

**RICHARD RIEGERT MEMORIAL LECTURE:  
THE CANADIAN CRITICAL MINERALS STRATEGY:  
UNEARTHING ENERGY SECURITY IN CANADA**

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*Canada's economy has historically been built on natural resources. In response to the risk of climate change, energy security, and environmental and social governance pressures, Canada has begun to transition towards a net zero economy. Canada has pledged to be net zero by 2050. Critical minerals are vital to the new green and digital economy and key to energy security moving forward. Canada, like many other countries, is in a race to secure and develop critical minerals. Canada's national critical minerals strategy aims to develop critical minerals and associated value chains, while also creating opportunities for investment and entrepreneurship. This article highlights and discusses Canada's strategy, the Canadian regulatory environment, and the strategies of Canada's global competitors.*

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## I. INTRODUCTION

Canada's economy was built on the exploration, production, development, and export of natural resources. Global market dynamics, including the demand for energy in response to industrialization and economic growth, have been the principal drivers in the exploration, production, development, and innovation of the Canadian energy industry. In response to the risks of climate change, energy security and environmental, social, and governance (ESG) responsibility, western countries are transitioning to net zero economies.<sup>1</sup> This includes Canada, with its commitment to achieve net zero greenhouse gas emissions (GHG) by 2050, which was formalized through the ratification of the Paris Agreement and in the *Canadian Net-Zero Emissions Accountability Act*.<sup>2</sup> This transition to clean energy is being accelerated by the current energy crisis, focused primarily in Europe, arising from the Russian invasion of Ukraine,<sup>3</sup> among other geopolitical tensions, and the implementation of policies by governments in western economies.<sup>4</sup> As critical minerals are the building blocks for the green and digital economy and key to energy security, many world economies are now in a race to secure and develop critical minerals.

It is in this context that Canada is taking action to become a leader in the emerging critical minerals sector, leveraging its experience and expertise in existing energy industries. To this end, in December 2022, the Canadian government released "The Canadian Critical Minerals Strategy" (the Canadian Strategy), which highlights the federal government's strategy to develop critical minerals and associated value chains and also sets out opportunities and challenges for a new generation of Canadian energy entrepreneurs.<sup>5</sup>

This article provides: an explanation of the rationale for the adoption of the Canadian Strategy (including explaining the meaning of critical minerals); an overview of the Canadian Strategy; an overview of certain federal government actions and tools to implement the Canadian Strategy; a description of certain Canadian provincial critical minerals policies; a brief discussion of the challenges to the coordination between Canada's different levels of

<sup>1</sup> "The Paris Agreement," online: *United Nations* [perma.cc/C5SF-7WVD] (which provides that Parties will aim to reach global peaking of greenhouse gas emissions as soon as possible, led by developed countries undertaking economy-wide absolute emission reduction targets). See also Canada, "Net-Zero Emissions by 2050," online: [perma.cc/85ST-YQXW] (which explains Canada's target of 40–45 percent emissions reductions by 2030 and net-zero emissions by 2050).

<sup>2</sup> SC 2021, c 22, s 2 [CNEAA] (defines "net-zero emissions" as anthropogenic emissions of greenhouse gases into the atmosphere are balanced by anthropogenic removals of greenhouse gases from the atmosphere over a specified period); Employment and Social Development Canada, "Backgrounder: Moving Forward Together – Canada's 2030 Agenda National Strategy," online: [perma.cc/F9HJ-AA6W] ["Moving Forward Together"] (which envisions a path forward for Canada to build a more peaceful, inclusive, prosperous, resilient and sustainable world through the implementation of the United Nations' Sustainable Development Goals); Public Safety Canada, "National Strategy for Critical Infrastructure," online: [perma.cc/S5X9-Y9LR] ["Critical Infrastructure Strategy"].

<sup>3</sup> "World Energy Outlook 2022" (November 2022) at 241–43, online: *International Energy Agency* [perma.cc/4E6L-F8AA].

<sup>4</sup> *Ibid.*

<sup>5</sup> Natural Resources Canada, *The Canadian Critical Minerals Strategy* (Ottawa: 2022), online: [perma.cc/99KU-JA3D] [*The Canadian Strategy*].

government; and highlights recent policies adopted by Canada's neighbour and largest trading partner, the United States, for guidance and insight into the challenges to the development of Canada as a leader in the developing critical minerals industry. There are many other important factors beyond the scope of this article that will play a part in the development of Canada's critical mineral industry, including constitutional law, reconciliation with Indigenous peoples, and real property.

## II. RATIONALE FOR THE CANADIAN STRATEGY

### A. A PRIMER ON ENERGY SECURITY

References to “energy” in Canada have historically been associated with energy generated from fossil fuels such as oil, natural gas and coal, and to a lesser degree, hydro electricity; all of which have been and will continue to be used for industrialization and economic growth, including construction, manufacturing, and transportation. The meaning of “energy” is rapidly changing as technological innovation enables commercialization from a diverse range of energy sources, including hydrogen, wind, solar, tidal, geothermal, nuclear, and chemicals. The threats posed by climate change have forced governments to adopt new policies to facilitate the development of these renewable energy sources.<sup>6</sup>

The International Energy Agency (IEA) defines “energy security” as “the uninterrupted availability of energy sources at an affordable price.”<sup>7</sup> Since energy is a cornerstone of economic growth, and all energy sources face certain vulnerabilities to supply, energy security is essential. As an example, recent geopolitical events have exposed many vulnerabilities to energy security, including price volatility, supply chain disruptions, sanctions, transportation issues, and geographical forces. Additional risk factors relate to the shift to clean energy, including, for example, the lack of infrastructure to support such clean energy and lack of consistent availability of wind and solar resources.

In Canada, emerging clean energy sources are especially vulnerable to challenges arising from imprecise policy initiatives and shared jurisdiction, lack of available energy infrastructure, and the remote and inhospitable locations of resources.

In 2010, members of the Canadian Security Intelligence Service (CSIS) and Canada's academic community prepared “What Does Energy Security Mean for Canada,” a report that identifies eight interdependent factors which together impact Canadian energy security.<sup>8</sup> The importance of these factors has fluctuated in recent years given changing world events, such as the war in Ukraine, supply chain disruptions from the COVID-19 pandemic, and increasing emphasis on ESG goals. Nonetheless, the following factors remain especially relevant today: (1) the diversity of Canada's energy portfolio, given the number of well-developed energy sub-industries in Canada; (2) weak investment (for example, lack of

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<sup>6</sup> See e.g. *Inflation Reduction Act of 2022*, Pub L 117-169, 16 August 2022, 136 Stat 1818 [IRA].

<sup>7</sup> “Energy Security: Reliable, Affordable Access to All Fuels and Energy Sources,” online: *International Energy Agency* [perma.cc/G8AA-ULSC].

<sup>8</sup> Andrew Best et al. “Canadian Energy Security: What Does Energy Security Mean for Canada” (July 2010) at 30–31, online (pdf): *Graduate School of Public and International Affairs, University of Ottawa* [perma.cc/4URT-525R].

investment in capital projects and infrastructure); (3) energy intensity (that is, the opposite of energy efficiency, resulting from wasted energy and reliance on finite energy sources); (4) environmental considerations (such as the impact of resource extraction on Canada's environment); and (5) geopolitical considerations (for example, given Canada's integration in global markets and because its economy and industries are intertwined with those of the US).<sup>9</sup>

It is important to recognize that Canada has successfully navigated paradigm-shifting challenges to its energy sector in the past. For example, the global oil crises in the 1970s and 1980s were initially triggered by the disruption to supply resulting from, initially the Yom Kippur War and then the Iranian Revolution, which generally led to stagflation, embargoes, the rise of the influence of the Organization of the Petroleum Exporting Countries (OPEC), and the instability of supply and demand.<sup>10</sup> In response to these crises, Canada's federal and provincial governments adopted energy policies to develop Canadian oil and gas reserves and infrastructure to promote energy independence.<sup>11</sup> The policies were not part of a holistic or comprehensive action plan, but rather reactive to unique challenges facing the industry.

Some of these policies were positive, including: (1) the joint initiative by the federal, Alberta, and Ontario governments and the private sector to develop Syncrude and the Mildred Lake processing plant as initial steps in the development of the Canadian oil sands; and (2) in 1974, the Canadian government created the Office of Energy Conservation to invest in technology and coordinate between provinces to promote energy security and self-sufficiency. Notwithstanding the foregoing, this period was characterized by tensions between federal and provincial governments as each sought to assert its jurisdiction over natural resources and the associated benefits from oil and gas production. These tensions persisted, culminating with the creation by the federal government of the National Energy Program (NEP) in 1980. The NEP was established with an objective to promote energy independence by developing the Canadian oil and gas sector, and included tax and price controls, funding for research and development, promotion of participation in the industry, and oil conservation.<sup>12</sup> However, the NEP was perceived by western Canada as a federal policy that sacrificed the interests of western Canadians and redistributed revenue from the oil industry to central Canada.<sup>13</sup> As recently noted, while the NEP may have "[ranked] high on the list of giant, well-intentioned government schemes that failed, the NEP marked an end to ambitious nation-building projects in Canada."<sup>14</sup> Notwithstanding this government intervention, the oil and gas industry developed, in part through advanced research and

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<sup>9</sup> *Ibid.*

<sup>10</sup> Taylor C Noakes, "Oil and Gas Policy in Canada, 1947–80" (22 May 2020), online: *The Canadian Encyclopedia* [perma.cc/9B67-HR4U].

<sup>11</sup> Interestingly, in 1971 Alberta's provincial government created a novel environmental ministry with a mandate of natural resources conservation: see e.g. Alberta Culture and Tourism, "Conventional Oil," online: [perma.cc/4LPL-ALF3].

<sup>12</sup> This approach mimics national action in the years after the Second World War (the creation of Crown corporations in respect of uranium mining, housing projects) and during the Cold War (for example, aerospace or telecommunication networks). Nonetheless, the program was unpopular and controversial, since it encroached on the area of natural resources, which typically fell under provincial jurisdiction.

<sup>13</sup> Alberta Culture and Tourism, "National Energy Program (1980–1984)," online: [perma.cc/A47K-MNN4]; "The National Energy Program," online: *Alberta Online Encyclopedia* [perma.cc/9WNZ-SQWZ].

<sup>14</sup> David Olive, "The National Energy Program's Bitter Aftertaste Has Lasted 40 Years and Provided a Hard Lesson to Ottawa," *Toronto Star* (21 November 2020), online: [perma.cc/4JFD-UH23].

development, sophisticated new technologies, and improvements in occupational health, training, and safety — much of which was shared around the world as Canadians participated in the global oil and gas industry at all stages of the sector — upstream, downstream, and midstream.

The development of Canada’s nuclear industry is another example of Canada’s strength in the resource sector, in part implemented through government policy. The Chalk River Nuclear Laboratory in Ontario was the first reactor outside of the US, which formed the foundation in the 1940s for the technical development of the Canada Deuterium Uranium (CANDU) reactor system. The radioisotopes produced through the Chalk River program were used for the world’s first cobalt radiotherapy units used in cancer treatment.<sup>15</sup> Canada’s first nuclear power plant followed in 1962.<sup>16</sup> Today, Canada continues to be a leader in nuclear technology and is well-respected for its leadership in research, regulation, and controlled development, as reflected in “Canada’s Small Modular Reactor Action Plan.”<sup>17</sup> Notwithstanding the general trepidation regarding nuclear energy that has halted nuclear development in Canada,<sup>18</sup> the Alberta, Saskatchewan, Ontario, and New Brunswick governments have implemented a strategic plan for the deployment of small modular reactors; the objective of the strategic plan is to provide safe, reliable, zero-emissions power, that meets the demands of a growing economy and population.<sup>19</sup>

This historical context is relevant as it highlights the impact of government policy. Canada’s federal, provincial, and territorial governments will need to take a collaborative and holistic approach to the transition to clean energy, including the development of the Canadian critical minerals sector, so as to ensure their key objectives are met: realizing energy security, addressing climate change, and driving job creation and economic growth.

