



WHAT IS THE FUTURE OF CANADA'S ENERGY SECTOR?

EMERGING THEMES OF VISION



Prepared for Discussion Purposes

Mac Van Wielingen – September 2020



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Mac's lifelong passion for learning and sharing keeps him actively involved in speaking engagements, writing pursuits and community events, with the goal of advancing positive change in ESG and economic policy, governance, and business leadership.

AWARDS & RECOGNITION

- 2017: Fraser Institute Founders' Award
- 2016: Calgary Business Hall of Fame Laureate
- 2016: Fellow of the Institute of Corporate Directors
- 2015: Chairman of the Year, Alberta Oil
- 2014: Distinguished Business Leader Award
- 2014: Honorary Doctor of Laws, University of Calgary
- 2013: Ivey School of Business Alumni Award – "Global Ivey Day"
- 2012: Francis Lefair Award, United Way Calgary
- 2011: Ernst and Young Entrepreneur of the Year Award, Prairies

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PUBLICATIONS

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“EMERGING THEMES OF VISION”: INTRODUCTORY COMMENTS

The development, production and consumption of energy is foundational to sustaining and advancing Canada as a modern and prosperous country. It is uniquely important in that it cuts across all of society’s activities. It impacts the interests of all of us, in different ways, in different regions of Canada.

The aggregation of interests relating to the energy sector can be logically understood as a significant part of the national interest of our country. Thus, national policy relating to our energy sector, and more broadly, our resource sectors, is of critical importance to all Canadians.

The energy sector impacts our economic prosperity, jobs and tax base, and the capacity to fund and sustain our social prosperity. It links with a myriad of local, regional, national and global environmental concerns, and has direct impact on opportunities, social conditions and the well-being of eight million people primarily within the energy producing region of the West, as well as Newfoundland and Labrador where it accounts for over 25% of GDP.¹ Energy and resource development in Canada also has direct impacts on Indigenous people through land, environmental issues, employment, and investment partnering opportunities. Lastly, the energy sector has a profound link with issues of national governance; the effectiveness of regulatory process and decision making; the necessity of predictability as a pre-condition to attract capital; and the fair treatment of provinces and regional interests.

The energy and resource sectors in Canada are inextricably linked to the strength of our economy, our prosperity as a people, the fabric of our national unity, and the strength of our national institutions. As such, issues within our energy sector inevitably challenge the effectiveness of our national and provincial leadership, and the integrity and quality of government policy and decision making.

The myriad of interests and the complexity of issues creates a rich terrain for conflict, polarization, and quite frankly, political advantage seeking within polarization. The complexity and conflict, and the materiality of all that is at stake, necessitates new approaches to create fresh insight and understandings to move our country forward on energy strategy and policy in a way that is in the interest of all stakeholders. This initiative – “Themes of Vision” – is an attempt at a new approach.

The content of this document has evolved through multiple discussions, presentations, submissions and testimonials to different stakeholder groups over the past two years, and is a response to the need within Canada for a shared vision for our energy sector. The initiative involves identifying specific Emerging Themes of Vision and to put forward each theme with a supporting narrative. The idea is to unpack the aggregation of themes that may exist within a broader vision to support more clarity, and hopefully more understanding, across the different perspectives held by various stakeholders. A related critical emphasis is to identify new ideas and understandings, and new themes and shifts in perception, that may be surfacing, and which may illuminate the path forward.

For some of these emerging themes I have identified sub-themes that are less visible and discussed less frequently, that are described as sub-themes.

This process reflects a deeper understanding of the need for leadership that can unify versus magnify divisions. There is something truly futile about repeating the same arguments, albeit often repackaged in different ways, which often just creates deeper divisions and dysfunction. We need to find ways to bridge our differences and, in a sense, unwind the polarization that exists. This will not happen unless leaders within Canada, and ultimately the public, are prepared to see, acknowledge and hold polarizing perspectives at the same time to constructively support the development of new understandings.

This document should be used as a reference to support discussion. Generally, the points made within each theme are expressed more as if I or someone else was speaking to you, the reader. It is somewhat informal and is not intended to be complete. Although extensively researched and well-referenced, some points are expressed in a particularly emphatic way to challenge conventional or polarized and politicized perspectives.



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“THEMES OF VISION”

INTRODUCTORY CONTEXT: MAJOR MACRO THEMES

There are multiple major forces of change that are having a deep impact on the Canadian energy sector and Canadian society.

1. New era of abundance of oil and gas, and substitutes, versus the prior era of shortages.
2. New era of innovation and accelerated technological change creating efficiencies, “disruption” and advancement.
3. New era of extreme concern about emissions, climate change, environmental impacts, and mobilized “social media” driven activism against oil and gas.
4. New era of global disintegration of traditional loyalties and multilateral cooperation, with increasing conflict, fragmentation, nationalism, and protectionism.
5. New era of increasing conflict, extreme divisiveness and polarization within Canada, and an apparent willingness to amplify and exploit polarization in the absence of unifying influences.
6. New era of an “awakened energy producing region” in Canada (Western Manitoba, Saskatchewan, Alberta, and Eastern British Columbia) – approximately 7.5 million Canadians – to the vulnerability of being under-represented in national policy and decision making.
7. New era of COVID pandemic recovery efforts after unprecedented economic shut-down, massive increases in government debt, and continuing fear of virus relapse and further shut-downs.

“THEMES OF VISION”

EMERGING THEME #1: SOLVING FOR MULTIPLE ESSENTIAL PRIORITIES

Energy strategy and policy cannot solve for one variable. This reality is starting to sink in among policymakers and the public.

As energy is so pervasive and interconnected within all that we do as a society, the desired outcomes of energy policy are not singular; they are multiple, overlap, and are often in conflict, and they can potentially operate synergistically.

Reducing emissions is a critical priority, but our environmental aspirations and commitments must be considered alongside our economic and social aspirations, and our need for governance excellence, which includes regulatory effectiveness, fairness, ethics, and at the highest level, the functionality of our nation.

A compelling vision for Canada’s energy sector must align with four essential desired outcomes:

- Our **ECONOMIC ASPIRATIONS**, to create and sustain income for Canadian workers and to contribute to the prosperity of all Canadians;
- Our **ENVIRONMENTAL ASPIRATIONS**, to transition to a low-carbon future and to protect all critical aspects of our environment;
- Our **SOCIAL ASPIRATIONS**, to create social value through public services, education, health, safety and infrastructure, diversity, and the inclusivity and well-being of Indigenous people; and
- Our aspiration for **GOVERNANCE EXCELLENCE**, which includes regulatory effectiveness, fairness, and governance integrity, which underpins the functionality and unity of our nation.

This is a central message that is emerging as a theme. It is in everybody’s interests to broaden the construct of ESG to include economics.

The new construct that is emerging is E-ESG or “Double E-SG.”

The idea is that we don’t talk about ESG without bringing in economics, and we don’t talk about economics without talking about ESG.

