accelerate
Canada's ZEV Supply Chain Alliance

Building Canada's Next Champion Industry Within North America

The production of zero emission vehicles (ZEVs) and their mineral, battery and component inputs can become a vital part of our country's industrial and economic future, helping to maintain a high standard of living for future generations. By positioning Canada to play an integral role in meeting North American demand for electric vehicle (EV) batteries, zero emission vehicles and ZEV components, we can foster growth in our vehicle sector, create jobs in mining, manufacturing, engineering, design, etc., and encourage new intellectual property development. Further, we can encourage new technological development from the university and R&D stages through to commercialization and foster industrial developments of environmentally improved technologies that, at scale, promise Canada important competitive advantages. **Such developments would drive lasting and productive economic growth *in every region of the country.***

This opportunity is something governments in Canada have been committed to realizing so far this decade by investing in global firms to produce EVs, battery modules, components and materials domestically, including General Motors, Ford, Stellantis, Honda, Volkswagen (PowerCo), Stellantis/LGES (NextStar), Northvolt, POSCO, Umicore, and others. These investments give Canada a solid foothold in the transition to battery and EV manufacturing. However, to ensure they provide lasting return, we must purposefully build value chains from mining to cathode and anode active battery materials, and also support established parts manufacturers so they are making the equipment needed for next generation vehicles. If we do so, the production of zero emission vehicles and the component materials and technologies that go into them can become a champion industry for Canada, involving all regions of the country and benefiting North America as a whole.

This is an ambitious but achievable vision. To realize it, we must develop a game plan that identifies the actions, changes and supports needed to ensure our future success in critical mineral mining, mid-stream materials production, auto parts manufacturing and vehicle assembly, as well as the growth and success of Canadian companies and solutions.

In short, we need an approach that results in more "from Canada" in the vehicles driven across the roads of North America.

Over the next several weeks, Accelerate, Canada's Zero Emission Vehicle Industrial Alliance, is inviting input from interested stakeholders to help build a national strategic approach aimed at growing and fortifying Canada's ZEV industry in a manner that's closely aligned with broader North American economic and geo-political objectives.

While some OEMs have slowed EV production in recent months, the long term trend for global mobility is decidedly away from internal combustion vehicles and towards electrification. Accelerate views the current pause as an important opportunity to scope the kind of strategic

approach that will allow Canada to build out a more robust ZEV supply chain within the North American context. We are, therefore, seeking input on a national approach that positions Canadian sourced, manufactured and designed mobility solutions for sustained success. Specifically, this approach should support:

a. the sustainable development of our critical mineral assets and catalyze the growth of a robust mid-stream sector, which adds value to minerals sourced in Canadian mines;
b. the transition and growth of our components and parts manufacturing sectors;
c. the fostering, growth and commercialization of innovative Canadian firms and products;
d. the strengthening of our long-term value proposition within North America to continue attracting and retaining vehicle and battery manufacturing projects;
e. the expanded integration of and coordination between different segments within the ZEV supply chain.

We invite businesses, Indigenous leaders, labour unions, researchers, legal experts, investors, policy makers and any other interested parties to provide their comments on the questions below. The objective is to collaborate on developing ambitious, workable and non-partisan strategies that offer the promise of increased industrial activity in every region of the country, more high-skilled jobs at all points on the supply chain and improved integration of the North American EV sector.

Accelerate will distill and synthesize your responses, with the goal of releasing a comprehensive strategic approach proposal later in 2024.

1. CUSMA re-negotiation

Question: How should the participants of Canada's EV supply chain engage with policy-makers and trade negotiators when the U.S.-Mexico-Canada trade agreement comes up for review in 2026, and what goals should the industry pursue?

Discussion: The 2020 CUSMA agreement, which must be reviewed within six years of ratification, emerged from the Trump Administration's protectionist trade policies and extended and re-shaped NAFTA. The Canadian government employed a range of strategies, tactics and emissaries to achieve its renegotiation objectives, including protecting access to U.S. markets. These included bi-partisan outreach to state and national legislators whose districts rely heavily on manufacturing trade with Canada. The CUSMA agreement significantly increased the percentage of a vehicle's components that must be made in North America in order to qualify for tariff-free access. In the time since it was ratified, Canada has secured significant new auto sector investments, focused primarily on EV assembly and battery manufacturing.

