Canadian Forum For Financial Markets

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Forum Canadien des Marchés Financiers

FROM POTENTIAL TO PRODUCTION: ATTRACTING CAPITAL TO CANADA'S RARE EARTHS SECTOR

November 20, 2025

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EXECUTIVE SUMMARY

Canada is home to vast reserves of critical minerals, including copper, nickel, potash and uranium, and is widely regarded as a reliable, responsible source of resources that underpin global economic activity and sustainable growth.

Within the broader category of critical minerals sits a subset of especially prized inputs, rare earth elements, that are indispensable to modern technologies (see Box 1).

Canada has significant rare earth reserves and resources yet commercial-scale production remains minimal.

The Reality

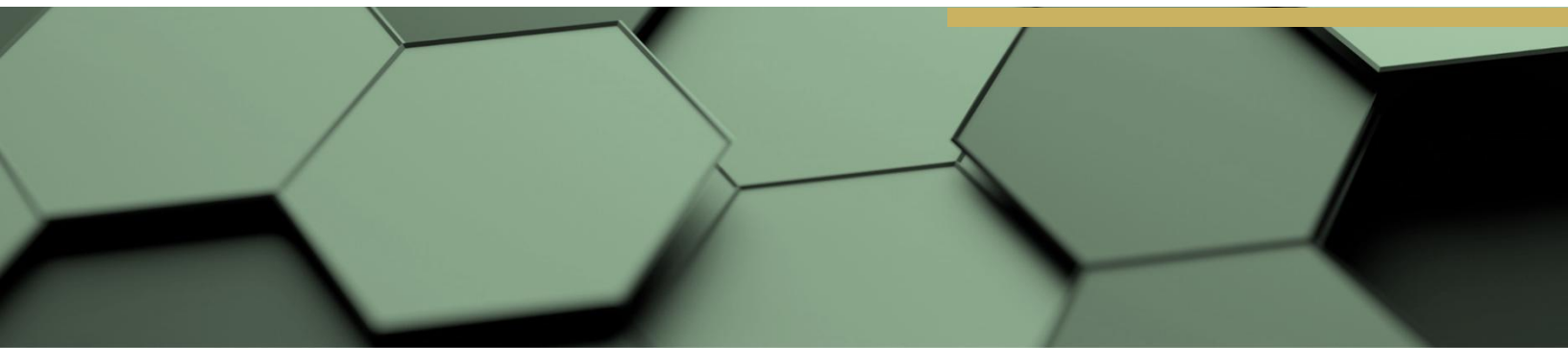
Global production and processing are dominated by China, creating strategic vulnerabilities and price volatility amplified by deliberate supply manipulation that private markets alone struggle to correct.

At the same time, high project costs and long project development timelines, coupled with environmental and social impacts, discourage private investment despite strong global demand for rare earths.

This disconnect — the gap between strong global demand and insufficient private investment — represents a classic market failure: left to their own devices, markets are unlikely to deliver the production capacity or resilient supply chains needed, making government policy interventions essential to de-risk projects and attract private investment.

Canada's Government Actions

In response to this disconnect, government measures have been implemented to enhance rare earth project viability and attract private investment. These include investments in essential infrastructure such as access roads and ports, support for research facilities, direct financial assistance for rare earth projects through government programs and agencies, indirect incentives such as tax credits, and international partnerships to strengthen cooperation in securing rare earth supply chains. As discussed below, significantly more action is still needed.



Canada's Market Actions

Rare-earth companies in Canada are actively pursuing private capital but face a mixed landscape. They are relying heavily on private placements to raise capital for early-stage activities, including exploration, feasibility studies, permitting, and initial infrastructure development. Further, retail investors participate through junior mining companies listed on the TSX Venture Exchange, which act as key vehicles for early exploration and development. Strategic industrial investors are also emerging, bringing capital to secure long-term supplies which are crucial to their production pipelines and technological innovation. In contrast, large pension funds and mainstream asset managers generally remain on the sidelines.

Overall, while government co-funding is boosting confidence, the sector still requires significantly greater private capital inflows if it is to build the scale of production capacity and resilient supply chains that global demand will require.

More is Needed

The global race is on to secure rare earths. Australia and the United States, in particular, are moving rapidly and decisively to shape the strategic and economic landscape of rare earth supply and reduce dependence on China. Canada, despite abundant resources, has been slower out of the gate and risks forfeiting significant economic opportunities tied to this sector.

In the global race for rare earths, ambition and visibility matter. Canada needs a stand-alone Canada-first rare earth strategy – one that recognizes the extraordinary leverage, innovation potential, and strategic influence these elements offer across the value chain, and the unique dynamics that set them apart from other critical minerals.

Currently, Canada's rare earth objectives are embedded within the broader Canadian Critical Minerals Strategy, which includes more established mining sectors like copper and nickel. While elements of this strategy relate to rare earths, many others apply to different critical minerals and are not specific to rare earth development. Rare earth policy, programs and funding are therefore dispersed across multiple initiatives, rather than aggregated under a unified rare-earth-specific plan.

A rare earth-specific strategy should include tools that anchor demand and provide revenue certainty – for example, offtake agreements, government-backed floor prices or contracts-for-difference, and stronger targeted financial incentives – combined with faster approvals and permitting, strategic investments in backbone infrastructure and R&D, and more public-private partnerships that connect Canadian rare earth companies with global industrial buyers and investors. Together, these measures would materially de-risk projects, accelerate supply chain development, and strengthen Canada's competitive position in the global rare earth market.

Summary of Recommendations to the Federal Government

Develop a stand-alone rare earth strategy – one that includes a roadmap for mining, processing, refining, and downstream applications. Such a strategy should include:

- Facilitation of offtake agreements with a diverse range of strategic customers. These should include the U.S. Department of Defense, renewable energy developers, and key players in EV battery and motor supply chains, as well as broader commercial markets such as OEM manufacturers, consumer electronics brands, magnet producers, and industrial and automation companies.
- Implementation of price stabilization mechanisms such as price floors and contracts for difference, for the most critical of rare earths.
- Upstream tax incentives.
- Prioritizing permitting for rare earth projects that are deemed essential for national security, clean technology, or high-tech industries.
- Leveraging the Critical Minerals Sovereign Fund (announced in the November 2025 federal budget) by prioritizing rare earth projects and explicitly outlining eligible value chain stages (mining, separation, refining, recycling) to provide focused, strategic support.
- Continued strategic investments in backbone infrastructure – such as roads, ports, energy, water, and waste management infrastructure – to improve project viability.
- Early, meaningful, and sustained engagement and consultation with Indigenous communities, accompanied by equitable benefit-sharing agreements.

Box 1: What Are Rare Earths Elements?

Rare earth elements are a group of 17 elements within the broader category of critical minerals. They are prized for their unique physical, chemical, magnetic, and luminescent properties.

The strategic and economic importance of rare earth elements stems from their wide applications which include smartphones, computers, hard drives, robotics, medical equipment, precision-guided missiles, radar systems, jet engines, lasers, satellites, night vision goggles, wind turbines, electric vehicles, and solar panels. They enable fibre optics for communication, catalysts for clean energy, phosphors for lighting and displays, high-performance batteries, and advanced ceramics for durable components.

The most sought-after products requiring rare earths – notably neodymium (Nd), praseodymium (Pr), dysprosium (Dy), and terbium (Tb) – are permanent magnets. These magnets are essential because they combine compactness, efficiency, and high performance in several cutting-edge applications that no other material can match.

Despite their name, rare earth elements are not inherently scarce in the earth's crust. They are considered rare because they are seldom found in concentrated, economically viable deposits and require complex extraction, separation, and refining.

Rare earth elements are typically classified as light or heavy, depending on their atomic weight and natural occurrence. Light rare earths such as lanthanum, cerium, praseodymium, and neodymium, are more abundant in the Earth’s crust and are typically found in carbonatite deposits. Use-cases include applications for consumer electronics, industrial robotics, specialty alloys and catalysts, wind turbines, electronic vehicles, and high-strength magnets. Heavy rare earths, including dysprosium, terbium, and yttrium, are scarcer and often embedded in complex mineral systems, making them difficult to extract. Their rarity and strategic importance drive strong demand, as they are essential for enhancing magnet performance and used in electric vehicle motors and powertrains, offshore wind turbines, lasers, phosphors, and defense applications (fighter jets, naval propulsion, missile guidance).

Canada’s substantial reserves of both heavy and light rare earth elements confer a significant strategic advantage, positioning the country as a potentially critical supplier in the global rare earth supply chain.