The E-ESG construct can be understood as representing the aggregation of society’s interests – the interests of all provinces, regions, and the national interest.

- **Economics:** Jobs, income, investment, capital efficiency or profitability, output per worker or productivity, all of which drives our standard of living – our prosperity.
- **Environment:** Reduced pollution, reduced emissions and reduced climate risk, clean air, clean water, the mitigation and remediation of environmental impact, all of which preserves our nature-based prosperity.
- **Social:** Health, public safety, security, inclusivity, open non-discriminatory, social conditions, education, training and human development, all of which contribute to social well-being, or social prosperity.
- **Governance:** Effective, efficient, and smart regulation, ethics, integrity, fair process, authentic participatory representation, the absence of corruption, responsible leadership, and the management of the misalignment of interests form the basis of governance excellence, which supports functioning and prosperity.

With the inclusion of Economics, the concept of ESG is broadened and creates more relevance and applicability within the corporate sector; it is also highly relevant for political and government leaders.

The interests captured within the E-ESG framework can be understood as representing the national interest, in some way and to some extent, for all Canadians.

E-ESG becomes a powerful framework in the development and construction of policy and government decision making.

Ask yourself, what essential interests do Canadians have that do not fall within the broad E-ESG construct? It is a construct that allows us to consider, organize and act on all interests, for all Canadians.

Canada's energy sector cuts across "*all that is important*" in different ways for all Canadians. Thus, energy policy must be grounded in the realities of "*all that is important.*"

Policy must satisfy a set of conditions that link to "*all that is important*" across Economics, the Environment, our Social well-being, and our Governance aspirations, including fairness to all regions of Canada and regulatory efficiency.

“THEMES OF VISION”

EMERGING THEME #2: A “CUSTOMER FIRST,” ADAPTIVE MINDSET TO THE CHALLENGE OF EMISSIONS

The reality is that our customers want low-carbon energy products and high ESG standards and, as leaders in business, we must deliver – and we are delivering.

The job of industry has changed; customer preferences have changed. The public, our investors and lenders, and our stakeholders, are no longer preoccupied with the perception of a limited resource.

But not long ago – the public – our customers were preoccupied with the risk of shortages; indeed, there was alarm about the risk of shortages.²

As a sample of the alarm, here is the title of one report published less than ten years ago: “The Peak Oil Catastrophe-in-Waiting.” The first sentence read, “*The United States continues to slumber while a catastrophe lies in wait.*”²

When this report was written, the U.S. and Canada were in fact, on the verge of a supply-side revolution. The industry responded and disrupted itself through the application of advanced technology.

We are now in an era of supply abundance for oil and gas, at least in North America, and renewables as substitutes for hydrocarbons are now commercially viable. This is all good as there are lots of supply and choices at reduced costs.

Our customer’s focus has now shifted to environmental impact, specifically managing into a low-carbon future, with high Environmental, Social, and Governance (ESG) standards and performance.

The industry is making the same shift to reflect the preferences and needs of our customers.

The Canadian energy industry must maintain, and even step-up, its commitment to reduce emissions and meet exceptionally high-ESG standards.

EMISSION REDUCTION REALITIES:

- **In Canada, over the 20-year period from 1998-2018, GHGs per capita declined by 17%.³**
- **Over the same 20-year period, our emissions per unit of GDP declined by 34%.³**
- **From 1990-2016,ⁱ in the industrial sector in Canada, which includes oil and gas extraction, energy intensity has decreased by 15%.⁴**

ⁱ Most recent data available.

- **Total oil and gas industry emissions have increased overall because of rising oil sands production and exports, however overall emission intensities have decreased by 28% since 2000⁵ and are set to decline a further 20% through to 2030.⁶**
- **Emission intensities from new oil sands projects are close to, or below, the average of crude oil refined in the U.S.⁷**

The industry is evidencing a major strategic commitment to reduce emissions and progress is demonstrable.

Industry is spending billions to reduce the 15 to 20% of full-life emissions that they contribute in the extraction phase.

A number of leading Canadian companies, which represent over 50% of our production, are committing to ambitious reductions or net zero by 2050.⁸

Our electricity sector in Canada is among the greenest in the world, with 82% coming from non-GHG emitting sources⁹ which is approximately twice the 40% average for OECD countries.¹⁰

This creates an advantage for Canada in many ways as our power sector is already one of the greenest in the world. But we don't have the same opportunity to phase out coal for natural gas or renewables and show progress in reducing emissions. For Canada, improvements must come from the challenging long-term transformation of our building, heating, cooling, transportation, and industrial systems.

We are a global leader in methane regulations and reductions.¹¹

This is another area where we are making huge progress. Prominent research from Joules Bergerson and colleagues at Stanford University has noted that while Canadian oil is among the most carbon-heavy in the world, our regulations and standards for reductions and prevention of venting and flaring lead globally, and if Canada's standards were imposed worldwide, *"the amount of greenhouse gases (GHG) emitted from producing the average barrel of oil would fall by 23 per cent."*¹²

Between 2014 and 2018, Canada reduced emissions from flaring by 38%, compared to an average of 7% for 30 other energy producing countries. Over this same period the U.S. increased its flaring emissions by 25%. Russia is the worst emitter in the world for flared gas.¹³

CNRL has reduced methane emissions by 78% since 2012,¹⁴ and they continue to lead and advance innovation through investing in R&D and collaborating with industry partners. In 2018, CNRL launched the Fugitive Emissions Management Program Effectiveness Assessment, *"the world's first-of-its-kind methane leak detection, quantification and repair project."* Thirty producers are collaborating to build a methane emission inventory of 200 oil and natural gas facilities that repeatedly measure emissions over a 12-month period.¹⁵

Our natural gas is probably the greenest in the world, and LNG Canada will be the greenest, lowest-carbon LNG in the world relative to existing suppliers.¹⁶

The LNG Canada project is estimated to reduce emissions by 60 to 90 megatons by displacing coal and other higher carbon sources in China and other parts of Asia. This is roughly equivalent to removing 80% of the cars on Canada's roads.¹⁶ This also roughly offsets the emissions from our entire oil sands sector.

As further evidence that Canada is a global leader in clean natural gas, a 2018 independent scientific assessment by the Puget Sound Clean Air Agency recommended that a new Tacoma LNG facility in Washington State be supplied by Canadian natural gas. Based on a full life-cycle analysis, the agency concluded that U.S. gas supply releases five to eight times more methane¹⁷ than Alberta or BC gas, and as such, the LNG facility should only be approved on the basis that its gas supply has to come exclusively from BC and Alberta.¹⁸

We are also a global leader in carbon capture and storage.¹⁹

The Alberta Carbon Trunk Line, the world's largest carbon capture and utilization system, is now operational. This project has the capacity to move 15 million tons per year of carbon for permanent reinjection of CO₂ into the ground or "net zero" enhanced oil.²⁰

What if we can demonstrate that our energy products will "do no harm" on the basis of emissions compared to comparable products in all markets we serve?

