

Energizing a Clean-Air World

2021 ESG Report



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Message From Our CEO

At Cameco, we strive to *make a difference* in all we do. Whether it is globally by contributing to the energy transition, locally in the communities in which we operate, or individually in our interactions with each other.

I am pleased to share our 2021 Environmental, Social and Governance (ESG) Report which includes our practices and performance for the year and provides an outlook on the targets we have set for ourselves. This report allows us to demonstrate our ongoing commitment to integrating ESG into all aspects of our business and advancing our performance.

One of the most significant ways we make a difference is by continually working towards our vision of energizing a clean-air world. As many countries and companies move away from fossil-fuelled electricity generation and make commitments to achieve net-zero emissions, nuclear power – and Cameco along with it – are receiving increased attention. To meet net-zero commitments, demand for uranium from a safe, reliable supplier country is expected to rise. Canada’s new Critical Minerals List that includes uranium, among other minerals required for a green and digital economy, is just another vote of confidence for the role that nuclear power can play in the energy transition. Along with Canada, several other nations, including the US, France and the UK, have reaffirmed their commitment to nuclear power, are developing plans to support existing reactor units and are reviewing their policies to encourage more nuclear capacity.

Several other non-nuclear countries have emerged as candidates for new nuclear capacity, and even in countries with phase-out policies, there is growing debate about the role of nuclear power, with public opinion polls showing growing support. I am optimistic to see that level of positive momentum for our industry. Aided by this momentum, we are now in the process of restarting our operations at McArthur River and Key Lake, and are investing in digital and automation technologies that will support more efficient and even safer operations.

At Cameco, we support climate action that is consistent with the ambition of the Paris Agreement and the Canadian government’s commitment to the agreement to limit global temperature rise to less than 2°C. We know that this means the world needs to reach net-zero emissions by 2050 or sooner. Our role in the energy transition starts “at home”. This year we have enhanced our reporting in alignment with the Task Force on Climate-related Financial Disclosures, and our climate transition working group is working hard to develop a low-carbon transition plan that we expect to report on in 2023.

We also make a difference through continued safe operations. The last several years have seen sustained investor attention on tailings management practices and, most recently, pressure to achieve global alignment on tailings management practices. Cameco remains committed to the Mining Association of Canada’s tailings management protocol, which is a comprehensive and mature framework adopted in Canada and several other countries including Finland, Argentina, Brazil, Norway and Australia. We are proud to be active participants in MAC’s tailings working group, which seeks to improve these already strong practices. I was also pleased to hear from our independent tailings review board which, in 2021, found our tailings facilities to be in sound condition and being managed consistent with sound engineering practices. We will work to incorporate the recommendations from the independent tailings review board to further enhance our tailings management practices.





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One of the ways I'm personally focused on making a difference is by positively impacting the lives of the individuals and communities around our operations. Right from the start, Cameco has had a significant focus on working closely and collaboratively with Indigenous Peoples and local communities. In 2021, we continued to strengthen these relationships. An example is our collaboration to develop and deliver 15 online courses focused on building digital skills and getting individuals ready to work in our industry. About 200 community members (approximately one-third are women) are currently enrolled in the courses, which aim to build capacity and employability within northern Saskatchewan communities. This work supports skills development and advances our efforts to maintain both our strong Indigenous employment record and our important relationships with northern and Indigenous communities in Saskatchewan.

When I look back on 2021, I think of the incredible perseverance of our people. 2021 marked the second year of the COVID-19 pandemic, during which we proactively suspended production at Cigar Lake for a second time and introduced additional safety protocols to protect our workforce and our communities, especially the remote ones. We also faced a particularly extreme wildfire season in Saskatchewan, yet experienced minimal disruption to our operations, which confirmed we had strong safety and emergency preparedness practices. Despite the challenges, we recorded the best safety performance in our history, as measured by recordable injury rates. In so many different ways our people have stepped up and demonstrated persistence and dedication. They have shown that they believe in what we are doing, that there is a future for our company, and that energizing a clean-air world is really something worth working towards.

Our strong safety and emergency preparedness practices were instrumental in protecting our Cigar Lake site and assets through a particularly extreme wildfire season in 2021. Radiation Protection Officer Vaughn Beaudin (left) and Safety Officer James Flett (right) – members of the McArthur River Operation Mine Rescue team – show some of the personal protective equipment used.

To continue supporting our people, over the past year we have been working on building our culture and fostering a more inclusive workplace. In 2021, more than 90% of our employees participated virtually in culture workshops. These workshops provided a forum for interaction and means of gathering candid feedback about where the company is today. We also established an inclusion and diversity committee and provided respectful workplace and unconscious bias training to employees. We recognize, however, that we need to reflect society as it is today and increase our focus on underrepresented groups. One way we are working on this is by increasing our focus on diversity in our hiring as we restart our mines that were previously in care and maintenance. In the coming years we will be working towards our diversity and inclusion targets and will share our progress.

