

Futures Materials Alliance Central Alberta Corridor

Summary Report

March 2026



In partnership with



The Transition Accelerator



L'Accélérateur de transition

About this Report

The following reflects insights developed by the Future Materials Alliance (FMA) – an initiative of the Energy Futures Lab – through research and engagement across the Central Alberta Corridor.

As the first in a series of regional engagements, this process included two workshops as well as consultations and interviews with industry, government, academic, and Indigenous representatives to capture a diversity of perspectives.

This report highlights the strategic opportunities in developing critical materials supply chains in the Central Alberta Corridor (CAC). This region of Alberta includes the communities, industries and resources situated between Edmonton, Calgary, Rocky Mountain House and Stettler.

The report and its results were developed through a series of workshops with 50 leaders across the critical materials industry, 60 expert engagements through presentations, and over 100 interviews and meetings with industry, government, post-secondary and Indigenous leaders, plus secondary research.

The results of this report aim to support existing and prospective actors in the CAC in decision-making, as well as elucidate opportunities for cross-regional collaboration, one of the key pillars of the FMA. It presents four priority actions as solution pathways that were identified through the process outlined above.

‘Critical materials’ refers to both the resources and full value-chains of critical minerals (e.g. lithium, nickel, etc.) as acknowledged in national and provincial critical minerals strategies, as well as advanced materials (e.g. graphene, carbon fibre, etc.) that present strong natural resource economic development opportunities.

We welcome feedback as we continue to collectively refine the outcomes of this initiative.

About the Energy Futures Lab

An award-winning social innovation lab focused on energy transition

The Energy Futures Lab is an Alberta-based coalition of innovators and leading organizations from across the energy system. It was created to address a growing sense of polarization in Canada and to tackle the most pressing system-level challenges in the energy transition.

Since its inception in 2015, the Energy Futures Lab has brought together stakeholders and Indigenous rights and title holders from across the Canadian energy system to collaboratively accelerate progress towards [our shared vision](#) of a net-zero energy future, drawing on diverse perspectives to create innovative and enduring solutions to complex, system-level challenges.



Table of Contents

- 4 About the Future Materials Alliance
- 6 The Road to Here
- 7 An Ecosystem Approach
- 8 Central Alberta Corridor Workshop Participants
- 9 Why the Central Alberta Corridor
- 10 Headwinds and Tailwinds
- 11 A Vision in Motion
- 14 From Vision to Action: A Competitiveness Lens
- 15 Developing & Actioning Solutions
- 20 Next Steps



The Future Materials Alliance

A coalition of stakeholders and rights holders working towards integrating West & North Canada into national and global critical materials value chains.

The Imperative

Canada is navigating an era of profound economic and geopolitical transformation. The collapse of the post-Cold War trade regime, the rise of strategic resource nationalism, and the intensifying competition for technological leadership are reshaping the global order.

Critical materials lie at the center of these shifts. They are the essential ingredients powering electrification, digitalization, defense systems, industrial decarbonization, and clean energy pathways.

Yet, despite having abundant raw materials, Canada remains heavily dependent on foreign countries for the refining of its critical minerals and the production of high-purity materials.

Developing this sector in the interests of Canadians requires connecting regional activity and a long-term commitment that must last across successive governments and short-term, cycle-driven capital markets.

What is necessary is a durable coalition of like minded stakeholders, rights holders and title holders that have developed and will maintain a shared vision of Canada's role in this quickly evolving global supply chain.

About the Alliance

Drawing upon five years of on-the-ground ecosystem engagement, the Future Materials Alliance is designed as a **cluster manager with a mandate to accelerate Western and Northern Canada's integration into domestic and allied supply chains.**

By bringing together industry, Indigenous partners, governments, communities, and other stakeholders, the Alliance seeks to crystallize efforts that secure Canada's place in global supply chains while ensuring the benefits are shared widely and the work is done sustainably.

Respect-based relationships, common understanding, and a collaborative ethos are central to realizing this cross-jurisdictional vision and form the foundation upon which physical infrastructure and effective industrial clusters can develop.

The opportunity makes sense, and the FMA provides a new, coordinated, place-based model to unlock it.

