

Building Back Better: Moving Forward Together, June 3rd 2020

DIANA FOX CARNEY: Good morning everyone, my name is Diana Fox Carney. I'm delighted to have been the co-host of this series around *Building Back Better*. We are now reaching the end of the series. This is webinar #7. I'm not sure if anyone but Toby and I have been to all of the webinars. If you have, thank you for your endurance. I hope you found them enlightening. If you haven't you can find the reruns online, and hopefully you can look through those. In this one, today, we have another fantastic group of people with us. We are trying to knit the ideas we have heard about in the previous six weeks together. And also think about how we get from where we are now to where we want to be, bring all these great suggestions and make them real, and what it's going to take institutionally in terms of the narrative around this. And any thoughts that people have as to what are the priority starting points. So there's lots to talk about today, as always. We have a lot of people, and a very short amount of time. But we'll do our best with that. We encourage your questions in the chat panel. If we don't get to them, they'll be recorded and we'll try to answer them afterwards. But we do endeavor to talk about some of them in real time today. I'm very delighted that we're joined today by Minister Bains, who is going to introduce our final webinar. Thank you, minister.

THE RIGHT HON. MINISTER NAVDEEP BAINS: Well thank you very much Diana for having me on. It really is a pleasure to be here. I love the theme of *Building Back Better*, it's often cited by many of my cabinet colleagues. This is a great theme that I think will resonate with the steps we take as government and as a country moving forward. First of all, congratulations to you for an excellent speaker series. I know, as you indicated, this is the seventh one, and it is a privilege to be on to share some of my thoughts. I want to really highlight the importance of innovation, and underscore how critical that has been in terms of how we dealt with the current crisis, but also, moving forward, how critical it will be to deal with the climate change crisis as well. For me, I've talked a great deal about innovation over the past four and half years as the minister responsible for that file. And I fundamentally believe that innovation is critical for us to solve problems, and to make society a better place.

Our "secret sauce" in all of this has been investing in our #1 resource—what differentiates us and enables us to succeed — our people. It's investing in entrepreneurs and risk takers. It's investing in our scientists and researchers, and really those highly innovative, skilled workforce that we take enormous pride in across the country. So for me, I also think what's been important, above and beyond just investing in people, is building on our strengths. We have a diversified economy and we have a strong industrial base. And to highlight that, if you take a look at the current context, with regards to COVID-19, we relied very much on innovation and investing in people and their ideas. We relied on our industrial base to ramp up domestic capacity for personal protective equipment.

The Made-in-Canada project that we launched a few months ago was a call to action to Canadians to say "Look, global supply chains are unpredictable. Demand has increased for this very important personal protective equipment. And we need this for our front-line health care workers. We need this for our healthcare system in order to flatten the curve."

Canadians stepped up in a big way. Over 6,000 Canadians came forward with ideas and suggestions. Right now, there are 700 companies that have retooled or re-scaled their initiatives and projects in a manner that's helped us solve some of the problems that we're dealing with in regards to personal protective equipment. Let me just give you a couple of great examples of innovation on full display. Many of you are familiar with Arthur B. MacDonald, our Nobel laureate. He came forward with an idea where he used off-the-shelf parts to make easy-to-assemble ventilators at a very low cost point by working with his Italian counterparts. We made a commitment to him to find a manufacturer and to have a purchase order of 10,000 ventilators. And that's an incredible success story of a scientist coming forward, and working with our manufacturing base to really move an agenda forward on an issue that was critical for us. And I think we will be in a fortunate position of not only meeting the needs within Canada when it comes to ventilators, but also be in a position to help other countries and jurisdictions, and help our neighbors. I think that is really a point of pride and innovation on full display.

Another really cool example is medical grade gowns. We're trying to find domestic supplies and domestic sourcing. And we realized that we've got the "Canada Geoses" and the "Stanfields". We've got companies that can build this material and assemble these gowns, but they need the raw material. So we went out to our incredible companies, entrepreneurs and innovators and asked them "Can you find some local solutions?"

They came back with construction house wrap as a raw material, as well as the nylon from airbags in cars that can be used for medical grade gowns. That example really demonstrates innovation on full display. I just wanted to highlight those two examples of what we did when it came to personal protective equipment.

The same applies to the mindset we need to have when we're dealing with the climate change crisis. As we move forward, I can tell you right now, we're going to continue to invest in people, ideas and ingenuity. That's why we made sure that there was an expansion of seed funding for Sustainable Development Technology Canada to continue to have a strong ecosystem of companies that can scale up and succeed here in Canada, and globally as well. We invested in the Strategic Innovation Fund with a very strong emphasis on projects that can help transition companies and ideas and solutions to reducing their carbon footprint.

A part of that journey I want to highlight which I know you've talked about is oil and gas. I think it's important to note that they are very much part of that journey. We as a government fundamentally believe that, and that is why I was so delighted to announce Mark Little [President and CEO of Suncor] as part of the Industry Strategy Council. This is a group of people that are going to work with the government to look at how we can continue to not only

deal with the healthcare crisis and economic crisis, but do so in a manner that enables us to hit and exceed our 2030 targets, and hit our 2050 net-zero targets as well. So this is really about the government working together in partnership. But it's all about innovation. I can tell you right now, we as a government recognize that we don't have a monopoly on good ideas. We need to continue to innovate and debate. In order to do that, we need industry to step up in a big way.

