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Supply chain issues impacting the mining industry

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12-1 pm ET

Grow | **Protect** | **Operate** | Finance

Speakers

Robin Longe
Partner, Vancouver
D +1 604 443 7107
robin.longe@dentons.com

Rachel Howie, FCIArb
Partner, Calgary
D +1 403 268 6353
rachel.howie@dentons.com

James Langley
Partner, London, UK
D +44 20 7246 7440
james.langley@dentons.com

Jennifer (Jen) Poirier
Partner, Vancouver
D+1 604 691 6420
jennifer.poirier@dentons.com

Mel Kopolow
Vice President, Sustainability,
Dentons Global Advisors -
Albright Stonebridge Group
mkopolow@albrightstonebridge.com

Melissa Estok
Principal at Dentons Global
Advisors-Albright Stonebridge
Group
mestok@albrightstonebridge.com

Recap of COP27

Melissa Estok and Mel Kopolow

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We offer high-level relationships, unique expertise in navigating global markets, and an ability to proactively help translate client goals into terms governments and other stakeholders understand.

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We work with clients on complex matters when reputation, valuation, “permission to operate,” and, ultimately, enterprise value is at stake, with multidisciplinary capabilities spanning crisis and dispute management, corporate positioning, and capital markets advisory.

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We specialize in advising clients during critical moments of risk, opportunity, and change

FINANCIAL SITUATIONS	REPUTATIONAL ISSUES	REGULATORY SCRUTINY AND POLITICAL RISK	BUSINESS STRATEGY
Transactions (IPO, SPAC, and M&A)	Corporate litigation and disputes	Public policy formation and change	Organizational transformation
Financial restatements	Cybersecurity breaches	Political disruption	New market and product line entry
Activist investor attacks and proxy fights	Operational, environmental, workplace, and labor relations issues	Regulatory reviews	ESG, sustainability, and social purpose
Bankruptcies and restructurings	Product liability and recalls	Government oversight, investigations, and high-risk inquiries	Leadership transitions

DGA is built to be a different kind of advisor, and that includes our approach to ESG and supply chain issues

We work with boards and executives to genuinely embed sustainability across their organizations

- **Ensuring a return on investment (ROI)** through smart ESG targets & programs;
- **Making sense of the rules** including the constant shifts in global policy & regulation;
- Effectively **managing their reputations** & communicating in a genuinely differentiated way; and
- **Building relationships for impact** around the world, ensuring a match between what they *say* and what they *do.*

Key takeaways from COP27

NEITHER MINING NOR SUPPLY CHAIN ON OFFICIAL COP27 AGENDA

1. Many side events on the need for critical minerals and a sustainable supply chain to meet rising needs of renewable/clean energy technologies
2. To meet this demand, the production of minerals such as lithium, copper, and cobalt could increase by as much as 500% by 2050

HUMAN RIGHTS CONCERNS AND FORCED LABOR FOCUS HAS SPOTLIGHT ON MINING INDUSTRY

1. Informality, corruption, and community distrust is seen as the norm, and viewed as obstacle by govt agencies and int'l orgs
2. Mining will need to be viewed holistically, including a focus on landscape regeneration and biodiversity
    a. Salmon Gold partnership to include restoring fish habitats
    b. Rio Tinto efforts to repurpose brownfield min sites.

GLOBAL STANDARDS FOR THE INDUSTRY HIGHLY UNLIKELY

1. Mining and associated externalities are location-specific, creating complex supply chains
2. Pressure to increase on govts to cut red tape while ensuring environmental and OSH standards are maintained
3. Investment in R&D for development of clean energy tech will need to include operations farther up supply chain in mining for critical minerals

Trends in supply chain issues

Robin Longe and Jennifer Poirier

Factors affecting the global supply chain of minerals and metals

Certain key factors have impacted supply chains for minerals and metals:

- Plant shutdowns and staffing shortages due to COVID-19
- Geopolitical events
- Climate change and extreme weather events
- Political instability in production regions

Critical minerals

What are critical minerals?