How do we then justify ceding market share to other suppliers who have less stringent emission and environmental standards?

SUB-THEME: EMISSIONS IS AN END-USE CONSUMPTION PROBLEM ... AND CONSUMER DECISIONS MATTER

An under-recognized reality is that 80% of final end-use emissions come from the end user's preferences and choices as to how oil and gas products are combusted.²¹

More specifically, what is somewhat submerged in policy discussions is the importance of end user preferences and decisions as to how oil and gas products are used in combustion.²¹

On the extraction side, the industry is focused and committed, spending billions to reduce emissions, but yet is the "beating post" by those who want to curtail, contain, and phase-out the industry, with great damage to employment, income, and to the national fabric of our country. All the while, the material issue not being addressed are decisions being made on the consumption side.

Here is an example:

- Trucks with relatively high levels of emissions are dominating vehicle sales.
- In Canada, truck sales have burgeoned over the past ten years and now represent 76% of new vehicle sales.²²
- The consumer preference for trucks is evident throughout the world.²³
- In the U.S. in 2012, 1 in 5 vehicles sold was a mid-sized sedan – today, it is 1 in 10. In 2019, SUVs and pick-ups accounted for 70% of the U.S. market,²⁴ order of magnitude the same as in Canada.
- A Ford-150 or a Silverado pick-up truck generates between 250 to 350 kg/mile of CO₂, almost twice that of a Toyota Camry or Ford Fiesta.²⁵
- In Canada, transportation GHG emissions increased by 19% from 2000 to 2017, and emissions from trucks have continued to rise because of the vehicle's rise in popularity.⁹

The IEA states that the shift towards bigger and heavier vehicles is a silent structural change that calls into question the erosion of oil demand due to transport electrification. They note that SUVs alone were the second largest contributor to the increase in global emissions since 2010 after the power sector.²⁶

Emissions at the consumer level are creating the greatest harm, not the extraction and production side. This is an empirical reality. Attacking the upstream industry is easier than having to confront the consumption problem and behaviours of individuals.

The other reality within this sub-theme of end-use consumption is the almost incomprehensible scale of the existing global stock of internal combustion-based vehicles.

Electric vehicle (EVs) sales have been rising dramatically. A great success story has been Norway, which boasts the highest market penetration of EVs in the world. New vehicle sales of electric vehicles in recent months have been approaching 60%.

But on a global basis, EVs represent only 2.6% of new vehicle sales and less than 1% of the global stock.²⁷

In Canada, in 2019 new EV vehicle registrations were 4.6%, which is just above the world average.²⁸

I believe that EVs are the future for many reasons, not the least of which is to enhance air quality in large cities. But if you look at the growth of EV sales in isolation it can create a false impression on the timing of a roll-over of stock. It is hard to grasp the size of the global fleet, which is over one billion vehicles.

“THEMES OF VISION”

EMERGING THEME #3: EMISSIONS ARE CRITICALLY IMPORTANT BUT THERE IS MORE TO CANADA’S ESG STORY

Demonstrable progress in reducing emissions is become increasingly clear, but there is much more to Canada’s ESG story.

Canada’s ESG standards and performance are among the best in the world.

World class pipeline transportation system.

Over the past ten years, pipeline liquids incidents have declined by 90%, and 99.3% of oil spilled was recovered through clean up.²⁹

World class marine transportation system.

Canada has proven world-class marine safety along the world’s longest coastline. There are about 20,000 tanker movements/year, and we have had no significant accidents or spills.³⁰ Despite the controversy of Trans Mountain, the terminal has loaded marine vessels since 1956 without a single spill from tanker operations.³¹

Our oil and gas sector is the largest investor in clean energy tech in Canada.³² In 2016,ⁱⁱ industry invested approximately \$500 million in renewable and clean energy research and development. This is more than double federal spending (\$240 million), and more than four times provincial and territorial spending (\$113 million). This also does not include investment in carbon capture, use and sequestration, or energy efficiency research.⁹

Extensive research, innovation, and new technologies are ongoing in response to environmental issues. For example:³³

- The use of solvents versus steam in oil sands recovery with a substantial reduction in emissions
- Microseismic monitoring and advanced modeling to mitigate the risk of induced seismicity
- Sustainable hydrocarbon recovery using CO₂ injection in tight reservoirs
- Fugitive methane emission detection through advanced cameras and sensing devices
- Proliferation of multi-well pad drilling, dramatically lowering the surface impact in SAGD oil sands and conventional production
- Recycling of water in frac operations, resulting in reduced freshwater consumption and less trucking
- Continued phasing out of high emissions frac pumps in favour of cleaner, more efficient units.
- Increasing usage of natural gas for power drilling and frac fleets, displacing higher emission diesel fuel

ⁱⁱ *Most recent data available.*

Research and entrepreneurial initiatives are underway which have high strategic impact. For example:³⁴

- New ways to use carbon, such as carbon fibre as a building material and in consumer products,
- New ways to use “bitumen beyond combustion.”
- New ways of leaving carbon in the ground and extracting pure hydrogen,
- New ways to use oil and gas technology in geo-thermal projects to extract heat for energy.

Canada’s energy sector is the largest employer of Indigenous people and new participation structures are being developed that could prove transformational for industry and our Indigenous communities.³⁵

An example is evidenced in the recent announcement by the Alberta Indigenous Opportunity Corp. relating to funding support of Indigenous participation in the new power facility in Edson, Alberta.ⁱⁱⁱ

Our corporate governance is among the best in the world.³⁶

The main general point is that a “customer first” stakeholder, adaptive mindset exists in Canada, and it is deepening and evolving.

Responsiveness, innovation, and adaptation has happened and is happening.

We are making commitments and moving forward but the industry has been constrained by adverse policy and extremely limited financial resources.

The progress we have made is an advantage for the energy sector within the Western and Atlantic regions, and all of Canada.

We are not perfect, we still have problems, but our ESG standards and performance are among the best in the world.

ⁱⁱⁱ Disclosure: Mac Van Wielingen was an advisor in the formation of AIOC in 2019.

“THEMES OF VISION”

EMERGING THEME #4: THE ENERGY TRANSITION IS BEST DESCRIBED AS AN ENERGY EVOLUTION

It is a fact that oil demand in most developed countries has plateaued and has been on a modest, declining trend. With economic development, increased efficiencies, and more viable and commercially available substitutes, oil demand growth has abated, and the market is stagnant or in decline, again, for most developed countries. There's nothing new in this understanding.

Yes, peak oil demand is a real phenomenon. EU countries demand is down almost 2 mmb/d barrels over the last 10 years. Total demand in OECD countries has been stagnant.