By 2026, when the agreement is reviewed, the political configurations on either side of the border could look quite different. Regardless of who is in power, Canada will still be negotiating with an administration looking to leverage its domestic market power to extract concessions from North American trading partners. The current administration has adopted a range of big-dollar, domestically focused industrial policies (Inflation Reduction Act, CHIPs & Science) and retained some of the previous administration's tariffs. If former President Trump wins the November 2024 presidential race, it seems likely his next administration would adopt even more aggressive trade policies. In the current environment where China dominates the global EV supply chain and where the U.S. has imposed significant new tariffs on Chinese materials, components and vehicles, Canada has an opportunity to emphasise its actual and potential contribution to North American industrial and security needs. The U.S. has identified Canada's critical mineral deposits, for example, as an area of particular importance to a North American EV supply chain (as well as to their defence and security needs), with some Canadian mining projects receiving funding through the U.S. Defense Production Act (DPA) and other mechanisms. Canada may, for example, encourage a North American trade dialogue regarding EVs that reflects and leverages each jurisdiction's abilities to contribute to geopolitical security as well as industrial efficiencies.

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2. Carbon Border Adjustment Mechanism (CBAM)

Question: Should Canadian policy-makers and trade negotiators pursue the enactment of a "carbon border adjustment mechanism" (CBAM) designed to prevent carbon leakage and foster industrial production within Canada/North America?

Discussion: The European Union in 2023 became the first jurisdiction globally to approve the use of a CBAM, to be fully implemented in 2026, as a means of ensuring that imports to the EU incorporate a carbon price that has been paid in the country of origin. The rule applies to importers, which must disclose the emissions embedded in their goods. If importers can prove that a carbon price has already been paid during the production of the goods entering an EU member state, the corresponding amount can be deducted. "By confirming that a price has been paid for the embedded carbon emissions generated in the production of certain goods imported into the EU," according to the EU, "the CBAM will ensure the carbon price of imports is equivalent to the carbon price of domestic production, and that the EU's climate objectives are not undermined." The Canadian government in 2023 began investigating CBAMs (a.k.a. Border Carbon Adjustment, or BCA) as a policy tool. A Department of Finance consultation document enumerates some of the benefits, including: maintaining the competitiveness of domestic industries and supporting greater climate ambition.

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3. ESG standards

Question: Are there opportunities to apply ESG standards to imports, including goods in the EV supply chain, as a means of levelling the playing field and encouraging domestic investment?

Discussion: The disclosure of ESG metrics, including Scope 3 emissions, has become increasingly standardized and regulated for publicly traded companies, large federal government suppliers and other entities. Securities regulators and international accounting bodies adopted widely accepted disclosure standards in recent years, and are taking steps to prevent greenwashing in the investment arena. A new law (Bill S-211) took effect on January 1, 2024, that imposes customs tariffs on importers that are found to use forced or child labour in their supply chains. Because the upstream end of the EV supply chain includes mining and mineral processing, non-carbon ESG metrics, such as water consumption and chemical discharges, could be applied to raw materials sourced from jurisdictions with poor environmental controls, thereby improving the conditions for off-take agreements for Canadian mines, as well as mid-stream processors. Importantly, these mines and mid-stream processors also offer the prospect of security of supply and decreased reliance on Foreign Entities of Concern as defined in the U.S. Inflation Reduction Act (IRA). Such policy changes could also potentially reduce the price premium facing domestic producers relative to offshore suppliers.

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4. Canadian/North American content in FDI projects

Question: How can Canada support the inclusion of greater Canadian/North American content in foreign direct investments into our domestic ZEV supply chain?

Discussion: The federal government has typically sought employment guarantees from OEMs seeking to establish manufacturing operations in Canada but have not required sourcing from local suppliers. Nonetheless, an important domestic parts and components ecosystem has developed over time to support Canadian automotive production. As the mobility industry evolves towards electrification, however, most of the production in the new upstream and high value mid-stream and many component technologies are currently being produced in other jurisdictions (primarily Asia). Most of the vehicles produced in Canada are sold in the United States and for the sector to thrive as it transitions, this will need to continue. However, the U.S. Inflation Reduction Act (IRA) rules dictate that to be compliant and eligible for tax credits, 60% of battery components must be assembled in North America and that 50% of critical minerals in EV batteries sold in the US must be from North America or a country with a free trade agreement with the US. These figures will rise to 100% and 80% by 2029.