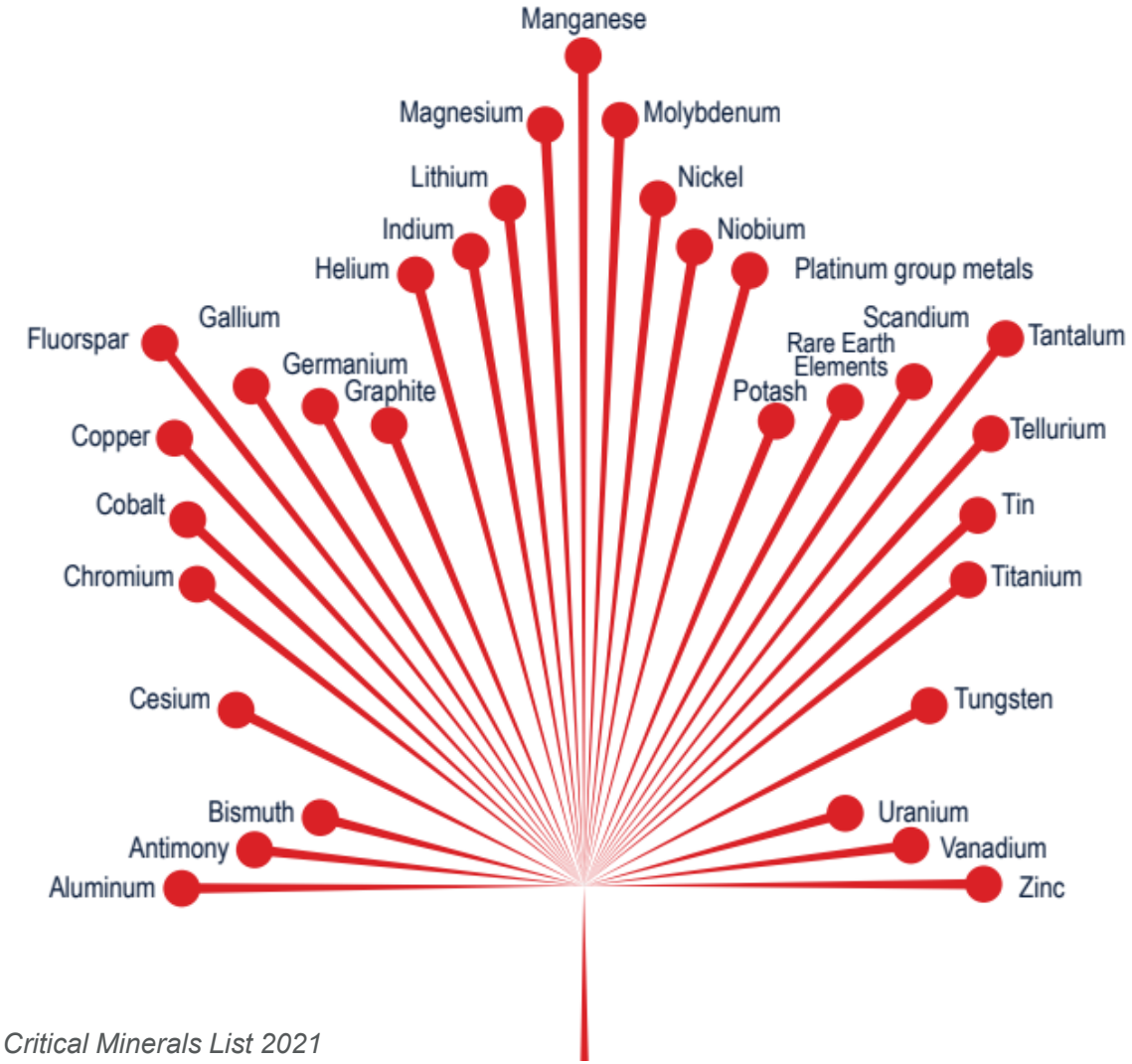
Critical minerals are those minerals and metals which are:

- Necessary for clean energy production
- Of significant importance to the national economy
- Important to national security and have a high-risk supply chain

The most common minerals included on critical minerals lists are those needed to produce batteries, including:

- Lithium
- Cobalt
- Copper
- Graphite

Canada’s critical minerals



Natural Resources Canada, *Canada’s Critical Minerals List 2021*

https://www.nrcan.gc.ca/sites/nrcan/files/mineralsmetals/pdf/Critical_Minerals_List_2021-EN.pdf