And I've got a personal personal interest in this. Now more than ever, I'm spending a lot of time at home with my two young girls. They remind me of the importance of making sure that we do not lose sight of the goals associated with our ability to meet our climate change targets. I firmly believe what I've seen recently, when it comes to the mobilization efforts around personal protective equipment, that we can have that same level of mobilization, and that same "Team Canada" approach to tackle these very important climate change issues as well. So thank you very much for this opportunity, and I look forward to the conversation today.

DIANA FOX CARNEY: Interesting. Thank you, Minister. I think you're absolutely right to highlight the importance of innovation, which has run through this series, and I'll pass over to Toby Heaps, who, as you all know, has really been the brains behind this series.

TOBY HEAPS (CEO AND EDITOR IN CHIEF OF CORPORATE KNIGHTS): Thanks, Diana. And thanks, Minister. One thing that has become clear as we have been going through this series is what a powerful engine the clean economy can be for Canada. If we move ahead there's a slide that's going to come up. It's going to show the synthesis of all of our analysis, which looks at mobilizing \$106 billion of federal government investment over the next 10 years, which would work out to about 10 billion, annualized each year (about 0.4% of GDP). It could help to crowd in upwards of \$700 billion of both private sector money and other money, and create close to 7 million job years. So this is a serious economic engine. Hopefully, it's a sustainable biofuel powered economic engine.

I think that an economy like this is within our grasp. There's three reasons why we should endeavor to do as much as possible, as rationally possible and as evidence-based as possible, make this recovery in the stimulus as green as possible. Those three reasons come down to bread, seeds, and carrots. Now, the "bread" part is bread [money] in people's pockets. We need to get people back to work. What we found with this analysis is a concerted effort to invest in the green economy could help get over 700,000 job years over the next two years. This is a serious engine to get people back to work. It's hard to find anything else that will get that many people back to work.

The "seeds" part is a \$40 billion investment fund to help crowd in private capital, and other sources of capital, to tackle these huge opportunities in fast growing industries in a future where we have a right to play. We have all the ingredients you need to win: whether it's carbon fibers that are bitumen derived, or sustainable aviation fuels, or being a North American Center for batteries with unique properties of nickel that are based in in Sudbury,

or all the petrochemical industrial complex that we have, we have a right to play in this game. If we play our cards right, we can have a big part on the podium of these fast growing industries of the future, but we can't sit on our hands, or other people are going to get in the full position.

And the third reason is "carrots". If we front load this \$106 billion federal investment in the next two years, getting about \$40 billion in our model, it's going to be an effective way to both prime the pump to get industries going and bring costs down. Also, it's going to be an effective carrot for provinces to up their game and make sure they have complementary policies in place with respect to building codes and grid access for renewables and storage, which is going to be critical for unlocking these huge opportunities.

In terms of a parting thought before I close and pass it to this illustrious panel that we have here, I just wanted to thank all of you. Quite a few of you have been here for many of the sessions that we've held, and a community's been built. And I think we can see there's a big window opening. What we're proposing is not incremental—there's some big changes. And when someone proposes big changes, there will be the inevitable forces of the status quo that will resist. I think, with the community that we have here, across business, investors, Indigenous communities, labor, the environmental movement, we have what it takes to overcome that and really seize this opportunity. So I look forward to working with you in the coming weeks and months to make some of these things reality. Thank you, Carney.

DIANA FOX CARNEY: Thank you, Toby, for that call to arms. We'll start now by turning up some slides and turning to Ralph Tory who's guided us through the data over the past weeks, and we'd like to show some aggregate thinking from the previous weeks.

RALPH TORRIE: Good morning, everybody. I want to be brief. I feel a bit like the PA system before the live music started at Woodstock, so I'll try and get out of the way quickly. But I did want to stop and just mark the wrap up of this interesting series that we've been engaged in over the last few weeks. We really feel that the "pandemic pause" has created a window to stop and think about where we want to go when this is over. This series has really been about one of the opportunities that the "pandemic pause" presents to us, which is the chance to address the greening of the economy and the low carbon transition. It's been clear for a long time, for some people at least, that our economy was on a collision course with the natural ecosystem that is depended on. That's why this pivot to the green economy is so critical.

There's a large and accelerating body of know-how about the things that we need to do to make this transition. Anyone who has been tuning into this series has seen a glimpse of the wisdom and the knowledge that Canadian spring to this issue. And for every one of the experts that has been on our panels, there are hundreds more focused on this transition.

What has changed, I think, is the opportunity. We have the public investor back at the table in a renewed way which opens up possibilities that have not been there in recent years. And we have an up-and-coming generation that is bringing enthusiasm and leadership to this issue. Whether you're talking about engineers, architects or financial professionals, they're all laser-focused on this. We, as Toby has summarized, think that we've identified a very large overlap between what's needed to restart the economy, and what's needed to make the inevitable transition to a more sustainable and greener economy at the same time. Celine is going to summarize some of the programs that we've been analyzing over the past six weeks. I'm going to turn it over to Celine for that.