## B. WHAT IS A CRITICAL MINERAL?

While jurisdictions have different definitions of critical minerals, there is a shared understanding that to be a critical mineral, such minerals must have few or no substitutes, are strategic or limited commodities, or are increasingly concentrated in terms of extraction and, even more, in terms of processing locations.<sup>20</sup> This definition recognizes that a list of critical minerals will evolve as circumstances change, including as the industry develops and geopolitical relations change. For example, in 2017, the “Canadian Minerals and Metals Plan” identified six critical *materials* produced in Canada; however, as discussed below, this list has since expanded to 31 identified critical *minerals*.<sup>21</sup> Moreover, it is important to recognize the interconnection of critical minerals with technology. Specifically, critical

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<sup>15</sup> “Canadian Isotope Landscape,” online: *Canadian Nuclear Isotope Council*, online: [perma.cc/QQ6U-YER7].

<sup>16</sup> J.a.l. Robertson, “Nuclear Energy” (7 February 2006), online: *The Canadian Encyclopedia* [perma.cc/ZL2L-XEPC].

<sup>17</sup> Natural Resources Canada, “Canada’s Small Modular Reactor Action Plan,” online (pdf): Natural Resources Canada [perma.cc/VH5H-4QJL]; Natural Resources Canada, *Canada’s SMR Action Plan Progress Update* (Ottawa: October 2022), online: [perma.cc/UP59-3WWB].

<sup>18</sup> See e.g. “Small Modular Reactors: Regulatory Strategy, Approaches and Challenges” (May 2016), online (pdf): *Canadian Nuclear Safety Commission* [perma.cc/DGV3-9ZBK]; “What We Heard Report – DIS-16-04,” online: *Canadian Nuclear Safety Commission* [perma.cc/GUZ6-UWRP].

<sup>19</sup> Ontario, New Brunswick, Alberta & Saskatchewan, “A Strategic Plan for the Deployment of Small Modular Reactors,” online (pdf): [perma.cc/U5V6-LBYM].

<sup>20</sup> *The Canadian Strategy*, *supra* note 5 at 5.

<sup>21</sup> “The Canadian Minerals and Metals Plan” (March 2019), online (pdf): *Mines Canada* [perma.cc/SN8H-KJAM].

minerals are essential inputs used in Canada's strategic industries (for example, agriculture, mining, artificial intelligence, digital economy, and electric vehicles and other modes of transportation) and infrastructure for clean energy sources.

Canada currently produces 60 minerals;<sup>22</sup> however, not all minerals produced in Canada are identified as "critical." The Canadian Strategy defines a critical mineral as a mineral that is: (1) essential to Canada's economic security; (2) required for Canada's transition to a low-carbon economy; or (3) a sustainable source of critical minerals for Canada's strategic partners and allies. Based on consultations with provinces, territories, industry participants, and academics, the Canadian Strategy identifies the following 31 minerals as critical:<sup>23</sup>

1. **Aluminium** (used in almost all industry sectors)
2. **Antimony** (used in flame retardants and lead-acid batteries)
3. **Bismuth** (used in medical research)
4. **Cesium** (used in research and development)
5. **Chromium** (used in industrial applications, including stainless steel and for anti-corrosion)
6. **Cobalt** (used in rechargeable batteries and superalloys)
7. **Copper** (used in electrical applications, plumbing, machinery, and construction)
8. **Fluorspar** (used in manufacturing, such as for refrigerants, fuels, and foams)
9. **Gallium** (used in electronics such as semiconductors, LEDs, transistors, and electronic devices)
10. **Germanium** (used in the semiconductor industry)
11. **Graphite** (used for lubricants, batteries, and fuel cells)
12. **Helium** (used for fibre optics and semiconductors)

13. **Indium** (used for indium tin oxide, which is used for touch and flat screens and solar panels)
14. **Lithium** (used for rechargeable batteries and electronic products)
15. **Manganese** (used in alloys, such as steel for applications such as railway tracks and other high-pressure situations)
16. **Magnesium** (used as an alloy and for reducing metals)
17. **Molybdenum** (used to make alloys, and also for increasing strength and hardness for applications requiring resistance to corrosion and wear)
18. **Nickel** (used for stainless steel, superalloys, and batteries)
19. **Niobium** (used for steel and superalloys)
20. **Platinum group metals** (consisting of platinum, palladium, rhodium, ruthenium, osmium, and iridium; used for catalytic properties, such as in the transportation industry and for industrial uses such as chemicals, electronics, and dental applications)

21. **Potash** (used for fertilizer)
22. **Rare earth elements**
23. **Scandium** (used for alloys, ceramics, and fuel cells)
24. **Tantalum** (used in electronic components)
25. **Tellurium** (used in solar cells, thermoelectric devices, and alloys)
26. **Tin** (used for steel alloys and in protective coatings)
27. **Titanium** (used for metal alloys and as a pigment)
28. **Tungsten** (used for wear resistant metals)
29. **Uranium** (used for commercial nuclear reactors and for isotopes in the medical, industrial, and defence sectors)
30. **Vanadium** (used as a steel alloy and for tough and armour like applications)
31. **Zinc** (used as a coating in alloys and for anti-corrosion applications)

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Canada, "Minerals and the Economy," online: [perma.cc/YV4Y-3YYA].  
*The Canadian Strategy*, *supra* note 5 at 38.

Of the 31 identified critical minerals, six — cobalt, copper, graphite, lithium, nickel, and rare earth elements<sup>24</sup> — are prioritized in the Canadian Strategy due to their potential to drive Canada’s economic growth in priority areas, such as advanced manufacturing and zero-emission vehicles and their indispensability to global supply chains.<sup>25</sup> Given these attributes, the Canadian Strategy indicates that the federal government will initially focus investments on the value chains associated with these six minerals, with the goal of growing domestic manufacturing.<sup>26</sup>

By comparison, the US government defines a critical mineral as a mineral that: (1) is a non-fuel mineral or mineral material essential to the US economic and national security; (2) serves an essential function in the manufacturing of a product, the absence of which would have significant consequences for the US economy or national security; and (3) is part of a supply chain that is vulnerable to disruption.<sup>27</sup> The most recent US list includes 50 minerals, an increase of 15 minerals since 2018.<sup>28</sup> Of note, helium and potash were removed from the list, but nickel and zinc were added.<sup>29</sup> As the definition is based on the circumstances applicable to the US, the list of critical minerals in the US is not the same as the current Canadian list of 31 critical minerals. For example, copper — which is recognized as critical in Canada for use in the production of clean energy — is not identified as a critical mineral by the US government, arguably given the availability of copper from US domestic production, even though it is imported into the US.<sup>30</sup> Similarly, helium and uranium are identified in Canada’s list, but not in the US. Helium did not meet the criteria for inclusion on the US list but was flagged as a “commodity that warrants watching” given recent geopolitical events that may impact foreign production capacity notwithstanding the domestic supply.<sup>31</sup> Uranium was removed from the list as it has been classified as a fuel mineral even though it has non-fuel uses.<sup>32</sup>

### C. BACKGROUND LEADING UP TO THE CANADIAN CRITICAL MINERALS STRATEGY

As stated by Prime Minister Justin Trudeau: “The world wants clean technology, and Canada has the resources, the expertise, and the skilled workers to meet that demand. By developing and processing our critical minerals here in Canada — the first step in the clean

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<sup>24</sup> Natural Resources Canada has defined the rare earth elements as consisting of 15 elements referred to as the lanthanide series in the periodic table, and including scandium and yttrium since they exhibit similar properties to lanthanides and are found in the same ore bodies. Rare earth elements are used in specialty manufacturing, zero-emission vehicles, permanent magnets, and for various electronic, transportation, and defense applications. Canada has some of the largest known reserves and resources of rare earth metals, although China is the world’s largest producer. Production of these minerals is complicated because of the complexities needed in the separation and refining process. See e.g. Canada, “Rare Earth Elements Facts,” online: [perma.cc/4FNL-WER4].

<sup>25</sup> *The Canadian Strategy*, *supra* note 5 at 5.

<sup>26</sup> *Ibid* at 9.

<sup>27</sup> “A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals” (4 June 2019), online: *US Department of Commerce* [perma.cc/ES2G-S9WN].

<sup>28</sup> “US Geological Survey Releases 2022 List of Critical Minerals” (22 February 2022), online: *USGS* [perma.cc/ZCS2-YZK4] [“2022 List”].

<sup>29</sup> *Ibid*.

<sup>30</sup> Veronica Tuazon, “‘Critical Minerals’ List Snubs Copper, Sparks the Discussion of Criticality” (8 November 2018), online: *Earth: The Science Behind the Headlines* [perma.cc/4UQE-NLGL].

<sup>31</sup> “The USGS Seeks Public Comment on Helium Supply Risk” (27 January 2023), online: [perma.cc/QUN3-LY8X].

<sup>32</sup> “2022 List,” *supra* note 28.

technology supply chain — we can create good middle-class jobs all while keeping our air clean for generations to come.”<sup>33</sup>

However, Canada faces significant challenges to be a leader in this new world. The House of Commons Standing Committee on Natural Resources in its June 2021 report, *From Mineral Exploration To Advanced Manufacturing: Developing Value Chains For Critical Minerals In Canada*, recognizes certain challenges may impact the ability of Canada to reach its full potential as it relates to critical minerals and associated value chains, including: (1) barriers to investment (fluctuating or low resource prices given the significant capital to develop mineral projects); (2) challenges to sustainable mining by reducing the environmental impact of mining (given that mining is water and energy intensive); (3) risks associated with exploration; (4) the need for technology development; (5) building the necessary supporting infrastructure; (6) creating a value added critical minerals processing sector; and (7) developing expertise and training a skilled workforce.

The Committee on Natural Resources recommended the federal government work with provincial and territorial governments, Indigenous communities, the mining industry, and academia to: (1) develop a strategic vision for developing Canada’s critical minerals industry; (2) promote responsible, sustainable, and inclusive development of Canada’s critical minerals sector; (3) support the development of value added processing in Canada; and (4) renew its support for the Canadian mining sector and support industries that help decarbonize the Canadian economy.<sup>34</sup>

### III. THE CANADIAN STRATEGY

The federal government developed the Canadian Strategy in recognition of the need for a multi-pronged and collaborative “roadmap” to enable Canada to: (1) “seize this generational opportunity - particularly in the critical minerals sector, from mining to refining and from manufacturing to recycling”;<sup>35</sup> and (2) become a trusted and reliable supplier of responsibly sourced and sustainably produced critical minerals as “the world’s green supplier of choice for critical minerals,”<sup>36</sup> while also recognizing the strategic value and importance of critical minerals to Canada’s national security and bilateral commitments with its allies and trading partners.

#### A. OVERVIEW OF CANADIAN STRATEGY

The Canadian Strategy also provides an initial framework for how Canada’s energy industry can continue to transform and compete, this time, towards a greener and more secure energy future. The Canadian Strategy identifies five core objectives to develop Canada’s critical mineral industry (the Objectives):<sup>37</sup> (1) supporting economic growth and competitiveness and job creation; (2) promoting climate action and ensure environmental

<sup>33</sup> “Strengthening Global Electric Vehicle Supply Chains with Canadian Resources” (16 January 2023), online: *CISION* [perma.cc/H6A9-LRV2].

<sup>34</sup> House of Commons, *From Mineral Exploration To Advanced Manufacturing: Developing Value Chains For Critical Minerals in Canada* (June 2021) (Chair: James Maloney).

<sup>35</sup> *The Canadian Strategy*, *supra* note 5 at 3.

