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Panel Discussion - Regional Efforts on Climate Change

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PANEL DISCUSSION –

REGIONAL EFFORTS: STATE, PROVINCE, AND
REGIONAL APPROACHES TO CLIMATE CHANGE

Moderator: Mark Fisher

Speaker: Terrance J. Fitzpatrick

Speaker: Associate Professor Chi Charmody

Speaker: Marc DeBlois

MR. PETRAS: If you would take your seats, please. All right. It is now time to start our final panel of the afternoon. This panel is going to look at regional efforts on climate change. We are going to take it from the federal to the state to business now down to the provincial and state level. We have an outstanding panel, and our moderator today is Mark Fisher. Mark is the Chief Executive Officer and Council of the Great Lakes Region.

Mark became that in 2014, the year that that institution was formed. And by the way, the Canada-United States Law Institute was a founding member of the Council of the Great Lakes Region. So it is doubly nice to have Mark here.

The other thing that you should also note is that Council of the Great Lakes Region is going to have its Great Lakes Economic Forum here in Cleveland May 6th through 8th. So make sure you put that on your calendar, the Great Lakes Economic Forum.

It starts with a reception at the Rock n Roll Hall of Fame on May 6th and goes through until May 8th. Mark is a well-recognized and seasoned strategist, policy analyst, and adviser.

He has advised the prime minister of Canada, provincial premiers and ministers and parliamentarians and the executives of major profit and nonprofit corporations.

Mark is leading the charge of the Great Lakes Council because he has a particular interest in developing economically the Great Lakes. So without further ado, Mark?

MR. FISHER: That's great. Thanks for the introduction, but what he forgot to mention is that Stephen is the new chair of our board, and we are very excited to have him as our chair. And I also reinforce our long standing relationship with the Canada-United States Law Institute.

You know, back in 2013, we had the founding conference for the Council of the Great Lakes Region, which many of you probably participated in, and you know out of that, we are also happy to have you know very, very long standing and strong partnerships with Governor Blanchard, who is an honorary patron, but also Jim Peterson who is an honorary patron, so very, very strong ties

to CUSLI and very much appreciative of that. You know, as Stephen has mentioned, this panel is going to focus on regional efforts, so the states, provinces and regional approaches to climate change. I think we can probably put cities into the mix, and I think from a Great Lakes standpoint, just to give you a bit of context and my interest in this area, I don't think there has been a more important time to be having this discussion.

I think when we look at the Great Lakes eight U.S. states, New York, Minnesota and the Canadian provinces of Ontario and Quebec, you know, if you put that jurisdiction together as one, it represents roughly a \$6 trillion-dollar economy. You know, in country terms that would equate to the third largest economy in the world if it was a country behind United States and China only. You know, it is a region that has roughly 107 million people. Again, if you were to put that in country terms, you would represent the 12th largest country in the world by population.

So it is a significant region in both Canada and the United States. It is by far at the center of the North American economy in many different ways.

And for us as an organization, we are trying to bring all levels of government together with industry, academia, and the nonprofit sector to really think more strategically about that regional economy but also having together to protect the Great Lakes for future generations. You know we are here on World Water Day. Great Lakes represents 20 percent of the world's surface fresh water resources but we also forget often that only one percent of the Great Lakes are renewed on an annual basis by precipitation, runoff or groundwater.

So we have a lot of water in the Great Lakes, but it is also a finite and precious resource for us thinking of the intersection between the economy and the environment and thinking of climate change, it is just -- it is so very critical for us.

So also on this panel, we have -- I think we are going to cover a lot of different perspectives in terms of the regional approaches. You know, we have Terry Fitzpatrick who is President and CEO of the Energy Association of Pennsylvania.

We have Chi Carmody, who is associated with the University of Western Ontario Faculty of Law and CUSLI as well and Marc DeBlois, who is a Senior adviser with the Ministry of Environment and the fight against climate change, which is really interesting.

And I think when we look at the regional approaches, you know, we all know we have heard over the course of the day that the U.S. and Canadian economy is facing significant risks with regard to climate change and particularly rising temperatures.

Today and well into the future these risks as well as their associated impacts will certainly vary by country as well as by region, but there are a broad range of calming concerns, sea level rise and surges, heavy rain and floods, the rain impact on communities and infrastructure, extreme heat and the impact on human health, labor productivity, water availability and farming, public health, increased power generation and sharing needs for cooling and heating.

I think as the global and national debates regarding climate change evolve, states and provinces and particularly cities are moving forward on their own as we have heard today. I think the best examples of collaboration are the New England

Governors and Eastern Premiers, the Western Climate Initiative, which was touched on earlier today, and the U.S. climate alliance and also C 40.

The Great Lakes Region surprisingly has a long, long history of environmental and economic collaboration, but the focus on climate change, as a policy issue, are certainly lacking. And I think the persons on this panel is to delve into the roles of the states, the provinces and cities in tackling this issue. So I think, first up, I want to start with Marc and the New England Governors and Eastern Premiers and their climate change action plan, particularly, you know, what was the main driver for them to work together, what have they done, what's next?

It is by far probably the most mature example of cross border collaboration on climate change. So I would like to explore that first. So Marc, over to you for your presentation.

MR. DeBLOIS: Thank you. Before I start, English is my second language, so I may not have the pronunciation right all the time, and I remember Mr. Godfrey mentioned Sesame Street. So if you hear a specific language or pronunciation, it comes with less fault.

(Laughter.)

MR. DeBLOIS: So the title of the conference is: Can the United States and Canada cooperate on climate change, and should they and why? Well, from my experience at the ministry of the environment in the fight against climate change and as co-chair of the climate change steering committee of the coalition of the New England Governors and Eastern Canadian Premiers, I would be tempted to change the title almost to the case of cooperation on climate change between states and provinces. Why did they do it? How did it work? And what are the results?

The conference of the New England Governors and Eastern Premiers was created in 1973. And it is a cooperation forum. The premiers and governors meet each year to discuss issues of common interest and adopt resolution by consensus to guide the regional actions. So the basis really of the plan was resolution 259, which in 2000 stated "recognizing harmful consequences of global warming is a joint concern for which regional strategic action is required."

So the Premiers and the Governors, I think the fight was a strategy point to tackle climate change. To work on that, the committee of the environment headed by commissioners and the deputy ministers and the climate change steering committee was asked to deliver the report to the region, and soon after the 2000 conference, the negotiations started, and the plan was fairly quickly accepted at the 2001 annual conference.

The findings of the regional plan, well, were similar to some of the issues I think by the Great Lakes Commission, and I am sorry if the Council of the Great Lakes is not in there.

There are so many players I missed. Some.

MR. FISHER: Too many.

MR. DeBLOIS: Too many, but the findings can be similar or are similar to what the Commission, Great Lakes Commission and the conference of Great Lakes and Centralized governors and premiers are identified later on. I will come to that in a few minutes.

The NAGCP action plan was quick and had mission strength, but the negotiation and the discussion on climate and environmental issues between the governors and premiers were not a new subject because they had cycled acid rain as early as 1988 and mercury in 1990. So that's one of the big main reasons why we were or the governors and premiers were able to move ahead and have an action plan in 2001.

So the targets, because there are targets, they are regional, but the targets identified in 2001 included short term in which is past now, but 2010 midterm target, 2020 and long-term targets 2050. This was the first time that the governments from two countries decided to tackle climate change, and it was also the first time that the long view was adopted by the governors and premiers.

That leadership was recognized by the climate group in the UK organization in 2005 and again in 2013 with awards that were presented to the governors and premiers. So they were happy about it.

A 2030 marker or target was added by the governors and premiers in the 2015 annual conference to provide further guidance to the governments between 2020 and 2050. The reason for adopting these targets -- and this is my view -- but again, many of the colleagues, which I work in a limited area had this point of view, is that the governors and premiers recognized at the time that more than 80 percent of the action required to target climate change or adaptation failed under their authority and being natural resources energy and so on.