CHINA'S DOMINANCE IN THE GLOBAL RARE EARTH SUPPLY CHAIN

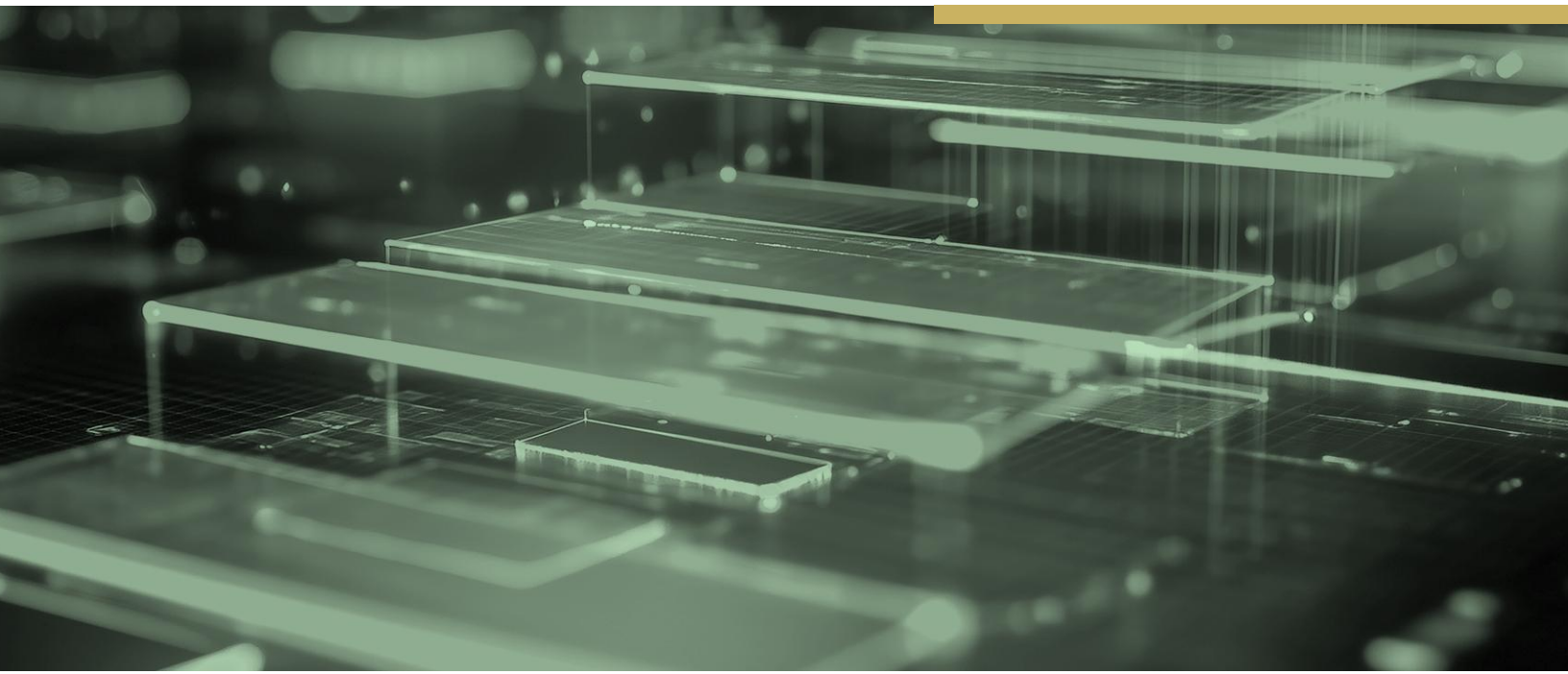
China is the dominant player in the rare earth industry, accounting for 61% of global mining output and 91% of refined output. For certain less common rare earths, China accounts for nearly 99% of global refined output. See International Energy Agency, Global Critical Minerals Outlook 2025.

China also dominates global rare earth magnet manufacturing – 94% of the production of sintered magnets (most used in EVs and wind turbines) and 80% of the production of bonded magnets (used in appliances and electronics).

In April 2025, amid escalating trade tensions with the U.S., China imposed export restrictions on seven rare earth elements and related magnets, putting a chokehold on automakers, aerospace manufacturers, semiconductor companies, and military contractors, not only in the U.S., but around the world.

In mid-October 2025, China announced that it was expanding rare earth export controls, adding five more rare-earth elements to the existing control list, bringing the total number to 12.

U.S. Treasury Secretary Scott Bessent said the latest provocations from Beijing should be a clear sign to U.S. allies that they must work together to de-risk supply chains and diversify away from China as quickly as possible.



How Did China Come to Dominate the Market?

China was not always the dominant producer of rare earth elements. From 1965 to 1995, the Mountain Pass mine in California supplied the majority of the world's rare earths, with an adjacent processing facility handling concentration and separation of these elements. This setup allowed the U.S. to be largely self-sufficient in rare earth production for several decades, until China emerged as the dominant global producer in the late 1990s.

In the 1980s and 1990s, China designated rare earth elements as a strategic resource and set out to become the global leader in their production, processing, and downstream manufacturing – most notably of permanent magnets. In 1992, former President Deng Xiaoping famously said, "There is oil in the Middle East; there is rare earth in China." In 1999, President Jiang Zemin remarked, "Improve the development and application of rare earths, and turn our resource advantage into economic superiority."

China built a comprehensive ecosystem to support the rare earth industry, including technological investments, R&D funding through public research institutions and national laboratories, and preferential loans and tax breaks for downstream industries—particularly magnet and electronic manufacturing. Cheap labor and less stringent environmental regulations further reduced production costs.

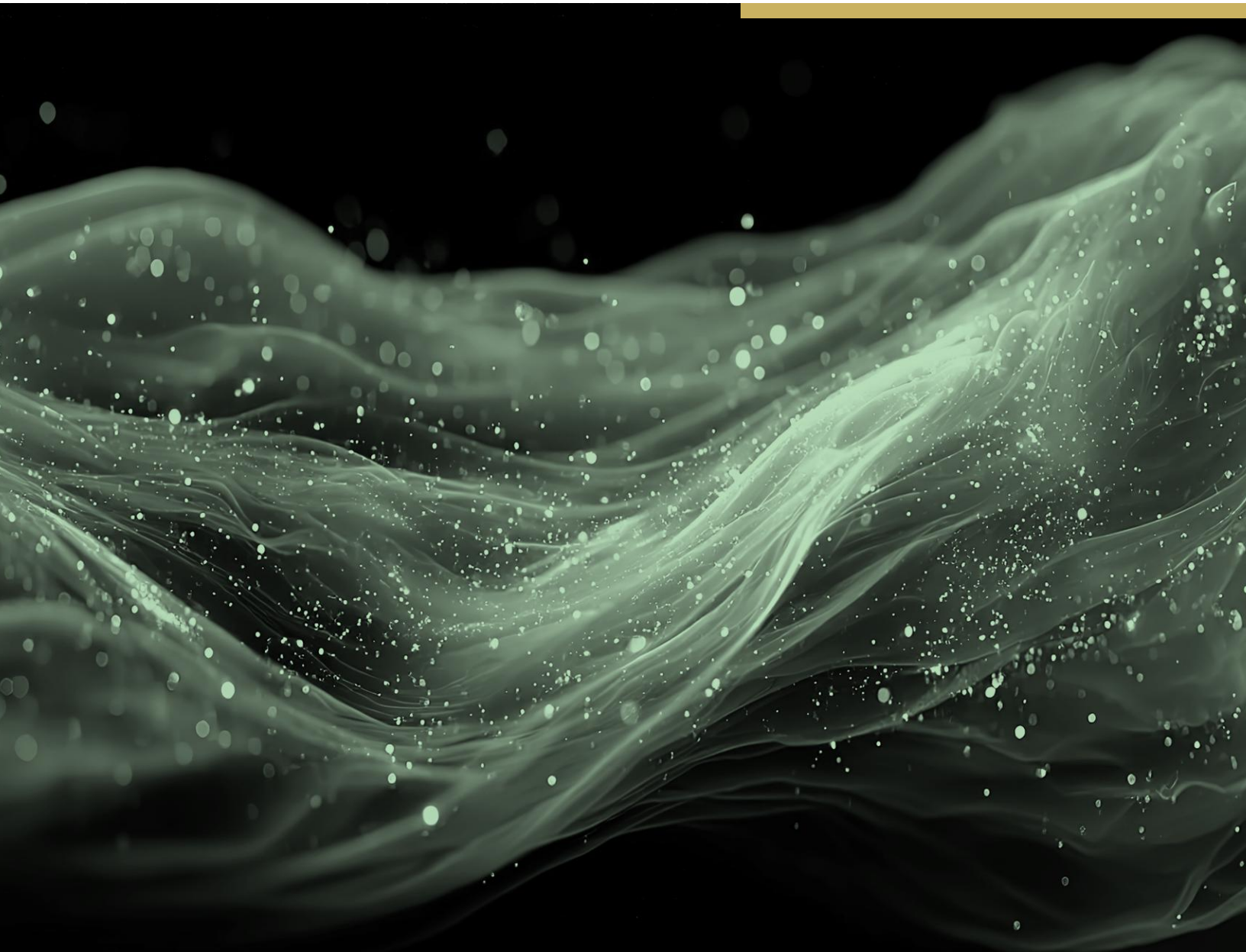
Additionally, China imposed strict export quotas and tariffs on rare earths, limiting supply to foreign markets while keeping domestic prices low. These measures increased global dependence on Chinese processing and encouraged manufacturers to relocate to China, many of which did.

The result: California's Mountain Pass rare earth mine ceased production in 2002, unable to compete economically with China's low-cost rare earth industry, which had come to dominate the global market. Contributing factors included environmental concerns, underinvestment, and operational challenges.