United States’ critical minerals list

- Aluminium
- Antimony
- Arsenic
- Barite
- Beryllium
- Bismuth
- Cerium
- Cesium
- Chromium
- Cobalt
- Dysprosium
- Erbium
- Europium
- Fluorspar
- Gadolinium
- Gallium
- Germanium
- Graphite
- Hafnium
- Holmium
- Indium
- Iridium
- Lanthanum
- Lithium
- Lutetium
- Magnesium
- Manganese
- Neodymium
- Nickel
- Niobium
- Palladium
- Platinum
- Praseodymium
- Rhodium
- Rubidium
- Ruthenium
- Samarium
- Scandium
- Tantalum
- Tellurium
- Terbium
- Thulium
- Tin
- Titanium
- Tungsten
- Vanadium
- Ytterbium
- Yttrium
- Zinc
- Zirconium

Critical minerals

Why are critical minerals important?

Production of products and tech required for green energy, including electric vehicles

- Battery minerals include lithium, nickel, cobalt, graphite, manganese, aluminum, tin, tantalum, magnesium and vanadium

National security

- Critical minerals are used in the production of semiconductors to control modern technology

Increased demand – short term

- Shortages expected in supplies of lithium and copper
- Additional investment of US $21 billion will be needed to finance increased lithium production to 2025
- Additional investment of US $100 billion will be needed to finance increased copper production to 2030

Increased demand – long term

- The World Bank estimates an increase in critical mineral demand of 500% by 2050
- Demand for lithium and graphite is expected to increase by up to 4,000% by 2050

Critical minerals

What are the risks to critical mineral availability?

Limited supply

- High exploration costs and limited historic investment
- High production costs
- Difficult locations to extract mineral reserves and resources

Price increases and instability

- Price increases
  - lithium and cobalt
  - copper, nickel and aluminum
- Price instability
  - nickel prices increased due to short squeeze

Concentration of production

- Production of rare earth metals is concentrated in a small number of countries

Government action to mitigate risks

Multilateral international collaboration

Mineral Security Partnership(*)

- Countries that have joined the partnership: United States, Australia, Canada, Finland, France, Germany, Japan, Korea, Sweden, the United Kingdom and the European Union
- Goal is to “ensure that critical minerals are produced, processed and recycled in a manner that supports the ability of countries to realize the full economic benefit of their geological endowments”
- Specifically focuses on critical minerals needed for the production of electric vehicles and advanced batteries

Critical Minerals Mapping Initiative(**)

- United States Geological Survey, Geoscience Australia and Geological Survey of Canada formed initiative in 201 Canada, the United States and Australia
- Goal is to increase understanding of “known critical mineral resources, determine geological controls on critical mineral distribution for deposits currently producing byproducts, identify new sources of supply through critical mineral potential mapping, and promote critical mineral discovery in all three countries”
- Specifically focuses on data collection

** U.S. Department of State – Mineral Security Partnership, Media Note, June 14, 2022*

*** Critical Minerals Mapping Initiative (CMMI) by Geology, Geophysics and Geochemistry Science Center, August 4, 2021*

Government action to mitigate risks

Bilateral international collaboration

Strategic Partnership on Raw Materials(*)

- Bilateral partnership between Natural Resources Canada and the European Commission's Directorate-General for Internal Market, Industry Entrepreneurship and SMEs
- Focus on “enhancing the security and sustainability of trade and investment, integrating raw material value chains and leading by example on environmental, social and governance standards”
- Initial deliverables include:
  - development of raw materials projects in both regions
  - alignment of financial support for critical mineral projects
  - incentivizing innovation to obtain critical minerals from waste sources
  - advancement of best practices for resource classification and mapping
  - organization of a joint Tracing Net-Zero Battery Minerals event to support research and innovation

** Joint Statement by Canada’s Minister of Natural Resources and the European Commissioner for Internal Market, July 19, 2021*

Government action to mitigate risks

Bilateral international collaboration

Joint Action Plan on Critical Minerals Collaboration(*)

- Canada and the United States
- Goal is to advance mutual interest in securing supply chains for critical minerals in key sectors:
  - communications technology
  - aerospace
  - defense
  - clean energy
- Initiatives will promote joint initiatives including:
  - “research and development cooperation
  - supply chain modelling and
  - increased support for industry”

**Canada and U.S. Finalize Joint Action Plan on Critical Minerals Collaboration, News Release, January 9, 2020*

Government action to mitigate risks

Bilateral international collaboration

United States considering investment in Canadian critical minerals projects(*)