And that the regional cooperation on the process was admitted change of success than individual on coordinated actions. So the first and foremost result of the climate cooperation was the adoption, no unanimous adoption by the governors and premiers at the time, and nothing of the plan was also adopted in 2017.

The second important result is the continued involvement. Even though there were many changes in government on either side of the border since 2001, the efforts continued as regional effort and is still undergoing.

The cornerstone of the plan really is that it does not create any really legal binding agreement between the participating government.

That said, there are more obligations associated to that and considering that each government works relatively to reach a regional target choosing priorities from the regional plan according to the characteristics and capacities.

The committee of the environment and climate change committee were tasked to oversee the implementation, and they were required to report to the governors and premiers on a yearly basis. This insured the continued interest and work of the climate cooperation.

The results of the cooperation, the influence of the climate cooperation was, in fact, in 2001. When the plan was adopted, there were three jurisdictions that had climate planning in place, and since then, as each government adopted at least and in some cases three action plans but at least one action plan further aligning their regional goal. So it was a real influence on the area or the region.

Regional cooperation, as mentioned, remained steady throughout the time, even though there were many changes. Some periods were harder than others, but still the work continued on, even though there were sometimes governors who were not as interested into the process as others.

So this is one of the results of the plan. It is -- the results, it comes from a GHG file that was created. It was compiled on the climate change during the meetings, and it includes the GHG in the region.

It is this figure provides an overview of the process, but there are other figures in the regional GHG projections that can access information on the economic sectors and see where there were reductions and where there could be possible future projection reductions. 2030 GHG projections are starting because these are historic emissions. We are starting to include GHG projection into the process, into the entry to guide or have a better understanding of where the GHG might go on the business as usual cases and try to see if we go further, where could we -- where could we be in terms of emissions and where could we be compared to 2020, 2030, and for 2050 targets?

The first GHG target, which was in 2010 was surpassed as the emissions, were more than 4 percent below the 1990 level. The 2020 target, which is ten percent below 1990, should be achieved, will probably -- won't be able to say before 2022 or 2023 because of normal delay between emissions and the inventors themselves.

But the GHG eventually or GHG emissions of the region have been below the 2020 level since 2012, so the region is in good place or good place to reach the second goal.

Discussion on the 2030 marker or target are on the way and have been accelerated since 2017. So since the adoption of the renewal of the plan and different overarching measures have been identified by the climate change during committee and by the environment. Further analysis is along the way, and once the options will be defined further, they will be presented to the governors and premiers in resolutions, and once adopted, those resolutions will drive the work of the committee. So it is sort of the whole process.

So going back west, back to the Great Lakes, we consider similarities between the two regions on the climate change issue. On the Great Lakes Region, what I found and as mentioned, but what I found of particular interest was the fact that these two already include states and provinces and are already dictated to regional cooperation, promotion of regional interest within a sustainable government approach, economic development, and social involvement so being the Conference of Great Lakes and Central governors and the premiers of the Great Lakes Commission.

Voting in two provinces and eight states are being given right to Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. To know the Great Lakes Commission identified as mentioned a little bit earlier similar concerns as the NAGCP concerning the 2012, 2014 work concerning the climate change, and numerous references can be found in its 2017, 2022 strategic plan. However, greenhouse gas mitigation aspects as mentioned many times today have been lacking on the regional basis.

So for the NAGCP and for the Great Lakes Region, considering the interest and the possibility of possible regional cooperation on climate, the -- but going back a second, one of the key points for the NAGCP why it was a success so far is because the heads of government were at the table, were taking decision and were informed of the development of the plan because there were

reports, and on that basis -- and it is really a subject of approach -- but on that basis, the Great Lakes and St. Lawrence governors and premiers is of particular interest as part of the Great Lakes cooperation because it has the same level of authority as the NAGCP.

So looking from the outside of the region, the organization of structure to have Great Lakes climate plan is already there. A Great Lakes St. Lawrence climate change thinking or steering committee could be created under the supervision of governors and premiers to be their working body for the implementation of a regional climate panel.

So why would the Great Lakes governments want to cooperate on climate change? Well, short answer is they already do to an extent. In 2005, the Great Lakes Central governors and premiers had required Great Lakes climate change as a serious issue in the region that required action. They agreed to that in the Great Lakes and St. Lawrence River Basins Sustainable Water Sources Agreement.

This is an important step, particularly in the context of climate cooperation because the heads of government are already included in climate issues in the international cooperation process, so what's the correct wording? In law, there is precedent.

Since the adoption of the agreement, intervention and withdrawals have been managed by the ten governments. However, climate-related withdrawals have not been addressed, and science indicates that it is equivalent to the human result. That's a big slide, and I want to read all the substance of the findings of this agreement, but suffice it to say, these findings use even stronger wording than the one used in resolution 25-9 of the New England States and Eastern Canada, and that was the starting point of the New England NAGCP climate cooperation, wording such as have a shared duty to protect, must balance, must act, and lack of scientific certainty should not be used as a reason for postponing actions.

Those come from the Great Lakes Agreement to protect the waters of the Great Lakes and the St. Lawrence. So this is the basis or this, could certainly be the basis for foundation for a regional climate plan for the Great Lakes Region.

Sorry about the size of the letters there, but it is only to provide an overview of the region because the governments in the region already have targets or measures, initiative, plan initiatives, and most of them have them for 2020, 2030, and/or 2050.

And those who do not have them or some of them have also added to the U.S. climate alliance, which is another level on the regional, not necessarily adjusted state by state process but still a broader regional approach. So on the basis of these individual targets, a regional approach on climate change for the Great Lakes Region is conceivable.

Just for the sake of time I will go to the what if?

A joint effort on the climate from the eight states and two provinces to protect the Great Lakes and St. Lawrence border, the economy and the population would certainly be a great challenge for the region, but it can be based on the already successful experience of regional cooperation and governance of the Great Lakes and St. Lawrence borders.

One could consider a Great Lakes and St. Lawrence declaration of a partnership on climate change between the ten governments signed by the heads of government, defining their scope of work, the entities responsible for the regional cooperation, and the reporting process to the governors and premiers. And that's it for me.

MR. FISHER: That's great. There is a lot there, Marc. Thank you for that.

Chi over to you. You have been studying a lot about cap and trade, particularly the Western Climate Initiative.

Can you tell us a little bit more about the initiative, who is a member, how does the trading system work, and what lies ahead for WCI and what happened to Ontario? Missing in action?

ASST PROFESSOR CARMODY: Okay. So thank you very much. It is great to be here, everybody.

For those of you I haven't met, my name is Chi Carmody. I am an Associate Professor at the faculty of law at Western University, also known as University of Western Ontario in London, Ontario, and I am also and have been for quite some time now the Canadian National Director of the Institute.

The Institute, as many of you all know, is a joint creation of Case Western and the University of Western Ontario. We have been in existence since 1976, and the basic idea behind the Institute is to promote discussion and debate between individuals in both countries on issues of legal interest between our two countries.

To that end, we promote our mission by a number of different activities, including conferences like this. We also have a very successful series of experts' meetings, which normally take place in the fall every year. We publish the annual issue of the Canada-US Law Journal, which is edited by students, both here at Case Western and at the University of Western Ontario, so we have a binational group of student editors.

We have a student forum that takes place at our respective universities looking at comparative approaches to current legal problems. We just had one at University of Western Ontario on comparative approaches to the opioid crisis in Ontario and in Ohio, and we work on exchanges.

In that or from that set of broad perspective, we have also thought over the years about the importance of and the necessity of promoting a research culture and a research profile to the Institute, and in connection with that desire, that ambition, that goal, we began discussions in 2015 headed by, first of all, spearheaded by Larry Herman of our executive committee with an effort to perhaps get some donors on board who might be willing to fund research that the Institute might undertake with its students as a motivating operator in this arrangement.

And we were ultimately successful at the end of 2017 in securing funding from the center for international governance innovation at the University of Waterloo in Waterloo, Ontario, Canada, a center that was set up with a generous grant from not only the Government of Canada but also, principally, from Jim Bacilli, who many of you know is the visionary behind the Blackberry.