THE WORLD WAKES UP

The world took notice of China's dominance of the rare earths market in 2010, by which time it controlled 97% of global rare earth mining output and nearly all downstream processing. During a territorial dispute with Japan over the Senkaku/Diaoyu Islands, China halted rare earth exports after Japan detained a Chinese fishing boat captain, at a time when Japan was the world's largest importer. The incident exposed the global economy's heavy dependence on China – not just for raw materials, but also for processed rare earth products. The disruption sent shockwaves through governments and industries worldwide, prompting a reassessment of supply chain vulnerabilities and resource dependencies.

The 2010 incident catalyzed efforts to diversify rare earth supply chains. In the U.S., initiatives were launched to restart mining at the Mountain Pass mine in California almost immediately. Meanwhile, Australia's Mt Weld mine, renowned for being one of the highest-grade rare earth deposits in the world, emerged as a significant producer of rare earths in 2011. See Box 2.



Box 2: Influence Outside China: United States and Australia

Rare Earth Limited) in Western Australia, are two leading rare earth production sites outside of China.

U.S.: Mountain Pass

MP Materials is the U.S.'s only fully integrated rare earth producer. It is capabilities span the entire supply chain – from mining and processing to advanced metallization and magnet manufacturing. High grade ore is mined and processed in Mountain Pass and through multiple stages of flotation it is turned into high-purity rare earth concentrate. The concentrate is separated and refined into high-purity rare earth oxides at Mountain Pass and reduced to metal. It is then shipped to MP Materials' facility in Fort Worth, Texas (known as "Independence") where it is manufactured into permanent magnets.

U.S. Government Takes Ownership Stake:

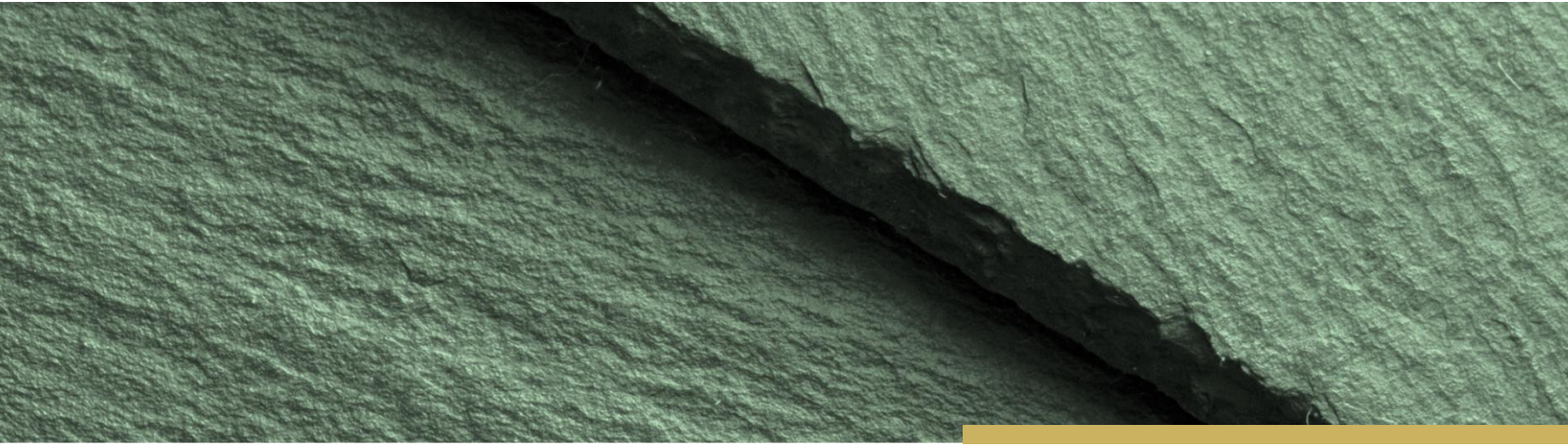
In July 2025, the U.S. Department of Defense acquired a 15% stake in MP Materials, making it one of the largest owners and signaling a strategic shift in U.S. industrial policy. The company plans to use the proceeds of this investment (US$400 million) to expand its existing rare earths separation and processing capabilities, as well as its magnet production capacity. MP Materials plans to construct a second domestic magnet manufacturing facility (the "10X Facility") with a 2028 completion date to serve both defense and commercial customers.

Australia: Mt Weld

The Mt Weld mine in Western Australia combines mining with on-site concentration to produce enriched rare earth concentrates. To enable downstream processing, Lynas Rare Earths Limited, an Australian company listed on the ASX, commissioned a processing facility in Malaysia in 2012, where Mt Weld concentrate is shipped for separation.

In November 2024, Lynas opened Australia's first rare earths processing facility in Kalgoorlie, Australia. It received a AU$14.8 million grant from the government to commercialize a new refining process at the facility.

Lynas plans to build a separation facility in Texas (Seadrift Facility), supported by US$258 million in funding from the U.S. Department of Defense.



Canada: Slow Start

Canada's response to the 2010 rare earths crisis was measured and relatively slow. Before 2010, Canada was known to have rare earth deposits, but there was little government support or industry interest. When rare earth prices soared in 2010-2011 due to Chinese export restriction, many junior miners worldwide, including dozens in Canada, announced ambitious projects; however, many struggled with financing and faced lengthy, costly environmental approval processes. When China lifted the export restrictions, prices collapsed over the 2012-2015 period, leading to the cancellation of the majority of projects and investor losses.

In 2019, amid growing concern over China's dominance in rare earth elements, the U.S. sought to reduce supply chain vulnerabilities by promoting allied sourcing. The Canada-U.S. Joint Action Plan on Critical Minerals came to fruition in January 2020 whose goal is to advance bilateral interest in securing supply chains for the critical minerals needed for strategic manufacturing sectors, including communication technology, aerospace, defense, and clean technology, and to promote joint initiatives, including in research and development and increased support for industry.

In 2021, Canada officially added rare earth elements to its list of critical minerals, recognizing their strategic importance to the economy and national security. This designation paved the way for enhanced funding and policy measures under Canada's broader Critical Minerals Strategy, released in 2022.

Following its release, Canada entered into strategic partnerships with other key partners (Australia, France, Germany, Japan, United Kingdom, Sweden, South Korea, Chile, Indonesia, Italy, plus the European Union) to advance the development of rare earths and other critical minerals and their value chains.

In June 2025, G7 leaders (Britain, Canada, France, Germany, Italy, Japan, and the U.S.) launched the G7 Critical Minerals Action Plan underscoring the importance of international cooperation, value addition, and standards in strengthening critical mineral supply chains. These collaborations are a part of an effort to position Canada as a reliable contributor to global supply diversification and resilience.

The G7 Critical Minerals Alliance was launched on October 31, 2025 to address supply chain vulnerabilities through strategic investments and offtakes in critical minerals projects necessary for defence and advanced manufacturing supply.

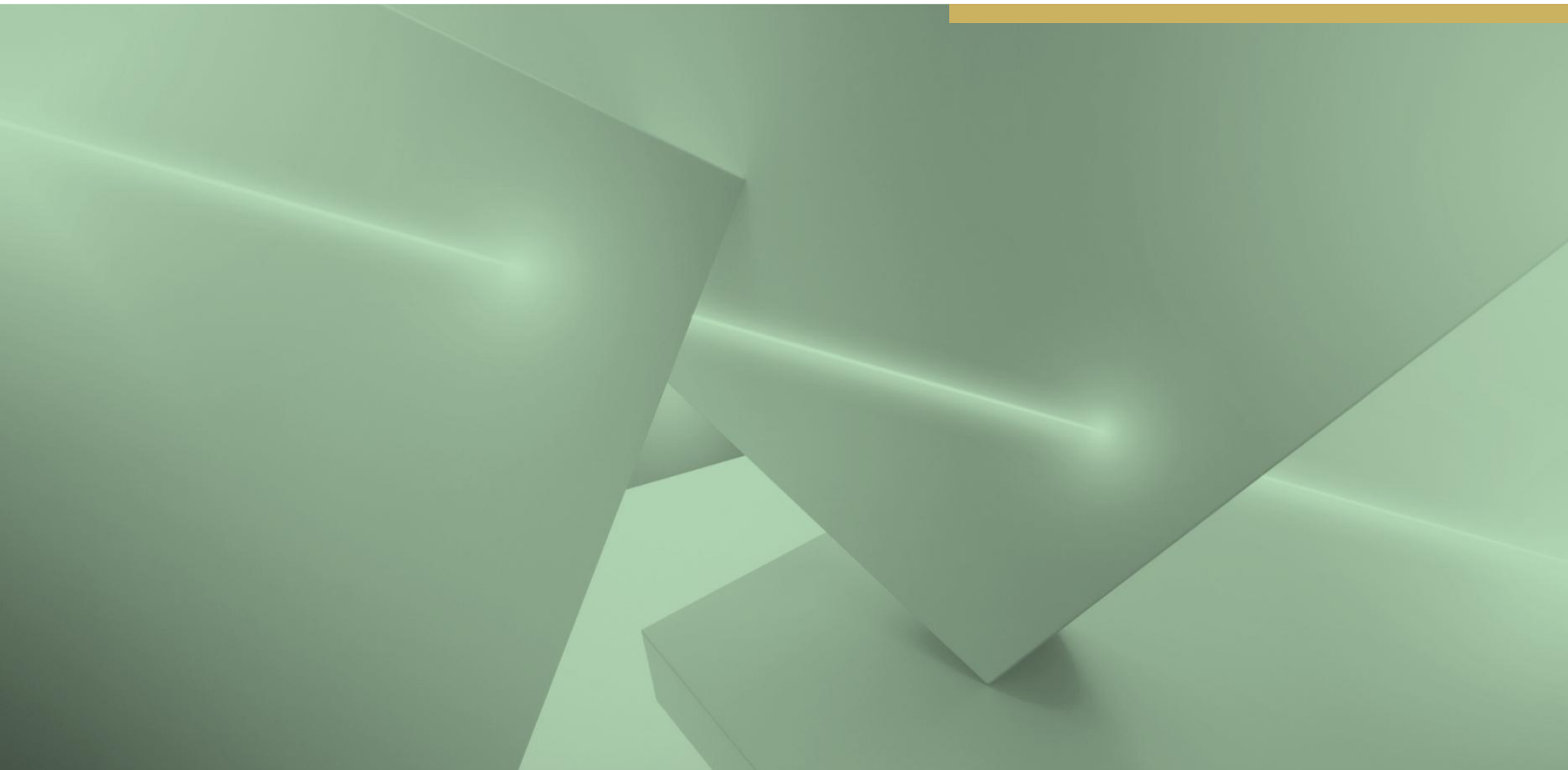
Canada Emerges as a Strategic Focal Point