FMA Core Partners



Materials for our Modern World

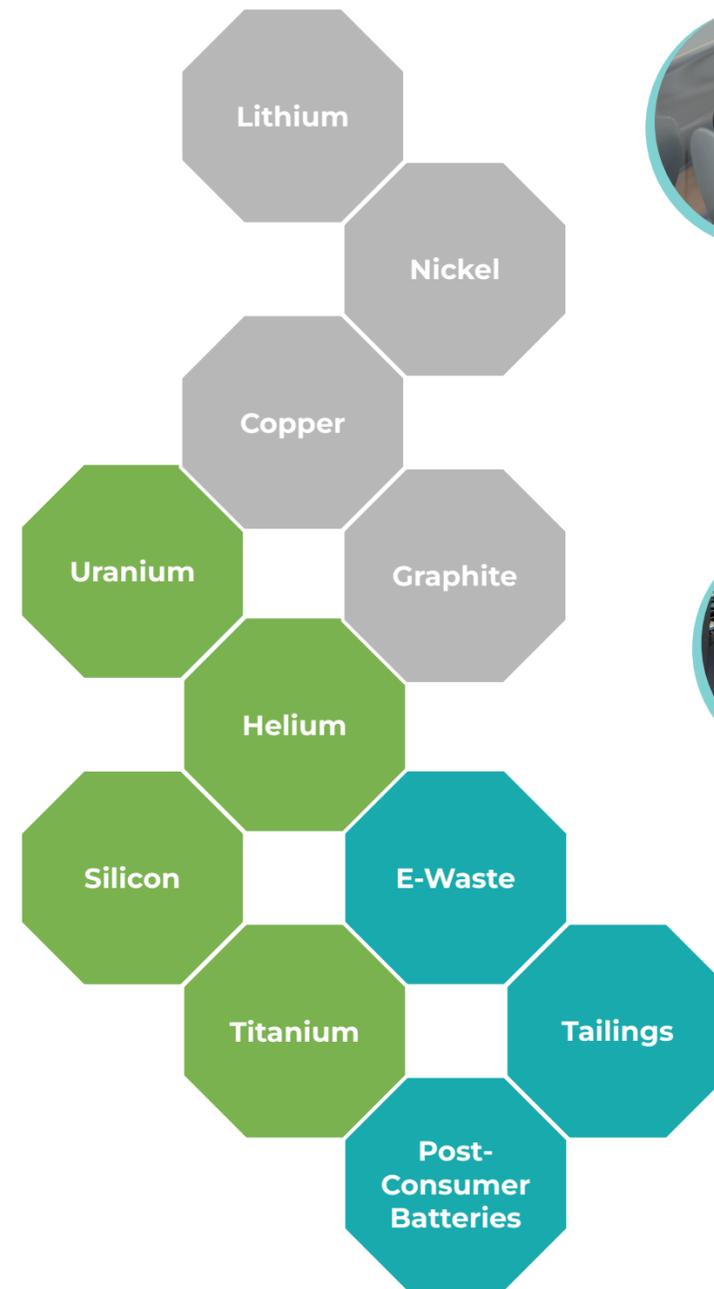
The Future Materials Alliance

recognizes that the strategic value of critical minerals and metals includes integration into multiple value chains (e.g. batteries).

It also recognizes that a focus on minerals can constrain related high-value pathways in advanced materials (e.g. carbon fibre).

Taken together, regions like the Central Alberta Corridor are positioned to be sources of higher-value manufacturing and technology systems across full supply chains, especially when it comes to building out much-needed processing and refining capacity to transform raw minerals and metals into value-added materials.

This diagram illustrates how these value chains can integrate across sectors and industries.