So in 2017, then, December of 2017, the Institute was fortunate in receiving a grant of \$43,500 from CG in order to go ahead and putting together a guide on emissions trading on the Western Climate Initiative.

And this was something that happened under my aegis. I was the individual who was tasked with making sure that the research went ahead. The students were selected for it to develop their work, and all the necessary arrangements were put in place to make sure that this occurred. It was a bigger job than I ever anticipated because I not only had to look after students who were doing research at University of Western, Ontario, faculty of law, we had four on our side, but we also had in addition to that two students here at Case Western Reserve, and we had a student out at UC Berkeley in California, a student studying out there, pulling information together and feeding it to me in long memos that I had to distill down and try and make sense of this framework that is called the Western Climate Initiative.

So it was a big project, and at times, the project felt a little bit like something that could well get out of hand. We undertook it for four basic reasons. The first of these reasons was to try and profile what is happening in our region with respect to emissions trading.

So what is happening in North America with respect to what is arguably the most advanced system at a binational level of emissions trading?

We were also intrigued by the idea that the WCI, the Western Climate Initiative, is something that is promised on subfederal participation but subfederal participation across borders, and we were very interested in that aspect of what was going on because, obviously, subfederal actors are not, strictly speaking, governed by international law. They might aspire to follow international law. They might be inspired by international law, but they are not, strictly speaking, governed by international law.

So that was also something that was very interesting to us. And it was also interesting to us that the WCI itself was relatively decentralized, so it doesn't really have a sort of broad overarching secretariat mandate power over the jurisdictions that are involved.

What we were looking at is a framework that is fairly decentralized, that allows jurisdictions to harmonize their legislation together and to move forward together on that basis.

So it is a largely cooperative exercise, and that was interesting to us as well, and in addition, there was a strong corporate component here because the WCI not only involves industry specific and enterprise specific limits on emissions but is also assisted in its role by something called the WCI, Inc., the Western Climate Initiative, Incorporated, which is a Delaware-based non-profit corporation, headquartered in Sacramento, which assists relative jurisdictions in achieving the sorts of GHG reductions that are envisaged under the framework.

And finally, the thing that was interesting to us as well and we thought was very important here was the idea what was going on in North America, was sort of an experiment happening at a politically volatile time, and as we were to learn, that volatility, in fact, increased over time, and it was useful there to use this opportunity, this funding to perhaps write something of an account for a system that might evolve in directions that we had not necessarily foreseen.

So there would be a written record of what had happened, and we would be able to call on that and others would be able to call on that, not only in North America, but around the world to get some idea of how to make a system like this actually function in practice.

Well, I can tell you in the summer of 2018 it was a little bit like riding a roller coaster because here I was getting all this information in from the eight students who were providing it to me, was coming at me in big waves, and at the same time, I am one of those old fashioned people, I wake up in the morning, and I tend to look at the newspaper.

And I would go to the newspaper every morning, and it seemed like there was yet another bomb shell that was exploding across the climate change landscape changing some aspect, some little aspects, sometimes a big aspect of the work that I was doing, and so it was a tough assignment to finish up and to write, but essentially looking at emissions trading and for those of you who may not know much about emissions trading, just a sort of quick overview of what emissions trading is: Emissions trading requires caps to be established by jurisdictions and imposed on emitters in certain categories of companies.

So we have sort of broad overarching targets that are set by the jurisdiction itself, and then in participating jurisdictions, those jurisdictions then move forward with industry specific and enterprise specific caps that companies have to meet.

These caps are gradually lowered over time and because the lowering takes place, that then presents an incentive for participating entities, for enterprises that are involved to lower their own emissions and to lower them in an aggressive fashion.

And if they can do that and do it successfully and do it efficiently, some of them can reduce them so much that they actually have an excess below their cap that they can then sell to other entities that may need to use those allowances for their own emission target purposes, those that aren't quite as efficient.

So it is very important, then, to sort of establish a system of allowances under this sort of system, and it is also useful because one then gets into trading between various entities that are involved between the less efficient polluting entities and the more efficient and hopefully less polluting entities that go forward.

So emissions trading, therefore, seeks to promote sort of efficient pollution, and we realize that in putting this sort of guide together that we were drafting, the draft ultimately came to be 60,000 words with hundreds of footnotes, something that was going to be appearing in volume 43 of the Canada-US Law Journal. We realized we have to sort of focus on two broad areas. Emissions trading is also known by a marker of cap and trade.

And so we knew that we had to sort of focus our attention, first of all, on the cap, how is the cap set in a jurisdiction, and secondly, the trading, the trading that takes place of these allowances that actually goes on.

And we realized that in terms of sort of setting the cap, there is a wide range of issues that have to be dealt with. It is not just a matter of just picking a number out of the sky and deciding that you are going to observe this cap, but there is a whole bunch of other factors that have to be taken into account in deciding what

the cap is and how it is operationalized because remember there is a cap at the jurisdiction level, but there is also an entity by entity cap that is then imposed.

And there is a whole bunch of sort of interesting protocols that then have to be assessed. In addition to this, we also realized in sort of looking at policy framework that we would also have to sort of take apart, we would have to taxonomize how trading actually occurs, and this is very interesting because this starts to sort of speak to the sort of private nature of what goes on.

In fact, what one is establishing is a market, and markets, as you know, are complex things. They are also politically constructed things, and so one has to be aware of how that market is created and how the market actually functions. So this was a range of some of the things that we looked at in our guide.

In addition, we also conducted a telephone survey, so our initial ambition was to be relatively ambitious and move forward with interviewing entities that were covered by these caps, and we were able to establish that there were a number of entities that were covered in each of the three different jurisdictions covered by the WCI emissions trading system.

So in California, there was about 500; in Quebec about 130, and Ontario about 150. We contacted 60 of these entities trying to get some sense of how emissions trading was actually undertaken and how it was actually being sent. You know, it was sort of word on the street so to speak.

And we contacted 60 of these, including the University of Western Ontario, which is covered or was covered by the legislation in Ontario. Unfortunately, we only had five respondents, and we attribute some of the reluctance of individuals to speak to us to perhaps some of the political volatility and uncertainty surrounding emissions trading in Ontario last summer.

That said, we also believe that some of the five people who we spoke to were actually individuals who were able to give us a very good picture of what was going on because some of these individuals are actually agents who act for multiple emitters and, therefore, were able to tell us what the broad experience was in their action across a wide range of emitters.

So we believe that while there is obviously work to do in terms of sort of getting clear ideas of what is actually happening in the markets, we were able to speak to a fairly demonstrative, very good cross sector of entities notwithstanding the very small numbers, but of course, when you only have five respondents and you have got 800 covered emitters, you can always do better in terms of getting a broader outline.

So the WCI, what is it? Well, the WCI itself was an entity that was created by five states back in 2007. It was subsequently joined by a number of Canadian provinces and was also extended at one point to cover a number of Mexican states.

In its sort of form that it is, it is supposed to provide kind of a legal forum for the reduction of emissions, to assist jurisdictions in reducing emissions, and it created or its participants created the WCI, Inc. in 2011 to provide administrative support in an effort to sort of move forward with emission reduction.

Its main activities are to develop something called CITTs, the compliance tracking system that looks after the circulation of emission allowances, emission

permits across these jurisdictions, and to conduct a number of associated tasks with that.

But the sort of setup itself is sort of jurisdiction specific, so there is no compliance mechanism per se. Each jurisdiction participates in this work on a sort of its own basis.

Now, we looked at the WCI cap and trade as it applies in three different jurisdictions because these were the three jurisdictions that up until last summer were most intensively involved in cap and trade.

And we also were aware that these three entities were doing the work that they were doing within the sort of broader framework of commitments that their countries had made under the Paris Agreement, and these commitments that companies had made, as other speakers have said in this conference, were commitments made at the national level under nationally determined contributions.

So both Canada and the United States made Paris Agreement NDCs, and they were roughly equivalent, about roughly equivalent to about a 20, 25 to 30 percent decrease in emissions of GHG body or 20, 30, but this banner of works as all of you know, the United States has indicated its intention to withdraw from Paris at the earliest possible opportunity.

