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British Columbia: Climate Action Leadership (Interview with British Columbia's Minister of Environment, Mary Polack)

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British Columbia: Climate Action Leadership

Interview with British Columbia's Minister of Environment, Mary Polack

Introduction

British Columbia is the westernmost province of Canada and was granted formal provincial status on July 20, 1871. It contains one of the longest coastlines of any territory in the world. Its capital, Victoria, is situated on Vancouver Island yet its largest city is Vancouver, recently identified by *Forbes* as one of the top 10 cleanest cities in the world. The province boasts a population of approximately 4.5 million which includes members of *First Nations* – indigenous peoples comprised of over 200 separate native communities.



British Columbia is transected by the Canadian Rocky Mountains; it is a territory marked by diverse topography and is home to over 600 provincial parks. Its ecological reserves cover nearly 15% of the province's land base (<http://www.env.gov.bc.ca/bcparks/events/history/>). It achieved heightened international attention when it served as host to the 2010 Winter Olympics. More recently, British Columbia has been touted as a model for the rest of the world in promoting economic development while safeguarding natural capital. It is satisfying provincial energy needs through clean renewables while backing technological innovation to further reduce the emission of greenhouse gases (GHG) (<http://www.worldbank.org/en/programs/pricing-carbon>).

Government and Economy

Each province is governed by a premier. Christy Clark, a member of British Columbia's Liberal Party, was elected to this office in 2011. Clark's executive council is comprised of 22 members, including Minister of Environment, Mary Polack – the interviewee herein (<http://www.bcliberals.com/team/cabinet-ministers/>). British Columbia's key industries are resource-based and include forestry, mining (including high-carbon materials such as metallurgic coal for international trade), fishing, hunting, agriculture, and aquaculture. Tourism, advanced technology, construction, shipping, and film and television (Vancouver is commonly referred to as "North Hollywood") are also primary revenue generators for the province (<http://www.bcstats.gov.bc.ca/StatisticsBySubject/BusinessIndustry.aspx>).

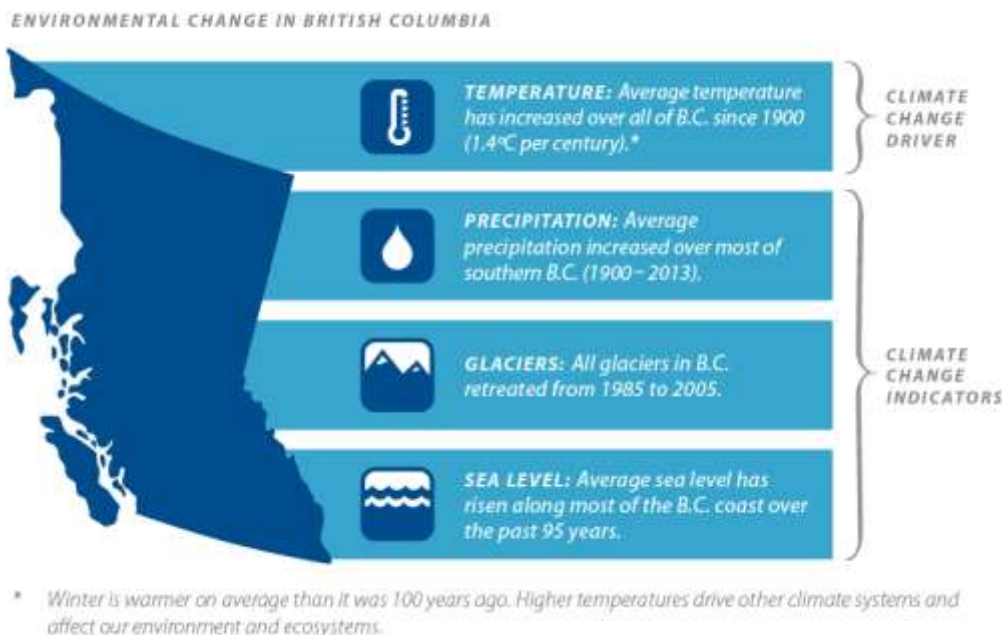
Environment and Energy

With its mountainous topography and coastal and inner waterway systems, more than 97% of British Columbia's residential and commercial energy needs are met with hydroelectricity. This inexpensive and largely clean source of energy is supplemented by solar, wind, geothermal, and most recently, *marine shore power*. In 2009, Vancouver became the third location in the world to offer marine shore power for cruise ships. This service allows properly retrofitted vessels to plug into BC Hydro's land-based electrical power grid, thereby reducing diesel emissions.

On July 22, 2015, the Canadian government and the Vancouver Fraser Port Authority announced funding to extend this service to container vessels (<https://www.portvancouver.com/about-us/topics-of-interest/reducing-emissions-with-shore-power-2/>).

World Leader in Combatting Climate Change

The World Bank has identified British Columbia as an example of a region which uses its political might and ecological capital to fashion a state characterized by innovation and conservation. In effect, it has become a global leader in combatting climate change (<http://www.worldbank.org/en/programs/pricing-carbon>). British Columbia has actively responded to climate change drivers and indicators, prompting it to undertake a series of steps – including the introduction of a revenue-neutral, carbon tax. The provincial government identified those relevant facts which ultimately prompted the change in policy:



(<http://engage.gov.bc.ca/climateleadership/files/2015/07/EnvironmentalIndicators.png>).