Global growth has been in developing countries, primarily the Asia-Pacific region. As lesser developed countries continue to advance, the trend towards the plateauing and ultimate decline in oil demand is well established. Peak oil demand was already in front of us in the pre-COVID, pre-lockdown world. Now with the push to decarbonize and with advancing technologies, notably the electrification of transportation, the plateau and decline of oil consumption is more pronounced.

But here is the main point.

Peak oil demand as some sort of marker for the death of the Canadian oil industry is absurdly unthoughtful and non-strategic. Some argue: “It is a dying industry; don't support it; let it go.” In my opinion, this mindset reflects economic mismanagement and a strategic failure for Canada.

What is needed is a competitive, adaptive mindset, where we apply Canadian initiative, ingenuity, expertise, technology, and capital to advance our long march to reduce emissions, reduce costs, increase efficiencies, maintain our reliability, and win as much of the available market as possible.

The timeframe within which deep decarbonization occurs is critical to strategy. If this could happen quickly, say within ten years, our strategic choices would be extremely limited. The fact is that the future looks more like evolution than transition. It's a multi-decadal, maybe even multi-generational, evolving market.

We assembled 13 different long-term scenarios from a number of leading major institutional and corporate players including, the International Energy Agency, Energy Information Agency, BP, Exxon, McKinsey, and Shell. Under a severely, low demand case, referenced as the sustainable development scenario, global oil demand could fall to 66 million barrels per day by 2040. Let's ignore the other 12 scenarios which range up to as high as 108 million barrels per day, then hits peak and decline sets in. So, in the very low case, 20 years from now, global demand is down approximately 30 million barrels a day.³⁷

Peak demand and a long-term decline in demand is not some sort of proclamation of the end of the oil and gas sector in Canada. It is, however, a proclamation that we need to become more strategic to find our role and path in this market. Even in a long-term declining market we could maintain our approximately 5 million barrels a day and even grow our production.

Canada's oil production is arguably the most reliable supply of oil in the world. It is uniquely reliable because our oil sands have essentially no natural decline and because of our relatively political and social stability, certainly compared with other global suppliers.

We can compete on carbon, costs, and reliability and all broad ESG parameters. The critical strategic question is, how can we become more competitive in a likely multi-decadal declining market?

How can we challenge ourselves and work together to serve our customers and the interests of Canada?

A related larger question is, how can we develop synergistic opportunities for clean technologies and products, and new energy and resource development, using our resources, established expertise and technologies?

SUB-THEME: GETTING REAL ABOUT RENEWABLES

Accompanying the highly publicized pressure on energy producers to reduce, or eliminate, greenhouse gas emissions, is a growing movement to move global energy demands to 100% renewable sources by 2050.³⁸

Sourcing energy from renewable sources is a cornerstone of reducing GHG emissions and curbing global climate change. To achieve this end, there will be a material increase in the demand for the physical hardware required for solar PV, wind turbines, batteries, electric passenger cars, commercial vehicles, buses and stationary storage.

Let's look at Alberta as an example of what needs to happen:

- **Alberta consumes an aggregate total of ~3,805 Petajoules (1,056 TWh) of energy annually. Roughly 25 Petajoules (7 TWh), or less than 1%, of that energy is generated from renewables.³⁹**
- **To supply enough renewable electricity to supplant Alberta's fossil fuel energy demand, it would need to expand its current renewable output 150x above current levels.**
- **This means constructing new renewable projects (based on a 50/50 split between wind and solar) at a cost of ~CDN\$1.5 trillion.**

- **Up to a staggering 23% of all land in southern Alberta could be needed to be dedicated to new renewable projects (7,500,000 ha). This is equivalent to the landmass of 88 Calgarys as hard as this is to believe. This is based off of protocols of existing projects in Alberta and Saskatchewan, but does not reflect future efficiencies that may be possible or are likely.**

The cost, land use, and materials necessary to achieve this monumental shift in energy production are truly gargantuan. When the scope of this transition is extrapolated to encompass global demand, supply chain bottlenecks emerge that call into question the scalability of a totally renewable future.

Further, an often-overlooked consideration when assessing the feasibility of a clean tech revolution is the finite deposits of rare earth metals such as cobalt, lithium, nickel, indium, silver, and tellurium that are required for renewable energy generation and storage.

According to some estimates, if renewable energy was to provide 2/3rds of the world's electricity by 2050, the demand for precious earth metals would far exceed the known global deposits of commercially recoverable metals:⁴⁰

- **Cobalt** – Demand would exceed known deposits by 400%+
- **Lithium** – Demand would exceed known deposits by 250%+
- **Nickle** – Demand would exceed known deposits by 125%+

New technologies and recycling programs could potentially reduce the demand for extracting finite resources, however, without these key innovations in place there is credible skepticism regarding the scalability of moving to a total renewable energy future on a global scale.

The 100% renewables scenario to establish total decarbonization appears impractical.

Other technological solutions will be required, notably: battery storage, hydrogen, small scale modular nuclear, and carbon capture and sequestration.

The 100% renewables scenario is arguably a distraction and involves too much strategic risk. Renewables can and will play an important role in the global energy mix, but we need other strategies and technologies to meet global and Canadian carbon reduction goals.

It is a contradiction to say we will reach the point of no return in ten years and to argue for renewables as the only solution for the complete electrification of our economy. The time frame is wrong and the singular focus on one solution with limitations is wrong.

We need multiple solutions to successfully make the transition, including collaborative engagement with the largest investor in clean energy in our country – the oil and gas sector itself.²⁸

“THEMES OF VISION”

EMERGING THEME #5: “BEST BARREL” AS AN ASPIRATIONAL PATH

In a long-term transition to decarbonization, where oil and gas is phased out over 30, 50, or 100 years, whatever the timeframe...

The last barrel to be phased out should be the best barrel, and the best barrel should be Canada’s barrel.

This description should be viewed figuratively, not literally; there will never be a last barrel.

- It acknowledges the transition to a low-carbon world, but it also recognizes that it will be long-term and multi-decadal, even possibly multi-generational.
- It defines a strategic position in terms of what our customers and stakeholders want.
- It is based on the concept of excellence and competitiveness, and thus offers a challenge to the industry in a positive manner.
- It is credible, as we are already committed to a low-carbon, high ESG path.
- It is doable, as it builds on our current strengths.
- It positions Canada to serve the needs of a growing global population with clean, reliable, and ethical energy.
- It aligns with the interests of pro-development Indigenous groups who know participation in resource development is a critical part of their future.

A commitment to the “best barrel” changes the narrative on the challenge for the Canadian industry. It leads logically to the question, “*what does the best barrel look like and how do we get there?*”

What is the best barrel? We need to answer this question ourselves. We have the expertise and depth of understanding to do this. We don’t need this to be defined for us in Europe or anywhere else, nor do we need armies of accountants and consultants to do this. It is a market and strategic-based question as to how we believe that we can compete.

However we define it, it needs to be real, well evidenced and durable, and we need to be prepared to present it to the world.