<sup>36</sup> *Ibid.*

<sup>37</sup> *Ibid.* at 16–17.



protection; (3) advancing reconciliation with Indigenous peoples; (4) fostering diverse and inclusive workforces and communities; and (5) enhancing global security and partnership with allies.<sup>38</sup> Objectives 1, 2, and 5, are key to the themes raised in this article and warrant further discussion.<sup>39</sup>

Objective 1 is centered upon direct economic growth and participation by Canada in the clean and circular economies, resulting from implementation of the Canadian Strategy, which includes the creation of high quality and high paying jobs, growing Canadian capabilities at all value chains, diversification of reliance on inputs, growing critical supply chains among trading partners, and increasing trade and foreign direct investment in the Canadian clean energy economy.<sup>40</sup>

Objective 2 recognizes that the transition to clean energy, which lies at the heart of the Canadian Strategy, means that the “sustainable critical mineral development is indivisible from [Canada’s] net zero objectives,”<sup>41</sup> and the Canadian Strategy must align with Canada’s other net-zero commitments, legislation, and policies.

Objective 5 is centered on procuring energy security through the protection of critical mineral supply chains and Canadian assets through cooperation agreements with trading partners (for example, the Canada-US Joint Action Plan, as defined and discussed further below), and growing foreign direct investment in Canada (including under the oversight of the net benefit and national security review regime set forth in the *Investment Canada Act*,<sup>42</sup> as defined below) that complies with Canadian policies, all while meeting ESG standards.<sup>43</sup>

The Canadian Strategy emphasizes the distinction between supply chains and value chains. Whereas the supply chains relate to the organization and logistics of taking a product to market, value chains focus on activities that add value throughout production and delivery to market.<sup>44</sup> For example, value chains include upgrading, innovations, and processes that may give Canada a competitive advantage. The concept of the value chain in the Canadian Strategy includes five segments: (1) geoscience and exploration; (2) mineral extraction; (3) intermediate processing; (4) advanced manufacturing; and (5) recycling.<sup>45</sup> The value chain concept is borrowed from Canada’s Mines to Mobility approach,<sup>46</sup> which identifies opportunities for Canada to seize emerging opportunities in the electric vehicle battery market.<sup>47</sup> The goal under this initiative is to increase economic activity across Canada, through an ecosystem focused on Canada’s existing strengths — being research and development, advanced technology, a world-class automotive sector, and experience in extractive sectors.<sup>48</sup> This initiative has already attracted over \$7 billion in prospective

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<sup>38</sup> *Ibid* at 19–35.

<sup>39</sup> “Moving Forward Together,” *supra* note 2.

<sup>40</sup> *The Canadian Strategy*, *supra* note 5 at 16.

<sup>41</sup> *Ibid*.

<sup>42</sup> RSC 1985, c 28 (1st supp) [*JCA*].

<sup>43</sup> *Ibid* at 17.

<sup>44</sup> *Ibid* at 11–14.

<sup>45</sup> It is thought that such chains will help lead to investor confidence and also develop partnerships between governments, communities, and business development organizations nationwide (*ibid* at 39–44).

<sup>46</sup> Canada, *From Mines to Mobility: Seizing Opportunities for Canada in the Global Battery Value Chain* (Ottawa: 2020), online: [perma.cc/S9KS-ZDZA] [“Mines to Mobility”].

<sup>47</sup> *Ibid*.

<sup>48</sup> *Ibid*.

investments and is projected to contribute up to \$24 billion in direct investments to Canada's gross domestic product (GDP) by 2030.<sup>49</sup>

The Canadian Strategy emphasizes the development of nationally integrated manufacturing ecosystems. The goal is to build competitive value chains where different stages of the industrial process are completed within Canada, as opposed to exporting and importing or reimporting goods or inputs. For example, if a mineral is extracted in one province, it could be processed in another, and then delivered to a manufacturing plant in another province.<sup>50</sup> Three value chains have been identified as having the most promising potential for integration within Canada's other industries, building on existing areas of strength such as an educated workforce, infrastructure, and established reputation. These three value chains are: (1) clean technologies (such as zero-emission vehicles, renewable infrastructure; for example, wind turbines, solar panels); (2) advanced batteries, hydrogen fuel cells and small modular reactors information and communication technologies (including semiconductors); and (3) advanced manufacturing inputs and materials (for example, defence applications, magnets, ceramics, value-added metals, electronic materials, composites, polymers, and biomaterials).<sup>51</sup> The federal government anticipates stimulating these value chains to catalyze private and foreign investment and, through Canada's Trade Commission Services, help Canadian companies find international business opportunities to export their products in the energy, electrification, healthcare, defence, construction, and food sectors.<sup>52</sup>

## B. OPPORTUNITIES FOR CANADA

Canada is poised to be a global leader in the transition to a net zero economy since: (1) it is a free and stable democracy, with a strong and stable financial system; (2) it has abundant supplies of minerals, producing more than 60 minerals and metals at 200 mines and 6,500 sand, granite, and stone quarries, and is a leading global producer of many critical minerals, including nickel, potash, aluminum, and uranium, and also clean energy, and technologies needed to power the global clean economy, with a commitment to engage in responsible mining; (3) it has a highly educated and skilled workforce, with particular expertise in respect of mineral and oil and gas extraction; (4) it has access to global markets through 15 free trade agreements in respect of 51 countries; (5) it has opportunities for investment, including knowledgeable stock exchanges and sophisticated investors (as of 31 January 2023, 1,155 mining issuers with combined market capitalization of over \$577 billion were listed on the Toronto Stock Exchange (TSX) and the TSX Venture Exchange (TSXV),

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<sup>49</sup> *The Canadian Strategy*, *supra* note 5 at 16.

<sup>50</sup> Note that critical minerals are subject to export, import, or transit controls, based on security considerations and international obligations and certain provinces restrict or require approvals before mining products can be exported out of the province for processing. For example, imports of certain aluminum products into Canada and exports of certain nuclear technology out of Canada are each subject to controls under the federal *Export and Import Permits Act*, RSC 1985, c E-19, and the export of nuclear and nuclear-related items is also controlled by the Canadian Nuclear Safety Commission (CNSC) under the *Nuclear Safety and Control Act*, SC 1997, c 9, and associated regulations. Therefore, the export of nuclear and nuclear-related items, not listed in Group 3 of the *Export and Import Permits Act*, or which meet the specific Group 3 decontrol notes may still require a licence from the CNSC.

<sup>51</sup> *The Canadian Strategy*, *supra* note 5 at 12.

<sup>52</sup> *Ibid* at 39–44.

with the TSX and TSXV being home to almost half of the world's public mining companies);<sup>53</sup> and (6) it has a competitive corporate income tax system.<sup>54</sup>

Canada is already a world leader in global production of several critical minerals, including potash (first), graphite (ninth), copper (eleventh), nickel (sixth), uranium (second), cobalt (fourth), and platinum group metals (fourth).<sup>55</sup> Canada's role in the global mineral industry is also significant as in 2021, the minerals sector accounted for 665,000 Canadian jobs, contributed \$125 billion to Canada's nominal GDP and resulted in exports valued at \$127 billion, 54 percent of which were exported to the US.<sup>56</sup> In 2021, approximately \$14 billion in new capital construction and equipment was invested in the mineral sector. The TSX and TSXV are the world's foremost mining exchanges, accounting for 34 percent of the world's total mineral equity capital raised in 2021.<sup>57</sup> As of 2020, publicly traded Canadian-based companies in the mineral sector had global assets of \$273 billion.<sup>58</sup>

#### IV. IMPLEMENTING THE CANADIAN STRATEGY

Without measures to efficiently and urgently implement the Canadian Strategy, the Canadian Strategy is only aspirational. The ability of Canada to be a leader in the new clean energy economy requires a coordinated, multi-pronged approach from all levels of government and active engagement with Indigenous partners and stakeholders.

##### A. INTERNATIONAL CO-OPERATION

The significance of Canada's opportunities — and the need to develop a coordinated approach — cannot be overstated, given the importance of globalization and the pursuit of global security. Western countries generally agree that the transition to clean energy is central to tackling climate change and in turn, ensuring prosperity and security. Canada's competitors are also developing technologies and strategies to allow for the commercialization of critical minerals. In order to achieve the Objectives, it is not sufficient for Canada to just exploit its geostrategic leverage to grow its critical minerals sector, as a concerted effort with its allies and trading partners is necessary to ensure a robust critical minerals industry and energy security. The benefits of a cooperative approach include developing reliable supply chains, building value chains that will create Canadian jobs and grow the Canadian economy, increasing access to capital and the flow of capital, facilitating collaboration in research and development, and diversifying energy sources and trading partners, thus, ensuring resiliency and sustainability.

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<sup>53</sup> "TMX Group Welcomes International Mining Community to PDAC 2023" (3 March 2023), online: *Toronto Stock Exchange* [perma.cc/37CJ-PTUK].

<sup>54</sup> Canada, "Budget 2023: A Made-In-Canada Plan" (2023) at 70, online (pdf): [perma.cc/4DU7-WGA4] ["Budget 2023"].

<sup>55</sup> Natural Resources Canada, "10 Key Facts on Canada's Minerals Sector" (June 2022), online: [perma.cc/LWN3-VHAH].

<sup>56</sup> *Ibid.*

<sup>57</sup> *Ibid.*

<sup>58</sup> *Ibid.*

In recognition of this need to co-operate, Canada is in the process of working with its allies and trading partners to formalize arrangements, including cooperation agreements with the US and the United Kingdom, as discussed below.

On 9 January 2020, the Canadian and US governments announced the “Canada-U.S. Joint Action Plan on Critical Minerals Collaboration” (Canada-US Joint Action Plan), a strategic plan to advance Canadian and US mutual interests in securing supply chains for the critical minerals needed for the transition to clean energy.<sup>59</sup> This cooperation is especially important, given that Canada already supplies 13 of the 35 minerals identified by the US government as critical minerals, Canada and the US are significant trading partners, with bilateral mineral trade valued at \$95.6 billion in 2020, and there are 298 Canadian mining companies and a combined \$40 billion in Canadian mining assets in the US.<sup>60</sup> The Canada-US Joint Action Plan seeks to facilitate the development of secure critical minerals supply chains in Canada and the US through co-operation in a number of areas including: strategic industries and defence; improving information sharing; engaging with the private sector; and increasing social licence.<sup>61</sup>

On 6 March 2023, Canada and the UK agreed to the “Joint Statement of Intent on Collaboration of Critical Minerals” and the establishment of a “Critical Minerals Supply Chains Dialogue.”<sup>62</sup> The two countries intend to grow and secure the global supply of critical minerals to ensure resilient, transparent, and sustainable supply chains while building on their already-strong trading ties. The UK has a national Critical Minerals Strategy, which includes many of the same features as the Canadian Strategy.<sup>63</sup> The UK is “taking action to ensure [they] remain in the game,” but the strategy is not protectionist in that it emphasizes collaboration with international partners to protect national security and meet respective climate objectives, as well as accelerating growth to maximize the UK’s domestic capabilities.<sup>64</sup>

## B. DOMESTIC INITIATIVES

Canada’s geological endowment alone will not allow it to meet these international commitments as a robust legislative and investment setting will be required for the industry to flourish. With this in mind, the federal government has committed to: (1) mandate the Critical Minerals Centre of Excellence to assist project developers navigating regulatory processes and incentives;<sup>65</sup> (2) convene Regional Energy and Resource Tables to align Canada’s federal, provincial, and territorial approaches to regulatory and permitting processes;<sup>66</sup> (3) review Canada’s regulatory framework to identify opportunities for

<sup>59</sup> Natural Resources Canada, “Canada and U.S. Finalize Joint Action Plan on Critical Minerals Collaboration” (9 January 2020), online: [perma.cc/X73Y-ETA9] [“Joint Action Plan”].

<sup>60</sup> “Canada-U.S. Joint Action Plan on Critical Minerals Collaboration” (27 October 2022), online: *International Energy Agency* [perma.cc/7VQX-9UKN].

<sup>61</sup> “U.S. – Canada/Canada – U.S. Supply Chains Progress Report” (June 2022) at 6–7, online (pdf): *The White House* [perma.cc/UL8L-E8PJ] [“Supply Chains Progress Report”].

<sup>62</sup> Canada, “Joint Statement of Intent between Canada and the United Kingdom on Collaboration on Critical Minerals,” online: [perma.cc/4NNN-T9NC].