Other government findings include specific identifiable factors directly impacting the province's physical and biological systems:

- Average annual temperatures have warmed by between 0.5-1.7 degrees Celsius in different regions of the province during the 20th century. In fact, parts of British Columbia have been warming at a rate more than twice the global average.
- Over the last 50 - 100 years, B.C. has lost up to 50 per cent of its snow pack, and total annual precipitation has increased by about 20 per cent.
- Faster melts and increased precipitation have resulted in floods in the Fraser Valley, Interior and throughout British Columbia.
- Warmer winters have resulted in the mountain pine beetle, which has destroyed an area of pine forest equivalent to four times the size of Vancouver Island.
- The pine beetle has infested 13 million hectares of B.C.'s forests.

- Communities have been experiencing longer summer droughts as weather patterns grow increasingly erratic.
- Sea levels are expected to rise up to 30 cm on the north coast of British Columbia and up to 50 cm on the north Yukon coast by 2050.
- Glacier reduction could affect the flow of rivers, impacting tourism, hydroelectric power, and fish habitat.

Carbon Tax

In an effort to boost its economy while combatting climate change, the provincial government launched a revenue-neutral carbon tax, now 8 years old, on July 1, 2008. The initial carbon tax added approximately 2.5 cents to a liter of gasoline based on a rate of CAN\$10 per tonne of carbon emissions. This increased to CAN\$30 in 2012 and currently translates to a total of 7.4 cents per liter of gasoline and 8.2 cents per liter of diesel and home heating oil. This graduated tax has allowed both homeowners and commercial enterprises to reduce emissions while incentivizing the adoption of cleaner energy use and development. As a revenue-neutral tax, all monies generated by the tax are returned to the citizens of the province through credits and/or a proportionate reduction in other taxes.

British Columbia recently presented its *Carbon Tax Plan and Report* as part of the larger *Balanced Budget Plan* in 2014 which outlined the tax reductions to individuals and businesses generated by carbon tax revenues. In pertinent portion, the Report states: “Based on the revised forecast of revenue and tax reduction estimates, revenue neutrality has been met for 2013/14. In fact, the reduction in provincial revenue exceeds the \$1,212 million in carbon tax revenue by \$20 million” (http://www.fin.gov.bc.ca/tbs/tp/climate/carbon_tax.htm). For the present time, British Columbia has confirmed that it will keep this tax, after considering its economic impact on business and industry.

The carbon tax covers approximately 70% of the B.C. economy, has survived provincial elections and attempts to repeal it in both 2009 and 2013, and has stimulated the economy while reducing overall greenhouse gas emissions (GHG) by between 5 to 15% (http://www.nytimes.com/2016/03/02/business/does-a-carbon-tax-work-ask-british-columbia.html?_r=0).

Exemptions: It does, however, exclude 1) exports (including that of carbon-rich coal and natural gas), 2) greenhouse growers (the B.C. government announced in 2013 that the commercial greenhouse sector would be given permanent carbon tax relief via a grant program to help offset carbon tax costs – <https://news.gov.bc.ca/stories/permanent-carbon-tax-relief-for-bcs-greenhouse-growers>), 3) methane-producing landfills, and 4) agricultural operations. It also phases the tax in with respect to cement producers. It has been argued that while the carbon tax structure is revenue-neutral in design, the numerous exemptions may be inimical to the success of this tax lowering overall GHG emissions (https://nicholasinstitute.duke.edu/sites/default/files/publications/ni_wp_15-04_full.pdf).

LiveSmart and Other Incentive Plans

British Columbia is currently attempting to be one of the cleanest and healthiest territories in the world and is continuing to advocate a low-carbon future. In furtherance of this objective, its provincial government has welcomed public input related to the goals of its *Climate*



Leadership Plan. Its primary objectives are designed to inaugurate the next phase of reducing GHGs while building an even stronger economy. B.C. has already supported the extensive planting of trees, construction of bike lanes and paths, and installation of rooftop gardens for both natural insulation and to encourage local food production. It has advocated lifestyle changes and stimulated new business strategies, including switching to cleaner forms of transportation, altering home utility usage, targeting fuel-efficient products and home heating/cooling systems, and promoting overall energy upgrades and retrofits. Many of these encouraged changes are further incentivized by financial savings on utility bills, rebates, and tax credits (<http://www.livesmartbc.ca/>).

New Water Sustainability Act

British Columbia's new *Water Sustainability Act*, which updates and replaces the former, century-old *Water Act*, came into force on February 29, 2016. The new act is expected to address current and future pressures on the province's fresh water usage, including its groundwater resources. It aims to bolster water stewardship by managing water usage locally — especially during times of drought — and measuring large-scale water operations throughout the province (<https://news.gov.bc.ca/stories/bcs-historic-new-water-sustainability-act>).

Detractors, however, opine that large corporations, including Nestlé, will be receiving priority over communities as the act purportedly allows industrial water withdrawals and fails to recognize the needs of its various residential communities: “Under the old legislation, the BC Oil and Gas Commission was unlawfully allowing oil and gas companies like Encana to extract unsustainable amounts of water from northeastern B.C. by approving hundreds of repetitive short-term water permits. Under the new act, this practice not only continues, but further relaxes and enshrines the current rules that allow for the fast tracking of massive water withdrawals by fracking companies (<http://canadians.org/action/action-alert-bc-water-sustainability-act>).