The concept of the best barrel, or the best energy products, encompasses a set of essential factors. Each factor is a determinant of success and each is an imperative in its own right.

For the public and society, these essential factors include carbon, costs, a set of ESG factors, and innovation:

- Carbon levels and intensities
- Costs, affordability, and reliability
- Environmental footprint including land, water, and air
- Safety in product transportation systems
- Social impact including workplace safety of employees, the safety of communities, and the quality and stability of employee experience
- Unbiased inclusivity, respect, and tolerance of all stakeholders
- Opportunities for Indigenous people
- Confidence in an industry that is innovating to create solutions

For industry and the corporate sector, serving the underlying needs and solving many related issues and problems requires that certain conditions are satisfied:

- Access to markets and the full market price
- Cost competitiveness and reasonable levels of profitability
- Access to specialized workplace capabilities and expertise
- Government policy that is supportive of capital formation and investment, and supportive of the innovation necessary to meet societal needs
- Regulatory excellence that facilitates an ease of doing business, and that sustains and enhances Canada's competitiveness in global markets
- Reasonable, fair, and competitive taxes
- Availability of capital

The concept of the best barrel is market-based; it is an attempt to reflect what our customers and stakeholders want and need over the long-term.

Industry leaders are embracing this “customer first” mindset and are committed to delivering results. But certain conditions that must be met in order for industry to realize its vision, which involves aligned and supportive policy and regulations.

“THEMES OF VISION”

EMERGING THEME #6: GLOBAL LEADERSHIP IN CLEAN, RELIABLE, AND RESPONSIBLE ENERGY DEVELOPMENT

The Canadian energy sector is a global leader in scale and capabilities. Our oil sands and Montney resource are extraordinary endowments for Canadians, our global customers, and everyone in the world.

These resources exist in one of the most stable, reliable countries in the world with recognized leading ESG standards and a well-evidenced commitment to improve, advance, and “do better.”

Canadian workers have managed cumulative historical investment in excess of a trillion dollars in the building of the Canadian industry. Our expertise and experience runs deep and is recognized globally.

We have established proven capabilities and technologies in power development, renewables, nuclear, oil and gas, and we are a leader in clean tech, notably in carbon capture, methane mitigation, and safe pipeline and marine transportation.

The world population is set to grow from 7.8 billion to about 10 billion through to 2050.⁴¹ The world needs reliable clean energy from responsible suppliers.

The opportunity is to offer more of ourselves into the world on a “no harm” basis, cleaning up our own environmental impacts, and offering products and technologies that will reduce emissions and improve environmental conditions globally.

Among the top 10 oil and gas producers in the world, this is how Canada ranks on a number of E- ESG criteria:

First in Sustainable Development Index⁴²

First in Environmental Performance Index⁴³

First in Global Peace Index⁴⁴

First in the World Happiness Index⁴⁵

First in Social Progress Index⁴⁶

First in Women Peace Security Index⁴⁷

First in Human Freedom Index⁴⁸

First in Human Development Index⁴⁹

First in Democracy Index⁵⁰

First in Corruption Perception Index⁵¹

First in Rule of Law Index⁵²

First in the World Press Freedom Index⁵³

First in Resource Governance Index⁵⁴

In all the above index rankings, Canada was ahead of the United States, our main trading partner and main competitor.

Table 1 presents a more comprehensive list of index rankings, showing comparative results for the top ten energy producing countries in the world. There are a few selected indexes within Governance where Canada showed relative weakness notably around contracts and ease of doing business. This is no surprise given regulatory complexity and burden in Canada.

Overall though, in comparing Canada to other oil and gas producing countries, how is it possible that activists and some national political leaders argue we need to phase-out and remove ourselves from markets?

Given the long-term nature of the transition to decarbonization, would it be in the world's best interest for Canada to remove itself as a supplier?

Table 1: E-ESG Global Index Rankings, Organized by Top 10 Largest Energy Producing Countries

Comparative Producer Ranking by Size ⁴		ECONOMIC	ECONOMIC	ENVIRONMENT	ENVIRONMENT	SOCIAL	SOCIAL	SOCIAL	SOCIAL	SOCIAL	SOCIAL	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE	GOVERNANCE
		Bloomberg Innovation Index 2020	Economic Freedom Index 2020	Environmental Performance Index 2020	Sustainable Development Goals Index 2019	World Happiness Index 2019	Women, Peace, and Security Index 2019/20	Social Progress Index 2019	Human Freedom Index 2017	Human Development Index 2018	Global Peace Index 2020	World Press Freedom Index 2020	Trading Across Borders Index 2019	Rule of Law Index 2020	Resource Governance Index 2017	Global Entrepreneurship Index 2019	Enforcing Contracts Indicator	Ease of Doing Business Index 2019	Democracy Index 2019	Corruption Perception Index 2019
1	USA	1	2	2	2	2	2	2	2	2	5	2	1	2	2	1	3	1	2	3
2	Saudi Arabia	7	5	8	8	4	9	8	8	4	7	8	4	N/A	9	5	5	6	10	4
3	Russia	4	6	6	4	7	4	5	4	5	9	6	6	6	6	8	4	4	6	8
4	Canada	3	1	1	1	1	1	1	1	1	1	1	2	1	1	2	9	3	1	1
5	China	2	7	10	3	8	5	7	6	9	4	10	3	5	4	4	1	5	9	6
6	Iraq	8	N/A	9	6	9	10	N/A	10	10	10	7	10	N/A	8 (T)	N/A	10	10	5	10
7	UAE	5	3	3	7	3	3	4	7	3	3	5	5	3	7	3	2	2	7	2
8	Brazil	6	8	5	5	5	7	3	3	8	6	3	7	4	3	9	6	8	3	7
9	Iran	9	9	7	6	10	8	6	9	7	8	9	8	7	8 (T)	7	8	9	8	9
10	Kuwait	10	4	4	10	6	6	N/A	5	6	2	4	9	N/A	5	6	7	7	4	5

⁴ U.S. Energy Information Administration (EIA), <https://www.eia.gov/tools/faqs/faq.php?id=709&t=6>.

“THEMES OF VISION”

EMERGING THEME #7: GLOBAL-FIRST AND CANADA-FIRST

Should Canada’s first priority be compliance to incomplete, inadequate international agreements, which large emitters like India, China, Russia, and U.S. are basically ignoring?

One of the best kept secrets in the world of energy activism in Canada is that global country by country compliance with Paris climate targets has been met with minimal and inconsistent degrees of success.

While global emission reductions are happening, mostly in advanced economies, a deep dive into various country energy policies offers ample evidence that most are just going through the motions.

Energy policies are clearly dominated by each country’s own advantageous national interests.