<sup>63</sup> “Resilience for the Future: The UK’s Critical Minerals Strategy,” online: *United Kingdom Department for Business, Energy & Industrial Strategy* [perma.cc/WT94-JKVC].

<sup>64</sup> *Ibid.*

<sup>65</sup> *The Canadian Strategy*, *supra* note 5.

<sup>66</sup> Canada, “Regional Energy and Resource Tables,” online: [perma.cc/4S49-CX32].

advancing clean growth projects (including critical minerals mines) in a timely and predictable manner, while safeguarding the interests of Canadians, protecting the environment, and respecting the rights of Indigenous peoples; and (4) explore regulatory harmonization opportunities with international trading partners.<sup>67</sup>

Evidence of tangible actions by the federal government in implementing the Canadian Strategy can be seen, in the federal government's 2023 budget, the Mines to Mobility initiative, and public funding initiatives, as summarized below.

## 1. BUDGET 2023

The federal government's 2023 budget (Budget 2023)<sup>68</sup> builds on the \$1.5 billion Critical Mineral Infrastructure Fund that was announced in the 2022 budget.<sup>69</sup> While the federal government's 2022 budget included loosely defined programs, Budget 2023 provides further details, including various federal tax credits to support investment including the following tax credits, all of which have complex requirements to test eligibility and the amount of the credit, often including carbon-reduction intensity scores and labour-force composition. Examples of these tax credits include:<sup>70</sup>

- Investment Tax Credit for Clean Technology: A refundable tax credit equal to 30 percent (reducing to 15 percent as of 2034) of the cost of eligible property that is acquired for use in connection with clean technology systems.
- Investment Tax Credit for Clean Technology Manufacturing: A new 30 percent refundable investment tax credit available in respect of the capital cost of eligible property associated with certain clean technology manufacturing and mineral extraction and processing.<sup>71</sup>
- Investment Tax Credit for Clean Electricity: A refundable 15 percent tax credit for certain eligible investments. Notably, the credit is not proposed to become available until 2024.
- Investment Tax Credit for Carbon Capture, Utilization, and Storage (CCUS): An expansion of several features of the CCUS credit initially introduced in the 2022 budget.
- Investment Tax Credit for Clean Hydrogen: A new refundable tax credit (varying rate) for the cost of purchasing and installing "eligible equipment" for projects that produce hydrogen.

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<sup>67</sup> *The Canadian Strategy*, *supra* note 5 at 24.

<sup>68</sup> "Budget 2023," *supra* note 54.

<sup>69</sup> Canada, "Budget 2022: A Plan to Grow Our Economy and Make Life More Affordable," online: [perma.cc/W5LB-EULV].

<sup>70</sup> Ted Thiessen, "Budget 2023: Clean Energy Incentives and Resource Sector Measures" (31 March 2023), online: *McMillan LLP* [perma.cc/4HXX-SW25].

<sup>71</sup> The identified minerals are: lithium, cobalt, nickel, graphite, copper, and rare earth elements.

Budget 2023 also includes the development of Carbon Contracts for Differences (CCfDs), a type of contract for difference for carbon pricing, which were identified in Budget 2023 as an investment tool of the Canada Growth Fund that will be used to support clean growth projects. CCfDs are intended to bridge financial and regulatory gaps to encourage low carbon technologies and renewable energy projects. CCfDs are favourable because they guarantee a set revenue for the carbon credits that are generated by the project and provide credibility to fledgling industries by assuring that markets will exist for their products and services.<sup>72</sup>

## 2. MINES TO MOBILITY INITIATIVE

The federal government is taking tangible steps to attract investments by the private sector in the Canadian clean energy sector,<sup>73</sup> including investments to build a battery innovation and industrial ecosystem in Canada, as contemplated by the Mines to Mobility initiative.<sup>74</sup> This initiative has attracted over \$7 billion in prospective investments,<sup>75</sup> with a projected battery supply chain in Canada which could directly contribute up to \$24 billion in GDP in Canada by 2030.<sup>76</sup> Recent examples of potential investments include proposals involving the federal government, the Ontario government, and automakers Stellantis and Volkswagen for investments of approximately \$5 and \$7 billion in electric vehicle battery plants. For Volkswagen, the federal government committed to provide up to \$13 billion in tax credits and a \$700 million grant, while Ontario agreed to provide \$500 million in direct incentives.<sup>77</sup> Negotiations to finalize Stellantis' commitment to this investment are currently underway, with an outstanding issue being incentives to be offered by the governments.<sup>78</sup>

## 3. PUBLIC FUNDING TO STIMULATE PRIVATE SECTOR INVESTMENT

Since 2015, the federal government has taken action to build Canada's clean economy by stimulating private investment, including recently committing: (1) \$15 billion for the Canada Growth Fund to provide innovative funding to help accelerate Canada's decarbonization strategy; (2) \$8 billion for the Net Zero Accelerator Initiative to make large-scale investments in clean technologies; (3) \$4.2 billion for the Low Carbon Economy Fund to support the installation of emission reducing technologies; (4) \$3.8 billion for Canada's Critical Minerals Strategy; (5) \$3.9 billion to subsidize the cost of zero-emission vehicles and

<sup>72</sup> Canada, "A Made-in-Canada Plan: Affordable Energy, Good Jobs, and a Growing Clean Economy" (28 March 2023), online: [perma.cc/MXE2-B43R].

<sup>73</sup> "Budget 2023," *supra* note 54, c 3 (significant investments supported by the Canadian government in the past year include: Honda, General Motors, and Stellantis plans to invest in their existing assembly plants to help support the production of hybrid and electric vehicles in Canada; BHP's \$7.5 billion project at Jansen Stage 1 mine in Saskatchewan to reduce the carbon footprint and improve worker safety; Umicore's plans to invest \$1.5 billion in a net zero facility that will produce essential components of electric vehicle batteries; Rio Tinto Fer et Titane plans to increase its production of critical minerals, cut emissions, and help build clean technology supply chains in Quebec; Volkswagen's plans to build its first overseas electric vehicle battery manufacturing 'gigafactory' in St. Thomas, Ontario; and Oneida Energy's storage project which will be the largest electricity battery storage project in Canada).

<sup>74</sup> See generally, "Mines to Mobility," *supra* note 46.

<sup>75</sup> *The Canadian Strategy*, *supra* note 5 at 22.

<sup>76</sup> *Ibid* at 10.

<sup>77</sup> Ontario, "Volkswagen's New Electric Vehicle Battery Plant Will Create Thousands of New Jobs" (21 April 2023), online: [perma.cc/EVE3-HUG7].

<sup>78</sup> *Ibid*; Sam Jabri-Pickett, "Ontario to Offer More Money for Stellantis to Resume Battery Plant" (19 May 2023), online: *Reuters* [perma.cc/YKX9-YA6K].

to build charging infrastructure; (6) \$1.5 billion for the Clean Fuels Fund to encourage investment in the production of clean fuels; (7) \$4.7 billion for the National Trade Corridors Fund for investments in Canada's ports, roads, railways, and airports; (8) \$33.5 billion for the Investing in Canada Infrastructure Program to support new investments in public transit and green infrastructure; (9) \$35 billion for the Canada Infrastructure Bank to help build infrastructure; and (10) \$2.6 billion for the new Canada Innovation Corporation to support investment in research and development.<sup>79</sup> These funding programs recognize the need to build the technology, infrastructure, and businesses that will support the transformation of Canada's emissions intensive industrial base to a low carbon future, in order to meet climate targets but also ensure prosperity for the Canadian economy.<sup>80</sup> It is thought that these programs will allow Canada to compete with similar initiatives around the world, such as the US' Loan Programs Office (US\$390 billion), the European Union's InvestEU (€ 26.2 billion), the Australian Clean Energy Finance Corporation (AU\$10 billion), and Japan's Green Innovation Fund (¥2 trillion). Such global initiatives create urgency for Canada as it risks losing not only capital to countries with innovative clean energy financing programs, but also talent and raw materials that would flow to jurisdictions with more attractive opportunities.

### C. FEDERAL POLICY: ENERGY SECURITY AND THE *INVESTMENT CANADA ACT*

The *Investment Canada Act*<sup>81</sup> is a federal statute of general application that applies to all investments by non-Canadian investors in "Canadian business[es]";<sup>82</sup> including the energy sector, and is a key tool of the federal government to encourage the development and protection of critical minerals. This tool supplements other foreign ownership restrictions applicable to specific activities, such as the federal government's "Non-Resident Ownership Policy in the Uranium Mining Sector,"<sup>83</sup> which although not law, requires a minimum level of Canadian resident ownership in individual mining properties of 51 percent at the stage of first commercial production.

#### 1. NET BENEFIT REVIEW

The *ICA* generally requires each non-Canadian investor that acquires control of a Canadian business that exceeds certain financial thresholds to not complete such acquisition until the Canadian minister under the *ICA* (the *ICA* Minister) is satisfied that the investment is of "net benefit" to Canada.<sup>84</sup> The financial thresholds that trigger a net benefit review range

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<sup>79</sup> "Budget 2023," *supra* note 54, c 3.

<sup>80</sup> Canada, Department of Finance, *Canada Growth Fund: Technical Backgrounder* (Ottawa), online: [perma.cc/56YS-4WVA].

<sup>81</sup> *ICA*, *supra* note 42.

<sup>82</sup> "Canadian business" is defined broadly in the *ICA* as: "a business carried on in Canada that has (a) a place of business in Canada, (b) an individual or individuals in Canada who are employed or self-employed in connection with the business, and (c) assets in Canada used in carrying on the business," with the result that the government has taken the position that the *ICA* applies to Canadian companies with their shares listed on exchanges in Canada with only nominal assets and employees in Canada, with virtually all material assets located, and operations conducted, outside of Canada: *ibid*, s 3.

<sup>83</sup> "Canada's Non-Resident Ownership Policy in the Uranium Mining Sector," online: [perma.cc/9KX5-WFP5].

<sup>84</sup> Joshua Krane & James Musgrove, "Net Benefit Reviews Under the *Investment Canada Act*: Some Practical Thoughts" (6 June 2023), online: *McMillan LLP* [perma.cc/N7CQ-4K6N].

from \$1.9311 billion for investors from Canada's trade agreement countries, to \$512 million for investors that are state-owned enterprises (SOEs<sup>85</sup>), to \$5 million for investors from non-World Trade Organization member countries.<sup>86</sup> While "net benefit" to Canada is not defined in the *ICA*, the *ICA* Minister is required to consider certain factors<sup>87</sup> prescribed in the *ICA* as they relate to an economic benefit to Canada and also compliance with prevailing (and evolving) national policies when determining whether an investment is of net benefit to Canada.<sup>88</sup>

## 2. NATIONAL SECURITY REVIEW

All investments by non-Canadian investors in Canada, including an acquisition of control of a Canadian business subject to a net benefit review, a minority investment in a Canadian businesses, or the establishment of a new Canadian business (for example, the establishment of a greenfield critical mining project), may be subject to a national security review at the discretion of the federal government to assess whether an investment could be "injurious to national security."<sup>89</sup> The *ICA* provides that the federal government may make an order against a foreign investor to take any measure it considers advisable to protect national

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<sup>85</sup> SOE is defined broadly in the *ICA*, *supra* note 42, s 3 to be  
 (a) the government of a foreign state, whether federal, state or local, or an agency of such a government;  
 (b) an entity that is controlled or influenced, directly or indirectly, by a government or agency referred to in paragraph (a); or  
 (c) an individual who is acting under the direction of a government or agency referred to in paragraph (a) or who is acting under the influence, directly or indirectly, of such a government or agency.

<sup>86</sup> See generally, "2023 *Competition Act* and *Investment Canada Act* Thresholds," online (pdf): *McMillan LLP* [perma.cc/3YAF-78T6].

<sup>87</sup> See generally, *ICA*, *supra* note 42 (these factors are set out at section 20).