● Minerals Value Chains ● Other Value Chains ● Circular Materials



Batteries & E-Mobility

Portable Electronics

Magnets

Electric Vehicles

Energy Storage

Industrial Catalysts



National Defense

Radar

Aero Space

Drones



Information Communication Technology

Data Centres

Semi Conductors

Quantum Computing & AI



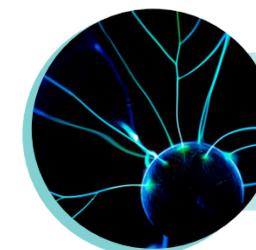
Low Carbon Energy

Nuclear

Electricity Grid

Wind Turbines

Solar Panels



Health Science

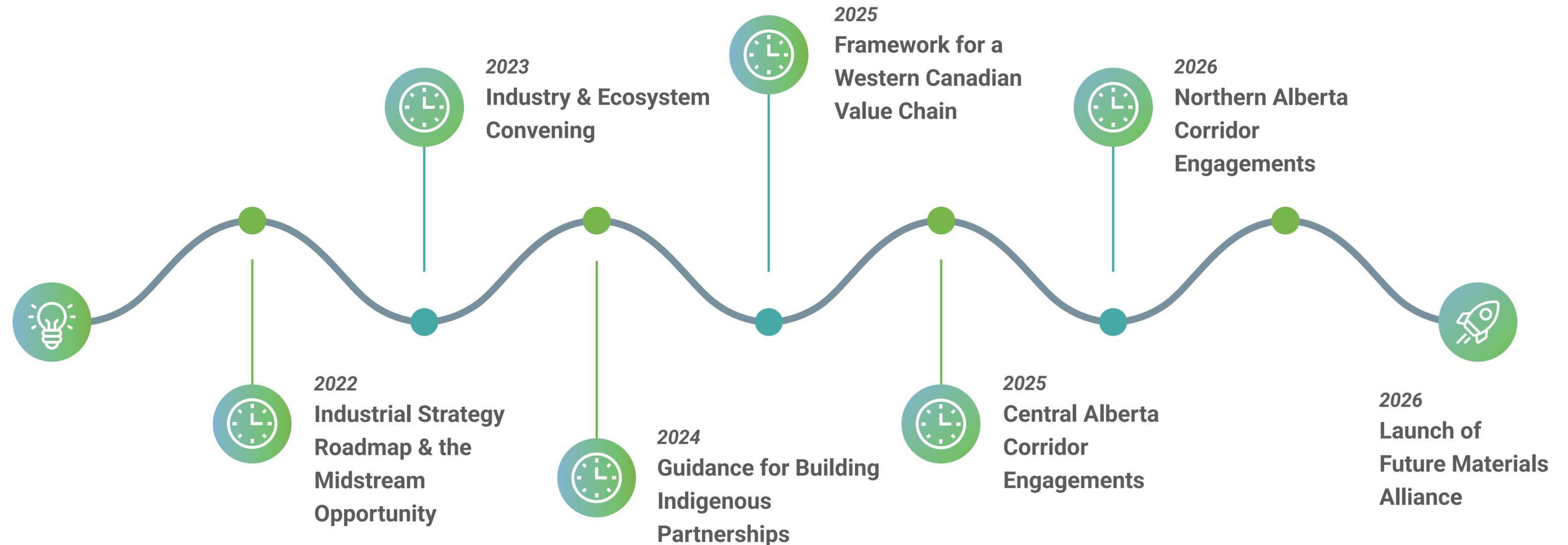
Petro-Chemicals

Implants

Lubricants

The Road to Here

Through research and partnership, the scale and urgency of the opportunity for Canada have come into focus, highlighting the need to address full supply chains and, especially, the “missing middle” of midstream processing and refining.





An Ecosystem Approach



Emerging industrial sectors scale when the right conditions align. Ecosystem-building brings these elements together while anchoring regions in broader supply chains: reducing coordination risk, accelerating learning, and sending clearer signals to investors.