And on the Canadian side, what we have is a framework, a federal framework to govern in this area that seeks to get buy-in jurisdictions but, unfortunately, has not been successful in getting buy-in from all relevant jurisdictions, and what has happened is the federal government in Canada has therefore decided to and moved forward with imposing what is referred to as a backstop, and this backstop essentially requires that all provinces meet certain benchmarks.

If they do not, the federal government will step in, as I will say a little bit more about in a few minutes, to assure that they meet certain minimum thresholds, so that they contribute to Canada's Paris target.

Now, all of this is useful because it helps explain what happened in developing the jurisdictions, what the policy, I guess, impetus was in the three different jurisdictions.

We have a design phase of the WCI back in 2008 and 2010, so we come up with a broad statement of principles in 2008, and any relevant jurisdictions decide on more specific driver's in 2010 in a design document, and then in 2012, California, which is the largest entity with a population today of about almost 40 million people, decides to move ahead with cap and trade.

And around the same time about a year later Quebec implements a cap and trade system, and in 2014 the two cap and trade systems then link, so these links that are created -- and what the linkage means is that emissions permits under the relevant system are then tradeable between jurisdictions, and this link occurs because, in particular, the governor of California determines that Quebec's trading emissions program is as integrated and as intense as the plans that are set out in California.

So you have this 2014 link between California and Quebec. And then, in 2016-2017, Ontario starts to implement the same thing, and at the beginning in 2018,

Ontario goes ahead and implements its own link on to the Quebec and California system.

Now, the final climax of all this is, of course, last summer when Ontario withdraws on July 3rd. It was a dark day for those of us who believe in the system. Ontario withdraws from cap and trade, and we have to ask why that is. And in my own reading of what was taking place in this implementation phase, we really have some three different regulatory cultures.

So across the three different jurisdictions, there are different factors that explain why it is that some of these jurisdictions were able to achieve a sort of bipartisan consensus of importance of doing something like cap and trade in California.

You have this idea of California as a regulatory leader, something that has been instilled into California's political DNA for the last 40 to 50 years, and there is broad consensus on both sides of the House in Sacramento, that this is an important thing to achieve in a lot of different ways, and so California has led the United States in all jurisdictions in terms of sort of energy efficiency, energy intensity, low emission, so on and so forth, and part of that involves bringing forward GHG reductions in terms of legislation that are very, very aggressive and ambitious.

Because California has such a large population and because manufacturers are impressed with the size of the California market, they, of course, regulate and produce according to California standards, and that means that California then can start to produce a kind of regulatory shadow across the United States.

So about 20 states across the United States have actually enacted California standards as essentially their own, mirror legislation, indicating the way in which California sort of functions as a kind of litmus test, a kind of hallmark for good environmental governments.

So that's part of California's story and why California sort of leads the pack as it were.

In the case -- sorry, just trying to move forward here. There we go.

In the case of Quebec, it is a little bit different story. But it is equally compelling. In the case of Quebec, we have what is referred to as a distinct society. The society that takes different positions from the Canadian mainstream on a number of important subjects and, in particular, on subjects of sort of some centrality to the Quebec identity, and these are areas where, for example, like in culture, like in immigration, like in environment, Quebec can exercise a little bit of an international persona. This is known in Canadian international law as *gerin lajoie* doctrine.

So Quebec has been very, vigorous in its green diplomacy. It is one of the areas where Quebec sort of believes it has a sort of contribution to make, and it has been very active in promoting its reparative policy and sort of inventing or designing standards, environmental standards that are quite ambitious, and it also has certain natural advantages to doing so.

So we cover that in this guide, and we cover the way in which Quebec was able to sort of harmonize or harmonizing with California early on. The situation,

however, is very different in Ontario. I just wish that this clicker would work. Help me out here. There we go. Okay.

So we have a very different situation in Ontario. In Ontario, cap and trade has been at times kind of entangled with the issue of the efficiency of Ontario's electricity grid. So in the late 1990s, the Ontario government decided to break up the Ontario Crown Corporation that previously supplied all electricity and distribution to make it allegedly more efficient.

So it broke all of this up and privatizing some of this meant that prices were going to rise because there was a lot of old infrastructure involved in distribution of electricity.

And that, of course, set the alarm bells at Queens Park, the seat of the legislature in Toronto, and it required the government, then, to introduce some sort of limits on electricity prices, which it went ahead and did.

So we have this sort of limitation that takes place in the electricity grid, and the government decides that, rather than sort of upset sort of electrical markets with some sort of commitment to cap and trade -- so next slide please -- we have at the same time a government recognition that something has to be done about the environment but a real focus on ending coal. So unique among North America jurisdictions Ontario decides to go ahead and phase out its five remaining coal fire powered plants.

This is a very, very momentous decision. It is one that people like Angela Merkel in Germany have only recently decided to pattern and copy, but it is something that put the real focus of sort of environmental protection on one policy move, a policy move that, if you sort of think about it, it was rather narrow because it applied to only one set of parameters, and it left everybody else kind of in a sort of business-as-usual posture.

And thinking about it, you start to realize why there might be problems in Ontario because Ontario was not prepared or had not been prepared, and it had not developed a sort of political consensus arguably that California and Quebec already had.

So we have this great commitment to reducing the use of coal, which is admirable in itself, but it leaves the rest of the public unprepared for the sort of deeper changes that need to take place, to sign off on to something like a cap and trade system.

Next slide.

And so what we have beyond this is then a very rapid and abrupt move to cap and trade in 2016, 2017 when the Ontario government introduces legislation and then very rapidly after that joins on to the link in 2018.

So the beginning of 2018, we have this move, very rapid move to cap and trade in Ontario, and we have a very quick takeup of cap and trade by entities who are going out and purchasing lots of additional allowances at a time when free allowances were being given very generously around the province, and that raised alarm bells because what that suggests is that major emitters are going out and purchasing emissions allowances with the idea of arbitrage, that later on they would face higher costs for doing what they were doing today.

And therefore, they had to sort of try to get ahead of this by purchasing a large amount of allowances. So it was a very interesting sort of period, very interesting time.

If I could have the next slide.

And we had a number of discussions with the people we spoke to about what trading actually took place and what behavior actually occurred in the market. We have emitters obtaining allowances by distribution, by trades that actually take place at auctions and also by sales that take place on the secondary market.

We cover all of this in our guide, and if I could have the next slide, but we have an abrupt change in the political weather in June of 2018 with a new provincial government in Ontario that decides that cap and trade is too expensive for Ontario entities, and that they decide to scrap the whole system, to end cap and trade in Ontario, and to withdraw the province from the WCI. So very, very abrupt change.

And in addition to that, they decide to sort of end all funding, or they decide to cancel a number of other associated projects with that, environmental projects with that, and they provide very limited compensation, so much so that, in fact, the German ambassador to Canada was moved to remark that Ontario's actions really put a big question mark over foreign investment in Ontario in the future, and I think that that's a very telling comment.

So very, very sort of abrupt change, and if I could have the next slide, and what then happens? Well, the federal government decides to, you know, take issue with this, and Ontario is now one of the jurisdictions where this federal backstop is now being imposed because the Ontario scheme no longer meets minimum federal standards.

So today we now have this federal backstop, and those of you who are Canadian will -- and live in Ontario -- will know that this federal backstop is going to be something that you are going to be seeing evidence of on your tax returns.

I have had to complete my tax returns early because I am a dual citizen, so I have to do both American and Canadian. It is a big mess. And I have to do the Canadian's first, then the American, then the Canadian, and I noticed on my Canadian's that there were actually credit action incentives that I was given credit for in my payment of taxes, and that's the sort of indication of this federal backstop that is now being imposed because the federal government in Ottawa does not believe that Queens Park is doing enough, at least at the moment, to deal with climate change.

In addition to that, the provinces have fought back, and so the province has actually taken the federal government to Court in Ontario and also joined up with the provincial government in Saskatchewan to try and challenge the legislation in a reference.