<sup>88</sup> Investments by SOEs in Canadian business are subject to heightened scrutiny, to confirm, among other factors, that the Canadian business will continue to have the ability to operate on a commercial basis post-closing of the acquisition. The Minister requires foreign investors to provide contractual undertakings to the Minister that support a finding of "net benefit" to Canada as a condition of the Minister's approval of the investment. The undertakings are based on the plans provided by the Investor and address any concerns of the Minister: see generally, Canada, "Guidelines – Investment by State-Owned Enterprises – Net Benefit Assessment," online: [perma.cc/4Z73-7YTN].

<sup>89</sup> The Minister has a 45 day period from the date of filing by a foreign investor of a notification or application for review under section 45 of the *ICA* to determine whether there are reasonable grounds to believe that an investment could be injurious to national security and to send the foreign investor a notice that a national security review of the investment may be ordered, which 45 day period may be increased by an additional 45 days: *ICA*, *supra* note 42, s 25.1(1); the Governor in Council (Cabinet) (GIC) may, upon recommendation by the Minister, order a formal national security review at any time during the initial review period (as extended). If the GIC issues an order, the investor may not close the investment until it has received a notice that no action will be taken by the Canadian government or received an order it may implement the investment. If the GIC does not issue an order, the Investor may close the investment. A GIC ordered national security review period is 45 days from the date of the GIC order, which period may be extended by an additional 45 days: *ibid*, s 25.3(7); the GIC must issue a final decision within 20 days of completion of the national security review period, subject to any agreed-upon extensions with the investor. A full national security review can be expected to take at least the 200-day maximum provided in the *ICA*. In practice, it typically takes materially longer as the investor really has no choice but to consent to extensions or abandon the investment. In an effort to increase certainty of investments by non-Canadians, effective 2 August 2022, the *National Security Review of Investments Regulations*, SOR/2009-271 were amended to provide foreign investors with the ability to voluntarily file a notification and clear the national security review process prior to closing of an investment that would not otherwise be subject to the standard notification or review process, such as a minority investment in a Canadian business. As part of these amendments, the government could initiate a national security review of investment up to five years after closing of such investment in the event the foreign investor chose not to make a voluntary national security filing with the Canadian government; see generally, Canada, "Regulations Amending the National Security Review of Investments Regulations: SOR/2022-124" (2 June 2022), online: [perma.cc/FA8W-ZV6G].



security, including prohibiting the investment, requiring a divestiture of a completed investment, or permitting the investment, subject to certain conditions.<sup>90</sup>

Federal government policy regarding foreign investment has significantly evolved in the past three years resulting “in an unprecedented period of national security scrutiny of foreign investment, globally, spurred in part by the COVID-19 pandemic, increasing attention to security implications of climate change, disruptions to global supply chains for critical goods and services, and evolving geopolitical considerations.”<sup>91</sup> On 24 March 2021, the federal government updated its “Guidelines on the National Security Review of Investments”<sup>92</sup> to ensure that all investments by SOEs are subject to enhanced scrutiny, regardless of the value or size of the investment, and that a national security review may include the potential impact on critical minerals and critical mineral supply chains.<sup>93</sup>

In October 2022, the federal government introduced a new policy, applicable to investments by SOEs or private investors with close ties to foreign governments in a Canadian business engaged in critical minerals sectors, providing that: (1) an acquisition of control of a Canadian business subject to a “net benefit” review will only be approved by the ICA Minister on an “exceptional” basis; and (2) all other investments could constitute reasonable grounds for the federal government to believe that the investment could be injurious to Canada’s national security, regardless of the value of the investment.<sup>94</sup>

This policy is similar to the Canadian government’s response in 2012 to the spate of SOE acquisitions of Canadian businesses engaged in Canadian oil sands from 2007 to 2012. Recognizing the significance of Canada’s oil sands, most of which were controlled at the time by the private sector (including in part as a result of the privatization of Petro-Canada in the 1990s), the Canadian government warned that the ICA Minister would find the acquisition of control of a Canadian oil sands business by a foreign SOE to be a net benefit

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<sup>90</sup> An order would be made by the Governor in Council (the Federal Cabinet), upon recommendation by the Minister (after consultation with the Minister of Public Safety and Emergency Preparedness). A full national security review can be expected to take at least the 200 day maximum provided in the ICA, recognizing that in practice, it often takes materially longer to complete such review, as the investor has no practical choice but to consent to extensions or to abandon the investment.

<sup>91</sup> Innovation, Science and Economic Development Canada, *Annual Report: Investment Canada Act 2021–2022* (Ottawa: 2022) at 3, online: [perma.cc/WC9V-9UYR]; Canada, “Policy Statement on Foreign Investment Review and COVID-19” (18 April 2020), online: [perma.cc/TDX2-QM85]; Dr. A Neil Campbell & Joshua Chad, “Heightened Scrutiny of Foreign Investment in the Time of COVID” (21 April 2020), online: *McMillan LLP* [perma.cc/V6ZV-5LKU].

<sup>92</sup> See generally Canada, “Guidelines on the National Security Review of Investments” (24 March 2021), online: [perma.cc/AD5Z-DGCA].

<sup>93</sup> See generally Joshua Krane et al, “Canadian Government Expands National Security Guidance” (25 March 2021), online: *McMillan LLP* [perma.cc/HC6H-6E4B].

<sup>94</sup> See generally Canada, “Policy Regarding Foreign Investments from State-Owned Enterprises in Critical Minerals under the *Investment Canada Act*,” online: [perma.cc/3NYN-ZLPB]; “Canada Steps UP Scrutiny of Foreign Investment in Essential Industries in Coronavirus Pandemic” (19 April 2020), online: *Financial Post/Bloomberg* [perma.cc/QM5S-E59R] (as a note, there is no guidance as to the meaning of “private investors with close ties to foreign governments,” which phrase may be interpreted broadly by the Minister); in particular, the Canadian government identifies three key elements, which are consistent with the Canadian Strategy: (1) critical minerals are essential to domestic industry and security, and have the potential to support secure and resilient supply chains to meet global demand; (2) Canada’s future prosperity and global leadership in emerging low-carbon and other technology sectors requires reliable market-based access to critical minerals across the value chain; and (3) critical minerals are also strategic assets that contribute to Canada’s national security as vital inputs to defence and high technology; Canada, “Canada Strengthens Guidelines to Protect Critical Minerals Sectors from Foreign State-owned Enterprises” (28 October 2022), online: [perma.cc/9J8N-LAGT].

to Canada only on an “exceptional” basis.<sup>95</sup> This policy continues to apply today, with virtually no SOE investment in the Canadian oil sands since this 2012 announcement.

Most recently, on 7 December 2022, the government introduced proposed amendments to the *ICA*,<sup>96</sup> to strengthen the government’s ability to conduct national security reviews under the *ICA*.<sup>97</sup> These amendments have been proposed in respect of “strategic and geopolitical concerns, the need for greater certainty and transparency for investors and the need to protect the economy and innovation in Canada.”<sup>98</sup> The proposed amendments have passed the second reading at the House of Commons (with no votes against) and are currently subject to review by the House of Commons Standing Committee on Industry and Technology, and we caution these proposed amendments are not final and are subject to change.

The proposed amendments, among other items, include a new requirement for all foreign investors to make pre-closing filings in respect of investments if: (1) the Canadian business is engaged in a “prescribed business sectors” (which we presume will include critical minerals); (2) the investors could have access to, or direct the use of, “material non-public technical information” or “material assets”; and (3) the investor would have the power to appoint or nominate any person who has the capacity to direct the business or affairs of the business (for example, a director or senior management), or prescribed special rights.<sup>99</sup> If subject to such pre-closing notice obligation, the investor may not complete the investment until it is confirmed that there will not be a national security review or a national security review has terminated, which would allow the federal government to address any national security risks before closing the investment.<sup>100</sup> The proposed amendments are broad, with the potential that minority investments in Canadian businesses (including Canadian-listed public companies, Canadian companies with critical mineral assets in other countries, and, possibly, their subsidiaries) may be subject to a pre-closing notification requirement if the above, currently uncertain, conditions are satisfied.

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<sup>95</sup> See generally Canada, “Statement Regarding Investment by Foreign State-Owned Enterprises” (29 March 2023), online: [perma.cc/SU86-MNJC] (of interest, the policy of foreign investment in oil sands does not address minority investments, and is thus a more narrow focus than the “Policy Regarding Foreign Investments from State-Owned Enterprises in Critical Critical Minerals under the *Investment Canada Act*,” which applies to all investments including minority interests by SOEs). See also Canada, “Statement by the Prime Minister of Canada on Foreign Investment” (7 December 2012), online: [perma.cc/45N6-GLWN].

<sup>96</sup> “Bill C-34, *An Act to amend the Investment Canada Act*,” 1st reading, *House of Commons Debates*, 44-1, No 172 (23 March 2023) at 1615 (Ryan Williams) [perma.cc/KXE9-PB4B].

<sup>97</sup> *Ibid.*

<sup>98</sup> House of Commons, *Order Paper*, 44-1, No 153 (3 February 2023).

<sup>99</sup> “Bill C-34, *An Act to Amend the Investment Canada Act*,” *House of Commons Debates*, 44-1, No 153 (3 February 2023) at 11217, 11239.

<sup>100</sup> The other significant proposed amendments to the *ICA* include: (1) expansion of authority of the Minister, after consultation with the Minister of Public safety, to extend the national security review of investments, impose interim conditions on an investor during a national security review, and to accept undertakings to mitigate national security risk while permitting the transaction to close, rather than simply be blocked, arguably to make the national security review process more efficient and allow transactions that may benefit Canada to be completed; (2) imposing new and increased fines up to \$500,000 for non-compliance with the *ICA*; (3) permit the Canadian government the ability to disclose specific information regarding national security reviews to foreign states to assist foreign states in their own foreign investment review; and (4) new rules for the protection of sensitive information, such as classified intelligence information, that the government may rely on in judicial review of decisions under the *ICA*.

### 3. RECENT FEDERAL GOVERNMENT ACTION IN CRITICAL MINERALS SECTOR

The federal government has taken recent action in the critical minerals industry, including a review of the acquisition of Neo Lithium Corp. and a series of divestiture orders in 2023.

In January 2022, Zijin Mining Group Co., Ltd., a Chinese company listed on the Hong Kong and Shanghai stock exchanges owned in part by a Chinese SOE, acquired Neo Lithium Corp., a TSXV-listed issuer with a lithium project in Argentina (with no lithium assets located in Canada). The ICA Minister did not commence a national security review and received significant criticism. As a rationale for not initiating a review, the ICA Minister advised that Neo Lithium's assets were located in Argentina and its project would (arguably) produce a type of lithium not used for electric battery production in North America.<sup>101</sup> The House of Commons Standing Committee on Industry, Science and Technology nonetheless expressed concern with the process conducted by the ICA Minister and the lack of transparency of the review process under the ICA.<sup>102</sup>

On 2 November 2022, the ICA Minister announced the federal government conducted national security reviews of a number of "Canadian companies engaged in the critical minerals sector, including lithium" resulting in divestiture orders against three Chinese-based foreign investors in three Canadian mining companies with interests in lithium projects.<sup>103</sup> Notwithstanding this commitment to transparency, the ICA Minister did not disclose the reasons that supported the final orders, the standards applied, whether the investors were characterized as Chinese SOEs, or the details of the final orders which included the scope of the orders. Of interest, the Chinese investors only acquired minority interests in the three Canadian companies (as low as 5.7 percent), the Canadian companies are public companies that are relatively early stage exploration companies, and one of the Canadian companies did not hold any critical mineral assets in Canada.<sup>104</sup>

Likely in recognition of the impact of the potential chill on investment in Canadian companies engaged in critical minerals, the federal government stated that it:

[I]s determined to work with Canadian businesses to attract foreign direct investments from partners that share our interests and values ... [and] will continue to encourage and work with Canadian businesses that

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<sup>101</sup> Neo Lithium's reserves will produce lithium carbonate rather than lithium hydroxide, and the end use limitations were taken into account in assessing national security risks: "Canada Says It Saw No Need to Block China Firm's Bid for Lithium Miner," *Financial Post* (27 January 2022), online: [perma.cc/R27Y-QNAG].