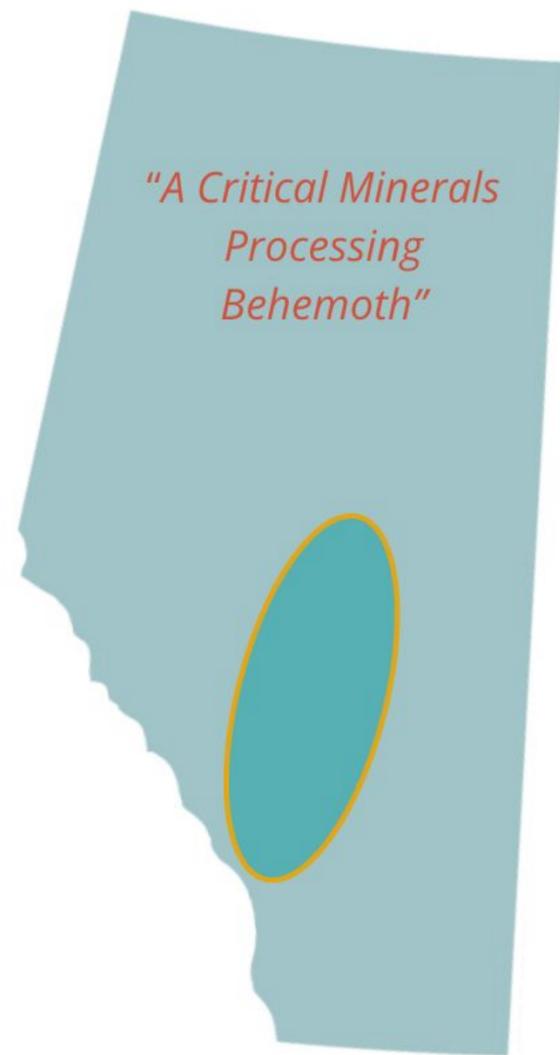
The Central Alberta Corridor has been identified as a place where the conditions are right to mobilize this untapped potential.

“No company can innovate in isolation. Successful innovation requires an ecosystem of partners.”
— Henry Chesbrough



Why the Central Alberta Region

The Central Alberta Corridor sits at the nexus of upstream resource zones to the north and west, and potential downstream manufacturing clusters – with the assets and expertise to evolve from a collection of industrial capabilities into a coordinated midstream hub for Western Canada’s critical materials supply chain.



Existing Strengths - What's already in place

- Robust industrial zones, including Alberta's Industrial Heartland and the Joffre/Prentiss clusters
- Competitive and supportive regulatory environment for industrial development
- Concentration of transportation infrastructure, including dual rail connectivity and pipeline networks
- Established carbon capture and storage assets and abundant pore space
- Available industrial land with competitive land and tax structures
- A highly skilled related workforce and world-class engineering and construction capability

Promising Advantages - What can be built upon & activated

- The AIH Designated Industrial Zone can serve as a model for accelerated permitting
- Greater integration with upstream extraction regions across Alberta, Saskatchewan, BC, Manitoba, and the northern territories ([MOU to develop Critical Materials Strategy](#))
- Integrated clean power potential to support industrial development
- Strategic use of Alberta's oil and gas expertise as a bridge into critical and advanced materials production
- Dual-use opportunities linked to emerging defence infrastructure supporting national and NORAD northern routes

TAILWINDS

Helping and Encouraging Coordination

Allied countries are actively seeking to **reduce reliance on China** for processing and refining

→

Heightened priority of critical materials as source of economic security, and national resilience,

→

Canada seals deal on **EU defence procurement**

→

Canadian Defence Industry Strategy and Resilience Program investing in developing and securing critical materials supply chains

→

Canadian minerals/metals projects now tied to **domestic upgrading**

→

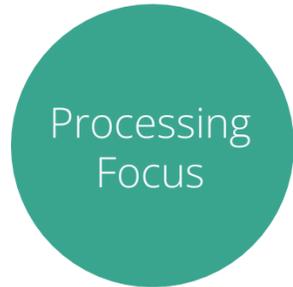
Canada **tightening foreign investment rules** specifically around processing

→

Federal programs supporting **Indigenous engagement and capacity**, recognizing that many critical mineral deposits sit on or near Indigenous territories.

→

Duty to Consult remains paramount, with significant opportunities for **increasing partnerships** in the spirit of UNDRIP



HEADWINDS

Slowing and Holding Back Coordination

Policy Coherence and long time horizons are barriers to scaling supply chains outside dominate producers



Jurisdictional tensions complicate coordination across the critical minerals value chain.

Provincial decision-making continues to be **anchored in conventional O&G**

Risk-averse capital environment for critical minerals



Misalignment between short-term investor expectations and long-term project timelines

Capital intensity requirements for critical mineral projects often exceed the financial capacity of companies

China's state-supported economic dominance in processing and refining



U.S. protectionism and domestic production focus



Long distances between disaggregated resource sites and industrial clusters

Gaps in trade-enabling infrastructure, including rail, road, and port connectivity



Central Alberta Corridor Workshop Participants

Stakeholders and rights holders from across the full value chain with an interest in further development of this industrial opportunity were invited to participate in a series of workshops hosted in Red Deer, Alberta

