trends in employment to reverse, those who seek to protect the rights of vulnerable employees should address reducing our cultural attachment to the SER, and meeting economic and social needs in a way that responds to cultural development.

Some attempts have been made to legislate protections for certain industries that are particularly affected by the rise in precarious work, such as app-based drivers. In California, Proposition 22 unsuccessfully attempted to mandate certain conditions for app-based drivers and delivery services as a category of independent

⁷ *Id.* at 19.

contractors, described below. In Canada, the Ontario government recently passed the *Working for Workers Act*⁸ to address this issue, which was met with immediate criticism from advocates for workers as ineffective and misleading. Shortly before the provincial election, the Act was purported to be a measure that would ensure all “gig workers” the guaranteed minimum wage of \$15/hour. However, the response from affected workers indicates that the Act “merely subsidizes companies that rely on gig work” and does not result in pay on par with minimum wage requirements for employment.⁹

Uber is the quintessential example of the type of app-based delivery service that is currently driving the “gig economy.” This company has been the subject of multiple class actions on the issue of worker classification, suggesting the existence of predatory business practices.¹⁰ Many Uber workers would be considered precarious workers based on the definitions provided in this paper.

In addition to offering a detailed definition for the concept of precarious work and how the independent contractor classification can be misused, this paper offers some brief context on the classification of independent contractors in California and Ontario, and then analyzes some factors influencing misclassification and the rise of precarious work. This paper concludes by reviewing recent developments in this area of the law and providing several predictions on potential future developments.

II. INDEPENDENT CONTRACTOR CLASSIFICATION IN CALIFORNIA

This section provides a brief historical context for independent contractor classification in California. The developments in California demonstrate a variety of approaches to addressing the issue of precarious work, and the question of how certain workers are classified remains unresolved in this jurisdiction and in many other states.¹¹ Given the recent changes and lack of resolution, it is likely that further developments are imminent.

D. Borello: The Common Law Control Test

Until recently, the common law in California relied on *Borello* exclusively to provide the test for determining worker status. This is known as the “control test.” This test asks whether and to what extent employers have the right to control the manner and means of their work, along with addressing other contextual factors.¹²

⁸ Working for Workers Act, S.O. 2021, c 35 (Can.).

⁹ CBC News, *Ontario set to introduce ‘historic’ new legislation to give gig workers \$15 minimum wage*, CBC NEWS (Feb 28, 2022), <https://www.cbc.ca/news/canada/toronto/ontario-legislation-gig-workers-minimum-wage-1.6366844/>.

¹⁰ See *People v. Uber Technologies, Inc.*, 56 Cal. App. 5th 266 (2020); *Heller v. Uber Technologies Inc.*, 2021 ONSC 5518 (Can.).

¹¹ See Eversheds Sutherland, *Classification Tests*, WORKERCLASSIFICATION.COM (2023), <https://www.workerclassification.com/classification-tests/>.

¹² See CALIFORNIA CHAMBER OF COMMERCE, 2021 L LABOR LAW DIGEST 104 (61st ed.

E. Dynamex: The Common Law ABC Test

In 2018, the California Supreme Court revised and updated the common law test for determining worker status, but only in one specific context. This case outlined what is known as the “ABC test” which requires a determination of the following factors: (a) the worker’s freedom from control and direction, (b) the worker performing work outside the hiring entity’s usual course of business, and (c) that the worker is engaged in an independently established business of the same nature as the work performed.¹³

F. Bill AB5: Codification of the Common Law ABC Test

Shortly after the decision in *Dynamex*, the California legislature made an amendment to the Labor Code establishing the ABC test as the primary method for determining worker status.¹⁴ However, this legislation produced immediate, unintended effects in a wide range of industries. As a result, further legislation was passed shortly thereafter enumerating a list of industries and roles that would be exempted from applying the ABC test, to which the previous control test (*Borello*) would apply.¹⁵

G. Proposition 22: Exclusive Legislation for App-Based Drivers

The *Dynamex* case deals with delivery drivers, and the legislative intention behind Assembly Bill 5 was to respond to misclassification, particularly with regard to app-based drivers and delivery services. However, after its passing, a study by the *National Equity Atlas* indicated that wages and working conditions worsened.¹⁶ The companies that are operating in this space are mostly headquartered in California, and their influence may have been present during the formation of this legislation.

H. Castellanos: Proposition 22 Declared Unconstitutional

2021).

¹³ *Id.* at 103.