<sup>102</sup> See generally House of Commons, *The Neo Lithium Acquisition: Canada's National Security Review Process in Action* (March 2022) (Chair: Joël Lightbound).

<sup>103</sup> See generally Innovation, Science and Economic Development Canada, "Government of Canada Orders the Divestiture of Investments by Foreign Companies in Canadian Critical Minerals Companies" (2 November 2022), online: [perma.cc/GT3J-FALE].

<sup>104</sup> See generally "Winsome Resources Signs Binding Agreement to Purchase Hong Kong-Based Sinomine's Interests in Power Metals Corp" (2 December 2022), online: *Power Metals Corp* [perma.cc/HQ4M-4YQD]; "Lithium Chile Welcomes Significant New Shareholder Following the Government Ordered Divestiture of Chengze's Ownership" (16 February 2023), online (pdf): *TSX Venture Exchange* [perma.cc/PS3S-PPY3]; "Ultra Lithium Responds to Government of Canada Critical Minerals Announcement" (4 November 2022), online: *Ultra Lithium Inc* [perma.cc/94J4-RPCV].

require investment capital, by helping to identify and find partnerships that will serve in the best interest of Canadian businesses, workers, and the economy.<sup>105</sup>

The nature and extent of action by the federal government to support early stage companies listed in Canada remains to be seen.

## D. FEDERAL POLICY: CLIMATE LEGISLATION

Federal policy has shifted towards meeting net zero targets to comply with Canada's commitments in the Paris Agreement and the need to consider climate and ESG objectives in respect of all decisions over which it has jurisdiction, consistent with the Objectives of the Canadian Strategy. Accordingly, the Canadian Strategy is generally aligned with Canadian legislation addressing climate and environmental concerns, marking a generally unified approach across relevant federal government initiatives. The federal government has implemented the following legislation to guide Canada's approach to climate change: the *Canadian Environmental Protection Act*,<sup>106</sup> the *CNEAA*,<sup>107</sup> the *Canadian Energy Regulator Act*,<sup>108</sup> and the *Impact Assessment Act*<sup>109</sup> (collectively, the Climate Legislation).

### 1. THE *CEPA*

The *CEPA* is the centrepiece of Canada's federal environmental legislation. Its purpose is to prevent pollution and protection of the environment and human health, while contributing to sustainable development of natural, social, and economic resources. Such development must occur through the implementation of the precautionary principle and the polluter pays principle. The federal government, while playing a leadership role, must collaborate with relevant provincial governments to ensure a robust system of environmental programs, conduct impact and risk assessments, and manage the impacts of pollution, waste, ocean disposal, and environmental emergencies.<sup>110</sup> The Minister of Environment and Climate Change, through research and data collection, is required to formulate plans for pollution prevention and make publicly available prevention information, enforcement information, and periodic reports on the status of the Canadian environment.<sup>111</sup> Although the *CEPA*'s direct applicability to critical minerals is limited, the statute reinforces the federal government's active obligation to protect Canada's environmental well-being.

### 2. THE *CNEAA*

The *CNEAA* mandates the setting of statutory national targets to achieve the objective of net zero GHG emissions by 2050.<sup>112</sup> The Minister of the Environment and Climate Change is tasked with setting emissions reduction targets for 2030, 2035, 2040, and 2045,<sup>113</sup> with

<sup>105</sup> *Ibid.*

<sup>106</sup> SC 1999, c 33 [*CEPA*].

<sup>107</sup> *CNEAA*, *supra* note 2.

<sup>108</sup> SC 2019, c 28, s 10 [*CERA*].

<sup>109</sup> SC 2019, c 28, s 1 [*IAA*].

<sup>110</sup> Canada, "Understanding the Canadian Environmental Protection Act," online: [perma.cc/WMH2-P2NH].

<sup>111</sup> *CEPA*, *supra* note 106, s 44(1).

<sup>112</sup> *CNEAA*, *supra* note 2, s 4.

<sup>113</sup> *Ibid.*, s 2.

subsequent targets required to be “as ambitious as Canada’s most recent nationally determined contribution communicated under the Paris Agreement.”<sup>114</sup> Furthermore, the Minister of Environment and Climate Change is required to describe the targets set and must issue a progress report no later than two years before the commencement of an applicable target year, outlining progress, emissions projections, GHG inventory, and the implementation of strategic plans.<sup>115</sup>

### 3. THE CERA

The CERA established the Canadian Energy Regulator (CER) — an independent energy regulator — to safeguard energy infrastructure in Canada. The CER is responsible for: (1) overseeing the construction and operation of international and interprovincial pipelines (including abandoned pipelines), power lines, and offshore renewable energy projects; (2) ensuring the safe and secure exploration of oil and gas; (3) regulating trade in energy products; and (4) establishing fair decision-making processes related to energy matters.<sup>116</sup> The CERA, which replaces the *National Energy Board Act* (which established and provided for the National Energy Board), provides for updated governance, enhanced project approval timelines, and inclusive public engagement in an effort to modernize and diversify the Canadian energy industry, build Canada’s energy infrastructure to increase production and export capacity, and advance economic growth.<sup>117</sup>

### 4. THE IAA

The IAA outlines a process to assess the impacts of major projects, including certain mining operations and other designated projects, as well as non-designated projects carried out on federal lands or outside of Canada. One of the defined purposes of the IAA is essential to the Canadian Strategy’s Objectives: “to establish a fair, predictable and efficient process for conducting impact assessments that enhances Canada’s competitiveness, encourages innovation in the carrying out of designated projects and creates opportunities for sustainable economic development.”<sup>118</sup> The IAA sets out a five phase impact assessment process for “designated projects,” which includes “a new mine or mill,”<sup>119</sup> consisting of planning, impact statement, impact assessment, decision-making, and post-decision.<sup>120</sup> The Impact Assessment Agency of Canada is generally responsible for conducting assessments under the IAA,<sup>121</sup> which includes considering: (1) the positive and negative consequences the project may have on the surrounding environment; (2) mitigation measures to counter adverse effects; (3) the project’s purpose and need; (4) any potential alternatives that exist; (5) the project’s contribution to sustainability measures; (6) Indigenous considerations, knowledge, and culture related to the project; and (7) the hindrance or contribution the project has toward the federal government’s environmental obligations.<sup>122</sup>

<sup>114</sup> *Ibid*, ss 7(1.1), 7(3).

<sup>115</sup> *Ibid*, ss 14(1), 14(2).

<sup>116</sup> *Ibid* at Part 4 and Part 5; CERA, *supra* note 108, s 6.

<sup>117</sup> Canada, *A Modern, New and World-Class Federal Energy Regulator for the 21st Century: The New Canadian Energy Regulator Handbook* (Ottawa) at 3, online: [perma.cc/HGY3-HTUL].

<sup>118</sup> IAA, *supra* note 109, s 6(1)(b.1).

<sup>119</sup> *Physical Activities Regulations*, SOR/2019-285, s 2(1).

<sup>120</sup> “Overview of the *Impact Assessment Act*: Level I Training” (2019), online: [perma.cc/3T2G-SNQ3]

<sup>121</sup> IAA, *supra* note 109, s 21.

<sup>122</sup> *Ibid*, s 22(1).

The IAA is the subject of much constitutional debate. On 10 May 2022, upon application by the Alberta government, the Alberta Court of Appeal held the IAA was unconstitutional as it trampled upon enumerated provincial powers over project developments.<sup>123</sup> The Court's judgment is not binding, which means the IAA continues to govern. The federal government remains firm on the validity of the IAA and appealed for review to the Supreme Court of Canada on the ground that climate change demands a cooperative governmental approach.<sup>124</sup> The decision of the Supreme Court is anxiously awaited, so as to provide clarity to industry participants as to whether or not environmental impact assessments require a coordinated federal and provincial approach.

Despite this ongoing litigation, the federal government announced in Budget 2023 that it will put forward a plan to improve the impact assessment process under the IAA by the end of 2023. It is anticipated the plan will include tangible solutions for improving the efficiency of the impact assessment and permitting processes for major projects. The failure to implement a collaborative review policy risks jeopardizing Canada's ability to achieve net zero commitments and develop projects that are clearly in the interests of Canada.

In sum, the Climate Legislation represents the federal government's approach to implementing environmental objectives for projects of national significance. Environmental protection falls primarily under the jurisdiction of the provinces pursuant to the *Constitution Act, 1982*.<sup>125</sup> The federal, provincial, and territorial environmental regimes have similar objectives (for example, the protection of the environment). However, the implementation of these objectives may differ, meaning that industry participants face additional uncertainties and burdens, and likely additional review periods, to developing critical mineral projects.

## V. PROVINCIAL CRITICAL MINERAL STRATEGIES

This section provides an overview of the provincial critical mineral strategies of each of Alberta, Ontario, and Quebec, and highlights differing and sometimes similar approaches based on each province's unique circumstances and policy goals.

### A. THE ALBERTA STRATEGY

The Alberta government released its critical minerals action plan, "Renewing Alberta's Mineral Future" (the Alberta Strategy) on 4 November 2021.<sup>126</sup> The Alberta Strategy envisions Alberta becoming a preferred producer and supplier of critical minerals and mineral products.<sup>127</sup> Similar to the Canadian Strategy, the Alberta Strategy aspires to meet objectives to catalyze development of the province's critical mineral resources to: (1) increase public geoscience; (2) enhance the fiscal and regulatory environment; (3) promote responsible development; (4) advance opportunities for Indigenous peoples; (5) develop

<sup>123</sup> *Reference re Impact Assessment Act*, 2022 ABCA 165.

<sup>124</sup> Meghan Grant, "Supreme Court Asked to Rule on Environmental Impact Legislation after Alberta Ruling," *CBC News* (7 July 2022), online: [perma.cc/D2DR-2JYT].

<sup>125</sup> *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11.

<sup>126</sup> Alberta, Ministry of Energy, *Renewing Alberta's Mineral Future: A Strategy to Re-Energize Alberta's Minerals Sector*, online: [perma.cc/ZA37-D6TS].

<sup>127</sup> *Ibid* at 12.

public awareness and a skilled workforce; and (6) promote innovation and industrial development.<sup>128</sup>

Serving as Canada’s historical energy hub, Alberta has latent energy potential that can be channelled toward the critical mineral industry to position the province as a preferred supplier of critical minerals. Specifically, the Alberta Strategy identifies Alberta’s expertise in the extractive sector, readily available well sites, infrastructure and transportation, co-production opportunities with the province’s existing energy sector, and its skilled labour force as synergetic areas that critical mineral projects may access as part of this diversification.<sup>129</sup>

A key difference between the Alberta Strategy and the Canadian Strategy is that the Canadian Strategy promotes a policy of “energy transition” whereas the Alberta Strategy promotes “energy diversification.” The Alberta Strategy is business friendly in that it aims to provide clear regulatory expectations via a predictable and competitive regulatory framework, a strong fiscal regime, and modern tenure and royalty systems.<sup>130</sup> Alberta hopes that action on these fronts will increase investor confidence and lead to increased business opportunities.<sup>131</sup> Moreover, the Alberta Strategy incorporates critical minerals within the existing provincial regulatory frameworks relating to oil, gas, and coal in an effort to avoid duplication and associated inefficiencies. Alberta has worked toward a middle ground that capitalizes on both its regulatory potential, and emerging opportunities and issues specific to critical minerals, including streamlining administrative processes behind project approvals and managing environmental liabilities. In addition, Alberta’s Geological Survey has assisted the Alberta Energy Regulator (AER) with mapping critical minerals to demonstrate the potential for development.<sup>132</sup>

The *Mineral Resource Development Act*, which partially came into force on 1 March 2023, regulates critical mineral projects in Alberta.<sup>133</sup> The *MRDA* established the AER as the “life cycle” regulator for mineral resources in Alberta.<sup>134</sup> The AER is responsible for regulating critical mineral projects from initiation, through construction and operation, up to and including closure. This includes regulations relating to project assessment, public notice and consultation, applications and permitting, inspections and audits, and ultimately, suspending production, remediating, and reclaiming the project site.