Importantly, vehicles with materials sourced from a Foreign Entity of Concern (primarily China, which dominates the global supply chain), are disqualified from these credits. Moreover, the U.S. has recently introduced higher tariffs on Chinese critical minerals and battery components, as well as a 100% tariff on Chinese-made EVs. Canada is not yet producing significant amounts of critical minerals, metals or materials for batteries, motors and magnets. To help further decouple North America's supply chain from China and to derive full benefit from U.S. IRA rules and from domestic investments already made in battery manufacturing, it will be important that upstream Canadian-mined or recycled materials, as well as Canadian-produced materials, be increasingly used in batteries and vehicles manufactured in North America.

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5. Aligning ZEV purchases with domestic content

Question: Are there further steps that the federal or provincial governments can take to align Canadian ZEV purchases with the content of origin within vehicles and batteries, including through government procurement programmes?

Discussion: The U.S. Inflation Reduction Act established a new EV tax credit to replace an older version. To qualify, OEMs must meet escalating content requirements focused on critical minerals and battery assembly and components sourced within North America or other regions with which the U.S. has a free trade agreement. The total credit is worth $7,500 and includes income eligibility caps. For critical materials, qualifying vehicles will need to source up to 80% within North America by 2027. For battery components, that figure rises to 100% by 2029.

The Biden Administration has also deployed other policy measures to incentivize EV production and supply chain friend-shoring and its recent introduction of higher tariffs on Chinese critical minerals, battery components and EVs should spur more domestic investment and production.

Canada offers consumers a federal light duty ZEV purchase incentive of C$5,000 and a Medium and Heavy Duty (MHDV) ZEV purchase incentive of up to $200,000 per new vehicle. Seven provinces provide their own zero emission vehicle tax credits. However, none of the federal or provincial purchase incentives are tied to the level of Canadian or North American content contained within the purchased vehicle. Additionally, while the federal, and many provincial and municipal governments have started the process of converting their fleets to zero emission vehicles, there is currently no guidance on whether these fleets should include significant levels of domestic content. Given that the objective of converting fleets is to lower the carbon intensity of government vehicles, and that domestically produced content would adhere to high ESG standards, there would seem to be strong alignment in preferring domestic content.

An example of using government purchasing power to catalyze domestic EV production is the State of Illinois, which established price preference for EVs built in the jurisdiction in procurement orders. Content could be defined to include raw materials, processed or recycled materials, as well as parts and components, intellectual property, labour, location of assembly, etc.

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6. Critical mineral production

Question: What levels of domestic production of critical minerals should Canada aim for by 2030, and what steps should the country take to achieve these goals in uncertain and rapidly changing global mining markets?

Discussion: In 2022, Canada released its Critical Minerals Strategy, which identified six priority critical minerals (lithium, cobalt, copper, nickel, graphite, rare earths s) that the country should focus on developing, including for the EV battery and components supply chain. The list will be updated this year. In a 2023 report released by Accelerate, CEOs and other senior business leaders in upstream mining, mid-stream processing and downstream manufacturing argued that Canada's ZEV industry should be guided by the principle that "what gets measured gets done". A target or agreed upon mineral production objective may allow the broad ecosystem of actors from governments to industry to Indigenous interests and academia and, ultimately, all Canadians, to understand what we are striving to achieve and how we are progressing against that objective.

As well as production volume, useful metrics for gauging progress could include dollars invested in different stages of the mining process, permitting timelines, growth in the mining labour force, etc. Policy targets could be adjusted over time to respond to an uncertain and rapidly changing global context. In recent months, falling prices for a number of critical minerals have put a strain on the profitability otf many mining projects. This situation places economic pressure on junior Canadian companies currently developing production capacity across critical minerals value chains, and risks delaying investment in new projects.

In the face of this price volatility and concerns about the potential manipulation of market prices by foreign interests, it will be vital for Canada to develop an approach that proactively and consistently addresses the key challenges facing its mining sector. Some policy experts have advanced different approaches to alleviate this volatility including, for example, the concept of a critical minerals reserve as a guaranteed floor on the price of Canadian critical minerals.