Given China's stranglehold on rare earth elements and demonstrated willingness to restrict their flow, the world is looking to reliable partners to help diversify supply and support the development of secure, resilient value chains. With its substantial rare earth reserves and world-class expertise in mining, research and development and advanced processing technologies, Canada has emerged as a potential global leader in rare earth production and advanced processing.

Canada is not a current commercial producer of rare earths. Several promising projects are advancing (for example, the Nechalacho, Strange Lake, Ashram, Wicheeda, Hoidas, and Montviel rare earth projects). See Appendix A. While these projects highlight key developments, there are numerous other sites across the country.

Importantly, Canada is also actively carving out strategic niches midstream (see Appendix B) – rare earth separation and processing – led by the Saskatchewan Research Council (SRC). In parallel, companies such as Geomega Resources (Quebec) and Cyclic Materials (Ontario) are pioneering recycling separation technologies, positioning Canada as a potential leader in sustainable rare earth recovery.

While Canada lacks downstream permanent magnet manufacturing, there is interest in developing this capacity, but other countries are moving faster. In the U.S. seven magnet projects are coming to market, many of which are supported by government funding that helps de-risk their development. The U.S. is slated to become the second-largest permanent magnet manufacturing country by the next decade. Permanent magnet manufacturing capacities are also being developed in the Europe Union. Estonia (Neo Performance Materials) has emerged as a new producer of specialized rare earth permanent magnets. France is also ramping up production capacity (Solvay) as is Germany (Powder Metallurgy).



THE CHALLENGES AND RISKS

Access to Capital

Access to capital is one of the greatest barriers to establishing rare earth supply chains (see Box 3) outside China. Investment requirements are massive and can exceed that of conventional mining by 40%.

- Exploration and mine development can cost $250-$500 million
- Concentration and initial processing, $300-$600 million
- A separation facility, $600 million-$1.2 billion
- Metal, alloy, or magnet production, $400-800 million

Thus, a fully integrated mine-to-magnet operation can cost roughly $1.5-$3 billion, depending on scale and location. High capital requirements are a major consideration, particularly amid market conditions where China can manipulate prices, making the industry unattractive to private investment.

Timelines

Timelines can stretch 15-20 years, and risks are high, leaving private investors cautious. When rare earth prices soared 2010-2011 due to Chinese export restriction, many junior miners worldwide, including dozens in Canada, announced ambitious projects. Then prices collapsed over the 2012-2015 period, leading to projects being delayed or cancelled and investor losses. As a result, funding today comes mainly from specialized or strategic investors, while governments play a catalytic role in de-risking rare earth projects.

Processing and Technical Challenges

Rare earth separation is technically complex, requiring specialized expertise and significant investment in research and development. Canada has begun to build this midstream capability, led by the Saskatchewan Research Council and Ucore Rare Metals, along with companies such as Geomega Resources and Cyclic Materials, which are pioneering recycling-based separation technologies.

Infrastructure and Geography

Many of Canada's largest rare earth deposits are located in remote regions with limited infrastructure. High transportation costs, seasonal access constraints, and dependence on new road, port, and energy investments add significant complexity to project development. Government investment in backbone infrastructure can play a crucial role in overcoming these barriers.

Environmental Considerations

Environmental management is a cornerstone of Canada's rare earth strategy, with projects required to meet rigorous standards for waste, water use, and emissions.

Waste management poses a particular challenge in rare earth processing. Separation and purification demand substantial volume of water. Managing process water and tailings is critical to prevent contamination of surrounding land and waterways. Many deposits also contain naturally occurring radioactive elements, such as thorium and uranium, which must be isolated and stored in accordance with stringent environmental and radiation protection standards. Developing sustainable water recycling systems and long-term waste storage solutions will be essential to minimizing environmental impact and maintaining public trust.

Box 3: The Major Stages of the Rare Earth Supply Chain

Rare earth supply chains are significantly more complex than those of conventional mining encompassing:

1. **Mining:** Extraction of rare earth-bearing ores from the ground.
2. **Concentration:** Ore is processed through crushing, grinding, flotation, and filtration to produce a rare earth concentrate.
3. **Separation:** The concentrate is separated into individual rare earth oxides, typically using solvent extraction.
4. **Refining/Metal Making:** Oxides are converted into usable metals or alloys.
5. **Manufacturing:** Metals and alloys are fabricated into permanent magnets and other end-use products.

CURRENT FINANCING

Canadian Federal Government Support

In recognition of the strategic and economic importance of critical minerals, Canada's federal and provincial government plays a role in de-risking project development to attract private sector investment. See Appendix A.

The focus is on critical minerals overall, as there is no stand-alone strategy specific to rare earths.

Federal government programs include:

- Natural Resources Canada (NRCan): Provides non-repayable contributions and cost-shared funding for exploration, pilot-scale projects, and research and development through the Critical Minerals Research, Development and Demonstration (CMRDD) Program. It also administers funding under the Critical Minerals Infrastructure Fund (CMIF) to support enabling infrastructure for critical minerals projects through grants and contribution funding.

- The Strategic Innovation Fund (SIF): Administered by Innovation, Science and Economic Development Canada. Provides $1.5 billion over six years in targeted support (offering repayable loan and sometimes non-repayable grant contributions) to eligible critical minerals projects, including rare earth projects, with prioritization given to manufacturing, processing, and recycling applications. In September 2025, the government introduced the Strategic Response Fund (SRF), replacing SIF.

- Dedicated funding is also available to support Indigenous participation in resource projects, particularly in the Northwest Territories and northern Quebec, where major rare earth deposits are located.

Federal tax credits

- 30% non-refundable Critical Mineral Exploration Tax Credit for eligible expenses – including rare earth exploration – incurred in Canada and renounced to flow-through share investors.

- 30% refundable Clean Technology Manufacturing Investment Tax Credit (CTM) for investments in machinery and equipment used in extraction, processing, and recycling of certain critical minerals, including rare earths.

Crown Corporations

- Export Development Canada (EDC): Provides early-stage financing for critical mineral development.
- The Business Development Bank of Canada (BDC Capital) provides early-stage equity financing for smaller mining and technology-focused firms.
- The Canada Infrastructure Bank (CIB): Invests in the critical infrastructure such as access roads, rail, ports, and power transmission and waste management facilities in remote areas to support critical mineral development, using loans, equity, and guarantees to help attract private capital.

Provincial Government Support

Several provinces have outlined critical mineral strategies as part of a broader national effort to secure Canada's position in the global critical minerals supply chain. Examples:

Québec Plan for the Development of Critical and Strategic Minerals 2020-2025

Critical Minerals | Mineral Exploration and Mining | Government of Saskatchewan

Securing Our Critical Mineral Future | Government of Manitoba

Ontario's Critical Mineral Strategy

Private Investment

In Canada's rare earths sector, private placements are a common method for raising capital. These financings typically involve the issuance of units consisting of common shares, often paired with attached warrants, giving investors the opportunity to acquire additional shares at a predetermined price within a specified period. Private placements can be brokered or non-brokered, with the proceeds allocated to exploration activities and general working capital. Typical funds raised range from $5 million to $15 million.

Private placements have also taken the form of unsecured convertible debentures. These instruments allow holders to convert the outstanding net principal into units of common shares/warrants of the corporation at any time during the term. Aggregate gross proceeds from such debenture financings are commonly around $2 million.

There are a dozen or more rare-earth focused companies listed on the TSX Venture Exchange (TSXV) to access additional funding as they move from exploration toward feasibility and pilot-scale testing.