¹⁴ Assembly Bill 5, *An act to amend Section 3351 of, and to add Section 2750.3 to, the Labor Code, and to amend Sections 606.5 and 621 of the Unemployment Insurance Code, relating to employment, and making an appropriation therefor*, 2019-2020, Reg Sess, Cal, 2019.

¹⁵ Assembly Bill 2257, *An act to add Article 1.5 (commencing with Section 2775) to Chapter 2 of Division 3 of, and to repeal Section 2750.3 of, the Labor Code, and to amend Sections 17020.12 and 23045.6 of, and to add Sections 18406, 21003.5, and 61001 to, the Revenue and Taxation Code, relating to employment, and declaring the urgency thereof, to take effect immediately*, 2019-2020, Reg Sess, Cal, 2020.

¹⁶ Eliza McCullough et al, *Prop 22 Depresses Wages and Deepens Inequities for California Workers*, NATIONAL EQUITY ATLAS (September 21, 2022), <https://nationalequityatlas.org/prop22-paystudy/>.

In a Superior Court decision in August 2021, a judge declared the legislative scheme introduced by Proposition 22 to be unconstitutional because it included an inseverable provision, titled “Protecting Independence,” simply asserting that notwithstanding any law, an app-based driver is an independent contractor and not an employee. This was found to violate the constitutional right of Californians to have the legislature determine worker’s compensation coverage.¹⁷

III. INDEPENDENT CONTRACTOR CLASSIFICATION IN ONTARIO

When the issue of independent contractor classification arises, it is typically analyzed under section 1 of the Ontario *Employment Standards Act* (the ESA), which provides a definition for the term “employee.”¹⁸ This analysis can be based on several different common law tests, none of which are conclusive. This ambiguity in the official test can present significant challenges when anticipating a worker’s classification by a court or tribunal. Some resources on employment law have synthesized multi-factor checklists¹⁹ or scoresheets²⁰ to comprehensively assess the features of the employment relationship that might be considered. It is even possible in some cases for a worker to be classified as an independent contractor for certain legal purposes and an employee for others.²¹

I. Common Law Tests

In 2001, the Supreme Court of Canada reviewed the test for worker status in *Sagaz*, primarily drawing from the *Montreal Locomotive* four-fold test. This four-fold test was an attempt to clarify the earlier control test, which was seen as deceptively simple due to the various ways of interpreting the element of control in the employment relationship. Also reviewed in *Sagaz*, was the integration or organization test which provides little clarity and although it has been applied, may result in more questions than answers.²²

There are two different situations in which the question of worker classification has typically arisen: (1) when the employer is held vicariously liable for the actions of a worker, and (2) when a worker is making a claim for worker’s compensation, insurance, or other benefits. *Sagaz* integrated these tests, but some argue that a distinct test should remain for matters of compensation, insurance, or benefits, particularly in light of the different approaches to the control analysis. While a finding of vicarious liability turns on the employers’ actual, or *de facto*,

¹⁷ See Margot Roosevelt & Suhauna Hussain, *Prop. 22 is ruled unconstitutional, a blow to California gig economy law*, LOS ANGELES TIMES (August 20, 2021), <https://www.latimes.com/business/story/2021-08-20/prop-22-unconstitutional/>.

¹⁸ Employment Standards Act, S.O. 2000, c 41, ss 1 (Can.).

¹⁹ See LEGAULT & CURTIS, *supra* note 2, at 11.

²⁰ See DOOREY, *supra* note 3, at 21.

²¹ See ENGLAND, *supra* note 1, at 18.

²² See ONTARIO, MINISTRY OF LABOUR, IMMIGRATION, TRAINING, AND SKILLS DEVELOPMENT, *EMPLOYMENT STANDARDS ACT POLICY AND INTERPRETATION MANUAL* s 1 (January 24, 2020).

control over the worker, insurance claims turn on the legal, or *de jure*, right to control the worker. Ultimately, the question of control turns on the level of subordination to the employer.²³

J. Recent Applications of the Common Law Tests

A finding of worker status has been made in several recent cases by the Ontario Labour Relations Board, such as in *Ruttan v Hennessey* where the court applied the *Sagaz* test: “[h]aving regard to the principles set out in *Sagaz* and applying them to the evidence before me I find that Ruttan was an employee of Hennessey Point. I base this on three factors: (1) the degree of control that Hennessey Point had over the respondents’ work; (2) the chance of profit or risk of loss from Ruttan’s work, and (3) the ownership of the tools and equipment used by Ruttan.”²⁴

This formulation compounds two factors into one with the profit/risk analysis, but otherwise it is a direct application of the specific factors addressed in *Sagaz*. Because labor board decisions are not bound by the same judicial principles as courts, this leads to substantial variations in the tests applied.