CELINE BAK: Thanks very much, Ralph. So we have the one page summary of the six weeks that we've been presenting to you, which describes each of the programs that we've looked at in terms of federal investment (the small red bar), the leverage private sector investment (the big blue bar) and the cumulative jobs within each of the proposals (the gray bar) which is attached to the right hand axis.

Just to give a snapshot—because it's sometimes hard to look at numbers on two different axes— the *Build Back Better Homes* program, has 2 million cumulative jobs, the *Build Back Better Workplaces* program has a million cumulative jobs, the *Build Back Better EV Uptake* program has 1.2 million jobs and the Energy Innovation Fund—which Toby described earlier where we have the right to play as he described— would also drive about a million jobs. All of these programs together would reduce Canada's GHG emissions by a very substantial amount: 237 megatons per year by 2030, which would put us well on the way to reaching our goal of being at a net zero level by 2050, which will require us to reduce our emissions by about 50% every decade for the next three decades. This is very much in line with the scope and scale of the opportunity and challenge we have before us. And of course, as Minister Baines has described, it enables us to put to the service of Canadians and the environment all of the incredible innovation and innovative capacity that we have in Canada.

As Minister Baines was speaking, I was thinking about the same sort of call to arms, for *Building Back Better Homes* as we've done for personal protective equipment. These deep retrofits to people's homes and to our workplaces would really require us to innovate at a fundamental level, such as how we do work in the construction industry. And I want to highlight the fact that the investments that we're proposing in the sectors are very much of the order that are currently occurring today. So for example, in the case of retrofitting and decarbonizing the whole of Canada's building stock for private homes like apartments or houses, the current annual spending on renovations is \$60 billion. What we're proposing is \$20 billion. So very much in the order of what the shape of the current economy is. Same kind of scale, a comparable scale for the *EV Uptake* program, as well as for the investments

in greening the grid—which really enables everything else. So I with that, I'm going to hand it back to Diana and look forward to a very interesting discussion.

DIANA FOX CARNEY: Thank you for that overview Celine. We're going to get into the meat of the session now. I would like to start by thinking about the big picture here: how we frame this movement to bring people along and make sure that it is coherent, and in a sense, not vulnerable. This is not going to be something that is done by the end of 2020, just it is in the same way that the virus is not going to leave us, sadly, by the end of the year. So I'm going to start today with Catherine Abreu from the Climate Action Network just to give her view of what she thinks the big goals are in this area.

CATHERINE ABREU : Thanks Diana. Really happy to be joining you today from the unceded Algonquin Anishinaabe territories in Ottawa, and a big congratulations to everyone involved in this huge ambitious undertaking. It's been an incredible seven panels, and I know we've all learned a lot from it. From my perspective, this moment is forcing us into confrontation with the vulnerabilities that are built into our economic and social systems. There are ongoing crises that lurk behind the current health and economic emergencies of hand: inequality in income, wealth, and access to essential services; racial, and other forms, of discrimination; colonial structures that perpetuate harmful resource and cultural extraction. And of course, the externalization of environmental harm, which is ultimately what underpins the climate crisis and other forms of ecological collapse.

It's clear that these are not only vulnerabilities, but in many cases, they are also forms of tremendous violence and disruption. And I think it's important for us to acknowledge the uprising against these systems of violence and destruction that we're seeing all across North America. So from my perspective, if we are going to tackle these issues, if we're going to tackle issues like climate change, we have to come at them fundamentally as a fight for justice, as a way of bringing these intersecting vulnerabilities together, confronting them, and building resilience into economic and social systems so that we are not faced with these overlapping these the same kind of overlapping crises in the future.

We at Climate Action Network Canada—because we believe the fight for climate action is fundamentally a fight for justice—have over the last few months collaborated with hundreds of civil society organizations across the country to develop six principles for a just recovery emerging out of the pandemic. You can find those principles at justrecoveryforall.ca. Right now, about 400 organizations coast-to-coast-to-coast across every sector issue area you can imagine have signed on to those principles. And I believe that is the overarching framework under which we must couch these critical, detailed, granular recommendations that the work done under the Corporate Knights project is putting forward, and the work that's happening in many other organizations.

I'll finish with this thought. So in the conversation about *Building Back Better*, I think a lot of us have been reflecting on the "Bretton Woods moment" and hoping for a Bretton Woods 2.0. At that point in history, when Bretton Woods happened in the first place, it was led by a charismatic elected leader. This Bretton Woods (if it does happen) is going to be led by the people. And we need to be listening to those people who are in the streets, risking their health and safety right now calling for justice. If we are not able to speak to what they need, if we are not able to speak to the ways in which they're demanding—safety and an improvement in their lives and their communities—then none of the recommendations that we are making are going to stick. I'm really looking forward to making some comments on some of the more specific ideas later in our conversation, but I really appreciate the opportunity to set up that high level I'm framing. Thanks, Diana.