Oil Pipeline Projects

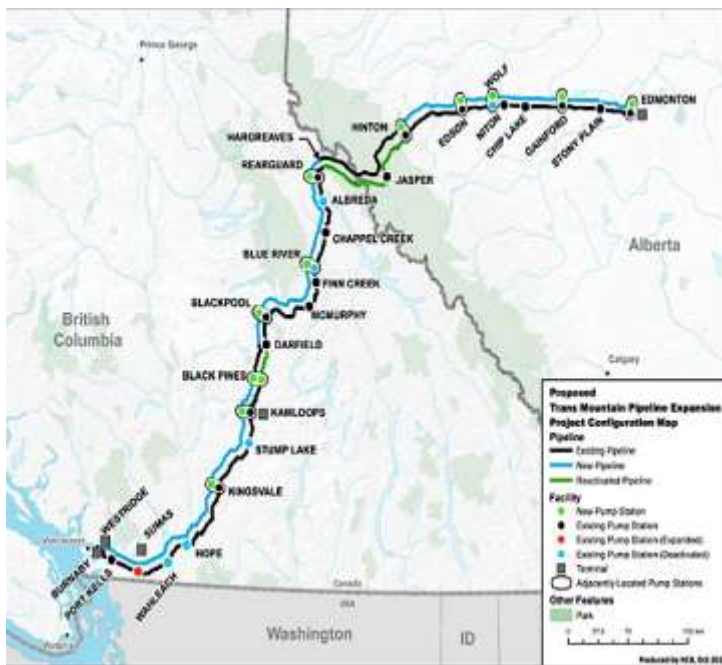
Despite its many environmentally-friendly programs and policies, there are — both in existence and under consideration — pipeline projects, constructed generally to transport high-carbon materials westward for further shipment abroad.

Enbridge Northern Gateway Pipeline: This project involves the transportation of tar sands carrying corrosive bitumen oil to intercostal positioned tankers. According to the sponsoring company, the Enbridge Northern Gateway Project would involve a new, twin pipeline system running from Edmonton, Alberta, to a port terminal in Kitimat, British Columbia to primarily export petroleum and import condensate. On May 6, 2016, however, it was reported that Northern Gateway and the 31 Aboriginal Equity Partners, filed a request with Canada's National Energy Board for a three-year extension to further investigate legal and regulatory consequences and to continue discussions with other First Nations' communities ([http://pub.smtp48.com/111556149/420009081/6797/files/NGP%20Community%20Letter%20\(May%202016\)%20-%20Fi%20nal.PDF](http://pub.smtp48.com/111556149/420009081/6797/files/NGP%20Community%20Letter%20(May%202016)%20-%20Fi%20nal.PDF)).

The Pacific Northwest/Prince Rupert Gas Transmission Liquefied Natural Gas Pipeline Project: In January 2013, TransCanada was selected to design, build, take ownership of, and operate an approximately 900-kilometer natural gas pipeline in northern British Columbia from Hudson's Hope to the Lelu Island off the coast of Port Edward, south of Prince Rupert.

At that point, the gas would be processed into liquefied natural gas (LNG) and shipped to various destinations in Asia. The project is estimated to be fully operational by 2018. In 2015, TransCanada received provincial permits from the B.C. government to proceed with its construction plans (<http://www.theglobeandmail.com/news/british-columbia/transcanada-gets-final-regulatory-approval-for-prince-rupert-gas-pipeline/article27003419/>).

Environment Minister Polak’s support of LNG as a “transition fuel” has been met with opposition. International climate change scientists have opposed plans for LNG operations in British Columbia, formally challenging the proposed Pacific Northwest LNG plant as making it “virtually impossible” for the province to meet its GHG emissions reduction targets (<http://www.cbc.ca/news/canada/british-columbia/polak-lng-letter-1.3608162>).



Trans Mountain Kinder Morgan Pipeline Capacity Expansion: On May 19, 2016, Canada’s National Energy Board found that Kinder Morgan’s \$6.8-billion Trans Mountain pipeline project, which proposed to triple its current capacity, was in Canada’s best interests. This official nod came despite increasingly galvanized native and environmental protests, largely over increased greenhouse gas emissions and alleged threats to endangered killer whales off the coast. However, the federal regulator made that recommendation subject to 157 conditions, including required preparation of plans for offsetting emissions, holding \$1.1 billion in liability coverage, and detailing strategies to protect endangered species.

The existing pipeline carries diluted bitumen from tar sands near Edmonton, Alberta to Burnaby, British Columbia, for export overseas. The proposed expansion would increase capacity to 890,000 barrels per day and Burrard Inlet marine traffic seven-fold. The project still awaits Prime Minister Justin Trudeau’s cabinet final decision which is expected to be given by the end of 2016 (http://www.huffingtonpost.ca/2016/05/19/kinder-morgan-trans-mountain-pipeline-approval_n_10053852.html).

Alberta Tar Sands and the 2016 Fort McMurray Fire

Large deposits of heavy crude oil in northeastern Alberta — also known as the Athabasca oil sands — are situated close to the town of Fort McMurray, regarded as an oil sands boomtown. On May 1, 2016, a wildfire erupted southwest of this community, and for the next four weeks



ravaged the entire region, precipitating the largest evacuation of area residents, including tar sands workers, in Alberta's history. It has compromised, or, in some cases, completely destroyed over 20,000 structures. The cause of the fire is still under investigation, but that area had been under severe drought conditions, subject to hot, dry winds, and was additionally experiencing record-setting temperatures

(<http://www.cbc.ca/news/canada/edmonton/fort-mcmurray-wildfire-1.3587320>).

Nicknamed “The Beast,” the fire also spread into the neighboring province of Saskatchewan. Predicted to represent the most expensive disaster in Canadian history, insurance payouts are estimated to total over CAN\$9 billion, excluding the 1 billion lost in stalled oil production. By June 1, 2016, the fire was stated to be under control, however rebuilding is predicted to take months (<http://www.cbc.ca/news/canada/edmonton/fort-mcmurray-wildfire-mostly-contained-1.3632949>).