In *Uber v Heller*, decided by the Supreme Court of Canada in 2020, the court did not apply any tests to determine whether the plaintiff was an employee or independent contractor, because they were only considering whether that question should be decided in a Canadian court or by international arbitration.²⁵ This case is currently ongoing, and a decision is forthcoming on the employment status of Heller and the other workers represented in the class action.²⁶

The forthcoming decision on this issue will likely have a significant impact on the nature of precarious work in Canada, particularly for those working in new and rapidly developing industries. Because of their novelty and rate of expansion, many tech-based companies have been operating without the typical checks and balances that the law applies to more established industries. As the law slowly catches up to technological development, these checks and balances will have to be applied in order for tech-based companies to properly integrate with the rest of the economy.

K. Intentions of the Parties

Added in 2017, section 5.1 of the ESA does not refer explicitly to independent contractors, but it is apparent that the section was written to address worker classification disputes.²⁷ The section establishes that it is not possible to consider the intention of either party when determining a worker’s status. The effect is that even if an employer hires a worker and both have an explicit agreement that the

²³ See NORRIS WEISMAN, *THE WORKER’S STATUS: EMPLOYEE OR INDEPENDENT CONTRACTOR* 14-16 (2015).

²⁴ *Ruttan v. Hennessey Point Property Maintenance* (2020), 2050-19-ES, online: ON LRB, at para 34 (Can.).

²⁵ *Uber Technologies Inc v. Heller*, 2020 SCC 16 (Can.).

²⁶ *Heller v. Uber Technologies Inc.*, 2021 ONSC 5518 (Can.).

²⁷ Employment Standards Act, S.O. 2000, c 41, ss 5.1 (Can.).

worker is an independent contractor, this will not affect a finding of a legal obligation to the worker under the ESA.

This appears contrary to a fundamental concept in the law of contract, which requires an objective assessment of the parties' intentions. The *Canadian Encyclopedic Digest* defines a contract as "an agreement . . . between two or more contractually competent parties, who intend to create mutual and reciprocal rights and duties."²⁸ However, legislation can override these intentions, as is the case with section 5.1. This section is supported by earlier case law, such as *Braiden v La-Z-Boy*, where a sales representative was found to be an employee based on the circumstances despite having a contract specifying an independent contractor relationship.²⁹

In the *Individual Employment Law* textbook, Geoffrey England makes note of a recommendation in the Arthurs Report, to underscore the importance of defining the status of employees and contractors: "The current level of uncertainty could be reduced if the recommendation in the Arthurs Report that would require employers to provide workers with a written statement describing their legal status at the date of hiring is legislated."³⁰

The recommendation incentivizes employers to correctly identify workers by imposing a presumption that unidentified workers are classified as employees. These recommendations have not been applied, and the eventual appearance of ESA section 5.1 a decade later is an indicator of the impracticalities of that recommendation. Despite the general deference granted to the intentions of the parties in the common law of contract, mandating clearer intentions remains ineffective at protecting vulnerable workers.

Section 5.1 briefly included a reverse onus provision requiring the employer to provide evidence of the independent contractor relationship. This is no longer in effect, and the determination is made based on a balance of probabilities with evidence from both parties.³¹

L. Principles of Statutory Interpretation

One test for worker status listed in the *Interpretation Manual* for the Ontario ESA is the statutory purpose test.³² This test turns on the economic dependence of the worker which relies on the premise that the purpose of the ESA is to protect vulnerable workers from substandard working conditions, so therefore any protections it provides should be widely accessible.

The doctrine of purposive construction encourages courts to interpret remedial legislation liberally to achieve its purpose. The ESA is the archetypical example of remedial legislation, as it is the same legislation that was at issue when this doctrine was established.³³

²⁸ CANADIAN ENCYCLOPEDIA DIGEST 4TH, CONTRACTS s.I.1 (online, 2023).

²⁹ See DOOREY, *supra* note 3, at 20.

³⁰ ENGLAND *supra* note 1, at 23.

³¹ See ONTARIO, MINISTRY OF LABOUR, *supra* note 22, at s 5.1.

³² *Id.* at s 1.

³³ See WEISMAN, *supra* note 23, at 173.