Adriana Guatame-Garcia, University of Calgary
Ali Rashtchi, Demir Engineering
Amanda Mitchell, Alberta Innovates
Anthony Samuels, NRCAN - GoC
April Hayward, LiFT
Barry Caplan, NeoLithica
Ben Allan, Red Deer Polytechnic
Brian Ceelen, E3 Lithium
Chris Beringer, Black Mountain Ventures
Chris Malayney, Alberta's Industrial Heartland Association
Christophe Owtrim, Emissions Reduction Alberta
Connie Stacey, Grengine
Debjyoti Sen, Red Deer Polytechnic
Douglas Brett, Avonlea Environmental Technologies
Eric Pelletier, BMAC, Montrose Environmental
Grace Egan, Government of Alberta
Jesica Grant, Quantum Lifecycle Partners LP

Jessica Okeynan, Samson Cree Nation
John Merrit, PRISM Diversified Ltd.
John Zhou, Alberta Innovates and Emissions Reduction Alberta
Joseph Kay, Rural Municipalities of Alberta
Kara Young, Government of Alberta
Karim Khamisa, Calgary Economic Development
Kaylyn Buffalo, Samson Cree Nation
Kelsey MacCormack, Alberta Geological Survey - AER
Kerrie Taylor, Lacombe County
Kirsten McNeill, LiNova Energy
Lacy Gielen, Stantec
Lee Kruszewski, Centre for Energy and Mineral Processing (CEMP)
Lorne Michetti, Litus
Lyle Trytten, Trytten Consulting Services
Madison Jerhoff, LiFT
Mark Gallant, Invest In Canada

Matt Beck, BMAC / Delphi
Michael Li, Alberta Energy & Minerals
Michael Richard, CANDO Rail
Monica Curtis, Pembina Institute
Paul Salvatore, Central Alberta Economic Partnership
Rio Glowasky, Worley
Robert Ellenwood, Sherritt International
Rory Wheat, Varme Energy
Ryan Yuan, AdvEn Inc
Sahaj Kaur, RMA
Salman Safari, CANDLE Lithium
Sandra Blais, Alberta Energy Regulator
Sandy Badry, Red Deer County
Sarah Styles, Alberta's Industrial Heartland Association
Shunlan Liu, Alberta Innovates
Sosthène Ung, Transition Accelerator
Stacie Lara, Invest Alberta
Tina Wood, Northern Alberta Institute of Technology

A Vision in Motion



The Central Alberta Corridor already holds many of the strengths needed to play a meaningful role in developing a Western and Northern Canadian supply chain with its existing infrastructure, proven industrial capability, and acting as a hub of expertise. Despite this, there is a significant opportunity to build upon – which raises the question: what does success look like for the CAC in relation to integration into wider regional value chains and beyond?

By setting a shared direction, a vision helps focus where value can be created, for *whom*, and *how* diverse actors can participate in collaboratively building something far greater than any single project.

“Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world.”

— Joel A. Barker

The Foundations for a CAC Vision

The CAC vision was developed through a deliberate blend of expert insight and participatory engagement, grounded in both analytical research and creative exploration.

It reflects input shaped by evidence and experience, alongside exercises designed to help participants imagine how the region could evolve beyond today's conditions.

- ◆ 1:1 meetings with over 75 experts
- ◆ Publication of 5 research and insight papers
- ◆ Hosted 2 regional workshops
- ◆ 10 experts gave deep dive presentations on topics pertaining to industrial development
- ◆ Collective creative vision exercise undertaken; vision tested





A Draft Vision for Critical Materials in the CAC

A regional future comes into view

In the near future ... Alberta's Central Corridor stands as a living example of what happens when communities and system actors choose to shape their destiny rather than wait for it. Its evolution into a materials processing hub marks a new chapter for the region — one in which it plays an active role in shaping global supply chains rather than simply supplying them. This move did not simply create a new industry; it helped anchor investment, influence, and decision-making closer to home.

This shift is most visible across communities. Deep and long term partnerships with Indigenous and non-Indigenous communities create shared prosperity. Municipal revenues are more predictable. Technical careers offer durable pathways. Infrastructure investments serve multiple generations. New pathways into new industries linked to the many end uses of minerals and metals are being opened. The focus on clean energy provides energy resilience and affordability to both industry and communities.