DIANA FOX CARNEY: Thank you so much. I think that's a really valuable reminder of where we are right now. But also, we're fortunate to be dealing with an issue that we hope and believe can deliver on that agenda while also delivering economic prospects while meeting climate goals and safeguarding the future. I'm going to turn now to Michael Sabia, who many of you will know from different parts of his life. Obviously, he's moved from the financial system, the Caisse, and he's now a chair as Canada's infrastructure bank. So he has that perspective, too. So Michael, can you just talk about how those different constituencies can perhaps be brought into this story that we're trying to tell?

MICHAEL SABIA (CANADA INFRASTRUCTURE BANK): Thank you for the invitation to be part of this discussion today. We all reflect a lot on just how unsettling all of these other times are. I want to focus on the other side of that coin, which I think has been implicit in some of the comments already made. The positive side of all of the disruption is that these times demand creativity and encourage creativity. And I think creativity is what we're going to need going forward. The demand for it, obviously, given the severity of the issues being faced. But also the times encourage them for an important reason. For the first time in living memory so many of the standard operating procedures that are often a straitjacket and constraint on creativity are essentially gone. The fact that we're having this conversation in this manner today is evidence of the fact that most offices are empty, but work continues. And I could go on. There are lots of things that indicate how our constrained world of standard operating procedures is basically out the window, and that's a rare moment. And it's a moment not to be missed.

I think this is true on a multilateral basis across the world. But it's certainly true as Canadians. We need to seize this moment to be creative about how we reposition the national economy for a world that's going to be different. And yes, a very important part of that is repositioning our economy to be a lower carbon economy, a significantly lower one, but also to put the country on a different path going forward. And that's important because I think the fundamental issue facing all of us now is rebuilding confidence on the part of

businesses, consumers, citizens across the board. I think that issue is about the need for creativity. This is true across a whole range of issues, and Minister Baines touched on some of these. It's true in terms of what we're doing in trade, what we're doing in innovation policy, in thinking about cities, in the future of income security. And yes, obviously, given my role at the infrastructure bank, it's very true about infrastructure.

At the bank, and I'll be quite open with people about this, it's an institution with lots of potential, but: has it under-performed to date? Yes, I think it has. So that turnaround we're trying to do at the bank is guided by two pretty simple ideas. First, while the bank can play a role in reigniting the Canadian economy, that has to be done in a constructive way. It has to be a constructive stimulus. What does that mean? Well, it means contributing to the repositioning of the national economy. A critical dimension of that is taking actions to accelerate the transition that Canada and the world has to go through to get to a lower carbon economy. That's point number one, and it's fun enough.

Second point, to come back to what I said earlier, we need to be creative. We need to be creative about broadening what we mean by infrastructure. It's not just about roads and ports. It's not about the past, it's about the future. Critically important. And that, of course, is this transition to a lower carbon economy. But we also need to be more creative about how we invest, how we work with private capital, how we bring private capital and [unintelligible] into this is a very important transition that Canada certainly has to go through. I won't take more time.

Right now, I'll just say that, in terms of our high level priorities, and I'd be happy to elaborate on these, we're very interested in different power systems and improving East-West functioning of the electricity grid, in Canada's renewable storage. We're also very interested in getting to a less carbon-intense form of transportation, both in cities and between cities. Very heavy focus now on cities. They're critical as drivers of economic growth, but they have to work from an environmental point of view. So again, we're very interested in thinking about cities as a platform for lower carbon growth.

And then finally digitization having to do with connectivity. If this crisis is showing us anything, it's that connectivity to high broadband capabilities is essential for households and for small and medium businesses. But more than that, and in the future, it's about digital platforms: digital health platforms, 5G, privacy platforms. All of these things fit into what I think needs to be the broader and more creative mandate of the bank as it plays a broader role in reconditioning our economy and encouraging this transition to a lower and therefore more sustainable carbon intensity.

DIANA FOX CARNEY: Thank you so much, Michael. And thank you for your obvious energy and drive. We've got lots for you to be doing at the infrastructure bank. So don't

worry about that. You set us up well, I think to pass now to Gregor Robertson on the Urban Agenda. Obviously former mayor Vancouver, but now global ambassador for the Global Covenant of Mayors for Climate and Energy. And I'd love to know how that group is thinking about the future.

GREGOR ROBERSTON (GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY): Thanks Diana and to Toby and the Corporate Knights team. It's been a fantastic series. Very timely, given our circumstances. Cities and communities around the world are certainly struggling significantly in light of the combination of the COVID-19 pandemic and climate impacts. Generally, there's been a massive shortage in funding available and jurisdiction decision making available at the local government level. Those reforms are long overdue, particularly in places like Canada. We're not seeing significant leadership globally from national governments other than the big package that's on the table right now in Europe. The Green Deal in Europe is a very dramatic continental scale strategy that we hope is going to roll out. It drives right down to city level and empowers cities across Europe to go carbon neutral by 2030.

A lot of those pieces have been in place for years, but they're capitalizing on the opportunity. The European Commission's leadership right now is fantastic. And that's a great solution for Europe. We're all going to be chasing Europe unless we see comparable scale investment in a green, healthy and just recovery. That's the framing that they're using in Europe. And I think we've got to be on the same path. If we look back at the recession a decade ago, several countries capitalized, South Korea being one where they targeted clean tech. They targeted innovation, and over the past decade they've risen to being one of the leading countries almost every year in terms of innovation, job creation, and the successful economy. They were a developing country a generation ago.