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7. Investment in public goods

Question: What can federal and provincial governments, asset managers, infrastructure banks and pension funds do to target infrastructure investment such that it better supports the emerging EV supply chain?

Discussion: While federal infrastructure spending overall has been growing quite rapidly in Canada in recent years, our ranking relative to other G20 nations is middling, and domestic investment in certain industrial categories, like electricity transmission/distribution, pollution abatement, heavy machinery and power transformers, has actually dropped over the past decade or so (as measured in constant dollars). With regards to EV supply chains per se, certain strategically vital investments in enabling infrastructure - such as access roads to mining projects – have been delayed for years. In other cases, transmission infrastructure, such as ready access to a clean, reliable electrical grid for large processing or manufacturing projects, isn't in the right place. This potentially limits the prospects of near-shoring amines to mobility supply chain.

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8. Targeting Canada's homegrown strengths in the EV supply chain

Question: Should Canadian EV policy focus on promoting the strongest players/sectors/sub-sectors and, if so, what should that policy look like and how would it differ from our current approach?

Discussion: The 'picking winners' approach to industrial policy came under political fire in the past, especially in situations where Canadian firms that received substantial subsidies were subsequently acquired by foreign investors. Yet industrial policy has made a comeback, partly for geo-political reasons (near-shoring, friend-shoring, supply chain risk mitigation), but also as governments that had adopted more traditional neo-liberal trade policies came to recognize that their counterparts in other regions were actively supporting key sectors.

Upstream, the Canadian Critical Minerals Strategy provides direction on minerals the country should prioritize. In the mid- and down-stream value-added segments of Canada's EV supply chain, there are several domestic firms that have established either highly promising technologies -- e.g., in clean cathode/anode materials production or battery innovations and recycling -- or have carved out promising niches in continental market segments, such as school buses or other heavy-duty vehicles. With significant foreign capital interested in Canadian resources and IP, our challenge is different from other jurisdictions in that it may not be strictly about 'picking winners' so much as it is about not 'losing winners'. The policy/advocacy question is whether and how to target some combination of subsidy, investment and/or procurement approach that provides such firms with the capital, customers and deal flow that would allow them to scale rapidly.

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9. Deployment of scale-up funds

Question: What are the most impactful ways for government funding to accelerate the development of EV supply chains?

Discussion: In recent years, a number of large public investment funds have been developed to fill an identified gap in capital provision in new economy sectors, including the Strategic Innovation Fund, the Canada Growth Fund, the Canada Infrastructure Bank, the Critical Minerals Infrastructure Fund, etc. Fiscal tools such as the Tax Credit for Clean Technology Manufacturing, the Critical Minerals Exploration Tax Credit, and the EV Supply Chain Investment Tax Credit have also been introduced.

Since 2017, the federal government has also supported the Venture Capital Catalyst Initiative. Under this program, the federal government provides equity to venture capital firms, which then make investments in a range of sectors, according to various parameters. The program supports 14 funds, including three clean-tech funds. Since its inception, partner VC funds have invested in several Canadian EV-related firms -- focused on technologies related to graphite, zinc, lithium recycling and EV buses, among others -- and some of these have gone through exits.

Despite these measures, there continues to be reticence from both public fund investors and private capital in Canada to be the 'first money in.' Additionally, while Canada's critical minerals and midstream sectors are largely underpinned by the public capital markets, many of the funds and programs established to support Canada's new economy sectors are unable or unwilling to support widely held companies. As a result, there exists a gap in funding for both publicly traded and early-stage pre-revenue companies in the Canadian supply chain, creating flight risk for promising firms. Given that much of our future ZEV industry is or will be composed of suppliers of materials yet to be extracted and processed, or innovators of novel solutions for an emerging sector, developing made-in-Canada approaches to encourage both patient and risk capital is urgent.

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10. Training/Labour pipeline

Question: How can we ensure Canada has a pipeline of highly trained workers prepared to take positions in companies along the EV supply chain?

Discussion: In a March 2024, report on Canada's EV supply chain, ECO Canada noted the need for a wide range of skilled workers -- assemblers, operators, mechanics, welders, mining engineers, skilled tradespersons, heavy machinery operators, and metallurgical, chemical and electrical engineers. A report co-authored last year by Accelerate and Dunsky Climate and Energy Advisors estimated that the EV charging sector alone needs about 6,200 engineers, electricians and general contractors capable of installing and then servicing thousands of new units.