The Central Alberta Corridor is now known for an industrial DNA built on processing capability, engineering expertise, and infrastructure — reflected in:

- Multi-billion-dollar midstream facilities
- Integrated supply chains for key materials
- Industry and community commitment to innovation
- Growing domestic and international investment

Principles that Guide toward Success

Integration Over Fragmentation

Value is created by connecting activities across the materials lifecycle — not by isolated projects.

Industrial Growth Builds Regional Prosperity

Industrial growth strengthens communities and improves long-term quality of life across the whole region.

Talent is a Strategic Asset

Competitiveness depends on the ability to attract, retain and deploy skilled people.

Partnerships are at the Core

Industry and community partnerships are critical for success, especially Indigenous partnerships.

Sustainability Leadership

Being a global model for responsible social and environmental development is a differentiator.

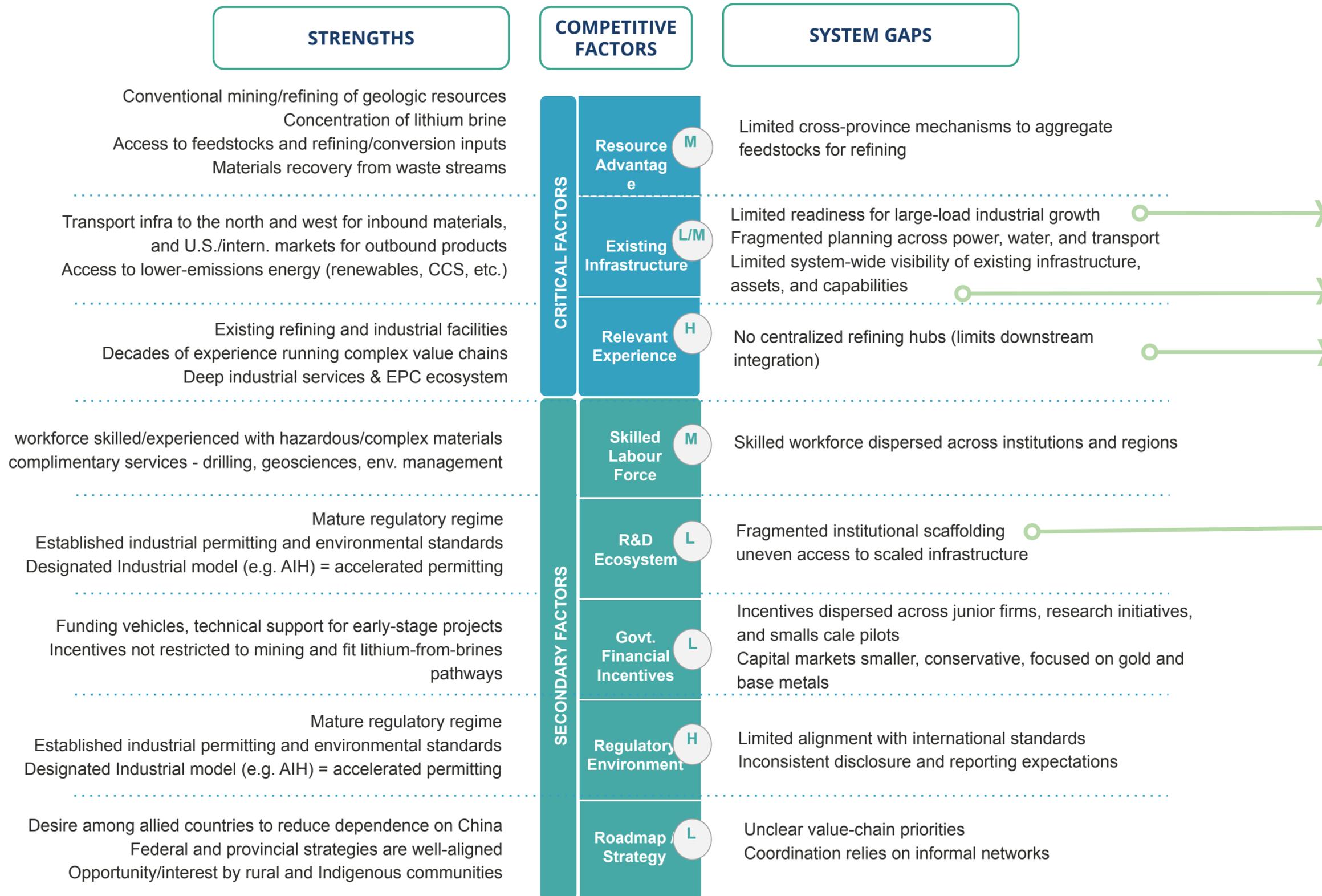
From Vision to Action: A Competitiveness Lens