So we've, we've seen success down this path, but it has to run through the cities, and I would really reemphasize what Michael said, cities are a fantastic platform. That's where innovation is driving it. They connect, obviously, to rural Canada. The need for resources, the need for innovation, in rural Canada is critical, but we have to leverage the power that's in cities. And I think if you look at what cities are asking for right now like decarbonizing, regulating, and improving building codes and making sure that buildings are contributing, they're not helping us at all right now. Not significantly. We've shut down most of the economy and transportation, but we need buildings to really contribute if we're going to hit the 1.5C commitment.

But I think there's a very willing partner in Canada cities and communities. The green municipal fund has been great. It needs to be cranked up significantly. It's a solid model that other countries are emulating. So we've got some pieces in place. I'm just really hopeful that the frame of going from the COVID-19 crisis back onto the climate crisis, and the economic

impacts that we face. From here forward, the government needs to filter all of these investments with decarbonisation, and follow that up with regulations at the federal level that support cities to follow that through. I'll turn it back to you.

DIANA FOX CARNEY: Thank you so much. You I think we need a constant reminder that we need to seize this crisis, work with it and use the space to really ensure that this agenda doesn't get accidentally or deliberately pushed down again, and we'll come to that. One of the issues in the space obviously is around where the money comes from. Lots of demands on money. At the moment, I'm just going to turn now to Tom Rand. But before I do that, I'm going to call our first poll. Those of you who were with us last week will know that I forgot the poll, so I didn't get any audience input. And Melanie, if you could just put up our first poll, which is where?

But in the meantime, I'm going to turn it over to Tom Rand now, who is managing partner, a partner of ArcTern Ventures, and he has a perspective on the cleantech economy, but also on the financing of it. Perhaps Tom, you could explain to us how you see this from a private finance perspective. And what you see the ability of this public money really to unleash private capital will be?

TOM RAND (ARCTERN VENTURES): Sure, I think the starting point is to understand the advantages and activity we already have that we're building on. So really, we're talking about the long-term, self-interested economic advantage of building industries in Canada, innovative industries that Minister Baines was talking about, at a scale that Michael talked about, which affects infrastructure all over the world. Not just cities in Canada, but cities all around the world. So we're talking about not deploying existing EV chargers for new electric vehicles, but building the next generation of EV chargers and selling those EV charges to the rest of the world. And the long term economic advantage to Canada, of getting into those industries and leveraging capital in those industries. It's a bit like getting into digital telecom back in the 80s, or internet infrastructure in the 90s. This is an enormous market, and it's where Canada's environmental aspirations and our economic self-interest dovetail. If we can export solutions to the rest of the planet, we not only make money, but we're also lowering emissions at a global scale, because we're lowering the cost of compliance of other countries. So that's what ArcTern does, build those technologies.

And I think it's important to realize how much we already have in Canada. The seeds that have been planted, particularly by our partners in Ottawa at Sustainable Development Technology Canada, strongly supported bipartisan support across all parties for 15 years. There's a really big, very strong Canadian farm team in clean tech that are punching above their weight globally. These are obviously technologies that export energy storage, next generation biofuels, power electronics, all that kind of stuff. But we're also seeing the institutions in Canada beginning to dabble in this space, So ArcTern, [unintelligible], we

have CPP, Canada Pension Plan, we have OMERS. We have Suncor, who are looking to us to figure out how they become a low carbon energy company. And they're pretty serious about that. So the institutions are dabbling in venture capital. We also have a big pension fund from Norway that has invested in ArcTern, as has Equinor—they're a big oil and gas company. And they did that because they saw Canada as a leader, not just in terms of the seeds we planted in public-private partnerships and building technologies out, but in the long-term policy support for clean tech and climate and so on. They see Canada is the place to be in North America today. We can build on that advantage, certainly with what's happening south of the border. So the question is “How do we build on that? What do we do next to further accelerate this capital?”

Because it's not venture capital. It's not the hundreds of millions of dollars, but it's the many billions of dollars that we need to deploy. And also, figuring out ways to link next generation technology to infrastructure without bringing inordinate risk. So project finance, infrastructure banks, and pension funds can play because of their blended finance model and smart view of what kinds of technologies scale up. There's a lot of detail there. But linking the venture world to the technology world — the innovation role of Minister Baines to the Infrastructure Bank of Michael Sabia—is precisely what I think needs to be done and where all the real action and economic gain is. So there's some detail there and I can return to that issue. But that's really where I think a very strong policy can play in Canada to leverage private capital and build those bridges: from technology to infrastructure all over our cities, and cities all over the planet. I think that's the real long term economic activity above and beyond shovels in the ground.

DIANA FOX CARNEY: Thank you, Tom. That's really interesting. Greg mentioned that the European community is ahead on some of the policy in this space. I think that there's unequivocal agreement on that. But in terms of the companies, and the nuts and bolts of the clean tech, the bleeding edge of clean tech, Canada's companies are at the forefront of that list. Some of you will know that I am currently sitting in London and that we talk about that here. We talked about both the Canadian pension funds at the big end of Canada's influence, and also the small companies that are scrappily going after this market.