- In October 2019, Equinor, the state-controlled energy company of Norway, began producing from the Johan Sverdrup field. This C\$19.2 billion North Sea mega-project will produce up to 660,000 barrels per day⁵⁵ over for the next 50 years – more than twice the size of the recently cancelled Teck Resources project⁵⁶ in northern Alberta.
- The United States officially withdrew from the Paris agreement in November 2019.⁵⁷ As noted by Climate Action Tracker, *“The Trump Administration has continued with its campaign to systematically walk back U.S. federal climate policy. The government has passed a new rule on automobile fuel efficiency to roll back Obama-era vehicle standards, revised energy efficiency appliances standards, and weakened regulations on the release of mercury from oil and coal-fired power plants.”*⁵⁸
- Mexico’s Paris target outlined a strategy to cap its GHG emissions by 2026, and work towards a 22% reduction below current levels by 2030. However, in 2020, Mexico’s new president, Andrés Manuel López Obrador, made headlines opposing a clean energy transition,⁵⁹ with the National Energy Control Center (Cenace) announcing on April 29th, 2020 that it would suspend grid connections of new solar and wind farms until further notice.⁶⁰
- Despite strong state-level commitments for 100% renewable electricity generation by 2030, Australia’s big four banks have financed new fossil fuel projects since the Paris agreement was signed that would cancel out the national emissions reduction target 21 times over.⁶¹ Two of the 33 hydrocarbon projects include the proposed third stage of the New Acland coal mine in Queensland, and the Pluto 2 LNG train which is part of Woodside’s massive expansion off the Western Australia coast.⁶²

- Based on the projections from Climate Action Tracker,⁶³ China will increase GHG emissions by 300 Mt of CO₂ by 2020, and 1,200 Mt of CO₂ by 2030. China's prioritization of its national interests ahead of climate considerations essentially negates the decarbonization commitments of smaller nations like Canada. While the Canadian economy produces approximately 729 Mt of CO₂ annually,⁶⁴ the oil and gas sector is only responsible for about ¼ of the Country's total emissions (180 Mt).⁴ Therefore, the incremental emissions produced by the economic growth in China over the next decade will eclipse emissions from Canadian oil and gas development by over 600%.
- While many countries are winding down their coal consumption, the new owners of the Russian Elginskoye coal mine are investing \$2 billion to bring total production from 5 Mt per annum to 45 Mt per annum,⁶⁵ which would make it the third-largest mine globally in terms of annual output.
- Given expensive LNG import prices, and the 2011 nuclear Fukushima disaster, Japan has reignited its reliance on coal. Despite coal's catastrophic emissions profile, Japan is planning to build as many as 22 new coal-fired power plants over the next five years.⁶⁶

In Canada, we are committed to reduce emissions, but how much integrity do multilateral climate action agreements hold? What are the implications if we spend billions, and even shut down our oil and gas sector as some would argue,⁶⁷ but other countries of the world simply fill-in our market share and fail to comply with the Paris Accord?

The argument of this theme is that our first priority should be to reduce global emissions AND meet Canada's own national interests in accordance with our own unique E-ESG priorities. Another important reality is that the Canadian oil and gas sector was built to export; an inspiration that was founded on the understanding that our natural resource endowment was a global competitive advantage.

- About 80% of our oil and 50% of our natural gas are exported.^{5,68}
- We are the fourth largest exporter of petroleum and natural gas in the world.⁹
- In 2018, Canada exported energy products to 148 countries. The U.S. accounts for 89% of energy exports by value (\$117.8 billion).⁶⁹
- Mineral fuels (and products derived from) are by far the largest source of Canada's export revenues, about \$132.2 billion or 23% of \$575 billion in 2018.⁶⁹

The Paris Accord sets administrative targets that are seriously incomplete when it comes to the global realities of energy trade, and therefore do not accommodate Canada's trade interests.

Are we concerned only about emissions that arise within our borders, and the optics of compliance with administrative targets, knowing full well that climate risk relates to accumulated emissions in the global atmosphere, regardless of the local source?

Is our concern to meet administrative targets in incomplete, multilateral agreements, or is our concern to solve the fundamental challenge of reducing global emissions?

We are potentially tanking our own interests in order to meet the commitment of an international multilateral agreement that is seriously incomplete in its current form and most other countries who are signatures to this agreement are nowhere close to meeting their commitments.

Further, the broad context, whether we like it or not, is that the strength of international multilateral agreements is currently in serious erosion.

“Across the globe, multilateralism appears in crisis. Skepticism of the benefits of a multilateral order grounded in underlying liberal principles is manifesting throughout the Western world. The United States, the system’s imperfect cornerstone, scorns a growing number of multilateral institutions and norms each day. Within Europe, Brexit and discord over the European Union’s (EU) future is undercutting the EU as a regional multilateral pillar, alongside the supranational bloc’s capacity as a global actor. Simultaneously, a more assertive China and Russia are seeking to reshape multilateralism, challenging the foundational liberal principles that have guided the post-Cold War multilateral order to which the world has become accustomed.”⁷⁰

What about our own interests? What about our unique E-ESG interests?

Who is representing the national interests of Canada?

Are we concerned about policies that might shift investment activities, jobs, and tax base away from Canada, and away from the illumination and influence of our governance oversight, to other high-carbon, low ESG jurisdictions? Is that in our interests? Is that in the interests of all people of the world?

If you were part of a group that was “running the world,” when you look at the time frame of energy transition, when you look at the need for innovation, when you take into account the need for reliability, and when you take into account social and ethical issues, would you argue that Canada should be shut-down as some activists and political leaders argue?⁶⁷

“THEMES OF VISION”

EMERGING THEME #8: NEW ECONOMIC AND FINANCIAL REALITIES WILL FORCE A RESET OF PRIORITIES

There is no “going back to normal” or “the way things were” prior to the COVID-19 lockdown. There is one fundamental that will not change with economic recovery, at least not for many years, maybe decades.

Even when our economy comes back to some form of “normal,” our indebtedness will not go back to where it was for many years, if ever.

The inevitable consequence is a loss of financial capacity and flexibility.

Prior to the COVID lockdown, the economic fundamentals in Canada were grim:

- Growth in GDP per capita since 2013 was less than one-half that of the U.S., and Canada had the worst performance of all G7 countries.⁷¹
- Business investment is about 20% below peak levels of 2014. Even outside the resource extraction sector business investment remains below 2014 levels.⁷²
- According to the World Investment Report, the stock of foreign direct investment in Canada has grown at half the global rate since 2015.⁷³
- The World Bank ranks Canada 23rd in its quality of trade and transportation infrastructure: ports, rail, highways with Germany ranking first and the U.S. seventh.⁷⁴
- 2019 per worker investment places Canada 15th among the 17 OECD countries. In Switzerland, businesses invest twice as much per worker as Canadian businesses.⁷⁵
- Canada’s labour productivity has significantly lagged that of United States, our main customer and competitor. In 2019 Canada generated \$52.60 per U.S. in output per hour of labour compared to \$71.80 in the U.S.^{76,77}

How important is productivity? Here is a famous quote from Nobel Laureate economist, Paul Krugman:⁷⁸

“Productivity isn’t everything, but in the long run it is almost everything. A country’s ability to improve its standard of living over time depends almost entirely on its ability raise output per worker.”