As we move forward, I'd like to thank our board of directors for providing strong oversight and showing trust and confidence in our executive team. I would also like to thank our employees. We have asked a lot of them for many years and they have delivered every time. I believe we've got some of the best people in the industry and I want to remind them that they make a difference every day.

Tim Gitzel
President and Chief Executive Officer





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2021 ESG Highlights



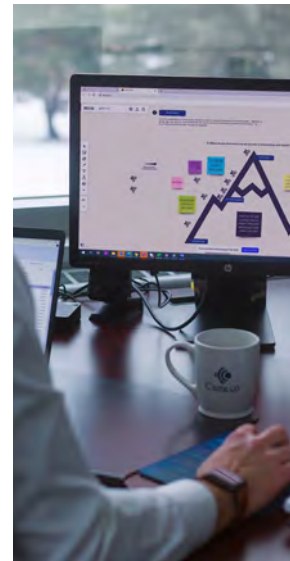
~200 individuals enrolled in our courses that aim to build capacity and employability within communities in northern Saskatchewan.

We launched 15 courses, available at no cost to community members, that build their digital readiness, knowledge of the mining industry and understanding of Cameco's operations.

>90%

>90% of our employees attended virtual interactive culture workshops in 2021.

During the workshops, we discussed safety, inclusion and the future of our company. The feedback has been very positive, and we will continue hosting them in 2022 to provide opportunities for all employees to participate.



>70

>70 Our independent tailings review board is composed of experts with more than 70 years of combined experience.

Based on their review, the board concluded that Cameco's four tailings facilities were in sound condition without evidence of immediate dam safety issues and were being managed consistent with sound engineering practices.



2022 We are committed to completing a low-carbon transition plan in 2022.

This work is being completed by a team of subject matter experts from across the company who are working to find solutions to optimize our energy consumption and develop a path to decarbonization.



WE RANKED 18th out of 222 companies in the Globe and Mail's Board Games 2021.

The Globe and Mail rates the work of Canadian corporate boards using a set of governance criteria that go beyond regulatory requirements.



554

554 completed surveys and 133 interviews conducted as part of our safety culture assessments.

Teams made up of representatives from across the company reviewed hundreds of completed surveys and conducted the interviews at three of our locations. Results showed a positive trend in employees' perception of the strength of our safety culture and programs.



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● Met ● In progress ○ Did not meet

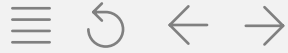
(►) Indicates a short-term incentive program target. 50% of our short-term incentive targets for employees, including executives, are tied to ESG performance measures.

The date stated in our targets indicates by year-end of the stated year.

How We Performed Against Our ESG Targets

We set several ESG targets to demonstrate our commitment to continual advancement. To provide transparency around our ESG performance and activities, we have developed the below scorecard that aggregates our past and future targets and conveys our progress against them (see the next two pages).

	2021 TARGETS	STATUS	PROGRESS
ENVIRONMENT			
Net-Zero Ambition	<ul style="list-style-type: none"> As a first step, establish a working group to further study transition risks and opportunities for our operations. The group's goal is to develop a plan to evaluate initiatives that could result in transformative changes in our GHG emissions and recommend a GHG and/or energy reduction compensable target as soon as practicable. 	●	→ In 2021, we established a climate transition working group with representatives from SHEQ, finance, technical services, operations, and asset management to further study the transition opportunities and risks. The working group launched several initiatives to identify incremental and transformative energy and GHG reduction opportunities, evaluate climate-related physical risks to our northern Saskatchewan operations, and conduct a TCFD gap analysis.
Saskatchewan Mine and Mill Facilities	<ul style="list-style-type: none"> Achieve at least a 5% reduction in GHG intensity by 2030. 	●	→ Our climate transition working group has launched several initiatives to identify incremental and transformative energy and GHG reduction opportunities. → For 2021, a GHG emissions intensity value was not calculated, as all Saskatchewan mine and mill facilities were held in a non-producing state for part of or all of 2021 and do not reflect GHG emissions intensity of standard operations. We will calculate this intensity going forward as our facilities move back into production. <small>Note that this is a multi-year target.</small>
Ontario Fuel Services Facilities	<ul style="list-style-type: none"> At our conversion and refining operations, achieve a reduction in GHG emissions intensity to 80% of the baseline, and once the level is achieved, maintain at that level. 	●	→ These facilities achieved an emissions intensity under 80% of their baseline in 2021. <small>Note that this multi-year target will be revised to align with Ontario's new Emissions Performance Standard program and our low-carbon transition plan (currently in development).</small>
Environmental Performance (All Sites)	<ul style="list-style-type: none"> ► Incur zero significant* environmental incidents or environmental fines annually. ► Improve effluent discharge management at our Saskatchewan operations and water discharge management at our Ontario operations by achieving targeted parameters within regulatory limits, historical strong performance, and predicted environmental effects. ► Progress groundwater restoration in our US operations by advancing one mine unit into the stability monitoring stage in 2021. Stability monitoring means the active restoration process has been completed. 	●	→ We incurred no significant environmental incidents in 2021.
		●	→ We met these water management targets in 2021.
		●	→ One mine unit was advanced into the stability monitoring stage in 2021.
	<small>* A significant incident is one that (A) results in moderate or significant environmental impacts, or (B) results in current and future remediation costs of greater than, or equal to, \$1 million, or (C) which has a reasonable potential to result in a significant negative impact on the company's reputation with our major stakeholders.</small>		
Tailings Management	<ul style="list-style-type: none"> Adjust our tailings management system to reflect the 2019 revisions to the Mining Association of Canada's Towards Sustainable Mining Tailings Management Protocol by 2021. 	●	→ Our Key Lake operations met the target in 2021 and our Rabbit Lake operations are expected to meet the target in 2022.