If the purpose of the ESA is to protect all vulnerable workers, it should not be the case that a crisis of precarious work exists due to the categorization of employees as distinct from precarious workers. However, it is possible to interpret the purpose of the ESA differently based on the historical context. If the historical purpose of the ESA is not to protect *all* workers, but merely a subset of workers in certain industries at the expense of others, then the appropriate response to the current rise in precarious work may not be to rely on the expansion of protections for those classified as employees. Instead, it may be more effective to develop protective measures for precarious workers and solo entrepreneurs, in order to adapt to changing economic structures while simultaneously addressing longstanding challenges with protecting workers' rights regardless of their proximity to the SER.

Though the issues at stake may seem novel because the companies are using innovative business methods and technology, there is nothing innovative about paying workers less than minimum wage. This issue goes to the heart of the purpose of employment legislation, and attempts to contract out of this standard by misclassifying workers should not succeed. The argument that deference to the parties' intentions should be respected is not supported, because if an employee is not able to contract out of a statutory minimum wage requirement, there is no possible reason why a precarious worker would want to accept less than minimum wage if they had any other option. It is impossible that workers on such a large scale would make the choice to work for less than minimum wage, and the class action lawsuits against Uber and other similar employers are another indicator of the lack of employee consent in setting working conditions.

IV. FACTORS INFLUENCING MISCLASSIFICATION

Many precarious workers have been, or have the potential to be misclassified as independent contractors despite the fact that their wage, benefits and working conditions do not justify this classification. Factors that contribute to misclassification include the gendered, racialized, and economic status of the worker. The jurisdiction and range of the employer can also have a significant impact. Large companies operating in multiple jurisdictions have become much more common in recent decades, and laws have struggled to keep pace with the ensuing changes.

The test for determining an independent contractor is so ambiguous that it also may be contributing to misclassification. Although there have been attempts to clarify and standardize the test in some jurisdictions, these are challenged by the wide variety of different contexts in which the test must be applied for different working relationships.

M. Economic Status of the Worker

In general, attempts by employers to minimize their liability and obligations are not novel. The recent rapid development in the fields of technology and

personal communication has, however, unleashed a litany of creative ways for employers to further this objective.

The current era is one of extreme abundance and leisure for those with high economic status, which makes it difficult to understand why some people are forced to work for less than minimum wage. Within a company like Uber, many executives are receiving unnecessarily high salaries and spending investment funds on business development while the drivers are not adequately compensated for their time based on minimum statutory requirements, let alone for the value they provide to the company.

The SER is inherently exploitative. It is for this reason that governments have enacted vast amounts of legislation, and courts have taken on the role of ensuring employees are protected against the worst of this exploitation, both through the common law and adherence to legislation.

In his text, England describes the economic principle that employers will do everything in their power to maintain low costs, leading to unintended consequences of enforcing protective legislation for workers.³⁴ This is a well-known issue, and one response is to continue enforcing and enacting legislation to restrict the power of employers to circumvent employment standards, thereby normalizing the SER. However, because an inherent power imbalance exists in the SER regardless of the amount of protective legislation, this approach in some ways crystallizes the problem it seeks to address.

England makes a brief note of potential alternative approaches to this issue: “For those with Marxist or radical feminist perspectives, legal protections of employee rights can also be problematic since they are often regarded as mere window dressing designed to cloak underlying class or gender oppression by employers, thereby preserving the latter’s dominance.”³⁵

The convoluted legislative history in California underscores some of the weaknesses of using protective legislation to address the problem of precarious work. The current publicity on the subject suggests a general perception that being classified as an employee is preferable to being classified as an independent contractor. This is debatable, as there are benefits to each depending on the industry and work being performed, and the fundamental issue comes from predatory and abusive practices by employers which, unless addressed on a cultural level, will continue to affect workers regardless of their classification.

N. Gendered and Racialized Status of the Worker

The article “Time, Control, and Equality: A Gender Critique of the Independent Contractor/ Employee Distinction” examines the factor of control in Canadian tests for worker status, and how our gendered understanding of control in the workplace and all social environments contributes to the increased misclassification of low-income workers such as caregivers who are disproportionately female.³⁶

³⁴ ENGLAND, *supra* note 1, at 19.

³⁵ *Id.* at 9.