A reference is a power that we have under Canadian constitutional law that allows the governments both at the federal level and at the provincial level to ask a hypothetical question. It is not something that is actually available in U.S. constitutional law because of your case in controversy doctrine.

So if I could have the next slide.

So what are the sort of take aways from all of this? Well, as was said yesterday and I think that John Godfrey in his comments last night was very apropos. Thinking about GHG and dealing with GHG in climate change generally requires a long-term thinking.

It is very, very difficult to try and ensure that that long-term thinking is instilled and continues. In some jurisdictions like California and Quebec, there seems to be broad bipartisan support. In Ontario, maybe we haven't got there yet. That's something to think about.

How do we build that bipartisan support long-term, and what does that consist of? And then, secondly, this issue of purchasing allocation of allowances going forward and the fact that some companies may be involved in arbitrage in the system raises questions about who gets the allowances that are freely distributed by government in the early years, a scheme like this, and who is going to profit from it later on?

This is not a problem right now, but it is something that the California legislature has identified as a potential problem in the future because governments have been sort of very, very generous in allocating free allowances at the beginning of the scheme to sort of prime the pump as it were and get people involved and entities involved.

So those are my observations. I look forward to your comments and questions at the end, but thank you very much.

(Applause.)

MR. FISHER: That's great, Chi, and it is a very thoughtful overview of the WCI. So up next, we have Terry. Terry is currently the CEO of the Energy Association of Pennsylvania. He is also former head of the Pennsylvania Public Utility Commission, so you really have seen the climate change from all sides. Terry is going to talk a little bit about how Pennsylvania is trying to square the economic and energy policies for its desire to protect the environment, control emissions. I think one big question I have based on what we have heard today is, how are you getting the politics and putting a policy mix right? You know, as was referred in this presentation and others, the effectiveness of cap and trade, carbon pricing, and Ontario is now using industrial compliance units.

I know Chi didn't talk about that too much. What's the stupid state of the debate in the U.S. vis-a-vis cap and trade, you know, nationally across various states? You know, what other approaches are being contemplated, renewable portfolio standards, mandatory efficiency targets, building codes.

There are certainly lots of tools in the toolbox for us to be thinking about. So over to you, Terry, for your perspective.

MR. FITZPATRICK: Thanks very much, Mark, and I want to thank everybody here for the invitation. It is a great other than to have a chance to talk to you about these great issues. Are you going to control my presentation back there? Great. I am off the hook. Okay.

First slide.

Just an overview of my presentation here to talk about the place where I work, Energy Association, who we are, what we do, give a profile of Pennsylvania, emergency production, and also our CO₂ emissions, talk about, give an overview

about what's going on in the other states, all the different approaches to combating climate change and also talk a little bit about Canada and finally review the strategies and the path forward, and I want to give a disclaimer here.

I am here in my personal capacity. The comments that I make do not necessarily represent those at the Energy Association or its members.

Next slide. There we go, thank you.

Pennsylvania energy overview, Pennsylvania first of all has a long history as an energy producer. The first oil well was drilled there I think it was 1859, the Drake oil well near Titusville, the first commercial atomic nuclear plant in Shippingport Western Pennsylvania; drove by there, not too far from on my way here.

Also, on the negative side, coal production, which started, really picked up in the 19th century because of a real legacy of pollution in Pennsylvania but did supply a lot of the energy necessary for the industrial revolution.

The political environment in Pennsylvania continues to be generally supportive of production of energy and of infrastructure, and I will talk about the uptick in energy production in Pennsylvania a little bit later.

The development of the Marcellus shale gas in the last decade has been a tremendous game changer in the state, and finally, in 1996, Pennsylvania restructured its electricity industry so that customers could choose their supplier of electricity. So we rely on markets for the most part, although there has been a lot of mandates now, rely on markets to decide what energy prices are going to be and what type of generating plants get built.

The impact of the Marcellus shale, this chart really pretty much speaks for itself. If you look over the course of a decade from 2007 to 2018, it is really a tremendous story, a 34-fold increase in the amount of natural gas produced in the state. There was some production before, but it has really picked up amazingly.

We went from 15th to second among the states in gas production. The whole price of gas, even without adjusting that with inflation is about a third of what it was a decade ago, and the wholesale price of electricity is about half of what it was a decade ago.

Looking at Pennsylvania, comparing it to other states, really I would just summarize that chart and say with the exception of Texas, Pennsylvania is the largest energy producer in the United States.

We are here at the top in all of those categories, and then, not coincidentally, at the bottom there we are also fourth largest in emitter of CO₂, in part, because of all that energy production.

Talk about some Pennsylvania's policies that relate to climate change. First of all, in 2004, the Alternative Energy Portfolio Standards Act passed. Eighteen percent of the electricity has to come from these alternative sources by 2021. And it also mandates net metering, which means simply that if you have a roof top solar array, when that is producing energy, your electric meter runs backwards.

I call that a subsidized rate because the rate, when it runs backwards, it is erasing not just your charges for energy but also all the charges for upkeep of the grid, so the wires costs are also being erased.

All the taxes are collected through your electricity bill are being erased, all the public purpose charges, the different programs. You are avoiding all of those when that meter starts to run backwards, so there is some controversy about that, and in my own view, that that's a subsidized rate.

In 2008, the Act 129 was passed which mandated electric utilities to offer energy efficiency programs to customers and meet certain goals, and last but certainly not least, there is currently a debate in Pennsylvania about whether nuclear power should be added to the ADPS Act. My association is neutral because of disagreements among our members on that, so it is a really tough issue.

Here is a chart that shows Pennsylvania greenhouse gas emissions since 2000. I won't go into all the details of this, but I think the important take aways are you can see that greenhouse gas emissions are down, somewhat not dramatically but somewhat down since 2000.

And if you look at the different components of that, the thing that jumps out the most is, the emissions related to electricity production are actually down, and I think that reflects the shift there coal to -- yes, from coal to natural gas in generating electricity because natural gas emits about half the amount carbon coal does to generate electricity.

We passed the Climate Change Act in 2008 that probably doesn't have a lot of teeth in it, but it is something, developed an inventory of greenhouse gas emissions and a registry emissions, prepared an action plan and update it every three years.

The 2018 draft action plan, which is not finalized yet, calls for 26 percent reduction by 2025 and 80 percent by 2050, and I think that's generally keeping with the international agreements and saying that's the amount of reductions. We need to keep the rise in global temperatures to two degrees.

Governor Wolf signed an executive order in January of this year. He basically said the Commonwealth shall strive to meet those emission reductions I just talked about, and I put parens around those words because they are not currently the policies in place to get us there, but that's going to be some of the debate I think we have going forward.

Now, I should mention the politics in Pennsylvania a little bit. Governor Wolf is a Democrat. The legislature is controlled by Republicans, so some of the friction and you talk about here about the problems in Canada you have in Pennsylvania as well.

Next slide.

Overview of other state climate change policies. I just gave a list there. Twenty nine states have renewable portfolio standards similar to our ADPS Act. Twenty states have mandatory energy efficiency targets like we do in PA. Thirty eight states mandate net metering, and then eleven states address the problem directly, generally through a cap and trade program, and Professor Carmody was talking about California.

I think two northwest states, Washington and Oregon are probably in that, and then the biggest group is in the northeast with the regional greenhouse gas initiative, which is a trading program that is electric sector only. It is not economy wide, so it doesn't cover transportation fuels.

California climate change policies, I spent a lot of time looking at California, and the whole array of policies they have and because they are such a case, I think professor Carmody said I tried to list their main policies here, and I am sure there is a lot more I didn't put here, but they have vehicle emission standards.

And they kind of set the tone for a lot of the country that follows them in terms of those efficiency standards for cars, and there is controversy over that with the federal government right now.

They have a cap and trade program as the professor talked about, mandatory energy efficiency. They have mandated, not only do they have a renewable portfolio standard, but now they have gone so far as to mandate 100 percent clean energy by 2045. They mandate -- they also mandated solar panels on all new homes starting in 2020, and we have -- we have the premature closing of the San Onofre nuclear plant and the planned closure of the Diablo Canyon nuclear plant coming in a couple of years.