Venture capitalists and strategic corporate investors (such as technology companies and automotive manufacturers) have emerged as an increasingly important source of funding downstream, particularly for companies developing innovative processing and recycling technologies. See Appendix B.

THE WAY FORWARD

Canada's Key Considerations

The next few years will be critical for Canada to build a competitive and resilient rare earth value chain. Success requires a dedicated focus on rare earths specifically, rather than treating them as just one component of a broader critical mineral strategy. **Canada needs a stand-alone strategy for rare earths that addresses the sector's unique challenges and opportunities.**

The global race to secure rare earth minerals places Canada in a strategically advantageous position, thanks to its abundant resources and reputation as a reliable, environmentally responsible mining jurisdiction. Ultimately, it is the speed and discipline of follow-through that will determine whether this potential is translated into a real competitive advantage.

A highly volatile price environment for rare earth elements poses a significant barrier to attracting long-term capital. Without government-led policy measures to stabilize investment conditions – such as offtake guarantees, risk-sharing mechanisms, or targeted incentives – price uncertainty could delay or derail otherwise promising projects.

Canada's complex and protracted permitting framework further constrains project timelines. While this process reflects Canada's high environmental and social standards, it risks placing the country at a competitive disadvantage as other jurisdictions move more swiftly to bring projects online.

Additionally, many rare earth deposits are located on or near Indigenous lands. Ensuring early, meaningful, and sustained engagement with Indigenous communities – alongside equitable benefit-sharing agreements – is essential to securing project legitimacy and advancing reconciliation.

Finally, the geographic remoteness of many deposits adds further cost and complexity. Strategic investment in access roads, ports, energy, water, and waste management infrastructure will be vital to unlocking the economic potential of these regions and ensuring the viability of Canada's rare earth supply chain.

Together, these measures would materially de-risk projects, accelerate supply chain development, and strengthen Canada's competitive position in the global rare earth market.

Policy Solutions

A. Offtake Agreements

Given the capital-intensive nature of mining and refining projects, developers need confidence that demand for their output will remain robust over the lifetime of a project.

An offtake agreement is a contract between a producer and buyer to purchase future output at a pre-agreed price or pricing formula. These agreements are particularly important for rare earths due to their strategic importance, high capital costs, and volatile market.

They help mitigate investment risk by providing greater demand certainty for new ventures.

Governments often play a critical role in securing or facilitating such agreements, particularly in emerging or strategic sectors like rare earths.

The Canadian government has been pursuing offtake agreements for domestic rare earth-focused companies, often through strategic international partnerships. In August 2025, Canada and Germany signed a Joint Declaration of Intent to strengthen cooperation on critical mineral supply chains. As part of this initiative, the government facilitated a Memorandum of Understanding (MOU) between Quebec-based Torngat Metals and Germany's Vacuumschmelze (VAC), a global leader in rare earth magnet production, outlining a long-term supply arrangement for separated rare earth oxides. Earlier, in June 2024, the government highlighted a deal between Ontario-based metals recycler Cyclic Materials and Belgian-based chemicals producer Solvay, under which Cyclic will supply recycled mixed rare earth oxides from its new Kingston facility to Solvay's operations in France.

Another example (U.S.): For a period of 10 years following the completion of MP Materials' 10X Facility, the U.S. Department of Defense has committed to ensuring that 100% of the magnets produced at the facility will be purchased by defense and commercial customers, with any upside shared between the parties.

In the rare earth sector, the Canadian government should actively facilitate offtake agreements with a diverse range of strategic customers. These should include the U.S. Department of Defense, renewable energy developers, and key players in EV battery and motor supply chains, as well as broader commercial markets such as OEM manufacturers, consumer electronics brands, magnet producers, and industrial and automation companies.

B. Price Stabilization Mechanisms

Government price stabilization mechanisms, such as price floors and contracts for difference, are attracting growing interest, and should be actively implemented for the most critical of rare earths. By guaranteeing predictable revenue streams, these instruments can support long-term planning, reduce exposure to price volatility, and encourage private investment in new mining and refining projects.

Price Floors

Floor prices establish a guaranteed minimum price for critical minerals by government to producers, providing a safety net for producers and investors against severe market fluctuations.

In September 2025, Group of Seven (G7) leaders discussed the potential of implementing price floors for certain rare earth elements.

Australia is actively exploring similar mechanisms to support its domestic critical minerals sector, including the possibility of establishing minimum price guarantees to attract private investment.

Contracts for Difference

Contracts for difference can help stabilize costs for both mineral producers and off-takers. Under these arrangements, the government sets a reference price and compensates producers if the market price falls below that level. Conversely, if market prices exceed the reference price, producers remit the surplus to the government or an intermediary. This type of mechanism reduces vulnerability to non-market forces and ensures stable and predictable cash flow with shared upside.

As an example, the U.S. Department of Defense entered into a 10-year agreement establishing a price floor commitment of $110 per kilogram for MP Materials' neodymium (Nd) and praseodymium (Pr) materials – roughly 40% higher than prevailing market prices. When the market price is above the floor, the Department of Defense will in turn receive 30% of the amount above the floor.

C. Tax Credits

The federal Critical Mineral Exploration Tax Credit provides a 30% non-refundable credit for eligible mineral exploration expenses incurred in Canada and renounced to flow-through share investors, with rare earths explicitly included. The Clean Technology Manufacturing Investment Tax Credit is a refundable credit equal to 30% of the cost of investments in new machinery and equipment used to manufacture or process key clean technologies, or to extract, process, or recycle critical minerals, including rare earth elements, essential for clean technology supply chains.

Considerations should be given to introducing tax credits further upstream. For example, Australia's Critical Minerals Production Tax Incentive offers a 10% refundable tax offset on eligible processing and refining expenditures for critical minerals, including rare earth elements.

D. Reducing Permitting and Approval Times

Reducing permitting and approval times is critical to accelerating the development of rare earth projects. The sector is highly capital-intensive, and lengthy regulatory processes can significantly delay production, increase financing costs, and undermine investor confidence. In its 2023 federal budget, the Canadian federal government noted that "it should not take 12 years to open a critical mineral mine." Yet, according to S&P Global, the average lead time for a mine in Canada is 17.9 years – 14.0 years for discovery, exploration, and studies, 1.3 years for the construction decision, and 2.6 years for construction to start up. Streamlined and predictable permitting not only encourages domestic and foreign investment but also enhances the ability of companies to respond quickly to shifts in global demand for critical minerals. By shortening approval timelines while maintaining strong environmental and social safeguards, governments can help ensure that rare earth projects move from exploration to production more efficiently, strengthening supply chain resilience and supporting strategic economic objectives.

In June 2025 the government established the Major Projects Office (MPO) to expedite projects though the federal assessment and permitting process that have been deemed to be of national importance and significance, including those in the critical minerals sector. The MPO enforces a two-year maximum federal review timeline and collaborates closely with the provinces/territories, investors, and Indigenous partners. The MPO will play a central role in helping structure and coordinate project financing, linking proponents with federal programs like the Canada Infrastructure Bank.

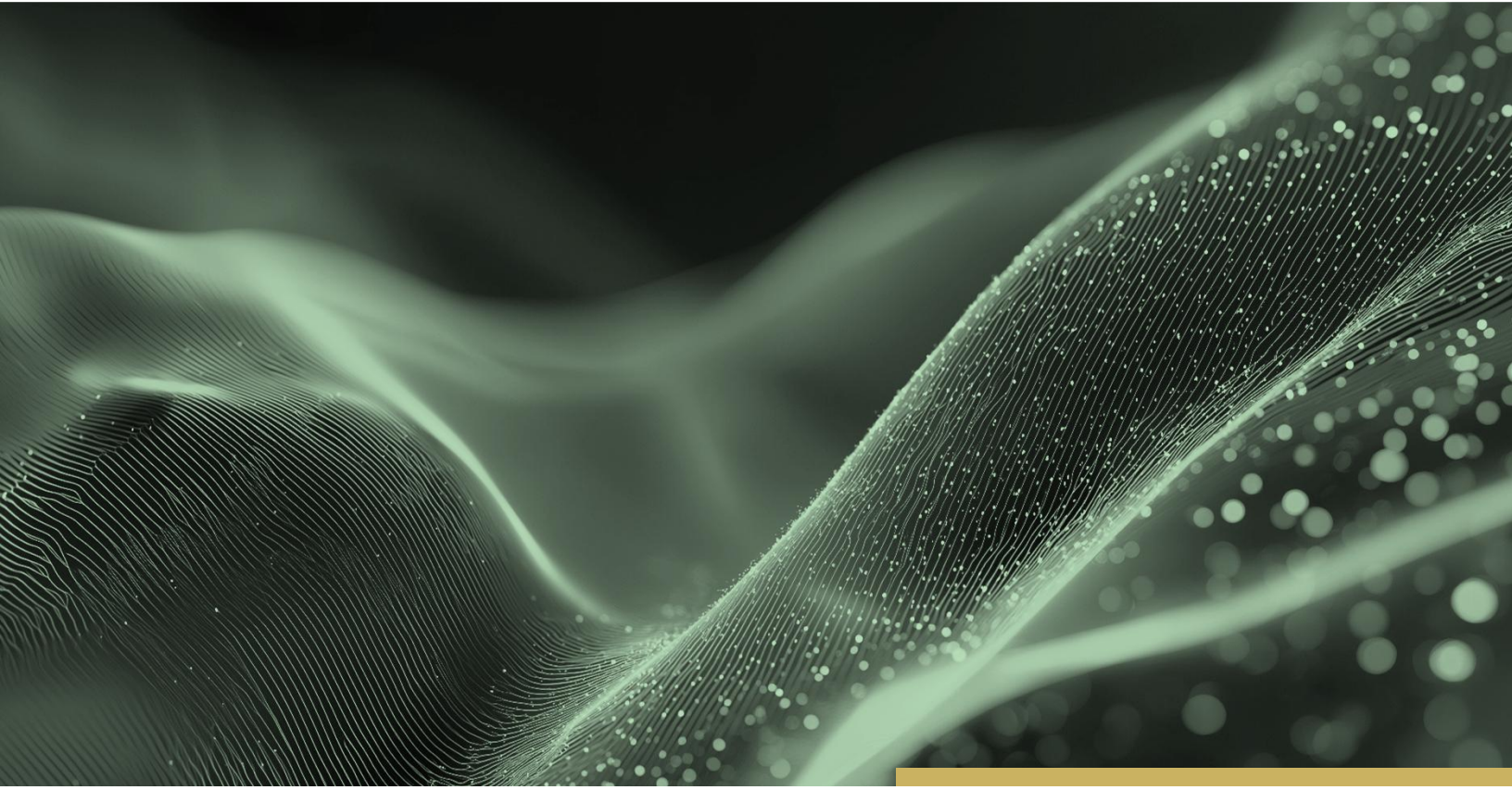
The government should prioritize permitting for projects involving rare earth extraction, processing, and downstream applications that are deemed essential for national security, clean technology, or high-tech industries.