The minerals subject to the *MRDA* are expansively defined to include all naturally occurring minerals, including those identified by the Canadian Strategy. However, the *MRDA* expressly clarifies that traditional fossil fuels, such as petroleum, oil, natural gas, and coal are excluded since they are already regulated under existing legislation.<sup>135</sup> In turn, the AER categorizes and regulates mineral resources in two categories: brine-hosted and hard rock. Brine-hosted mineral resources are found in underground saltwater and are often extracted

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<sup>128</sup> *Ibid.*

<sup>129</sup> *Ibid* at 7.

<sup>130</sup> *Ibid* at 14.

<sup>131</sup> *Ibid.*

<sup>132</sup> *Ibid* at 13.

<sup>133</sup> SA 2021, c M-16.8 [*MRDA*].

<sup>134</sup> *Ibid*, s 54.

<sup>135</sup> *Ibid*, s 1(1)(p).

through well infrastructure which resembles a traditional oil or gas well operation, whereas hard rock extraction resembles a traditional mining project. As part of the Alberta Strategy, on 2 March 2023, the Alberta government released “Directive 090: Brine-Hosted Mineral Resource Development,”<sup>136</sup> and the *Brine-hosted Mineral Resource Development Rules*<sup>137</sup> to set the requirements for developing brine-hosted mineral resources.

## B. THE ONTARIO STRATEGY

In March 2022, Ontario launched its Critical Mineral Strategy (the Ontario Strategy) aimed at strengthening the province’s position as a reliable and sustainable supplier of minerals.<sup>138</sup>

The Ontario Strategy was established in light of the Ring of Fire, a promising mineral deposit in Northern Ontario, with its development impeded by various challenges since its discovery in 2007.<sup>139</sup> Despite potential benefits, including economic growth, energy security, and energy diversification, a lack of access to the region, inadequate infrastructure, environmental concerns, Indigenous rights, values and interests, and a lack of coordination between levels of government have been significant hurdles. Recently, the owner of the majority of assets found in the Ring of Fire warned that the development is at risk of further stagnation if these concerns are not addressed.<sup>140</sup> These challenges have not completely deterred the interest of mining companies; however, as evidenced by the recent bidding war between BHP Inc. and Wyloo Metals Inc. to acquire Noront Resources Ltd., whose principal assets are the Eagle’s Nest mineral deposits in the Ring of Fire.<sup>141</sup>

The Ontario Strategy focuses on developing a secure and resilient critical minerals supply chain, promoting responsible mining practices, and fostering innovation and collaboration across industry, academia, and government.<sup>142</sup> With increasing domestic and global demand for critical minerals, the Ontario Strategy aims to capitalize on its abundant mineral resources and industry experience while ensuring the protection of the environment and local communities.<sup>143</sup>

The Ontario Strategy provides a five year roadmap and is comprised of six action items: (1) enhancing geoscience information and supporting critical minerals exploration; (2) growing domestic processing and creating resilient local supply chains; (3) improving Ontario’s regulatory framework; (4) investing in innovation, research, and development; (5) building economic development opportunities with Indigenous partners; and (6) growing labour supply and developing a skilled labour force.<sup>144</sup>

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<sup>136</sup> “Directive 090: Brine-Hosted Mineral Resource Development” (2 March 2023), online: (pdf): *Alberta Energy Regulator* [perma.cc/WG6J-9ANX].

<sup>137</sup> Ontario, *Ontario’s Critical Minerals Strategy: Unlocking Potential to Drive Economic Recovery and Prosperity 2022–2027* (Ontario: March 2022), online: [perma.cc/QY6S-2XVV].

<sup>138</sup> *Brine-Hosted Mineral Resource Development Rules*, Alta Reg 17/2023.

<sup>139</sup> See generally Ontario, “Ontario’s Ring of Fire” (1 November 2022), online: [perma.cc/Y7TH-74D4].

<sup>140</sup> Niall McGee, “Ring of Fire Project at Risk Due to Red Tape and Cumbersome Consultation Process, Billionaire Owner Says,” *The Globe and Mail* (24 May 2023), online: [perma.cc/Q2M6-3K9S].

<sup>141</sup> “BHP Announces It Will Not Match Wyloo’s Proposal to Acquire Noront” (21 December 2021), online: *BHP* [perma.cc/4BJQ-4JRS].

<sup>142</sup> *Ibid.*

<sup>143</sup> *Ibid.* at 17.

<sup>144</sup> *Ibid.*



With respect to the second action item, the concentration of critical mineral supply chains in a limited number of countries creates a potential risk of economic disruption due to uncertain supply chain access. To mitigate this risk, Ontario is shifting its focus towards expanding exploration and extraction efforts along with domestic processing, manufacturing, and recycling capacity. The Ontario Strategy aims to establish an all-encompassing comprehensive supply chain, from exploration to manufacturing that will capitalize on the high value downstream activities associated with clean technologies in Canada and the US. By doing so, the Ontario Strategy aims to reduce reliance on foreign supply to foster a self-sufficient economy. This will also create new opportunities for investment, jobs, and technological innovation within the province.

With respect to the third action item, the Ontario Strategy recognizes that in order to establish itself as a dependable supplier of critical minerals, it is essential to reduce the regulatory burden on new mining projects. There is a current push by the Ontario government and industry to ensure that mines can become operational within a commercially reasonable timeframe. As George Pirie, Minister of Mines stated, “[i]t shouldn’t take 15 years to open a mine. This process is too time consuming and costly, leading to project delays and lost opportunities for Ontario’s mineral exploration and mining sector.”<sup>145</sup> In this regard, just before the 2023 Prospectors & Developers Association of Canada (PDAC) convention in Toronto, Ontario premier Doug Ford and Pirie announced Bill 71, the *Building More Mines Act, 2023*, to amend the *Mining Act*<sup>146</sup> — Ontario’s primary mining legislation — to expedite permitting times and approvals to put more new mines into production more quickly.<sup>147</sup> This proposed legislation received Ontario Royal Assent on 18 May 2023,<sup>148</sup> despite significant public opposition.

### C. THE QUEBEC STRATEGY

Quebec released its “Québec Plan for the Development of Critical and Strategic Minerals 2020-2025” (the Quebec Strategy) in 2020.<sup>149</sup> The Quebec Strategy calls critical and strategic minerals the “minerals for the future”<sup>150</sup> and its ambitions include expansion in all areas of the value chain — exploration and production, manufacturing, and recycling and end of life management.

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<sup>145</sup> “Ontario Building a Stronger Mining Sector” (2 March 2023), online: [perma.cc/HP3M-TU4M].

<sup>146</sup> *Mining Act*, RSO 1990, c M 14.

<sup>147</sup> Niall McGee, “Ontario Legislation Targets Faster Approval of Mining Projects,” *The Globe and Mail* (2 March 2023), online: [perma.cc/4KRY-M34T].

<sup>148</sup> Bill 71, *Building More Mines Act, 2023*, 1st Sess, 43rd Parl, SO 2023, c 6 (Royal Assent received on 31 March 2023).

<sup>149</sup> Quebec, Secteur des mines, “Québec Plan for the Development of Critical and Strategic Minerals 2020–2025” (Quebec: 2020), online: [perma.cc/G29M-96H2] [“Quebec Plan 2020–2025”].

<sup>150</sup> “Quebec Plan for the Development of Critical and Strategic Minerals,” online: [perma.cc/4AZM-UG65] [“Quebec Plan”].

Like each of the Canadian Strategy, Alberta Strategy, and Ontario Strategy, the Quebec Strategy focuses on information and data collection, research and development networks, financial support and tax incentives,<sup>151</sup> in addition to Quebec business considerations, such as promoting Quebec as a responsible business partner, raising the population's awareness of the importance of minerals to daily life, and developing and consolidating Quebec's transportation, energy, and telecommunications networks.<sup>152</sup> For example, the Government of Quebec has numerous resources available to the business community to "promote the social acceptability of projects" and additional materials for proponents considering choosing Quebec for their critical and strategic minerals projects.<sup>153</sup> Quebec's Ministry of Natural Resources and Forests provides a spatial reference geominning information system known as SIGÉOM, which allows the entire Quebec geoscientific database collected over the past 150 years to be accessed online without charge by the general public.<sup>154</sup>

The Quebec Strategy identifies 22 critical and strategic minerals, with 10 identified as critical and 12 identified as strategic. The Quebec Strategy distinguishes between strategic minerals and critical minerals on the basis that the former are substances necessary for the implementation of Quebec's policies, whereas the latter are mineral substances with economic importance for key sectors of the economy today, with high supply risk and no commercially available substitutes. The minerals identified as having the most potential based on anticipated change in demand are graphite (494 percent), lithium (488 percent), cobalt (460 percent), indium (231 percent), and vanadium (189 percent),<sup>155</sup> each of which is a strategic mineral for purposes of the Quebec Strategy.<sup>156</sup>

The Quebec Strategy explicitly points to the non-renewable nature of critical and strategic minerals and thus the importance of ensuring their optimum use, including developing recirculation methods which allow for ecodesign, recycling, and reuse. It is intended that this forward-looking perspective and focus on the circular economy will allow Quebec to meet demand for critical and strategic minerals in key sectors, including telecommunications, renewable energy production, aerospace, and healthcare. Furthermore, the Quebec Strategy, unlike the other strategies discussed above, uniquely identifies a "circular economy" as opposed to a value or supply chain.<sup>157</sup> Within this circular economy, three additional considerations are raised: (1) restoration of the extraction site, (2) follow-up and monitoring, and (3) determining and developing new land uses.<sup>158</sup> Of course, these steps would be

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<sup>151</sup> Quebec, *A New Mining Tax Regime: Fair for All* (Quebec: May 2013), online: [perma.cc/LBC6-CRCM].

<sup>152</sup> Quebec, Ministère de Ressources naturelles et des Forêts, *Investing in Québec's Mining Sector* (Quebec: July 2022), online: [perma.cc/3C4Z-NCFN]; Quebec, Ministère de l'Énergie et des Ressources naturelles, *Critical and Strategic Minerals in Québec: New Wealth and Business Opportunities* (Quebec 2020), online: [perma.cc/N4WU-V48J].

<sup>153</sup> "Quebec Plan," *supra* note 150.

<sup>154</sup> Quebec, "SIGÉOM is a Unique Spatial Reference Geominning Information System," online: [perma.cc/6AL8-3E85].

<sup>155</sup> "Quebec Plan 2020–2025," *supra* note 149 at 1.

<sup>156</sup> Currently, Quebec has a number of graphite projects underway, including the Lac des Îles graphite mine, which is the only significant graphite producer in North America. The recently-announced framework agreement between Nouveau Monde Graphite, Mitsui & Co, and Panasonic Energy, promises to strengthen the graphite industry in the province: "Nouveau Monde Graphite Enters Mou for Offtake Deal with Panasonic, Announces \$50m Financing" (20 October 2022), online: *Mining.com* [perma.cc/MW62-YYNG].

<sup>157</sup> "Quebec Plan 2020–2025," *supra* note 149 at 4.

<sup>158</sup> *Ibid* at 5.

incorporated into federal or provincial and territorial environmental legislation applicable to a critical minerals project site, but the Quebec Strategy explicitly identifies these considerations as part of the critical minerals economy. Importantly, many of the processing operations in the province already include mature recovery, reconditioning, recycling and reclamation programs. Quebec is looking to develop these operations further, through a variety of pilot projects and financial incentives, which will build the Province's recycling industry and facilitate the circular economy, reinforcing the Province's responsible development and social acceptability objectives.