Returns on equities in Canada (including dividends) have been horribly inferior to global and U.S. returns, mirroring productivity underperformance within the economy.

Over the past ten years, cumulative returns on global equities have been over 3x that of Canada's, and returns on U.S. equities have been almost 6x greater than in Canada.⁷⁹

The last five years has been worse.

Total cumulative returns on Canadian companies in Canadian markets has been 4.5%. Global equities generated a total cumulative return over this time frame of 32.5% – over 7x that of Canada.⁸⁰

So, this isn't just a Trudeau versus Trump story. Canadian returns on Canadian companies in Canadian financial markets have not come close to global returns.

If you are a foreign investor, why would you invest in Canadian companies in Canadian markets? As a Canadian, if you were fortunate enough to accumulate savings, the last thing you should have done is to invest in Canadian companies on Canadian stock exchanges.

The general point is this: we were in a slow-moving crisis of investment, competitiveness, and economic underperformance before the pandemic-related collapse. Now, we've gone right over the edge.

The financial position of our federal government looked quite strong going into the COVID lockdown. Our federal debt-to-GDP was a reasonable 35%.

However, all of this has changed.

With a re-estimated \$380 billion deficit,⁸¹ we are adding about 15% to the debt to GDP ratio. This in and of itself doesn't look too alarming, but what about the provinces? One thing that we've learned in this crisis is that we have only one economy. All the debt at all decision-making levels in our economy have to be supported by one existing economy.

We have also learned that in crisis, the national government is called upon to backstop the credit demands of all provinces, and to a certain extent, even corporate and household debt.

Ontario's debt is now about \$400 billion, Quebec \$200 billion, and then there are the other provinces. The Western provinces, including Manitoba, are now close to approximately \$150 billion. The Atlantic provinces represent another \$50 billion in debt.

If you're keeping track, that's \$800 billion of provincial debt combined with now approximately \$1 trillion of federal debt.

Total "all in" government debt is at least \$1.8 trillion and heading towards \$2.0 trillion which would be 100% of GDP – that represents over \$50,000 for every man woman and child in Canada, or \$200,000 for a household of four.

Analysts and economists tend to look at debt solely on the basis of decision-making authority and responsibility at the entity level, as this is where insolvency would occur. This is why most don't aggregate debt.

But aside from insolvency risk, the key problem with debt that's often overlooked is how it constrains choice and optionality, and that it acts as an amplifier, not an absorber, of adverse and unexpected shocks.

The government debt referenced above is layered on top of consumer and corporate debt. Total consumer debt in Canada is now at \$2.3 trillion, which includes \$1.6 trillion of mortgages. Household debt to disposable income at 177% is among the highest in the world.⁸²

So now, we have \$2 trillion of government debt and \$2.3 trillion of consumer debt against a \$2 trillion economy. What about corporate debt? Corporate debt in Canada has recently reached record levels of about \$2.4 trillion which represents the second highest level of leverage among 35 OECD countries.⁸³

Total household, corporate, and government debt is about \$7 trillion. This is 350% on a \$2 trillion economy.

The one thing we know about debt, if you can survive through a downturn, it will constrain choice and optionality. It forces adjustments to priorities and plans. Living within constraint is ultimately going to be a reality for most decision makers in Canada.

You will ultimately see consumers deleveraging, corporations deleveraging, and the government forced to be more accountable, discerning, and careful in its spending and borrowing. All of this will likely be a net drag on the economy for many years.

This is happening at the same time that Canada's GDP per capita and labour productivity (GDP per hours worked), have been stagnating.⁸⁴

Canada is in a new era of both stagnant productivity and excessive levels of indebtedness.

This should force a reset in priorities towards increased fiscal responsibility, new initiatives to attract investment capital, and policies and strategies that will shift towards productivity growth and restoring prosperity.

SUB-THEME: A CHANGE IN PUBLIC OPINION ABOUT RESOURCE DEVELOPMENT

Our moribund competitiveness, stagnant productivity and now excessive indebtedness should support a shift within public opinion in favour of our resource industries. Most Canadians understand this is where we have historical, albeit now diminished, global competitive advantage and where we are positioned to add the greatest economic value for all Canadians.

This change in public opinion is a deeper underlying trend that may challenge many of our political leaders and policy makers who have been going in a different direction. This deeper, submerged trend is an opportunity to shift policy towards a “productivity growth agenda.”

This shift in public opinion appears to be happening as evidenced in a recent IPSOS poll:⁸⁵

- **Over half of respondents said that getting Canada’s existing businesses/industries back on their feet is more important than a “green recovery.”**
- **Over seven in ten respondents believe that Canada can recover from COVID-19 by supporting natural resource industries while still protecting the environment.**
- **Economic issues and public health/COVID-19 were identified as the most important issues for Canadians; environment and climate the lowest.**

“THEMES OF VISION”

EMERGING THEME #9: CANADA’S ENERGY STRATEGY AND POLICIES “FEEL GOOD, SOUND GOOD” BUT MAY FAIL OUR NATIONAL INTERESTS

I hear bits and pieces of this theme in various discussions – the view that our energy strategy is flawed. I am organizing these points through the lens of my own understandings of strategy development and implementation, and my experience in mentoring executive leaders around the question, “*what does great strategy look like?*”

My response to this question always includes certain fundamentals or criteria that great strategy must satisfy, notably: *materiality*, knowing what’s important, and *comprehensiveness*, the inclusion of all that is most important.

On the point of materiality, our energy strategy and policy over the past five years, has been heavily tilted towards the singular outcome of reducing emissions.

I agree that this has to be an imperative. But even if this is an imperative, do we have the right strategy given all the facts?

As we make strategic choices and trade-offs, there are certain realities that relate to the materiality of our own emissions.

The simple reality is that Canada’s total emissions are immaterial to the problem of global emissions. This is a fact that must be recognized as we develop and implement our energy strategy, and as we make trade-offs and commitments.

- Emissions on our own books for the oil sands are 80 Mt per year. This is one seventh of 1% - almost a rounding error in the context of global emissions.
- Total emissions of our upstream oil and gas sector are 0.4% of global emissions.
- Canada’s total emissions as a country are 1.6% of global emissions.

Not only are Canada’s emission levels immaterial relative to global emissions, another confronting reality, whether we like it or not, is that very few of the countries that signed the Paris Accord have bona fide policies in place consistent with their emission targets.⁸⁶ China, the world’s largest emitter, is in fact still expanding its coal powered fleet.⁸⁷

Meeting emission targets within international agreements where most others are non-compliant creates strategic risk for Canada. We are immaterial to the global emissions problem, but yet we are committing to a massive shift towards a low-carbon economy.