Government and Bank of Canada Reports (May 2016)

On May 26, 2016, the Canadian government released a report on the impact of tar sands, regionally and globally, noting that this source of energy represents the leading cause of pollution in North America and is a contributing cause of climate change. This was the first time that regulators and researchers had quantified the role of oil sands' operations and their impact on human health. Additionally, this report was released on the same day that the Bank of Canada disseminated its prediction regarding the country's economy in the wake of the Alberta wildfires: it expressly noted that with the cuts in oil production, coupled with the loss of residences and commercial buildings, Canada's gross domestic product was predicted to drop in the second quarter (http://www.the_globeandmail.com/news/national/oil-sands-found-to-be-a-leading-source-of-air-pollution-in-north-america/article30151841/).

First Nations/Legal Challenges:

With respect to existing and proposed pipeline projects, many members of First Nations' communities, together with other ardent environmentalists, claim that the provincial government is engaging in environmental tradeoffs and claim that meaningful collaboration is largely absent. Others further assert that many of these projects have proved harmful to

both human health and the environment and that enforcement actions have been generally quite lax.

First Nations' communities have been in the legal spotlight in recent years, especially after garnering two significant, high court decisions affecting land rights and the ability to weigh in on proposed projects before approval and construction. In June of 2014, the *Tsilhqot'in Nation (a/k/a Chilcotin) v. British Columbia* (2014 SCC 44) case came on appeal before the Supreme Court of Canada. The Court addressed the claim by the Tsilhqot'in nation to stop logging operations in their claimed territory in B.C.'s Interior after asserting outright title to this land. The Court confirmed the Tsilhqot'in peoples had original title to a large swath of this territory – much more expansive than the provincial and federal governments had long maintained. This ruling marked the first time in Canada that land title claimed by native peoples had been confirmed outside of an Indian reserve. This most directly affected B.C. – a province riddled with land claims unresolved by land cession treaties with the Crown. The Supreme Court did not completely adjudicate claims seeking to establish absolute title, leaving open the government's ability to authorize major projects, like mines or pipelines, if it can prove that such activities were “pressing and substantial” while meeting fiduciary duties to affected native communities.

In *Coastal First Nations vs. British Columbia* (2016 BCSC 34), decided on January 13, 2016 by British Columbia's Supreme Court, a review was undertaken of the environmental assessment process affecting Canadian crude oil company, Enbridge's Gateway Pipeline Project (mentioned previously). The Court struck down a provision in the *Equivalency Agreement* which allows provinces and the federal government to accept each other's environmental assessments to better achieve uniformity and obviate unnecessary duplication of labor and cost investments. The National Energy Board (NEB) permitted the British Columbia Environmental Assessment Office to defer its final decision-making authority to determine whether to approve a project such as Enbridge following an environmental assessment. This project, as above noted, involves a track of twin pipelines – above and below ground – to transport natural gas eastward and import diluted bitumen (i.e., tar sands) from Alberta westward for further shipment to Asia. The Court cautioned the provincial government to be active in the review and approval processes of such proposed projects and reminded it of its constitutional obligation to meaningfully consult with and accommodate First Nations prior to issuing approval.

First Nations communities have thus acquired strength vis-à-vis the judicial system, generating renewed claims to land title and acquiring greater power to litigate companies they allege to have encroached upon their property, caused damages, and/or created a nuisance.

First Nations' representative, David “Wagadusk” Isaac of the Mi'kmaq nation, is one such ardent environmentalist and advocate for the health, welfare, and cultural preservation of indigenous peoples. He is currently president of W Dusk Energy Group, Vancouver, B.C., which aids local community efforts, primarily in the areas of green energy initiatives, infrastructure development, and healthcare planning. He expressed his constituencies' concerns that the former Harper federal government as well as oil and gas companies had systematically engaged in a new type of “neo-colonialism”; that in dealing with First Nations' communities, these entities had, in essence, gained favor through a “divide and conquer” strategy. Piecemeal agreements were purportedly being proposed to selected bands which may be inimical to the interests of their neighboring communities – and to themselves as well.

Companies' actions are claimed to be causing environmental harm and endangering human health. But with renewed vigor and collective action, several communities, like the Lubicon Cree Nation, have responded to fossil fuel company activities by designing and constructing clean energy projects. The 80-solar panel, 20.8 kilowatt capacity, Piitapan Project in Northern Alberta – in the same general region where tar sands are currently being extracted, processed, and transported – is one such example. Projects such as these are energizing various communities, galvanizing support, and proving that First Nations is, indeed, a formidable stakeholder in continued economic development.

May 27, 2016 Vancouver, Canada

Q: I first wanted to remark about the prevalence of women in positions of governmental leadership, including not only the premiers of the provinces of British Columbia, Alberta, and Ontario, but nearly half of Prime Minister Trudeau's cabinet. Secretary Clinton is facing quite an uphill battle in the United States as this is an historical undertaking.

Lots of very strong women. For those of us in politics, we see it more clearly, but for the average Canadian, we look at it and think ... what is the big deal?

Q: I wanted to get the latest news on the fires in Alberta. I know that British Columbia was sending firefighters as well as Mexico....