In moving from vision to action, a competitiveness lens helps clarify what is required for emerging industries to take root. While the CAC holds important strengths, understanding the factors that shape its comparative advantage relative to competing jurisdictions is essential to identifying where gaps must be addressed and where strengths must be sustained.

The following outlines an initial set of four *initiatives* for the Central Alberta Corridor, triangulated against the [Alberta's Future Competitiveness Study](#) and its primary and secondary factors. *Primary (or critical) factors* reflect foundational conditions a region either possesses or does not, while *secondary factors* act as accelerators — shaping how effectively those strengths translate into investment, activity, and long-term growth.

The **Central Alberta Corridor** is positioned to advance large-scale midstream ecosystem development; long-term competitiveness depends on converting today's strengths into a durable, scalable industry.



Four initiative solutions reinforce areas of strength while closing critical system gaps to accelerate progress toward scale.

INITIATIVE SOLUTIONS

- 1 Transportation & Logistics Network**
- 2 Industrial Cluster Product & Capability Ecosystem Map**
- 3 Centralized Lithium Refinery**
- 4 Alberta Critical Materials Research, Development, and Innovation Network (initiate in the CAC)**

Legend
Current maturity level:

- (L) Limited
- (M) Moderate
- (H) Well established

FMA Initiative Solution

Alberta Critical Materials Research, Development & Innovation Network

(R&D Ecosystem. Close System Gap)

Key Challenge:

Alberta's research and technical expertise is significant, but remains dispersed and not strategically aligned with industry demand — limiting commercialization, slowing workforce readiness, and weakening its ability to attract capital and projects.

Success Principles Emphasized:

- Integration Over Fragmentation
- Talent is a Strategic Asset
- Partnerships are at the Core

WHY THIS MATTERS

In a global race to build resilient, and economically competitive critical-materials supply chains, success depends on converting existing research into innovative technologies and effectively training and deploying skilled workers.

HIGH-LEVEL DESCRIPTION

Establish a Research & Innovation Network across post-secondary institutions to better connect research, training, and early-stage innovation within the Central Alberta Corridor.

The Network would strengthen coordination across stakeholders and rights holders in the Corridor by supporting collaboration events, guiding relevant training programs, enabling government support for early-stage technologies, and fostering industry-academic partnerships that engage communities and attract new students into emerging training pathways.

Together, this collaboration would help industry, post-secondaries, governments, regulators, and Indigenous rights holders close current knowledge gaps and strengthen the Corridor's investment environment.

See [Detailed Initiative Solution Brief](#) for further information.

FMA Initiative Solution

Transportation & Logistics

(Existing Infrastructure. Reinforce Strength)

Key Challenge:

Mineral resources are widely dispersed across Northern and Western Canada, while refining and conversion capacity exists, it is concentrated in a small number of industrial clusters. While routes and rail links exist, moving bulk materials efficiently between and within these points is increasingly difficult, and therefore, costly.

Success Principles Emphasized:

- Integration Over Fragmentation
- Partnerships are at the Core
- Industrial Growth Builds Regional Prosperity

WHY

Without coordinated action, transportation bottlenecks risk becoming a structural ceiling on growth, regardless of upstream resource potential or downstream demand.

HIGH-LEVEL DESCRIPTION

A coordinated effort would be launched to clarify the logistical pathways and infrastructure required to efficiently move minerals from extraction regions to processing hubs.

This includes identifying and supporting an independent third-party entity with the technical credibility and mandate to lead transportation and logistics analysis — convening stakeholders, undertaking the necessary studies, and developing recommendations.

In doing so, this helps bridge silos and close participation gaps that would otherwise limit system-level understanding of how minerals can be delivered reliably and affordably to processing clusters — including potential future rail connections between regions such as the NWT or Fort McMurray and the Alberta Industrial Heartland.