³⁶ Leanna Katz, *Time, Control, and Equality: A Gender Critique of the Independent*

An investigation of this issue is also in “Gender, Segmentation and the Standard Employment Relationship in Canadian Labor Law, Legislation and Policy.” This article describes the way employment legislation historically has been developed to “reduce women’s attachment to the labor market” and remain “specifically limited to men.” Public sentiment regarding the equality of women has changed since these discriminatory policies were in place, however, the basis for employment standards and protections remains rooted in a concept of the SER that is preferential to male workers.³⁷ Additionally, though female workers have gained better protections from the law, contributions to unpaid labor in the home remain unrecognized.³⁸

Domestic labor has been noted as an example of a type of non-standard employment that is both gendered and racialized, and employees working in this field are particularly vulnerable to being misclassified as independent contractors.³⁹

O. Multi-jurisdictional Employers in Developing Industries

Aside from the obvious benefits to employers of the lower administrative costs and greater flexibility of hiring independent contractors instead of employees, companies operating in multiple jurisdictions are incentivized to classify workers as independent contractors simply to avoid the responsibility of understanding and adhering to employment legislation outside of the jurisdiction where the company is headquartered.⁴⁰

For example, tech-based companies headquartered in California commonly operate and hire workers outside that jurisdiction. This rapid development provides a useful example, as many of those companies have relied primarily on their knowledge of the law in California to provide a basis for their approach to employment standards. While this may be generally effective in the United States due to the comprehensiveness of California legislation in comparison to other states, it can lead to challenges in other countries with well-developed and enforced employment legislation such as Canada.⁴¹

Many international tech-based companies such as Uber are appearing as defendants in new case law that will influence the nature of the employee/independent contractor distinction in Canada. Although no jurisdictions in Canada have legislated the test for an independent contractor, it may be pursued in the future, particularly given the increase in precarious work and decrease in SERs. If this occurs, multi-jurisdictional tech-based companies will likely play a

Contractor/ Employee Distinction, 24:1 CANADIAN LAB. & EMP. L.J. 165 (2022).

³⁷ Judy Fudge & Leah F Vosko, *Gender, Segmentation and the Standard Employment Relationship in Canadian Labour Law, Legislation and Policy* 22:2 ECONOMIC AND INDUSTRIAL DEMOCRACY 281 (2001).

³⁸ *Id.* at 284.

³⁹ *Id.* at 302; See also McCullough et al, *supra* note 16; Kevin Rehwald, *Rights for Caregivers* 42 LA LAW 26 (2019).

⁴⁰ See LEGAULT & CURTIS, *supra* note 2, at 6.

⁴¹ See *Uber Technologies Inc v. Heller*, 2020 SCC 16 (Can.).

role in the decision, whether that is through a legislative response to public opinion, or through the companies themselves promoting legislative changes.

V. CONCLUSION

From the scholarship and legislative history on this issue, it is evident that one approach to resolving the problem of precarious work is to classify as many vulnerable workers as possible under the category of employee, to reduce the number of people who fall outside the protections of the ESA. However, it is inevitable that no matter how much expansion to employee protections occurs, while some workers may benefit, it will not include all workers. Those who are most vulnerable, and furthest removed from an SER, will be least likely to benefit, and the problem will ultimately endure.

Any possible solution will need to find a balance between respecting the intentions of the parties, and adhering to publicly accepted standards of social welfare. Legislation is helpful for articulating those standards, but public opinion can also be a valuable and effective framework for determining ethical business practices.

The forthcoming decision in *Heller v Uber*⁴² will address the issue of whether Uber drivers are independent contractors or employees in Ontario. The reasons for this decision may shed light on the near future of the distinction in Canada, and the impact of international tech-based companies operating in other jurisdictions. If the drivers are classified as employees, it may lead to some extreme changes in the way Uber operates in Ontario, whether that is through changing their approach or reducing their presence. If they are classified as independent contractors, it may provoke a public response and incentivize further protective legislation for precarious workers.

It is likely that the test for independent contractor status in Canada will continue to be adapted. Whether future adaptations will assist in clarifying the test remains to be seen. Greater clarity would be preferable, however, the legislation in California, and the general upheaval in all areas of employment law due to recent social and technological developments both suggest it will not be a straightforward path. The attempt in California to enforce a conclusive test has been fraught, indicating the extremely fact-dependent nature of this classification exercise. Precarious workers continue to fall through the cracks of comprehensive remedial legislation in many jurisdictions.

England considers the ambiguity of the test to be “desirable and unavoidable” because future developments in the field will require flexibility.⁴³ While desirable may be an overstatement, it is certainly unavoidable that the law will need to develop in the future due to changing circumstances.

⁴² *Heller v. Uber Technologies Inc.*, 2021 ONSC 5518 (Can.).

⁴³ ENGLAND, *supra* note 1, at 23.