Someone said in the chat panel, can we persuade Tesla to come here? Well, if we get the “Made in Canada” brand to be the standard you need for forging ahead in the green economy because of 100% clean energy, we've got a much higher chance. So lots of opportunities, lots of optimism. With that, I'm gonna pass it over to Bruce Lourie now, who many of you will also know from the Ivey Foundation. And he's wanted to pick up on the points around innovation

BRUCE LOURIE (IVEY FOUNDATION): Yeah, thank you very much, Diana. I share the optimism around the opportunities and skills that we have in this country. But I want to pick

up a little bit on what Michael was saying: we really need creativity and we really need to think very differently about what makes economies succeed, and what accelerates innovation outside of money. That's policy. We need in this country a stronger sense of the role that governments, cities, and businesses can play in procurement, standards, and creating the policy environment that accelerates the adoption of technology. So this isn't just a money matter. We're still seeing economists telling us that governments can't pick winners. I think that is a tired and misguided refrain for us to be using, because, in fact, Germany picked winners, South Korea picked winners, and the United States picked winners. And we need our country to be a little more creative and forward looking around the role that we can play as cities, the federal government, and provinces, and understanding what is our comparative advantage. So whether it's getting the building technologies at scale and breaking down some of the bureaucratic barriers that are preventing the adoption of this kind of technology, or looking at the obvious advantage we have in hydrogen right now in this country. I don't know if it's been discussed here, but a huge technological comparative advantage that we have is Alberta possibly becoming the hydrogen hub for North America. We've got fuel cell manufacturers, we've got trucking manufacturers, bussing manufacturers, we can be a global leader. So I'm not sure Tesla's going to move to Canada, but we could be creating a domestic hydrogen based long-haul freight industry in this country. And that's the kind of stuff I think we need to be looking at. Governments can't just throw money, they have to put policy heft behind that.

DIANA FOX CARNEY: Thank you, Bruce. We have a note in the panel here that says Tesla is here already. They're partnering with Dalhousie on advanced batteries. So we have to persuade them to bring a bit more here, but I agree with you that there's a lot of "Made in Canada" opportunities. I'm now going to bring in Dianne Saxe who was previously, until 2019, the Environmental Commissioner of Ontario. How does this look to you? Dianne, you've been at the interface of government, the development of an economy and public opinion around these issues. How do you think we best create our narrative, sell it to people and get the government alongside to facilitate the progress we're going to make?

DIANNE SAXE: Thank you, Dianne. I've got a lot to do in a couple minutes. In my last climate report to the Ontario legislature, we looked at what is the economically best way of getting to a low carbon economy. In other words, what will do the most good and cost the least? And it was pretty clear. First you maximize efficiency: don't waste energy anywhere. The biggest opportunity is in buildings because we waste a huge amount of energy heating buildings, and cooling them as well. The second step is to drive fossil out of electricity generation, which increasingly saves money in any event, because solar wind and storage become so much cheaper. Third, electrify everything practicable. Starting with transportation, because most of our transportation uses petroleum products. This is highly polluting from a climate point of view, and highly polluting from an air quality and public

health point of view. It's also draining an enormous amount of money out of the province every year: \$16 to \$25 billion. The fourth thing was to restore and extend natural infrastructure. That's not so much a question of reducing carbon emissions, but of increasing our resilience and ability to survive what's coming.

All of these objectives require stable policies that don't change when governments do. As you all know, I think we had very good climate policies in Ontario, until the Ford government was elected. We had a good climate law, though there were lots of things to complain about (and I did complain a great length). But in a nutshell, we were on the right track, we have a lot to be proud of. And we were doing an enormous amount of good. And it was all torn up as soon as the Ford government was elected, even though almost every one of the conservatives elected had signed a pledge to support having a price on carbon.

So the biggest challenge is how to have stable policies that survive changes in government, and that is really difficult. As a lawyer, I think there are some legal options that help. There's a suggestion to put it in the Constitution. That's the Blue Dot campaign. Constitutions have some greater protection when governments change. Lawsuits are really long shots, but can make a difference. The agenda lawsuit in the Netherlands has in fact forced the Dutch government to shut down their coal-fired power plant. The Rose case in Canada, it's got legs, it might do something in terms of moving the goalposts for the federal government, whether through admissions or access to documents or opportunity to negotiate or other sorts of things on their statutes. The UK Climate Act, which has really been designed to try to drain out some of the political poison by putting a big time gap between when decisions are made and when they have to be complied with. This reduces some of the political short-term gamesmanship. There's personal responsibility for lawmakers, which the Nordic Council does.

So those are some of the legal options, which can help a little. Fundamentally though, to get durable public policy we need strong, loud, consistent demands for it in the public, business and art. Politicians care enormously about what their constituents say. Right, Gregor? Politicians really, really, really are influenced by what they hear from the people who talk to them. And they hear very, very frequently from the paid lobbyists from the fossil fuel industries who have an enormous amount of money to get their message across and do so over and over and over and over again. [Canadian] Environmental Defense showed that the oil and gas industry lobbied the federal government four times a day for the past many years, and much more frequently now. They hear from these folks all the time. So what's the other voice? Well, we need to hear responsible business loudly and frequently. We need to hear it in public. They need to hear it in private. Every one of you can join a group of some kind, whether it's a business group, a gardening group, a municipal group, and then get climate on those agendas. Because they don't get dismissed as easily as someone who's among the usual suspects.