We've tried to help as much as we can. One of the challenges nationwide has been was how early the season started. The vast majority of the people we hire to fight fires are seasonal employees so they are not on staff all year long. So at the beginning of the season, we hire back or begin training them. So at the time when the fires in Alberta hit, we already had fires – fortunately not as devastating to a community as in Fort Mac – but we had fires in our Northeast region which were pretty much taxing our resources. And then, at the same time, fires began on the border of Manitoba and Saskatchewan as well as across Canada...and we share resources whenever these things happen. Everybody was very stretched, so everyone tried to give as much as they could to Alberta, but we weren't able to give as much as we normally would have.

Q: And it looks like for the next quarter, Canada's GDP is going to be in the red?

Although British Columbia's won't.

Q: And you want to keep it that way.

We want to keep it that way.



Q: The Government study that was released yesterday¹ indicates that tar sands are one of the leading sources of pollution in North America and a source contributing to climate change. With the pipeline projects that you do have either established in British Columbia or that are



Port of Vancouver

being proposed, including the Trans Pacific, Trans Mountain, Gateway, Prince Rupert, etc. — and with this government report I'm sure the findings were already known before this — has there been any change in policy direction with respect to the future of these projects? Has the January 2016 Supreme Court decision in *Coastal First Nations* impacted these projects? Enbridge must see the writing on the wall as it has applied for a three-year extension.

The projects have two very different profiles. With Northern Gateway, you are talking about Greenfield – a brand new pipeline – and really a company that at the beginning I think everyone would accept now that they really didn't put forward effort into building up relationships in the community – especially First Nations' communities, and Trans Mountain – not to say that it doesn't have its own challenges – but as a company Trans Mountain Kinder Morgan, has had a pipeline there for 60 years and they have maintained excellent relationships with First Nations and communities along their route, and have an excellent safety record, and lots of employment for First Nations in monitoring things like that...a very different profile of the two. Of course, Trans Mountain is twinning an existing life. There are some places where they have deviated from the existing route but, as far as I understand, every single one of those was driven by consultations they had in communities. In Tk'emlups for example, the community response was to ask them to reroute and go a different route from that which currently goes under residences and water. So a very different profile for the two. As far as the oil sands, here you are in a country like Canada where we are still largely a resource-based economy – especially in the West. In Ontario and Quebec, you see more factory-based. There's some manufacturing growth in British Columbia but that is relatively new to the economy. Our economy is still largely resource-based. And the same is true for Alberta. So how do we make that move? I know there are those who advocate to shut it off;

¹ May 26, 2016.

don't produce any more. I haven't seen any economists or environmentalists with really strong credibility who think that you can do that in one fell swoop. So what do you do? A policy change? Certainly we have seen Alberta make significant policy changes. One of the things that we are actively talking about with Alberta and with the federal government is the potential benefits of a transmission line intertie between British Columbia and Alberta ... one of the things that could have the most significant impact on the GHG profile of the oil sands would be the electrification. Whether it is in natural gas or oil, one of the challenges you have is that it is expensive in a lot of cases to get electricity. So now with gas prices and oil prices being



depressed, it becomes much more attractive for companies to use that resource that they already own to power their activities. And that is the source of a lot of our GHGs. There is still methane we have to deal with in terms of natural gas production, so for the oil sands – certainly that is getting a lot of the attention – what can we do to drop down the emissions profile of the oil sands?

Q: British Columbia actually came to the

forefront when I was in Geneva, Switzerland and Paris last summer (2015). It was touted as a model economy due its carbon tax. And apparently, this is true with Denmark,² Germany (“ecotax” system),³ and South Korea (expansive carbon trading system)⁴ as well. When I saw this at the beginning of June last year (2015), I thought that that was an odd array of territories, and tried to discern a common thread. Apparently, at that time, they were all being led by women.

Although the carbon tax came in (B.C. – 2008) when it was a guy.

² Denmark’s carbon tax was initially passed in 1991 and was first imposed on carbon emissions in households in May of 1992, expanding to include industry in 1993 (<http://www.carbontax.org/where-carbon-is-taxed/>).

³ In May of 2016, Germany announced its intention to reform the mandatory European Emissions Trading Scheme (ETS) to curb abuses of carbon emissions permit-holders and applicants. It is “considering lobbying for a minimum price to be set on Europe-wide avoidance of carbon dioxide emissions to boost the effectiveness of carbon schemes that have so far failed to cut CO2 and battle climate change. ...” (<http://www.reuters.com/article/europe-carbon-germany-idUSL5N181906>).

⁴ In 2015, South Korea launched its cap-and-trade system, making it the world’s second-largest carbon trading market. It is projected to cap the emissions of 525 of the largest companies in the country (<http://thinkprogress.org/climate/2015/01/12/3610553/south-korea-cap-and-trade/>).

Q: Let's go back to July 1, 2008 when it was first introduced. It survived the elections of 2009 and 2013. So now you are up to 30 Canadian Dollars per ton which translates to approximately 6.67 cents per liter of gasoline but with this revenue-neutral tax, there does not seem to be parity although the credits are there. So many exemptions have been created since 2012-2013, including exports of high-carbon products such as coal, gas, and tar sands.

For us, the only exemptions that we have instituted are not properly exemptions because if you take a look at what we have done with the cement industry, we have only recently finalized a deal with them where they need to transition to different fuels. The technologies are not quite there yet so it is going to take some significant investment. So what they had to present to us was, I believe, a 5-year plan? In any case, it is not endless.

Q: But there is no carbon taxation on these exports.

We never did tax exports. We tax what is combusted and purchased in British Columbia. So right now, it is the broadest carbon tax of pretty much everywhere in the world. And that is what makes it one of the most effective.