When I look at all of California's policies, I think they have done some good things, and I think the CO2 cap and trade program is the best. My personal opinion is, I question the cost effectiveness of a lot of the other things they are doing, though. Canada, I have a couple slides here on Canada.

I will be the first to admit I am not an expert on Canada, but I did some research just to be able to compare them to the U.S. And I don't want to go over the things that the professor talked about, but Canada is a signatory to Paris. They have not pulled out like we have.

They have in 2016, they announced they are going to have a minimum price on carbon beginning in 2018 and 80 percent or something a little bit different about Canada versus the U.S. Eighty percent of their electricity comes from non-emitting sources like hydropower, wind solar, and the others.

I did have a conversation with Marc DeBlois from Quebec, and he pointed out to me that while that's an average in Canada, the provinces are actually a lot different. Not everybody reflects that average, which causes dissension. The provincial response, I am not going to go over all this, I will just try to summarize, I think similar to the U.S. you have tension between the provinces and the federal government, and in the U.S., you have tension between the states and the federal government.

You also have agreements on exactly how, even if you say, okay, I want to combat climate change, what are the policies going to be exactly to do that? I think you have some diversity of opinion there from what I can see. Go ahead. Okay. What climate change policies will work.

And I have opinions on this, but the current U.S. approach relies heavily on mandates and subsidies. And I think what that results in, unfortunately, is that political popularity, not cost effectiveness, ends up being the criterion for whether these things get enacted or not, and I think there is a big gap between public perception about what works and what really does work.

The regulating emissions directly I believe is much more likely to yield cost effective results. There is a paper I read that has been very -- I have been very much influenced by, by Lawrence Makovich, Harvard School, "Tilting at Windmills."

If you want to read something that is thought provoking, I highly encourage you to read that. You know, when I looked at these issues, I will confess my bias tends to be -- I tend to be a Republican. I was involved in helping to draft Pennsylvania's electricity restructuring law, so I tend to favor markets. But I tried to look at these issues and see what works, and I took a hard look at what California does, and I am really sceptical of a lot of the cost effectiveness in a lot of what they are doing.

The Makovich paper does a case study of California, and I will just give you a couple of things that he said about California. When you look at the full array of policies and he concluded that the CO2 cap and trade program was ten times more cost effective in reducing emissions than the their renewable energy mandates, which would lead you to think, well, you ought to lean more on the CO2 cap and trade program rather than the mandates, but instead California went in the opposite direction.

And they came up with this mandate for 100 percent clean energy, and then they passed a law that said all new homes, even though they had a housing affordability crisis, it passed a law that said all new homes have to have solar panels beginning in 2020. So that's my opinion when these things on what I think works.

There are some really hard political realities when it comes to combating climate change, I think. And I think that, first of all, it is a tough complex problem, and I think political polarization is part of what makes this difficult, too.

You know, on the right, you hear climate change is a hoax. Anybody hear that term used in reference to climate change?

(Laughter.)

MR. FITZPATRICK: But the left, you had to keep it in the ground movement, which I also personally think is misguided, you know. I think if you put a price on carbon, you let that price drive -- I don't think there is anything inherently evil about fossil fuels.

I think our societies have been moved forward a lot by fossil fuels, but I don't deny that they have undesirable environmental consequences that have to be dealt with in some way.

And then the Green New Deal, which I think is well intentioned, but when I look at the amount of government involvement and the government dictating, you know, how we are going to do things? I really question whether that's the right way to go.

Another thing I would encourage and look at or something thought provoking, the Washington Post had a series of editorials after the Green New Deal came out, and they talked about how to do this, and they said, you know, this is such a big job, we really can't afford to waste resources, and they called for a market-based approach, which I think is probably the right way to go.

There is this populism which has affected our politics about everywhere I think and has a big impact on this as well. And I think the populist view is that climate change is something the average person really kind of rolls their eyes about, and I see this sometimes talking to people and the view that something only the elite worry about, and I think something that supports that, if you look at the

yellow vest uprising in France, which had been driven, in part, by the gas taxes, you know, I think that illustrates the challenge in trying to come up with effective policies. And I think fact-based public education about all of this is something there is a crying need for.

So last, can and should Canada and the U.S. cooperate in climate change? Well, obviously, yes to both questions, but in my view, the more immediate problem is to try to develop a consensus for policies that are really going to be effective rather than just trying to give people the impression that you are solving the problem.

Thanks very much.

(Applause.)

MR. FISHER: Thanks, Terry, to that very rich presentation. We are getting close to time, so I think what we will do, I will put one question to the panel, but I want to open the floor to some questions as well.

And maybe taking everything that we've heard today and maybe putting a bit of a focus on the Great Lakes because I think that that's where I do see an opportunity and where climate change seems to be lacking, you know, it is obviously a complex region. We have the two federal governments.

We have got an international framework and International Joint Commission Bounty Waters Treaty, Great Lakes Water Quality Agreement. We have got the Great Lakes Commission; we have got the Great Lakes-St. Lawrence governors and premiers; we have got Great Lakes-St. Lawrence Cities Initiative.

There is a complexity there that doesn't necessarily exist in dealing with Eastern Premiers in terms of the governance. You know, how do we -- where should we start in terms of trying to get those levers, those interests, the sectors around a common table to start thinking about this because I don't know if the Great Lakes Commission or the governors and premiers can do it on their own, on its own in a region like this just because of the governors' complexity and legal framework that exists.

So where do you think is a good starting point in terms of putting us on a different path to thinking about climate change in the region? Chi, I will start with you.

ASST PROFESSOR CARMODY: Well, I think one of the things that has been driven home to me in the comments today -- and I am going to be saying to you words about this in my closing remarks -- is the enormity of the problem. I mean the scale upon which we have to act is huge, in multilayer. And I think what I have taken away from today's observations without wanting to put too fine a point on it is just the idea that we need a broad base of task force, and we can't simply think that the direction is always going to come from the top. We are going to need to have states and provinces working together.

We are going to need to have municipalities working together. We are going to need to have industry associations and individual enterprises working together, and there may on occasion be differences. There may on occasion be snafus. There may on occasion be the need for strategic litigation.

We are going to have to approach this in a very, very broad way that is going to approximate, I think, what John Godfrey was saying last night. We need an all-

government approach, and that's not only going to be government in the classic sense, but it is going to be the broad-based approaches from civil society that are going to allow us to challenge this in a meaningful and effective way.

MR. FISHER: Good point. Terry, what do you think in terms of this region in Pennsylvania? Sometimes it thinks of itself as a Great Lakes state; sometimes it doesn't. It certainly is economically and environmentally, even though there is a sliver on Lake Erie, you know, recognizing that very few governors show up to the meetings.

Like how do we start a regional conversation, cross border conversation about climate change in such an important economic region?

MR. FITZPATRICK: Well, you know, again, our divided politics makes it tough. Whenever you talk about climate change with Republicans, it tends to be kind of a difficult thing, maybe particularly in an energy producing state. But I do think we are getting closer to that.

I think there is -- I do think there is going to be more of an initiative, more of a push to get Pennsylvania to be part of the regional greenhouse gas initiative, and I think that's as part of that trend, I think there is more of a chance that we will be cooperating with things like the Great Lakes group on these issues.

MR. FISHER: Yeah, that's great, and I think maybe the alignment of maybe democratic governors might help with that push a little bit.

Marc, your sense in terms of your experience with both WCI but also New England governors and premiers. Quebec is the center piece between those two initiatives.

MR. DeBLOIS: Yeah, yeah. Well, it is definitely a complex issue, but I would tend to go back to basics. Who gets between them when things go wrong? Is it cities, municipalities, counties, governors or presidents? Well, the first things that we hear normally go to the governors and the premiers.

So on that basis having -- because the implementation is already tackled.

MR. FISHER: Sure.