The federal carbon tax is designed to try to buy some public support when compared to cap and trade (which is a better economic mode). I was satisfied with it, but people didn't understand it, and it doesn't put money back in their pockets. It's unfortunate that most people don't know that getting a federal carbon refund. So that's another messaging issue, but at least it was designed to try to buy some ongoing public support.

But the bottom line is that people at every level need to speak up, and never get tired of speaking up and I ask everyone to memorize 11 magic words. Simple clear messages, say it back to me simple, clear messages. Repeated often by a variety of trusted voices. Simple, clear messages repeated often by a variety of trusted voices. Everybody needs to speak up on this all the time and one opportunity right now, which may have crossed your radar is the Senate National Finance Committee. I mean, nobody pays any attention to the Senate, I know, but they really do have influence. And they are going to be writing a report really shortly about how the federal government spends its billions of dollars on COVID response. So, between now and June 9, each of you could write to the Senate National Finance Committee and talk about how the federal government should be responding to this crisis, and the importance of building back better. Pay attention to these kinds of windows and writing.

DIANA FOX CARNEY: Thank you so much, Dianne. We've all got our marching orders. We need to be mobilized. I want to turn to Terri Lynn Morrison now and talk about how we can mobilize the Indigenous community. I know you've talked a lot over these past weeks and been a very enthusiastic supporter of both the agenda but about the contribution of the Indigenous community in this space. So perhaps you could just refresh us on that.

TERRI LYNN MORRISON (INDIGENOUS CLEAN ENERGY): Thank you Diana. Just listening to the panels this morning and reflecting on the title of the series, *Building Back Better*, as an Indigenous person in Canada, it feels like that's what we've been trying to do all of these years. I see that there's a huge opportunity here for the government and for industry and for Indigenous communities to come together on this shared vision that we have for what the recovery should be. It's very obvious that the next stage of the Canadian and global energy revolution will emphasize further renewable energy development, enhanced energy efficiency of homes, community facilities and industry, along with advanced energy systems and green energy infrastructure. These offer major economic development and climate action opportunities for Indigenous communities in this country. Some major forces are shaping the future. Firstly, Indigenous communities and enterprises are already beginning to seize opportunities that reflect the transition process characterized by the decarbonisation and digitalization of energy. Secondly, there's a growing group of First Nations, Metis and Inuit champions—including the 2020 catalysts that come from Indigenous Clean Energy, the organization that I work for— along with community leadership with the skills and experience to take projects and partnerships forward. Thirdly,

Indigenous communities have a broad interest in realizing economic benefits from clean energy, particularly through Indigenous companies. And also we have First Nations, Metis and Inuit communities and leaders that are incredibly motivated to take action on climate change through clean energy. So I've been lucky enough to have the opportunity to work, you know, with Indigenous communities across the country. They're ready to seize the opportunity. Having conversations like this and bringing everybody along is going to be important. So with that I'll leave you with that. And thank you for having me as part of the series.

DIANA FOX CARNEY: It's been a great pleasure, and you've been a very important and consistent voice in this space of thank you so much for that. And I think it speaks to Catherine's point at the beginning about the type of opportunity we have here, but also the need for change. Because there's many people who feel like it isn't working as well as it should at the moment. On which note, before I get back to finance (I know you're still avidly waiting for the results of the poll), I'm going to turn to Karim Bardeesy from the Ryerson Leadership Lab, the executive director. Leadership - tell us some of your thoughts, but also tell us your thinking on how we can leave this type of initiative going forward.

KARIM BARDEESY (RYERSON LEADERSHIP LAB): Thanks, Diana. I think in this context, leadership comes from summoning some of the values and traits that were identified earlier on. In particular, what Michael Sabia quoted around creativity and Catherine Abreu's reference to justice serve as values and motivators that are going to guide this work. I believe there is a great opportunity by channeling those values and those traits to reach the full set of tools that have been talked about in the series— those that Ralph and Celine have laid out, and a bunch of tools that have not gotten as much hearing in this conversation. But as we've seen in the chat box, and in the question and answer box, are real, there's a rich set of tools that need to come together for this. All evidence says that there's a majority consensus not just for individual tools, but for the full set of tools. Leadership comes from recognizing that people within their institutions within their place, access their understanding of this issue differently.

So there's an opportunity for leaders and institutions to look to their constituents and say "You know what, I might not be able to connect that person to an understanding of carbon pricing, but I might be able to connect that person, that member of my institution, into some aspect of this work. They're not going to necessarily understand the policy talk right away, and they're not necessarily going to understand the activist language that many of us would be speaking right away. But they have opportunities through those values around justice, through an understanding that there is a majority consensus towards to be reached. I believe that by leaders reaching beyond the policy players and the experts, but still inviting them into the conversation around public policy and around the language of activism by using those tools of creativity and that desire for justice and desire for systemic change that

we know from public opinion data is widespread, is how we can achieve this moment. And it's a fundamentally political act to do this, and it's not just through political parties, but it's through institutions and through member driven organizations channeling those values towards these goals.