E. Equity Investments

In July 2025, the U.S. Department of Defense announced it is taking a 15% equity stake (US$400 million) in MP Materials – becoming the company's largest stakeholder – to catalyze private investment. Ten days after the announcement of the agreement, MP Materials struck a $500 million partnership with Apple to supply rare earth magnets made wholly from recycled materials and tailored to Apple's specifications.

In January 2025, the Australian government made an AU$200 million equity investment in Arafura Rare Earths to support the development of its mine and processing facility in the Northern Territory.

On October 20, 2025, Australia and the U.S. signed the United States–Australia Framework for Securing of Supply in the Mining and Processing of Critical Minerals and Rare Earths. Both governments will leverage public and private capital to invest in selected projects that address gaps in priority supply chains, providing at least US$1 billion each within six months to projects delivering end products to buyers in both countries. The partnership includes developing tailored investment support mechanisms, accelerating permitting and project execution, and convening a Mining, Minerals, and Metals Investment Ministerial within 180 days to promote further investment in mining, separation, and processing activities. The Framework establishes a project pipeline of up to US$8.5 billion.



The decision to take direct stakes in companies has drawn criticism, with some arguing that the government is effectively "picking winners and losers" in a sector that comprises numerous players. Critics warn that such selective backing could distort market dynamics by crowding out competitors that lack similar government support or guarantees, potentially limiting competition and private investment across the industry.

Here is Canada, the November 2025 federal budget proposed the creation of a $2 billion (over five years, starting 2026-2027) Critical Minerals Sovereign Fund, managed by Natural Resources Canada, to make equity investments, provide loan guarantees, and enter into offtake agreements for critical minerals projects and companies. Further operational details, including eligibility criteria, were not released.

The Critical Minerals Sovereign Fund should prioritise rare earth projects and clearly set out rare earth value chain stages (e.g., mining, separation, refining, recycling) to ensure focused support.

F. Indigenous Considerations

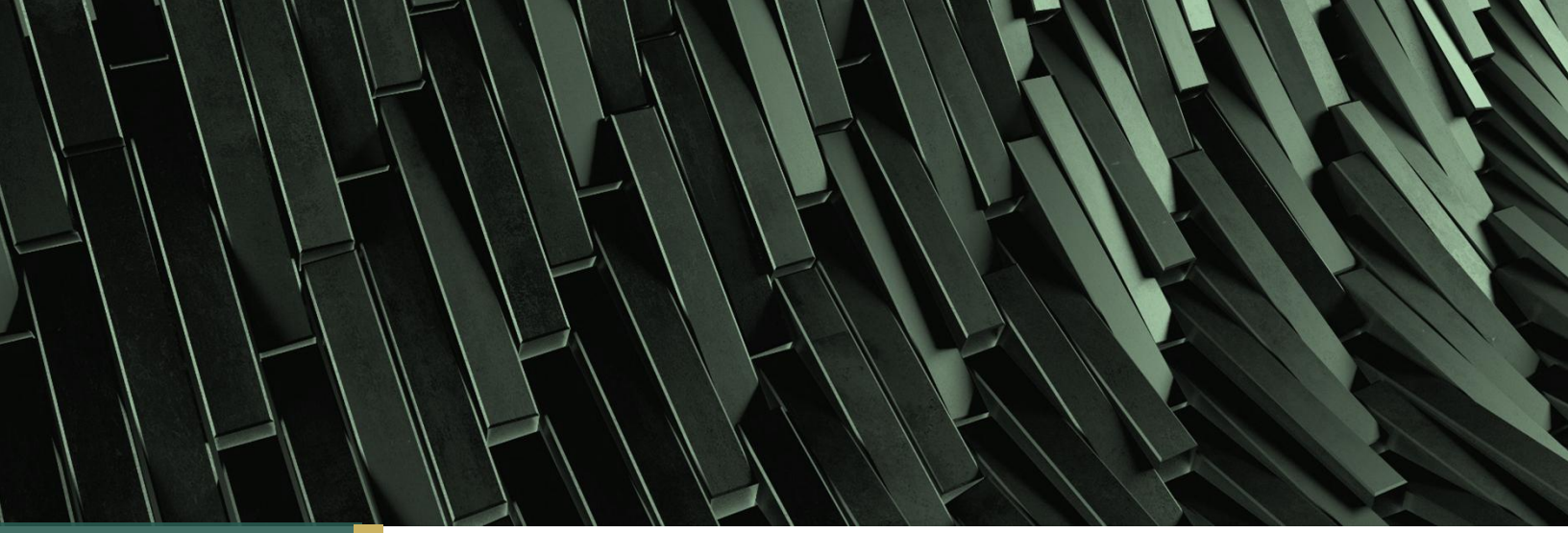
Canada's critical mineral strategy recognizes that Indigenous Peoples are the stewards, rights holders, and in many cases, title holders to the land upon which mineral development takes place. The success of Canadian critical minerals development is contingent on respect for Indigenous and treaty rights, meaningful and sustained engagement and consultation, and ongoing partnership and collaboration with Indigenous Peoples.

Benefit-sharing agreements with Indigenous Peoples are essential to securing permits and long-term success.

CONCLUSION

Canada stands at a pivotal moment. Its abundant resources, technical expertise, and stable political and economic environment position it to become a trusted and reliable supplier of rare earths. Yet, developments are evolving rapidly, and without swift action, Canada risks being outpaced by other countries that are moving aggressively to establish themselves as global leaders in production, processing and downstream industries.

To fully realize its potential, Canada must deploy a comprehensive mix of policy levers. This would include facilitating long-term offtake agreements with strategic industrial and defense partners, implementing price stabilization mechanisms, streamlining permitting, and investing in backbone infrastructure are all critical to reducing project risk and accelerating development. Complementary measures, including targeted financial incentives, public-private partnerships, and international collaborations, can further attract private capital, and strengthen the competitiveness of domestic supply chains.



Summary of Recommendations to the Federal Government

- Develop a stand-alone rare earth strategy – one that includes a roadmap for mining, processing, refining, and downstream applications.

- Facilitate offtake agreements with a diverse range of strategic customers. These should include the U.S. Department of Defense, renewable energy developers, and key players in EV battery and motor supply chains, as well as broader commercial markets such as OEM manufacturers, consumer electronics brands, magnet producers, and industrial and automation companies.

- Implement price stabilization mechanisms such as price floors and contracts for difference, for the most critical of rare earths.