See [**Detailed Initiative Solution Brief**](#) for further information.

FMA Initiative Solution

Centralized Lithium Refinery

(Relevant Experience. System Gap)

Key Challenge:

Without offtake agreements and a clear domestic pathway to market, many lithium brine projects in the Central Alberta Corridor struggle to demonstrate bankable demand or secure financing.

Success Principles Emphasized:

- Integration Over Fragmentation
- Talent is a Strategic Asset
- Partnerships are at the Core
- Industrial Growth Builds Regional Prosperity

WHY

Lithium refineries are the central gatekeepers between raw lithium resources and the advanced battery materials needed for electric vehicles, energy storage, and modern electronics. Without domestic refining capacity, Western Canada risks remaining a lithium concentrate exporter while value creation, industrial capability, and supply chain control accrue elsewhere.

HIGH-LEVEL DESCRIPTION

Support the development, construction, and operation of a feedstock flexible, centralized lithium refining facility serving Alberta and Saskatchewan, anchored within the Central Alberta Corridor.

The refinery is intentionally designed to be feedstock flexible, technology adaptable, and expandable over time, allowing it to respond to changing market conditions, evolving technologies, and new sources of supply. This approach avoids locking the region into a single pathway while preserving the benefits of scale and coordination.

As a midstream anchor, the refinery improves economics across the ecosystem and creates the conditions needed to attract downstream investment, including potential future development of pCAM, CAM, and battery cell manufacturing in the region.

See [**Detailed Initiative Solution Brief**](#) for more information.

FMA Initiative Solution

Industrial Cluster Product & Capability Ecosystem Map

(Existing Infrastructure. Reinforce strength)

Key Challenge:

While the region hosts a dense concentration of industrial facilities, infrastructure, technical capabilities, and material flows, this information is highly fragmented, and disaggregated. Opportunities for coordination, vertical integration, and strategic investment remain largely invisible.

Success Principles Emphasized:

- Integration Over Fragmentation
- Talent is a Strategic Asset
- Partnerships are at the Core

WHY

Improved ecosystem visibility is enabling infrastructure for moving beyond firm-level approaches toward a cluster-based strategy — supporting integration, innovation, investment, workforce alignment, and circularity.

HIGH-LEVEL DESCRIPTION

Build a shared, data-enabled intelligence platform that provides an integrated view of the Central Alberta Corridor's industrial ecosystem. Its purpose is to make the ecosystem legible to regional and external partners by clarifying who is active, what capabilities exist, how assets connect across the value chain, and where coordination or investment can unlock the greatest value.

Core elements include:

- Integrated data layers across industry, R&D, workforce, infrastructure, regulation, and material flows
- Structured “needs and haves” inputs to identify gaps, constraints, and partnership opportunities
- Capability and readiness framing to distinguish conceptual, pilot, and commercial-stage assets

This integration of existing data enables benchmarking, partnership identification, and connection with allied jurisdictions and global markets, providing a foundation to move from fragmented awareness to deliberate, ecosystem-level action — accelerating decision-making, improving coordination, and surfacing opportunities earlier in their lifecycle.

See [Detailed Initiative Solution Brief](#) for more information.

Future Materials Alliance

Next Steps

CAC Initiative Solution

Coordinating Alberta Research, Development, & Innovation Network

Proactive Transport & Logistics Planning

Scoping Centralized Lithium Refinery

Creating Industrial Cluster Product Circularity Ecosystem Map

FMA Action

Engaging relevant post-secondary institutions to assess early interest, with the intent to convene and collectively strategize

Engage Alberta Logistics Center of Excellence to assess opportunities to progress their mandate within the CAC and beyond; tying into future FMA regional convenings

Initiating engagement with lithium brine producers to explore this opportunity; tying into future FMA regional convenings

Engage with FMA core partner (BMAC) and explore opportunity to build upon their battery metals ecosystem map



This document is an output of the Future Materials Alliance –

an Energy Futures Lab initiative in partnership with Battery Metals Association of Canada, The Transition Accelerator, and the Indian Resource Council.

To learn more please visit the [Energy Futures Lab's website](https://www.energyfutureslab.com) or contact info@energyfutureslab.com.



In partnership with