MR. DeBLOIS: Maybe not perfectly but at least tackled for the mitigation aspect. Who would be responsible for a GHG regional cooperation to mitigate emission? If I look at the United States and Eastern Canada, it is the premier and the governors. So that could be the framework or the main structure, so having governors and premiers agreeing to something --

MR. FISHER: Sure.

MR. DeBLOIS: -- and then having a structure underneath them because there is a need for structure.

For the NAGCP, there are the governors and premiers, but underneath there is a whole layer of opportunities. There is the two secretariats, one on Eastern Canada and one on the New England states. There is a cooperating committee composed of international relation people, and then underneath that, there is a whole set of different committees, committee of environment, which is responsible for or was and still is, but the action plan on acid rains as received or accessed or finished its target, and they haven't renewed yet new targets; mercury same thing. Climate change is selective.

We have a few years ahead of us, but that committee, which is composed of commissioners and deputy minister, which is high level, still has underneath them a climate change steering committee composed of directors and professionals, so the main work is -- the process works up and down.

MR. FISHER: Rolls up, rolls down.

MR. DeBLOIS: Yeah. It is not the governors and premiers say "I want this" and then it gets executed, and yes, it is part of the process. But it is also bottom up because sometimes they are trying to change the steering committee, and so eleven jurisdictions think of something, and they say, well, why not, and then they propose it to the committee and goes up the chain to the governors and premiers, and if they say yes, then we implement it.

MR. FISHER: Sure.

MR. DeBLOIS: So it is on that basis governors and premiers have to be involved into the process if something in mitigation aspect is to be conceivable for the Great Lakes Region.

MR. FISHER: That's really helpful. Why don't we take a couple questions from the audience?

I know this is stealing a little bit of the break, but we have had a lot of breaks today, and this is an important part of the day. Are there some questions from the audience about what you have heard so far? Or is everybody tired out?

MR. WEIDENBACH: For Mr. Fitzpatrick: Does Three Mile Island still resonate with Pennsylvania voters, and secondly, have you done any surveys to see if there is a difference between Eastern and Western Pennsylvania citizens regarding the importance of climate change as a political issue, or is age a bigger factor?

MR. PETRAS: You have to state your name.

MR. WEIDENBACH: The question was --

MR. PETRAS: We heard you, but just your --

MR. FISHER: Just your name for the record.

MR. WEIDENBACH: Jeff Weidenbach.

MR. FITZPATRICK: Three Mile Island still resonates. I live not that far from there. You know, most mornings I can look out and see the steam coming off from unit 2. But it cuts both ways.

There are some folks, there are some environmental groups that are -- I can think of one environmentalist who I am friendly with in particular, but he still is against Three Mile Island. But you do have some environmentalists that are for it now because of the climate issue and carbon, and this battle about adding nuclear to the ADPS Act is a really tough one because of the jobs that are at stake and because of the -- you know, right now when you think about it, we are all talking about climate change, right? But there are no consequences for emitting carbon, so you know, Three Mile Island produces no carbon, but they don't get any advantage in the marketplace because of that under our current policies. So it is a really tough debate.

West versus East, there is a difference between Eastern, particular Southeastern Pennsylvania much more progressive leaning, but I would say James

Carville once made a famous comment about Pennsylvania. It is Pittsburgh and Philadelphia and Alabama in between.

(Laughter.)

MR. FITZPATRICK: And that was pretty funny, but there is a grain of truth in that because the middle part of the state and the northern tier of the state tends to be more conservative, but the Pittsburgh area, too, even among the democratic labor movement tends to be more conservative on a lot of issues than Democrats elsewhere.

And you can see that if you followed anything about Connaland (*sic*) running for Congress and some of the policies that he promoted and giving the pledge that he wasn't going to support Nancy Pelosi to be Speaker. You see some of that blue dog influence in Western PA.

ASST PROFESSOR CARMODY: I also recall that I think Donald Trump has said that his climate policy is made in Pittsburgh, not in Paris.

(Laughter.)

MR. FITZPATRICK: To which the mayor of Pittsburgh took exception.

MR. FISHER: Stephen, question.

MR. PETRAS: Yes. This is actually a question for the three panelists. Chi, you talked about the Western Climate Initiative. Marc, you talked about what's going on with the New England states and Quebec. Terry, you talked about your association of energy producers, but my question is: How do your initiatives start?

For example, how is it, Marc, that all those states, Connecticut, Rhode Island, plus Quebec, who came up with this bright idea, why don't we join together and come up with some carbon cap and then same, Chi, how did the Western Climate Initiative, whose idea was it? Was it an institution? Was it a professor like Chi Carmody who came up with it? What about you, Terry, what about you, your group, and your members, how do you generate ideas, or does your group generate ideas on how to deal with climate change? As a group do they say, "you know what? We got to reduce carbon."

How do you guys think about that?

MR. FISHER: Who wants to take that on first? Terry and then down.

MR. FITZPATRICK: Yeah. Well, we are not energy producers technically. We are the distribution utilities, which is separate, but I have worked, represented the power producers as well. You know, I don't know really -- there are a lot of different groups that you go and meet with, maybe similar to like the Great Lakes groups and regional conferences, for example, national groups, national groups and utility regulators, those ideas sort of percolate around there, and there are some regional discussions about various things, which I guess can grow into things like the regional greenhouse gas initiative if the political will is there to work together and do it.

MR. FISHER: Chi?

ASST PROFESSOR CARMODY: So one of the points that became clear to me in examining the WCI from an outsider's perspective is that the WCI, something like the WCI is a very constructive effort.

It involves the input of many, many different actors over a long period of time. You might say broadly that governors at the top political level come together at a

very initial stage to sort of set up the grounding, the foundation for the discussion, just the discussion of a lot of these issues, and what's interesting about the WCI framework is that you first have the floating of a series of principles.

Then, two years later with the work of a lot of different working groups from across all of the different jurisdictions involved you then have the launch of a design document that gets fairly specific as to timetables, caps, allowances, considerations. These couldn't have been drafted by any one mastermind.

They require a lot of different actions together, and I think it is the fact that the action itself reflects a broad base consensus about the smart way to move forward. That's the ultimate magic that gets these things sort of, at least in the case of the WCI, off the ground.

MR. FISHER: Before we get to Marc, that WCI case, was there one governor that was it, California, that really stood up and said, "hey, we need to build this broad base consensus. We need to have this discussion"?

ASST PROFESSOR CARMODY: So that wasn't evident from my reading of it, but California was certainly pivotal in the sense that its documents reveal regulatory framework that is very concerned about linking with and making sure that the link has comparable intensity and a comparable integrity, and those two factors have to come together in order for the governor of California to certify that some other jurisdiction then may be able to emit permits and trade those permits on a par with California.

MR. FISHER: Sure. Marc?

MR. DeBLOIS: And as for the New England Eastern Canadian Premiers, I would say time and ties. Time, because if you recall in the presentation, I mentioned that energy committee was created in 1973, the action, the climate action plan came in 2001.

But in the meantime, the premiers and governors met each year, and they still meet each year to discuss different issues, and the first issue they were discussing were economy, trading, tourism in terms of relation, and eventually, in the 1980s, well, the environment started to be brought to the table, and they accepted it, adopted it, and developed it and adopted the acid rain plan in 1988, second one in 1998, and at that year, they also produced a mercury plan.

And from then on, it is a buildup that was seen in terms of getting to a climate change action plan. At the time, it was not past border as it is today, so it was a bit easier, but still it is a complex process, and for the Great Lakes Region, well, the ties are the meeting that has been occurring, not necessarily as often as the energy CP. But still the structure is there to at least bring the discussions to the table to seek interest.

So on that basis, I think there is a potential to create something in the Great Lakes Region because of the ties, because of the organization already in place and already working.

MR. FISHER: Okay. I guess one question I would have for you, Marc, and really I look at the governor groups really across the border, so New England, Eastern Premiers, Great Lakes, Western Governors, I am curious, what's the participation rate like in the New England Eastern Premier, like when you have an annual meeting, do all the governors and premiers show up?