The IEA projects global lithium demand may grow by over 40 times by 2040, which represents an enormous opportunity for Quebec.<sup>159</sup> Despite being home to 22 lithium mines and exploration projects across the country, Canada only exported 45 tonnes of lithium products in 2021 and imported a net \$21.7 million of lithium products.<sup>160</sup> Quebec is home to half of the country's lithium projects,<sup>161</sup> including the Lithium North America site owned by Sayona Quebec. To the extent the Quebec Strategy can stimulate increased lithium production, Quebec will be able to capitalize on this opportunity.

## VI. COORDINATION BETWEEN THE FEDERAL, PROVINCIAL, AND TERRITORIAL GOVERNMENTS

Regulating the development of Canada's critical minerals industry requires a delicate balance given the shared responsibilities and functions between federal, provincial, and territorial governments. Certain areas within the federal government's jurisdiction, such as overarching climate goals, Indigenous rights, and trade and commerce must be balanced with the provinces' or territories' jurisdiction over exploration, development, and extraction of mineral resources, together with construction, management, reclamation, and closure of mine sites.

Regulatory authorizations and permits required for a critical mineral project will vary depending on jurisdiction, the type of mineral, what mining activities will occur, and the size and impact of the project.<sup>162</sup> In addition to environmental approvals (which may include federal and provincial or territorial approvals), other permits and authorizations may include: (1) approvals for starting a business, including tax registrations; (2) employment (including employment equity, required training, and certifications); (3) health and safety, including occupational health and safety registration and workplace practices and staffing requirements

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<sup>159</sup> "The Role of Critical Minerals in Clean Energy Transitions" (March 2022), online (pdf): *International Energy Agency* [perma.cc/V7R7-D2RH].

<sup>160</sup> Canada, "Lithium Facts," online: [perma.cc/B7CE-8N22].

<sup>161</sup> *Ibid.*

<sup>162</sup> For example, certain permits may relate to the actual extraction, whereas others relate to production, refinement, and treatment. A project proponent will need to acquire mineral tenure, which may be achieved by staking a claim, or obtaining a license or permit. Underlying procedural requirements vary by jurisdiction, and may include a competitive bidding process. The duration of claims varies, and the rights themselves may be tied to certain obligations, such as conducting certain exploration activities. Moreover, a claim does not necessarily include the right to surface access, which may have to be negotiated with a surface owner. Subject to some exceptions, a mineral claim must be replaced by a mining lease, which is a longer and more secure form of tenure, when it is determined that mining activities will be commenced. Mining leases will generally permit exploitation, subject to rent or royalty payments, environmental assessment, furnishing security, consultation with local communities or hearings, plans for closure and remediation or reclamation, potential insurance requirements, and obtaining other required permits and authorizations.

(such as hours of work); (4) permits for importing precursors or other goods needed for the mining activity; (5) zoning or planning requirements, and if a municipal boundary, property assessment or tax requirements; (6) construction and development approvals, including inspections; (7) permits to obtain water rights and construct, alter, or extend water and sewage works; (8) approvals for using or operating certain equipment, such as tanks or boilers, drones, or weighing or measuring devices; (9) approvals for certain manufacturing activities or products manufactured (whether as a primary product or a by-product); (10) approvals for use, transportation, generation, or storage of dangerous goods and wastes; and (11) approvals or registrations with respect to taxation, such as for exemptions or other particular treatment.

In Canada, The Mining Association of Canada estimates it takes between 10 to 15 years to develop a mining project, which is unacceptable if Canada wishes to be a leader in the critical minerals sector.<sup>163</sup> As is being contemplated in the US (discussed below), the Canadian regulatory framework needs to be reformed to eliminate legislative inefficiencies, including protracted, inconsistent, and burdensome review processes between different levels of government and multiple agencies to allow for the efficient development of critical minerals projects. Guidance may be found in the Australia regulatory regime, as Australia has developed a streamlined “one project, one assessment” regulatory process for onshore mineral projects, which includes the timely grant of exploration licences,<sup>164</sup> formal engagement plans, and case management teams.<sup>165</sup> As a recent example, IGO Limited discovered a nickel-copper-cobalt deposit in Western Australia in July 2012 and commenced operations less than three years later in January 2015, while achieving significant ESG objectives.<sup>166</sup>

## VII. KEY DEVELOPMENT OF CRITICAL MINERAL POLICY IN THE UNITED STATES

When assessing the Canadian Strategy, it is important to consider the policies and strategies of the US, Canada’s neighbour and largest trading partner. The US critical mineral industry also has a number of similarities to Canada’s industry, such as developed mining infrastructure, access to capital, ESG investor focus, and a strong democratic government. The US faces similar issues as Canada in its transition to clean energy and drive to grow its role in the global critical minerals sector, including: (1) limited domestic supply of many critical minerals;<sup>167</sup> (2) a reliance on imports from China and Russia, with an expected

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<sup>163</sup> “Project Permitting in Canada and the Mining Industry” (16 November 2022) at 1, online (pdf): *The Mining Association of Canada* [perma.cc/U47C-7LWF].

<sup>164</sup> In South Australia, exploration licences may be obtained within four to six months: Australia, Department for Energy and Mining, *Mineral Exploration Licences* (Adelaide: April 2022) at 10, online: [perma.cc/HTL6-EXRJ].

<sup>165</sup> “Legislation, Regulations and Guidelines,” online: *Australia Minerals* [perma.cc/C2PL-BDUH].

<sup>166</sup> This project successfully maintains itself as a principal leader in ESG, as their operation is capable of running 100 percent on renewable energy for nine uninterrupted hours in the spring and summer months, permitting a 24 percent reduction of the project’s carbon equivalent emission: “Nova Operation,” online: *IGO* [perma.cc/G9W9-36BF].

<sup>167</sup> Note that the US *Energy Act of 2020* defined “crucial minerals” as a non-fuel mineral or a mineral material that is essential to the economic or national security and which has a supply chain vulnerable to disruption. The US list of critical minerals differs from the Canadian list of critical minerals. For example, copper is not included in the US list.

staggering increase in demand to support such clean energy;<sup>168</sup> (3) challenges to a legislative or permitting process for mining projects; and (4) challenges to obtain critical minerals from allies that satisfy identified ESG standards.

The US is addressing these issues through multiple approaches, including introducing the *Inflation Reduction Act* (United States),<sup>169</sup> expanding the scope of national security reviews of foreign investments, reviewing supply chain risks, reforming its regulatory processes, enhancing international trade and cooperation with its allies, and accelerating private sector investment.

The US government implemented the *Inflation Reduction Act* on 16 August 2022, which represents the US government's key legislation to address climate change through offering funding, programs, and incentives to facilitate the transition to a clean energy economy and to stimulate US clean energy manufacturing, with a focus on lowering the costs of businesses engaged in the clean energy sector, including in particular, lithium for electric vehicles. As an example, tax incentives are available for manufacturers of clean energy vehicles and also for the consumers who purchase zero-emission vehicles. These incentives depend, in part, on the source of critical minerals contained in electric vehicle batteries, with higher tax credits for critical minerals sourced from US trading partners (such as Canada), based on extraction, processing, and, as applicable, recycling.<sup>170</sup>

President Joe Biden issued an executive order on 24 February 2021 to establish a review of supply chain risks by multiple government agencies to promote “resilient, diverse, and secure supply chains to ensure our economic prosperity and national security” through the sustainable and responsible domestic production of critical minerals.<sup>171</sup> The resulting report found an “over-reliance on foreign sources and adversarial nations for critical minerals and materials posed national and economic security threats.”<sup>172</sup>

On 22 February 2022, the US government launched an interagency working group to reform hardrock mining laws, regulations, and permitting policies, including the *General Mining Law of 1872* (United States), to meet the needs of a clean energy economy. The working group recognizes there are significant challenges to obtaining the permits necessary for greenfield mining projects, including critical minerals, in a timely manner, given significant legislative inefficiencies, while concurrently promoting responsible mining under strong social, environmental, and labour standards.<sup>173</sup>

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<sup>168</sup> “Fact Sheet: Securing a Made in America Supply Chain for Critical Minerals” (22 February 2022), online: *The White House* [perma.cc/2PPC-9BJV] [“Securing a Made in America Supply Chain”].

<sup>169</sup> *IRA*, *supra* note 6.

<sup>170</sup> “Fact Sheet: The Inflation Reduction Act Supports Workers and Families” (19 August 2022), online: *The White House* [perma.cc/7X3Z-UNLN]; “Anticipated Direction of Forthcoming Proposed Guidance on Critical Mineral and Battery Component Value Calculations for the New Clean Vehicle Credit,” online (pdf): *US Treasury Department* [perma.cc/7Y4D-78PN]; “Summary of Inflation Reduction Act Provisions Related to Renewable Energy,” online: *United States Environmental Protection Agency* [perma.cc/9669-DS4M].

<sup>171</sup> “Executive Order on America’s Supply Chains” (24 February 2021), online: *The White House* [perma.cc/TB5W-JS77].

<sup>172</sup> “Securing a Made in America Supply Chain,” *supra* note 168.

<sup>173</sup> “Interior Department Launches Interagency Working Group on Mining Reform” (22 February 2022), online: *US Department of the Interior* [perma.cc/LG2S-3Y68].

The US government is engaging with the private sector to invest in the development of critical mineral and clean energy projects. Recently announced major private investments include US\$700 million invested by MP Materials to process heavy rare earth elements and a planned multi-billion dollar investment by Berkshire Hathaway Energy Renewables in lithium extraction.<sup>174</sup>

Lastly, the US government is seeking to enhance international trade and cooperation with its allies, initially, Canada, Japan,<sup>175</sup> Australia,<sup>176</sup> and the European Union, to facilitate access to, and security of, critical minerals supply chains. As noted above, the US government and the Canadian federal government announced the Canada-US Joint Action Plan, and following meetings of the working group, the White House published the “U.S. – Canada/Canada – U.S. Supply Chains Progress Report” in June 2022, which recognizes the need to accelerate critical mineral development to safeguard US and Canadian energy security.<sup>177</sup>

### VIII. CONCLUSION

Many world economies are in a race to secure and develop critical minerals as part of western countries’ transition to net zero economies, the need for energy security, and ESG responsibility. As noted, Canada is capable of becoming a leader in this new economy. However, guiding the development of Canada’s critical minerals industry requires a delicate balance given the shared responsibilities and functions between federal, provincial, and territorial governments, in addition to international relations with allies and trading partners.

The federal government developed the Canadian Strategy in recognition of the need for a multi-pronged and collaborative “roadmap” to enable Canada to seize this generational opportunity and to become a trusted and reliable supplier of responsibly sourced and sustainably produced critical minerals to its allies and trading partners. Notwithstanding these aspirations, the future of the emerging Canadian critical minerals industry remains uncertain as, in order to meet the Objectives, the Canadian Strategy must be implemented at all levels of government in a coordinated and comprehensive approach.

Effective and urgent implementation of the Canadian Strategy in the existing landscape raises significant challenges, many of which are not addressed in this article, with the federal, provincial, and territorial governments only at the early stage of addressing these challenges. It involves balancing federal commitments to energy security and climate change, with divergent federal, provincial, and territorial policies and regimes, in the context of world events and relationships with our allies and trading partners.

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<sup>174</sup> “Securing a Made in America Supply Chain,” *supra* note 168.

<sup>175</sup> “Agreement Between the Government of Japan and the Government of the United States of America on Strengthening Critical Minerals Supply Chains” (28 March 2023), online (pdf): *Government of the United States of America* [perma.cc/Y6ZE-HQ8B].

<sup>176</sup> “Australia-United States Climate, Critical Minerals and Clean Energy Transformation Compact” (20 May 2023), online: *The White House* [perma.cc/A5XM-4VT7].

<sup>177</sup> “Joint Action Plan,” *supra* note 59; “Supply Chains Progress Report,” *supra* 61 at 6–7.

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The Canadian Strategy is an ambitious effort, but for the sake of developing the critical minerals sector in Canada and safeguarding energy security, it must be enacted effectively, and on an efficient basis. Some of the Canadian Strategy's measures will have immediate results in the Canadian economy, but many other proposed measures will require ongoing monitoring, evaluation, and adaptation as the Canadian Strategy evolves together with changing circumstances.

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