- Discussions are underway with respect to a proposed investment by the United States Department of Defense in critical minerals projects in Ontario
- Evidence of Biden's administration seeking to reduce its reliance on China for metals required for defense equipment and electric vehicles
- One of the projects is in northern Ontario (Ring of Fire)

** U.S. military in talks with Canadian miners for key minerals as rivalry with China grows, Financial Post, November 16, 2022*

Government action to mitigate risks

National policies

Canada

- *Investment Canada Act*(*)(**)
  - Review of investments in critical minerals sector, such as lithium
  - Foreign investments in sector reviewed under “net benefit” criteria and national security concerns
  - Policy Regarding Foreign Investments from State-Owned Enterprises in Critical Minerals
    - Applications for control of critical minerals businesses by foreign state-owned enterprises will only be approved on an exceptional basis
    - Participation of a foreign state-owned enterprise in a Canadian critical minerals business will support a finding that the investment could be injurious to Canada’s national security, even if the investment is not a controlling interest.
    - This policy was applied recently and resulted in an order for three Chinese investors to divest their minority interests in three Canadian lithium mining companies.

(*) Government of Canada orders the divestiture of investments by foreign companies in critical minerals companies, Innovation, Scient and Economic Development of Canada, Statement, November 2, 2022

(**) Policy Regarding Foreign Investments from State-Owned Enterprises in Critical Minerals

Government action to mitigate risks

National policies

United States

- *Inflation Reduction Act 2022*(*)
  - "Single largest investment in climate and energy in American history"
  - Supports projects that involve processing, manufacturing and recycling of critical minerals
- Efforts to secure domestic supply of critical minerals(**)
  - Biden administration released supply chain assessment that determined the US was overly reliant on foreign and non-friendly nations for its supply of critical minerals
  - Investment in Defense's Industrial Base and Analysis of $35 million for processing of heavy rare earth elements in Mount Pass, California
  - Updates to 1872 Mining Law and list of critical minerals
  - Coordination of critical mineral stockpiling

(*) Inflation Reduction Act of 2022, Loan Program Office

(**) Fact Sheet: Securing a Made in America Supply Chain for Critical Minerals, Briefing Room, Statements and Releases, February 22, 2022

Summary

- The global supply chain in minerals and metals is affected by many factors, including staffing shortages due to COVID-19, the Russia-Ukraine War, extreme weather events, and political instability in production regions
- Critical minerals are expected to be a key area of focus in the mining industry in the future due to their importance to clean energy technologies, national economies and national security
- Critical mineral availability is exposed to risks, such as limited supply, increasing prices, and the concentration of production in a small number of nations
- Governments are developing critical mineral strategies aimed at securing the supply of critical minerals through:
  - Collaboration with friendly nations
  - Developing a local supply
  - Information gathering to determine new sources of supply

Risk management

Rachel Howie and James Langley

Key risks

- Political risk resulting from Government action
- ESG risks arising from supply chain and third party claims (including group/class actions)
- NGO and activist shareholder claims
- Other contractual disputes, e.g. joint venture, supply contracts, etc.

ESG liability

- Securities disclosure and other reporting requirements
- Contractual claims under ESG provisions
- Directors’ duties and climate change obligations
- Greenwashing
- Human rights/modern slavery/child labour

Parent company liability

- Level of control over subsidiaries
- Claims for negligence/breach of statutory duties
- Use of “anchor defendants” to bring claims against subsidiaries for actions in foreign jurisdictions
- Class/group actions

How to mitigate these risks?

- Contractual protections
- Due diligence
- Policies and training
- Dispute resolution provisions

Investment protection

- Investment structuring
- Treaty protection under BITs and MITs
- Counterclaims
- Stabilisation clauses

Thank you!

Robin Longe
Partner, Vancouver
D +1 604 443 7107
robin.longe@dentons.com

Rachel Howie, FCIArb
Partner, Calgary
D +1 403 268 6353
rachel.howie@dentons.com

James Langley
Partner, London, UK
D +44 20 7246 7440
james.langley@dentons.com

Jennifer (Jen) Poirier
Partner, Vancouver
D+1 604 691 6420
jennifer.poirier@dentons.com

Mel Kopolow
Vice President, Sustainability,
Dentons Global Advisors -
Albright Stonebridge Group
mkopolow@albrightstonebridge.com

Melissa Estok
Principal at Dentons Global
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Group
mestok@albrightstonebridge.com