Q: What if you brought into the fold, though, these exports of high-carbon products?

Tough to do – first of all because in the way our government system works: tariffs on exports, are regulated by the federal government. So they might decide to do something like that and they are actively pursuing what national carbon pricing would look like. So to finish off in cement production industry, in 5 years' time, they have to make that switch and then they are back paying carbon tax so we are giving them relief that's prorated over those 5 years so it decreases, decreases, decreases. So they have some time to catch up. And greenhouse growers are another one. Greenhouse growers are somewhat unique because, of course, part of what they are doing is procuring CO2 in order to grow food.

For us, the export part of it has never been something that we have readily-available tools to address. The carbon tax was applied the same way you would apply a fuel tax. So part of the beauty of it was the administration of it. It is very simple to implement because most jurisdictions have a gas tax of one sort or another. So there wasn't a lot to build up in terms of administration. But if you were going to tax the exports, then you would have to employ some of the tools that the federal government has. And we do not have the ability to do that provincially. But it currently covers nearly 70% of our economy.

Q: Just having concluded an energy conference in Portland [OR], British Columbia came up as a subject, primarily because the states of Oregon, California, and Washington are trying to get off coal altogether. I am from the Chicagoland area where nearly 100% of our electricity is generated from coal. Without a federal plan, the individual states can be very environmentally-conscious and very powerful in this area. These three states are really causing the coal markets in Montana and Wyoming to phase out completely, but apparently Montana and Wyoming are finding a new market, by sending their coal exports to British Columbia's ports to then be exported to the Pacific Rim nations. Is that true?

Yes, that is true. But again, that would be something that the federal government would have to do. We don't have the authority as a province to put any type of tariff or tax on things that are shipped through British Columbia. That would be something for the federal government.

Q: And Trudeau hasn't made any...

He hasn't said. Right now, the federal government has a Pan-Canadian plan in development so they have 4 different working groups that have representation from all the provinces – different topics – everything from adaptation to carbon pricing, built-in environmental transportation – so they are covering all of the bases. For us, in terms of exports...in British Columbia we produce coal, but we produce very little thermal coal – most is metallurgic.

Q: The president of the World Bank, Dr. Jim Yong Kim, as well as Roberto Azevedo, Director-General of the WTO, have explained that with sustainability, the terms “mitigation” and “adaptation” come together. But there is something that should precede that – *prevention*. With B.C.'s monopoly of natural capital, why screw that up? Vancouver is listed as one of the top places to live in the world and B.C. is known for its tourism and fisheries, I can't help but look at the Exxon Valdez spill in Prince William Sound (Alaska) which they are still cleaning up – folks there either went bankrupt, moved, or committed suicide – and those two industries were pretty much lost forever. And the Gulf of Mexico will never be the same, even though the federal government has made deals with BP to pay over a billion dollars in fines.

It will be generations....



Q: Yes, business owners and local residents are suing BP individually. So, with that being said, what will happen in B.C. especially in light of the *Chilcotin* case of 2014? I met with several representatives of First Nations who said that as they basically consist of 203 tribes, their problem has been a failure to come together – there is no unity. And that could be a divide because of education, proximity, dying dialects...

Sometimes it is a challenge because of built-in volatility in the First Nations' political environment which we, in the long past, really have created. We destroyed the hereditary lines of governance in First Nations' communities and instead replaced that with what's really a white, colonial construct of elections and overlaid our version of democracy onto them. And, in addition to that, in most cases, they elect their leadership every two years and of course they are elected, in British Columbia in particular, by very small populations in our bands. You look across the rest of Canada and there are much larger populations. So you take, for example, a community like Tsawwassen, our first modern-day treaty under the treaty process (there was the initial treaty in the 90s but it wasn't under the treaty commission process). Take a look at Tsawwassen, a thriving community, An amazing chief who got that across the line, Kim Baird, lost a very close election, but there were fewer than a couple hundred people who voted in that election. Not a bad thing, their new chief is wonderful and they are doing great. But for a First Nations' leader, unlike someone like myself – I'll look at my home writing and we're talking a difference of thousands of votes. If you can win or lose an election because of 20 people, it makes it very difficult to take challenging leadership positions. It means that you're always, in most cases in First Nations' communities, you are always in the midst of managing the politics, managing an election in a two-year term. So you have one year to really get something done and the other to get yourself elected again.

I used to be the Aboriginal Relations Minister as well so I spent a lot of time in the First Nations communities and it is a huge challenge. You have First Nations residing side by side, sharing a boundary or territory, who will have diametrically-opposed views on things like finfish aquaculture, for example,

Q: And also it seems as if the Prime Minister is at least congenial to domesticating the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and if that happens, in combination with these two Supreme Court decisions, there seems to be more leverage now in terms of First Nations either proving title or at least trying to bring nuisance claims against the various companies that are planning to go, or have gone, through their lands, or lands that they have established as being theirs in one form or another. With so much riding on fisheries and tourism, why screw it up? I saw some of the trajectories of these lines, and some are 48" pipelines, going under the land, under the rivers, going on top, and along railroad lines. Just an hour north of where I live in NW Indiana is the Kalamazoo River (Michigan). There was an Enbridge [pipeline] that spilled several years ago and is still being cleaned up. And Michigan is the playground for many residents of Chicago, Indiana, Ohio ... tourists are now staying away from that area as they are from Banff and Jasper (Alberta) because of the tar sands and now because of the fire. So when you lose that kind of revenue generated by conventions, ecotourism, regular tourism, sporting events – that's lack of long-term sustainability for short-term gains. And nothing is spill-proof – no tanker, no line. So when you mentioned about British Columbia not forecasting or putting aside the funds [for firefighters] because it wasn't necessary for an all-year fire season, will that change?