Like is it -- I am curious because I know when I have done research across the border, it is really mixed in terms of commitment. So what is it like in New England and Eastern Premiers when there is an annual meeting? Do they all show up?

MR. DeBLOIS: Okay. So I will take that in French and talk really, really fast. Well, honestly, normally the governors and the premiers are already there, always there.

MR. FISHER: Sure.

MR. DeBLOIS: If they can't be there and sometimes happens for different reasons, election whatever or a crisis, they send a representative, commissioners, either environmental or energy, which are more frequent, but there is never an empty seat.

MR. FISHER: Sure.

MR. DeBLOIS: Even when there were governors that were really not keen on climate change, someone was sitting there. Then, many times the governor who was not necessarily that interested but the governors saw interest in having other discussions with the other governors and the premiers.

So it is not necessarily just talking about climate change; it is all of the issues, and so the value of keeping the discussions even if they did not necessarily agree on one topic, they continued the discussion because the other elements in the equation were important enough to do that.

MR. FISHER: Yeah, that's instructive. Thank you. All right. I think that's probably it. Thank you, everyone.

(Applause.)

MR. PETRAS: Well, everyone, the chairman, the co-chair of this organization, Jim Peterson said I think we need to press on instead of taking a break. Everybody agree with that? So Chi, are you ready to summarize the day's happening for us.

ASST PROFESSOR CARMODY: I am.

MR. PETRAS: And now our Canadian national protector, Chi Carmody.

(Pause.)

ASST PROFESSOR CARMODY: So this year's topic climate change was something that was introduced to us last night by a very masterful after-dinner speech by John Godfrey, who reminded us that climate change is a very complex topic, something that is going to require, as I've said and as he said initially last night, a sort of whole of government approach to the issue if effective solutions are to be found.

And Godfrey had suggested to us in his remarks the broad outlines of what some of these solutions should be like, but in the meantime, I think what we see around us almost defies the imagination. It may be a long way away like the events that have just happened this past week with the situation in the Mozambique and city of Beira and cyclone Idai battering that city. But I think it is something that goes on all the time, and it happens right around the corner from us. We might pause to think what it would be like if that same cyclone had barreled through a city like Miami instead of Beira or a city like Mississauga instead of Beira. I just haven't seen it happen here and happen yet.

And I say yet because it is really, really real, and we were reminded of that in excellent comments this morning by Dr. Eugene Takle who pointed out in his compelling opening remarks that there are and there will be very significant costs on infrastructure, on forests, on agriculture, on human society, and social stability going forward because of climate change, and what are we going to do?

Looking at just one example that he referred to, the situation in Syria and the millions of refugees that streamed out of Syria over the last couple of years flooding across Europe. As a result, the anti-immigrant sentiment in its wake and the follow on political effects of the flows and what they triggered in groups like the PIS in Poland and for some of you who are familiar with German politics, Panagota, this anti-immigrant group that has achieved some notoriety in Eastern Germany.

All of this arguably triggered, at least in part, by a drought in Syria, a long way away. What are we to make of all of this? Well, we can look at the federal level and the particular relationship, the peculiar relationship between our two countries at the current juncture and be just a little bit mortified and perhaps somewhat depressed.

Yet, I think, as Jim Blanchard wisely reminded us, whatever is going on at the top is something that is inevitably going to change. There are other efforts in governments going on in the meantime.

There is some evidence of this in the decisions that were mentioned this morning of the new House of Representatives to establish a house select committee on the climate crisis this year.

In addition, Jim Blanchard and other speakers have referred to the Green New Deal, although on the panel that I sat on, Mr. Fitzpatrick expressed some skepticism about that, and David Terry profiled for us how many, many changes are taking place at another level, the level of states.

And beyond that, too, Karlis Vasarais reminded us that maybe it is not huge projects but smaller projects that we all get involved in together, smaller more manageable bite size projects at the personal, the neighborhood and the city level that will get us to our 2030 targets instead of these vast Amazonian inspired projects that we might be thinking about climate terms in change of currently.

Like many initiatives in this area as well, legislation is going to require, an action is going to require consensus, and it is not going to be perfect. Speakers like Martha Hall Findlay pointed out that peripheral legislation like Canada's proposed bill C-69 on an environmental assessment could be very useful, but we are going to have to be committed to continue to talk, and as Hall Findlay emphasized this morning, to recivilize -- and I point this out -- to recivilize our political discourse, to listen, to try to come up with some sort of consensus that is both respectful and inclusive across the political spectrum.

She pointed out and I take note of the fact that when we think we have all the answers we are mistaken. We need to hear from the other side, and we need to consider all sides, and this is something that has perhaps been lost in our political discourse over the past couple of decades and is now coming to a fulcrum.

And so with many comments about the corroded political environment, maybe the tremendous challenge of climate change can be a way for us to relearn to talk to each other.

We also heard from Peter MacKay this morning, that dealing with climate change is a matter of leadership, and as one which can be very personal and as Jim Peterson has pointed out or again from both MacKay and Hall Findlay, that markets matter.

The investments that are being made to counter and adopt to climate change are impressive. We need more of them. We need more hydro as MacKay pointed out, we need more electric cars and subcities for them. We need more cleantech, but we also need and seem to need more almost everything except climate change.

And that's important because like most optimists and most entities, I think today have accepted most of the science behind climate change as Jim Blanchard remarked in his comments.

So there is a lot of work going on, if not perhaps at the top, and there is still much reason to be optimistic. If nothing else, I think we can leave this conference being, as Lana Pollack reminded us, starving optimists.

So on that note I would like to close these remarks in thanking all of our sponsors, particularly our platinum sponsor DLA Piper, our golden sponsors, the Consul General of Canada in Detroit, our silver sponsors Steptoe & Johnson, Herman and Associates, Cleveland Cliffs, Baker Hostetler, and our bronze supporters Taft, LLP, Formica, and Barudan America.

I would also like to thank my fellow institute co-directors, Steve Petras and his lovely wife Colleen Fitzpatrick Petras, who joins us here today, and I note a connection between Terrence Fitzpatrick and Colleen Fitzpatrick Petras. So that suggests there is a lot of different convergence that go through Steve Petras. It is the mastermind of the project here.

(Laughter.)

ASST PROFESSOR CARMODY: And I would also like to thank and especially note the work of our institute's infatigable managing director Ted Parran, who is very shortly to be a proud papa.

Both Ted and Steve have worked very hard over these past few months to bring this conference, a very inspired and very thoughtful conference together, and they continue to do so year after year with great efficiency, with great imagination and with great enthusiasm.

It is ironic perhaps that we are meeting here at the Cleveland Botanical Garden, a building designed to celebrate botany, which oddly is being so directly put in peril by different climate change events.

So thank you, everyone, very much. Safe home, and we look forward to seeing you next year, April 16th and 17th, 2020, here in Cleveland for the 44th annual conference, and I would like to emphasize that the Canada-US Law Journal is always looking out for thoughtful, thought provoking and very credible submissions. So if you do have them and you are interested in getting published, please feel free to get in touch with us, with me, Chi Carmody at the University of Western Ontario Faculty of Law.

We would very much like to receive your submissions, and we thank you very much. Now for a few words from our co-chair, Jim Peterson.

(Applause.)

HONORABLE JIM PETERSON: Chi, once again a wonderful summary. Thank you so much. You've given thanks to so many people here, but they deserve it so much.

This has been a wonderful conference. Let me just close off by this little memory I have of a 15 year-old Swedish school girl, Greta Thunberg. She is the one who started to boycott her Friday classes in high school so that she could pickett in front of the Swedish legislature on behalf of climate change.

Here is what she said this winter at the world economic forum in Davos. She said "adults keep saying we owe it to our young people to give them hope, but I don't want your hope. I don't want you to be helpful. I want you to panic. I want you to act as you would in a crisis. I want you to act as if your house is on fire because it is."

One week ago she was nominated for the Nobel Peace Prize. I think the work that we have started here in CUSLI will mean that next year we are nominated for the same prize.

(Laughter.)

HONORABLE JIM PETERSON: Thank you all so much.

(Applause.)