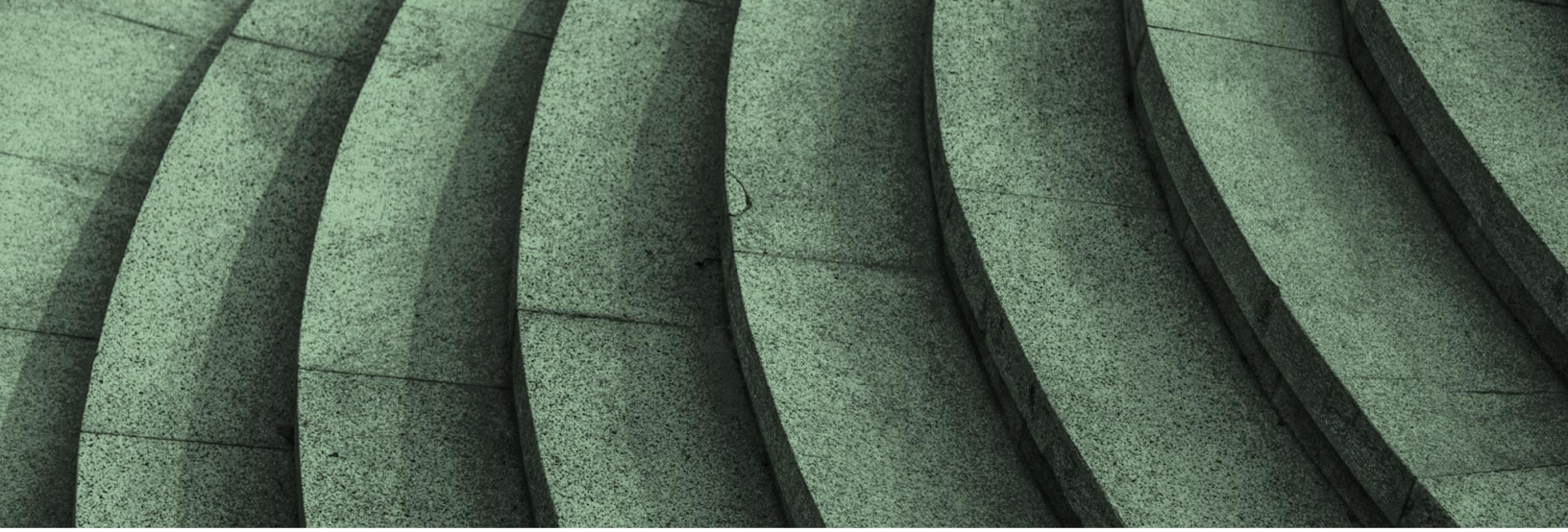
- Consider upstream tax incentives.

- Prioritize permitting for rare earth projects that are deemed essential for national security, clean technology, or high-tech industries.

- Leverage the Critical Minerals Sovereign Fund. Prioritize rare earth projects and explicitly outline eligible value chain stages (mining, separation, refining, recycling) to provide focused, strategic support.

- Continue to make strategic investments in backbone infrastructure – such as roads, ports, energy, water, and waste management infrastructure – to improve project viability.

- Ensure early, meaningful, and sustained engagement and consultation with Indigenous communities, accompanied by equitable benefit-sharing agreements.



APPENDIX A – UPSTREAM: CANADA'S WORLD CLASS DEPOSITS

While these projects highlight key developments, there are numerous other sites across the country.

Nechalacho Rare Earth Project, Northwest Territories (Vital Metals)

The North T site commenced production in June 2021, making it Canada's first rare earth mining operation. By October 2021, approximately 500 tonnes of high-grade rare earth concentrate had been produced, marking a significant milestone for the country's rare earth industry. However, operational challenges led to a suspension in 2023.

Vital Metals is progressing toward a pre-feasibility study for the Tardiff deposit – a light rare earth–dominant zone – on track for completion in 2026. Tardiff is one of the highest-grade rare earth deposits in the world and the only rare earth project capable of beneficiation solely through ore sorting.

On August 24, 2025, Vital Metals announced plans to sell a 19.52% interest in the company, including the Nechalacho project, to U.S. firm Strategic Resources LLC for approximately $2.69 million. In addition, the company will sell roughly a 24.5% interest to other accredited U.S. investors for an additional $3.4 million, subject to shareholder approval. The proceeds will fund drone surveys, related exploration work, an updated mineral resource estimate, and the pre-feasibility study – a necessary step toward opening a large-scale mine. The agreement also includes work on new technology, which Vital Metals refers to as "dry field force extraction," intended to make the Nechalacho project more economically viable.

Strange Lake Project, Nunavik, Quebec (Torngat Metals)

Torngat Metals Ltd. expects to complete pre-feasibility and feasibility studies, along with an environmental impact study, in 2025. Construction is expected to commence in late 2026, with production targeted for 2028. The Strange Lake deposit is rich in heavy rare earths, with one of the largest deposits outside of China.

The company plans to mine and concentrate ore at Strange Lake, transporting it via road and port infrastructure to its future rare earth separation plant in Sept-Îles for refining into high-purity rare earth oxides.

In December 2024, the Canadian government announced an investment of up to $10 million through Natural Resources Canada (NRCan) via the Critical Minerals Infrastructure Fund (CMIF) for the Strange Lake Northern Transportation Infrastructure Project. The funding supports pre-construction and development of a 170-kilometre access road and new port facilities on the coast of Labrador, facilitating rare earth transportation from Strange Lake.

On June 17, 2025, Export Development Canada (EDC) announced a $110 million bridge financing to support pre-construction activities, including engineering and environmental studies. This marked the first time EDC extended financing to an early-stage mining project. Simultaneously, the Canada Infrastructure Bank (CIB) provided a $55 million enabling infrastructure loan, effectively upsizing EDC's bridge loan facility and de-risking the project by backing essential early-stage work like engineering and environmental studies.

On August 26, 2025, Torngat Metals and Germany's Vacuumschmelze (VAC) – a producer of rare earth permanent magnets – signed a non-binding Memorandum of Understanding (MOU) to pursue an offtake agreement for Torngat Metals to supply VAC with long-term security of fully traceable and responsibly produced separated rare earth oxides. Once operational, Strange Lake will be uniquely positioned to provide long-term supply security for both light and heavy rare earth oxides needed for permanent magnets.

On October 31, 2025, Torngat Metals and Carester (France), a European leader in separation and recycling technologies, signed a ten-year offtake agreement under which Torngat Metals will supply Carester's subsidiary Caremag, which operates a rare earth recycling and separation plant currently being built in Lacq, Pyrénées-Atlantiques, France. This was facilitated by the G7 Critical Minerals Production Alliance.

Ashram Rare Earth Element and Fluorspar Project, Quebec (Commerce Resources Corp.)

The Ashram Project is considered an advance stage rare earths project advancing through various studies and pilot-scale testing. It is a globally significant mixed heavy and light rare earths deposit.

In February 2025, Commerce Resources secured a conditional commitment of up to $2.6 million from Canada's Critical Minerals Infrastructure Fund (CMIF) to support the construction of a 185-kilometer access road connecting the Ashram site to the Koksoak River, facilitating transportation and logistics.

Previously, the Quebec Government provided $1 million direct equity investment, $365,000 funding of parallel pilot plant program and software modelling (Universite' Laval), and $300,000 funding of tailings optimization program (INRS).

Wicheeda Rare Earth Element Project, British Columbia (Defense Metals Corp.)

A pre-feasibility study was completed in May 2025 and the company is moving towards commencing a definitive feasibility study in the first half of 2026.

In September 2024, the company signed a Memorandum of Understanding (MOU) with the Saskatchewan Research Council (SRC) Facilitating negotiations of a long-term agreement with SRC for the sale and purchase of Defense Metal's mixed rare earth carbonate.

In April 2025, the company announced it has an MoU in place with a potential strategic partner seeking new sources of feed for a significant portion of its planned output (offtake agreement).

Regarding financing, in March 2025, the company announced it received funding of up to $853,825 from Natural Resources Canada's Critical Minerals Infrastructure Fund (CMIF) to support an economic study assessing the construction of a 46 km transmission line connecting Wicheeda to the provincial hydroelectric power grid. The funding also covers engineering and environmental studies, archaeological assessment, and Indigenous engagement.

In June 2025, the company indicated it has received a Letter of Interest from Export Development Canada (EDC) expressing its interest in participating as a Mandated Lead Arranger for potential debt financing of up to US$250 million to support the development and construction of Wicheeda.

Hoidas Lake Rare Earth Elements Project, Saskatchewan (REalloys Inc.)

The Hoidas Lake deposit is a combination of both heavy and light rare earth elements. Drilling and environmental studies are scheduled for 2026-2027; competition of detailed engineering, feasibility, and permitting in 2027-2028; and mine and concentrator construction and start of production in 2029.

REalloys Inc. is advancing the Hoidas Lake project to facilitate a fully integrated mine-to-magnet supply chain in North America - mining at Hoidas Lake in Saskatchewan (upstream), processing at the Saskatchewan Research Council's separation facility (mid-stream), and magnet manufacturing in Euclid, Ohio (downstream).