We will ultimately be spending hundreds of billions to reduce emissions. We may also, depending on policies, incur extreme losses within our own economy through constraining, if not punishing, our energy sector – the largest sector of our economy. We are committing to all of this given the most likely scenario that the Paris Accord will be a slow, long-term insidious path of underperformance, deferred commitments and missed targets, and seemingly perpetual international meetings and debate. Although it must be acknowledged that the outcome will still arguably be positive as it will reduce emissions from what would otherwise occur.

Here are some more realities that are material to our energy strategy and policies.

Markets are dynamic and financial resources, technology, and talent will shift between countries and regions to respond to market conditions. As the extraction side of the business shifts to other jurisdictions, so will the associated carbon, and at the same time there may be no change in consumption.

We may not like this, but it is reality.

Canada could shut down its entire oil and gas sector, and our market share as a supplier would shift to the U.S. and other suppliers, notably, Russia, Iraq, Saudi Arabia. The idea of Canada shutting down its oil and gas sector is an extreme possibility, but it offers important understandings.

The result is that if we remove the related emissions off of our books, which helps us comply with the Paris Accord, this may feel good and look good, but the emissions associated with the loss of our production would be transferred to other producing jurisdictions.

The result would be no net material change in global emissions.

There would be other negative results relative to Canada's interests that can be understood in the context of the E-ESG framework, which captures all of society's essential interests.

This raises the second fundamental of great strategy and that is *comprehensiveness*. This is the inclusion of all that is most important, all that is essential, within strategy, policy, and decision making.

This helps explain why alignment with the Paris Accord and the path to decarbonization is so difficult for so many countries. Each country has its own interests that cut across its own E-ESG priorities. The way these interests line up with the Paris Accord is vastly different across countries. We can see this clearly by looking at energy policy across the world. Each country is shaping its energy strategy based on an assessment of its national interests.

This begs the question: What about Canada's essential priorities that represent our national interests?

Canadians can be proud that we have achieved a very high level of environmental standards and performance. We need to stay on track to reduce emissions, but it is well-evidenced in the data and widely understood that Canada's ESG standards and performance are among the highest in the world.

Where our strategy is failing is the lack of a comprehensive embrace of our national interests.

Our tilt towards the environment has come at the expense of maintaining the necessary conditions to support competitiveness, productivity, and enduring prosperity. It has also come at the expense of creating more jobs and long-term ownership opportunities for Indigenous people. Our almost singular focus on one set of essential aspirations, the environment, and specifically one factor, lowering emissions, has also contributed to a serious compromising of governance effectiveness and integrity.

The mindset of “phase it out,” “shut it down,” “don’t support it,” and “tax it,” is sabotaging our national interests and ironically, will not make a material difference to the problem of global emissions and climate risk.

On the economic side, Canadians lose jobs, economic value, and the tax base of an industry that is the largest sector of our economy. Further, we are doing this to ourselves at the worst possible time. Our productivity and competitiveness have deteriorated, and now post-COVID, on the basis of aggregated debt across all decision-making entities in Canada, we are among the most indebted countries in the world. Our productivity going into COVID was stagnant and now we are excessively indebted. This combination of low productivity and excessive debt is a heavy, if not grave, burden on the future for all Canadians.

The deterioration of economic prosperity ultimately works against our social prosperity – the S in E-ESG.

This translates into an erosion of available financial capacity to fund social needs, education, health, safety and the “quality of human experience and human development” in Canada. This could have devastating long-term consequences, particularly given our aging demographics and health care needs.

The G in E-ESG – governance – also points to disturbing realities.

The success of strategies and policies are ultimately seen in the results. Over the past five years Canada has seen a serious deterioration in the fabric of its national unity. Western alienation is again rearing its head and it is serious. Some people say, “Who cares, nothing practical can come of it.” i.e. separation, but this is the wrong mindset. From the perspective of our national interest and the responsibility of our national government, it is a serious black mark that so many people in a major region of Canada are completely disenchanted with our country. How can we say that we are managing our national interests effectively if there is a large number of people who want to turn away from our nation state?

Our existing vision and strategy for our energy sector, and indeed our resource sectors broadly, are failing Canada’s national interests.

“THEMES OF VISION”

EMERGING THEME #10: A STRATEGIC AND COLLABORATIVE MINDSET ALIGNED WITH GLOBAL AND NATIONAL INTERESTS

Canada optimizes its advantages, unifies and collaborates, and serves as a model for the world.

This theme is a combination of all the themes and represents the framework of a grand vision that serves and optimizes the interests of all Canadians.

It transcends the fractured polarization that now characterizes much of the world’s relationships, and which also characterizes Canada’s internal state.⁸⁸ This is in itself a contribution to the world. During the intensely fractious times within so many countries, we have the opportunity to demonstrate a level of unique collaboration and effectiveness.

1. Vision, strategies, and policies are developed to serve and optimize Canada’s multiple essential interests across economics, environment, social, and governance considerations.
2. Industry moves forward with a firm customer-first mindset to reduce emissions and adverse environmental impacts.
3. Canada’s energy and resource sectors are understood as being among the best in the world, and our political leaders step into a non-partisan embrace of this reality.
4. Acceptance of the reality that the *energy transition* is best described as an *energy evolution*; very long-term and requiring multiple solutions. Modern renewables – wind and solar – have serious limitations and cannot carry the total freight to deep decarbonization.
5. Industry and government collaborate to support and evidence progress towards the concept of “best barrel.” Emissions will be important, but other considerations are also important, such as reliability of supply.
6. Industry and government collaborate to build a globally focused clean energy sector offering both low-carbon products as well as renewables, clean technologies, exemplary regulatory process, and mechanisms to support capital formation, all leveraging off of Canada’s exceptional high-quality international profile.

7. Shift to a global-first, Canada-first commitment, based on a deep understanding of Canada's national interests, with a commitment to meet Paris Accord targets subject to satisfactory resolution of exports and also more evidence of compliance from major emitters.
8. Embrace a deep understanding of the importance of productivity, investment, and competitiveness, to rebuild the post-COVID economy and to sustain Canada's financial and social prosperity.
9. Commit to a strategic mindset based on fundamentals to serve the national interest of Canada recognizing that Canada's role in reducing emissions has to go beyond our borders and that we have a set of essential needs that must be accommodated, versus denied or resisted.

All of this converges into an intelligent, internally consistent, logical policy framework that serves the interests of all Canadians and all people of the world.

The critical factor is government leaders who are prepared to lead, and to not amplify or exploit polarization.

It requires national political leaders to be demonstrably and visibly supportive of Canada's leading global energy sector, and more broadly, all of our resource sectors.⁸⁹

It requires leaders who will face outward to the public and globally, and present the facts and fundamentals that Canada is arguably the most responsible energy and resource developer in the world; that we are serving the essential interests of all Canadians, in all regions of Canada, and our global customers, in the context of a long-term transition towards decarbonization, and the realization of exceptionally high ESG standards and performance.

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