DIANA FOX CARNEY: Fantastic, I think yeah. That's sort of empowering of politicians to move forward and giving them confidence. I'd love to talk more about that. But we don't have any time really, I'm going to tell you that in our poll, we had 50. Well, we had a total of 80% of people agree either strongly or otherwise that we could afford these measures. point 4% of GDP. We also have 13%, who didn't agree and said that we couldn't afford them. And obviously, public finances are tight. And I want to turn now to Celine again and Dave Sawyer. So I'm going to bring in Dave first and just talk about how feasible really, do you feel this is economically is this money there and will it leverage other money? W Are we going to have economic hurdles when we encounter them on the way because it's not going to be easy? For sure?

DAVE SAWYER (CANADIAN INSTITUTE FOR CLIMATE CHOICES): Yeah, sure. Leveraging private finance in a time of COVID with liquidity crunches is a major issue. I think also, we need to think about co-benefits and climate resilience, which hasn't been mentioned here. When we think about selecting mitigation options, we have to take a broader view rolling forward to deal with systemic vulnerabilities like air pollution and health impacts associated with the changing climate. I think we need to be a little more thoughtful about our focus on dollars per ton and opportunities and economic multipliers, to branch out our thinking to include co benefits, maximizing health benefits and reducing future vulnerabilities around climate change, which is a really systemic risk. That is a big long term risk. So I'll stop there. Thank you, Diana.

DIANA FOX CARNEY: Celine, your thoughts?

CELINE BAK: So two things. One, there has been some very good work on parts of the Canadian tax system that frankly need attention and reform. Loopholes and other sorts of mechanisms within the Canadian tax system which could be closed, and which would very, very quickly provide us with the \$10 billion that we're talking about in terms of the annual investments for the programs we've described. I'd also suggest that the green bond market is still very small, less than a quarter of a percent of the global bond market, both sovereign and other corporate, but it does send a signal and it would be very interesting for Canada to consider issuing a green bond where the proceeds would be ring-fenced for the purposes that we've described today. Reporting on use of those proceeds would occur (other countries like France have done this) leads to a great deal of discipline around the structure of the programs and around the institutions that participate.

I'll add that we have the institutions to do this. We've obviously heard from Michael Sabia. I want to make sure that we mention the Canadian Mortgage and Housing Corporation. One of the reasons why we put the Canadian mortgage Housing Corporation at the core of our proposal about deep retrofits to homes is because it creates information, which can be fundamental to making efficient markets. Those markets build up and become completely economic and independent of any policy support, because there's confidence in the value that's being done. And the CMHC is an example of an institution that could bring confidence to a very, very large market opportunity.

DIANA FOX CARNEY: Thank you, Celine. I think always working with what you have is very important, but we must be careful not to be incremental in that approach. It's that sort of tension between starting from where we are but also being truly ambitious in where we want to get to. We've come to the end of our time, and the end of our series. There's so many points that have come up today that I would love to have picked up on, and people have tempted us by saying I could come back and talk about that. I want to bring in the very end, I just want to ask Ralph, who's been the kind of stalwart behind all this, whether he has having looked through in great detail, all the sectors, all the ideas that have come up, maybe he doesn't, maybe he's just tired and wants to go to bed. But do you have any reflections on where we are and where we need to be? And what's the first step we should be taking Ralph?

RALPH TORRIE: Thank you, Diana. I know we're at the end of this hour, so I'll be very brief. On a personal note (and there may be people who are listening who have lost a loved one to COVID) I think it should be appreciated that what we're trying to do here is and what we've been doing in this series is honor the memory. There are people who are dying to pay the price, if you want to put it that way, of opening this door for us. We can see through the threshold that there are wonderful possible practical futures waiting for us if we can have the resolve and the creativity (which has been a recurring theme, I was pleased to see today) to realize the solutions that are waiting to be built. So we're going to hear a lot of talk about how we need to stick to the economic fundamentals. We've seen that in some of the editorial pages in the last few days. But let's, in all of this, remember the most fundamental of the economic fundamentals, which is the economy is embedded in and completely dependent on the natural ecosystems in which it takes place and as go those ecosystems, so goes the economy. So where are we gonna go?

DIANA FOX CARNEY: Thank you that is a sobering reminder of the challenges we face and need to preserve. We're two minutes over already. But the last very last word goes to Toby, who's brought us all together. Thank you for that, Toby.

I'm going to let Toby talk out. So I'm going to say goodbye, and thank you for being here over the weeks. Let's continue the conversation and let's get the absolute best out of this crisis. So, Toby, I'll pass to you.

TOBY HEAPS: Thank you. Just briefly, thanks, Diana for doing such a wonderful job corralling all of these panels. And thanks for all the panelists and all the people that participated. The next few weeks, in particular in the next couple of months, in particular are going to be a critical time to be creative and to be bold and to take these ideas forward. And we'll be coming up with an action plan for that. I invite anybody with ideas that wants to be part of it to get in touch. We would definitely appraise everybody and invite you to join the movement to get this done. This will be very much, as Kat said, a people-led movement to make this happen. And so, from bottom my heart thanks, everybody for participating. And we're just getting started.