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## Supply Chain Challenges for the North American Automobile Industry

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## 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 26<sup>th</sup> to the 28<sup>th</sup> 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.