I shouldn't say that. It wasn't that the funds were not there; you can't maintain the people on staff all year, because there's nothing for them to do. Right? For the most part.

Q: But that might not be the new norm. I'm looking at Los Angeles County, Southern California, and have been watching over the years the fire season grow from 3 months to 4 months to the full year and heading up the coast.

There's no question as we've looked at adaptation in even our first Climate Plan in '08, and paid significant attention to adaptation. And we completed those initial plans in 2010. One of the motivators for taking action on climate is just how much it is projected to cost with the various changes. One of the biggest challenges we have in British Columbia with respect to adaptation is that with so many heavily populated, low-lying areas, we have lots of infrastructure at risk with rising sea levels. You mentioned the foresters ... I didn't want to leave the impression that it was a financial issue about the fires; it was just about the season getting off to such an early start caught us really off guard.

Q: But what's happening in California might happen here– watching this metamorphosis in California now spreading up to Oregon, Washington even Alaska...and what's happening with California entering the fifth year of drought ... and I know that Alberta has experienced some drought.

And we have in our Northeast too.

Q: But since 1955, many companies have usurped the bulk of aquifer groundwater. The San Joaquin Valley, which constitutes the central part of California and delivers 50% of our fruits and vegetables, has been physically sinking over the years by hundreds of feet and with rising ocean levels ... Typically firefighters would have taken their planes to retrieve fresh water from reservoirs to dump on the fire but there is no water in the reservoirs or it is so low this cannot be done safely. So why not go to the Pacific? Because the water is salinized. And when salt is left, the undergrowth is not able to regenerate. Because of this situation, one burgeoning business is the desalination of water. And Israel has led this with the technology.

Yes, they have amazing technology.

Q: And so some of the First Nations representatives I met with yesterday were saying, Wouldn't it be nice to take these existing pipelines and instead of tar sands coming from Alberta through British Columbia to the ports – and clogging up those ports – we take these same pipelines, bring in and hopefully develop, this kind of industry, and send fresh water to Alberta and deal with the prevention of droughts and situations that have led to the formation of “The Beast?”

Yes, people have all sorts of ideas about what we could do but one of the challenges that people aren't necessarily willing to thrust into the dialogue...but it is very real...is that the oil is making it to port...it is making it to port on rail. You only have to look at the Lac-Mégantic disaster⁵ to see that that has its own inherent risks. So the question of whether or not there should be a pipeline is not going to screw things up. I do think it is a very different discussion about Northern Gateway than it is with Trans Mountain – partly because of their long record of operation here and as I say the relationships that have up and down the line. But I'm a regulator with the Coastal First Nations' decision; I'll be faced with making a decision with respect to our environmental assessment that we have to conduct and then in addition to that, the premier has committed us to five (5) conditions that we have been very, very firm on

⁵ On July 5, 2013, a Montreal, Maine & Atlantic Railway (MMA) train arrived in the Eastern Townships of Quebec, carrying 7.7 million liters of petroleum crude oil, ultimately bound for a New Brunswick delivery. Unattended, this freight train rolled downhill, derailed, and resulted in an explosion which killed approximately 47 people and destroyed 30 structures. It was the fourth deadliest rail accident in Canadian history (<http://www.tsb.gc.ca/eng/rapports-reports/rail/2013/r13d0054/r13d0054-r-es.asp>).

with the federal government and a significant part of that requires a world-leading, spill response in the marine environment. We don't have that. If you compare what is available for British Columbia and our coastline — if we were a nation — we would have the 8th longest



coastline in the world. So if you are looking at what we have on our coast compared to the east coast, it just doesn't compare.

And yet the traffic volumes are ever increasing and in fact right now in many ways we have surpassed what's happening on the St. Lawrence Seaway. My concern, though, based on what we know of our marine

traffic and what we know about the quality of the shipping ... I have far greater concerns right now about freight and freight travel than I do with the oil tankers partly because what we see that has transpired since the Exxon Valdez is very, very stringent regulations around double hauling and pilotage and those sorts of things ...we don't have the same requirements with respect to freighters. One of the most frightening examples that thankfully didn't end up being a disaster, but came every close, was a freighter off the west coast of Haida Gwaii that was three hours from crashing into the rocks and then the wind changed, thankfully. It was carrying more fuel than many small tankers do. So it doesn't matter that it was carrying freight; we don't have the capabilities on our coast right now. The Prime Minister has given all sorts of positive indications but we are going to need to see significant investment there before we can see any kind of a pipeline.

Q: I have seen the percentage estimates varying from 87% to 97% of hydroelectric use in B.C.

Last year our electricity was 97.9% produced hydro. Well it's a mix. It's mainly large hydro. Right now our mix is about 25% of that is small hydro, in other words, run-of-river, wind, and to a lesser extent, solar.

Q: And natural gas?



We haven't been using natural gas ... not for regular production. We still have Burrard Thermal operating but it's going to be shutting down ... it's only there right now for firming up the power.

Q: And do you export some of your excess hydro-electrical power?

We trade in electricity, yes.

Q: After entering Vancouver Island, we asked about the weather and were told that during the winter there are gale force winds, constant wind activity. Although I did not travel the entire island, I did not see one windmill.