Demand for skilled workers in the EV space will continue to grow over time. Mid-stream processors and downstream manufacturers will look to tap into an adequately trained domestic labour pool to fill needed gaps. Current and forecasted shortages for skilled workers in Canada pose challenges for business, exacerbated by an aging workforce. The good news is that many of these in-demand skills, especially for workers in production and trades, are in Canada already. Thousands of skilled workers face displacement in the shift to EVs. Coordinating government, business, and labour resources to support and efficiently move unemployed workers into well-paying, in-demand jobs, is necessary – but easier said than done.

Examples include jointly sponsored community action centres for displaced autoworkers in Ontario, funded by government and coordinated by Unifor. This platform provides basic skills training and access to new job opportunities. Some Canadian post-secondary institutions, including St. Clair College, in Windsor, and a partnership between Queen's University/St. Lawrence College, have recently established programs geared at filling the skills gap. These are two practical examples among many that need to be explored. What's clear is that Canada's long history of auto-making, steelmaking, chemical processing, and mining gives us a distinct advantage in the competition for talent. What's less clear is whether existing worker-facing programs (and others like them) will be sufficient to meet the needs of Canada's EV sector as it seeks to expand in coming years.

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11. Indigenous inclusion

Question: How can a Canadian ZEV industrial approach, from mining through to manufacturing, support economic reconciliation with Indigenous communities?

Discussion: The critical minerals required to build a complete ZEV industry in Canada would be extracted from land on which Indigenous nations and peoples have inherent and legal rights. This presents a generational opportunity to partner with Indigenous communities and nations to expand wealth and job creation within communities that may historically be under-served.

The introduction of an Indigenous Loan Guarantee program by the federal government will provide greater capacity for many First Nations to participate in the development of Canada's natural resources, including in the development of our critical mineral assets. Other entities, both private and public, have entered into equity-sharing arrangements with First Nations whose lands are impacted by industrial/resource activity. For example, Hydro Quebec in April 2024 signed a co-ownership agreement with the Mohawk Council of Kahnawake on a $1.1 billion transmission corridor/interconnect with New York State.

Less examined so far are opportunities to advance Indigenous involvement in activities further downstream, including in mineral processing, battery material development, manufacturing, etc. For example, there may be opportunities for communities located in rural and southern areas to advance development within the entire critical mineral value chain. Also, given that approximately half of First Nations People live in urban areas in Canada, there may be opportunities to broaden our understanding of the role the ZEV industry can play in advancing reconciliation and economic development for all First Nations communities and Peoples.

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12. Permitting/site readiness

Question: Are there specific ways to improve permitting processes in both the upstream and mid-stream of the supply chain to either enable firms to begin production more quickly or to enable existing firms to scale-up production?

Discussion: At the downstream end of the supply chain, the development of large new battery and materials plants in Ontario and Quebec has been fast-tracked so that OEMs and battery manufacturers can enter production as soon as possible. However, there continues to be substantial public and policy debate about expediting or streamlining the approvals process for new critical minerals mines in ways that align with Canada's commitment to environmental stewardship and reconciliation. Recent federal budget commitments to promote inter-governmental coordination are positive signals but stakeholders in the upstream of the supply chain are impatient for more tangible action between federal, provincial and municipal governments. The often-quoted timeframe of 15-18 years to develop a new mine in Canada remains a serious deterrent to investors.

Opportunities for improved regulatory processes may also exist within the mid-stream. For example, in the U.S., permitting delays at the state and local levels have been a concern for firms receiving IRA/CHIPS & Science subsidies/tax credits. Officials have repeatedly flagged these bottlenecks and signaled their intention to use federal resources to help state/local governments speed up approvals. Ottawa could undertake a similar evaluation of the permitting issues facing mid-stream firms in Canada's EV supply chain to determine roadblocks and how to be more intentional about removing them.

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13. Broader Consultation

The above questions may not capture every concern, challenge or opportunity within Canada's ZEV industry. We are, therefore, seeking comments on other issues that should be considered in the development of a national approach to developing a Canadian champion industry within North America.

Please submit your comments in writing on or before July 17th, 2024.

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Thank you to RBC Tech for Nature and the Ivey Foundation for their generous support