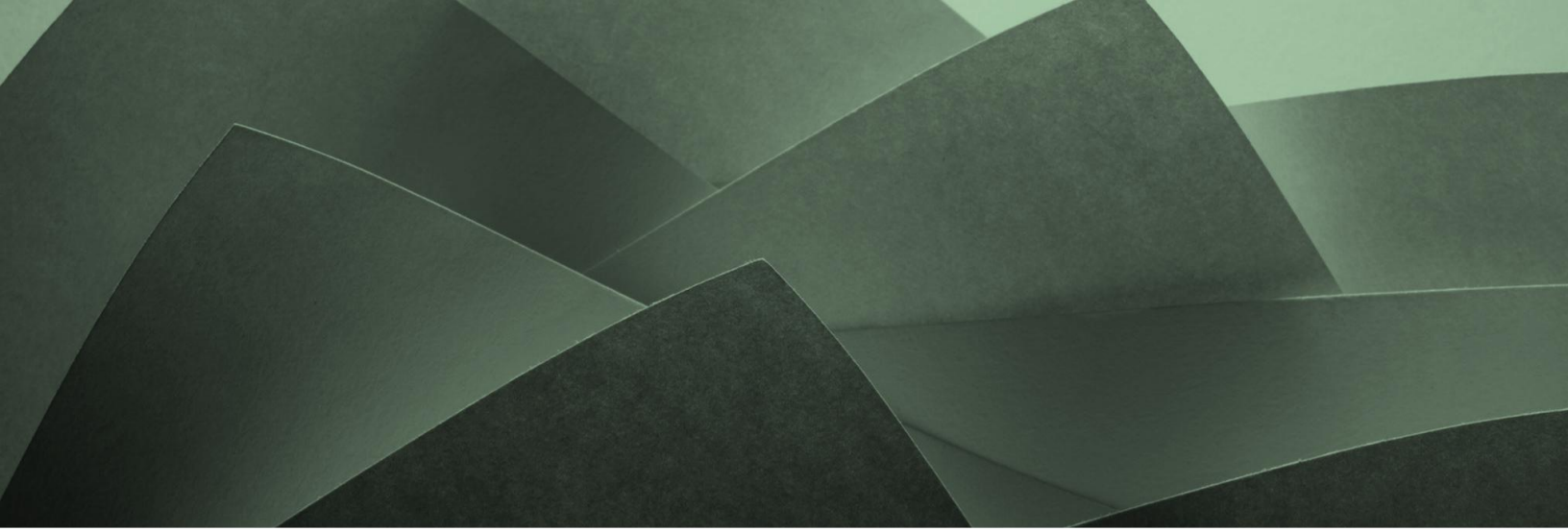
The company's Euclid Magnet Facility in Ohio is fully permitted and is producing magnet materials and magnets for "U.S. Protected Markets" including U.S. National Defense Stockpile.

In May 2025, REalloys signed a Memorandum of Understanding (MOU) with the Saskatchewan Research Council (SRC) to supply the Euclid Magnet Facility with rare earth element oxides and metals. Prior to future rare earth element production from the Hoidas Lake Rare Earth Elements Project, other verified sources of rare earth elements will be used as feedstock for the SRC Facility and Euclid Magnet Facility, including from a Brazil monazite mine and North American recycled rare earth magnet material.

Montviel Project, Quebec (Geomega Resources Inc.)

Following hydrometallurgical testwork on its Montviel rare earths deposit in 2022, with support from the Quebec government, Geomega was able to significantly upgrade the process flow sheet and apply various process improvements to improve project economics and reduce the environmental footprint of the deposit.

The deposit is the largest bastnaesite (a type of ore containing rare earth elements) resource estimate in North America.



APPENDIX B – MID-STREAM: CANADA'S STRATEGIC NICHE

A. Refining/Metal Making

The Saskatchewan Research Council (SRC) is a Treasury Board Crown Corporation. In 2024, the SRC Rare Earth Processing Facility opened in Saskatoon, becoming North America's first fully integrated, commercial facility producing rare earth *metals*, not just oxides or concentrates.

Since 2020, the project has received funding from the Government of Saskatchewan ($71 million) and the federal government ($30 million), including contributions from Natural Resources Canada through the Critical Minerals Research, Development and Demonstration program (CMRDD) and Prairies Economic Development Canada (PrairiesCan), to establish the facility, develop rare earth processing technologies, and acquire feedstock.

SRC has also signed agreements to process rare earth minerals from Viet Nam, Australia and Brazil while Canadian mining capacity scales up. The facility was originally designed to process rare earth concentrate from Vital Metals' Nechalacho mine, with high-grade ore from the North T deposit crushed and concentrated in Saskatoon before delivery to SRC. In June 2024, the Canadian government facilitated the sale of stockpiled rare earth material from Nechalacho to the Saskatchewan Research Council (SRC) for $3.3 million.

Ucore Rare Metals Inc., headquartered in Halifax, Nova Scotia, is a technology-driven company specializing in rare earth element separation and processing. At its Kingston, Ontario, Commercial Demonstration Facility, Ucore piloted its RapidSX™ proprietary rare earth separation technology, demonstrating it can process rare earths three times faster compared to conventional separation technologies while using two-thirds less space than traditional methods, reducing capital expenditures and operating costs.

Because the technology offers scalable and module process lines, it enables potential in-situ production capacity in the future. Ucore plans to deploy RapidSX™ in its first commercial processing facility in Alexandria, Louisiana to separate and produce rare earth metals. Dubbed the Strategic Metals Complex (SMC), the facility is expected to begin operations by late 2025. This expansion is supported by U.S. Department of Defense funding: Phase 1: US$4 million; Phase 2: US$18.4 million.

In February 2024, Ucore Rare Metals Inc. received $4.3 million of funding through the Natural Resources Canada (NRCan) Critical Minerals Research, Development and Demonstration (CMRDD) program to help scale up and demonstrate the commercial efficacy of its Canadian-developed RapidSX™ rare earth element separation technology platform. In January 2025, it received $500,000 under Ontario's Critical Minerals Innovation Fund for the advancement of the Continuous Improvement Process at the Company's RapidSX™ Commercial Demonstration Facility in Kingston, Ontario.

On October 31, 2025, Ucore announced it has been conditionally approved for a non-repayable contribution of up to $26.3 million from NRCan, through its Global Partnerships Initiative (GPI) Program and up to $10 million from FedDev Ontario to demonstrate and scale-up a first-of-its-kind commercial processing facility in Kingston, Ontario, dedicated to the refining of the critical rare earth elements samarium and gadolinium.

On November 3, 2025, Ucore signed a Memorandum of Understanding (MoU) with Germany's Vacuumschmelze (VAC) and its U.S.-based affiliate, eVAC Magnetics (eVAC) for the supply of high-purity rare earth oxides produced at its facilities in Alexandria, Louisiana and Kingston, Ontario, for the production of high performance permanent magnets. VAC is opening a new magnet plant in Sumter, South Carolina, supported by the U.S. government with a US$111.9 million advanced energy tax credit and Defense Production Act funding.

B. Recycling

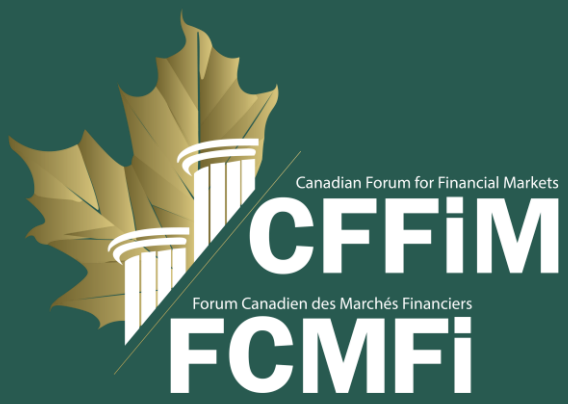
Cyclic Materials is launching North America's first Centre of Excellence for rare earth recycling in Kingston, Ontario. Set to begin operations in the first quarter of 2026, this facility will the company's first commercial "Hub" processing unit, leveraging the company's proprietary REEPure℠ technology. The facility is designed to convert magnet-rich feedstock into recycled mixed rare earth oxide that will be supplied to key partners, like Solvay (France), to manufacture permanent magnets. The feedstock will be sourced from Cyclic's first commercial facility (the "Spoke") located in Mesa Arizona, where end-of-life products (e.g., electric vehicle motors, wind turbines, MRI machines, data center electronic waste) containing rare earth permanent magnets will be processed.

To scale up its recycling technology and enable growth in North America, Europe and Asia, Cyclic Materials raised US$57 million in its Series B equity rounds, backed by global industry leaders like Microsoft, Hitachi Ventures, BMW iVentures, Fifth Wall, Zero Infinity Partners, Energy Impact Partners, Planetary Technologies, BDC Capital, InMotion Ventures and Amazon. The company had raised US$27 million in Series A financing in April 2023.

In September 2024, the company received $4.9 million under the Natural Resources Canada (NRCan) Critical Minerals Research, Development and Demonstration (CMRDD) program for it Kingston Ontario demonstration plant.

Geomega Resources Inc. specializes in developing and deploying innovative hydrometallurgical technologies for the extraction, separation, and recycling of rare earth elements (REEs) and other critical metals. Geomega conducts all its R&D activities through Innord Inc., a wholly owned private subsidiary, at the National Research Council of Canada (CNRC) facilities in Boucherville, Quebec and is constructing its first rare earth recycling facility in Saint-Hubert, Quebec. The facility will recycle magnet production waste and end-of-life materials containing permanent magnets into recycled rare earth oxides.

In March 2023, Geomega Resources received $3.0 million in funding from the Natural Resource Canada (NRCan) Critical Minerals Research, Development and Demonstration (CMRDD) Program, administered by Natural Resources Canada (NRCan), towards the construction of the magnet recycling demonstration plant in Quebec. The funding helped advance the development to the pre-commercialization phase, and cover costs arising from the detailed engineering work and equipment cost increases.



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