Part of the challenge has been viability in that our electricity is so cheap. So everywhere else in the world – pretty much everywhere else in the world – wind power has now come down to a price where – you can make it viable compared to electricity costs. Not so in British Columbia. It's been very, very challenging for wind to be able to be viable for British Columbia so that's been a challenge. The other issue, of course, is having access to firm power because even with the wind we get on our coasts you still need a way to firm up that power. It is still intermittent. So we are almost there and we have been making great strides; we have been one of the fastest adopters of green energy in all of Canada. So we are making good strides but it is a challenge to do it without our rate fares up in arms. We had a number of years where we were investing heavily in those kinds of generation products and trying to do that and at the same time keeping electricity rates low is a real challenge for us.

Q: Being from NW Indiana, we do have in Central Indiana the 8th largest wind farm in the world. Our region does not currently use any of the power generated while one-third of Iowa's energy needs are cleanly-generated primarily from wind. Because this type of storage technology is evolving very quickly, we look to entrepreneurs like Elon Musk and the increasing production of EVs (electric vehicles). We look to the use and development of wind and solar energy – particularly in Germany where there is a solar panel on just about every building and Germany is a cloudy country. In this fight against climate change – and we all know that pollution knows no boundaries – isn't it incumbent upon all of us to wean away from oil and to embrace whatever could be developed as clean alternatives?

But we also have to think of the things we haven't solved yet. Right? There are question marks or things that we haven't yet resolved and some of that is how people think of oil as simply powering our cars, powering the industry. But the petro-chemical industry and the petroleum industry [are also involved]. So there are all sorts of things that we need to solve. So then we start talking about coal. When I was at the Paris Conference, I was on a panel discussion and we got to the question period and this lovely young lady at the back puts up her hand and wants to know why is it we don't just stop all of this coal production in British Columbia. And I said, well ok, let's think about that for a minute. Do you like wind power? Everyone nodded. So I said well, ok. It takes an awful lot of rebar to build a tower for a wind turbine. Rebar is steel.

Q: That is true – there is a life cycle analysis (LCA) for everything to be measured against its projected use.

So you have to think about how do you make rebar without metallurgical coal because that is what we produce in British Columbia. It takes an awful lot of cement to turn into concrete to

make a wind turbine tower. You have to have aluminum for the top that's smelted. These are all emissions-intensive industries, And yes, we want to find ways to move away from significant emissions but we can't pretend that we can do that without solving those problems and with oil it's the same thing.

Q: In terms of some great solutions, I think that there are a lot of manufacturers including Tesla that are moving from steel bodies to aluminum. One of my first interviews in 2008 [for the JVBL] was with Ray Anderson,⁶ then known as the greenest CEO in the world. His R&D department replaced the petro-based glue used to install commercial carpet; they designed a TacTile™ which basically looks like a Post-It™ note. They investigated how the gecko and the fly produce their sticky substance; they replicated it; and now it's used to put down the four corners of the commercial carpet square.

And I think the discussion that has been missing thus far in the broader public has been the discussion around, well, what we replace things with? It has allowed people to move away from individual ownership of the problem. Even today, most people in British Columbia, if you poll them, probably think that big industry is responsible for British Columbia's emissions. That's not true. The largest single driver of emissions is Transportation. Second to that is the Built Environment.

Q: Actually, from the Paris Conference and from many conferences leading up to that ...
In British Columbia.

Q: Worldwide, the number one cause is agriculture, factory farming.

And we have a significant amount from agriculture as well but our two biggest emitters are Transportation and Built Environment — the agricultural portion in British Columbia represents 6% overall.

Q: Does that include deforestation to clear the lands for farming?

For us in British Columbia, most of that has been done. I am not really aware that much land clearing is still going on. We have an agricultural land reserve so there are already significant amounts of land and we have, of course, one of the largest protected areas of anywhere in North America. Our network of protected areas is third, with the US National Park System first, Canada's National Park system second, and then our provincial protected areas system, third.

Q: Are these provincial parks protected from any of these pipeline projects?

Exactly.

Q: So that's there.

So our profile is somewhat different and it is one of the reasons that it is harder for us to continue to see emissions go down because we don't have a lot of the easy [means] – not to say that it is easy – to get off coal. You close a few coal plants and you drop your emissions significantly. The energy sector is not where British Columbia is going to see a significant

⁶ Founder of Interface Global, Atlanta, Georgia.

reduction in emissions which is where most jurisdictions would look. We have to look at Transportation. We have to look at the Built Environment. So we're really at a place where we're spending, I think, more focus than most jurisdictions on what are the new innovations; how can we find different processes.

Q: This is where actual business opportunity exists?

Exactly. A green economy and that's where we think that British Columbia can become a clean-tech hub; we already are one in British Columbia. But we think we can potentially rival Silicon Valley; we think we've got the means to do it. It is a much bigger challenge...I always say that when it comes to emissions reductions, if you look across Canada, if you look across North America...if every jurisdiction was in a competition like "The Biggest Loser," the person who is 300 pounds and wants to drop 50 – that's easier than the person who weighs 125 and wants to drop 10. And that's a lot of where British Columbia is at on climate now – squeezing out further emissions when other folks are ...and it's great that they are coming on board...but Ontario has just announced its cap and trade system. So they are just starting. Quebec has just gotten on way with California on theirs. Alberta and its carbon pricing won't come in until next year. So that's great.

Q: And the U.S. has fires on one side, rising sea levels on the other, and we already cleared the interior during the Depression Era to create a dust bowl. And we are growing corn and soybeans and over 90% of all of those crops are going to feed livestock. We are the 300-pound person.

One of the least efficient means of producing protein.

Q: Exactly.