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● Met ● In progress ○ Did not meet

(▶) Indicates a short-term incentive program target. 50% of our short-term incentive targets for employees, including executives, are tied to ESG performance measures.

The date stated in our targets indicates by year-end of the stated year.

	2021 TARGETS	STATUS	PROGRESS
SOCIAL			
Workplace Safety	▶ Achieve a total recordable injury rate (TRIR) of 1.27 or less in 2021.	○	→ We achieved a TRIR of 1.34 in 2021. While we did not quite meet our target of 1.27, this was nonetheless the best safety performance in our history and a record performance for the fifth year in a row.
	▶ Maintain long-term downward trend in combined employee and contractor injury frequency.	●	→ Downward trend in injury frequency maintained.
	▶ Maintain long-term downward trend in combined employee and contractor radiation doses.	●	→ Downward trend in radiation doses maintained.
Indigenous and Community Relations	▶ In 2021, implement a minimum of 15 courses spanning three areas of training (digital readiness, industrial readiness, and Cameco readiness) to develop the skill set of <u>Residents of Saskatchewan's North (RSN)</u> in conjunction with our initiative to accelerate the adoption of advanced digital and automation technologies at our northern Saskatchewan operations.	●	→ Through a collaborative effort within the organization, and with the assistance of external service providers, 15 courses were developed that focused on digital, industrial and Cameco readiness.
	● Implement a northern Saskatchewan Indigenous apprenticeship program for instrumentation technologists in 2021.	●	→ We implemented our apprentice program with individuals from northern Saskatchewan communities. Five are currently working with Cameco. All are Indigenous and RSNs. Three are women (60%).
	● Annually maintain, or increase, the procurement of services for our northern Saskatchewan operations from northern-owned local businesses (81% in 2020).	●	→ 82% procured from northern-owned local businesses.
Inclusion and Diversity	● Each year, strive for a complement of executive officers who are women that, at a minimum, reflects the proportion of women in our workforce (25% of workforce in 2020 were women).	○	→ We did not meet this specific target in 2021 (20% of executive officers were women and 25% of the workforce were women).
	● In 2021, establish an inclusion and diversity committee.	●	→ An inclusion and diversity committee was established, with diverse representation from every workplace location in Canada.
	● 100% of all new employees receive respectful workplace and unconscious bias training (annually).	●	→ 100% of all new employees received respectful workplace and unconscious bias training in 2021.
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Board Diversity	● At least 30% of board members are women (maintain annually).	●	→ Of our current directors, three are women (33% of the total number of directors).
	● At least one director with Indigenous heritage (maintain annually).	●	→ Of our current directors, one is Indigenous (11% of the total number of directors), and we have had Indigenous directors on our board since 1992.
Conduct and Ethics	● 100% of all employees to complete the <u>Code of Conduct and Ethics</u> refresher course in 2021.	●	→ 100% of all employees completed the refresher course.
Cybersecurity	● 100% of all employees complete the information security course (annually).	●	→ 100% of all employees completed the information security course in 2021.
	● Complete at least one internal audit on cybersecurity-related topics (annually).	●	→ We completed an internal audit of Microsoft Office 365 Security Configuration in 2021.



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Looking Forward: 2022 Targets



Environment

Net-Zero Ambition

- ▶ Complete a low-carbon transition plan in 2022 that maps out our net-zero alignment and pathways.

Climate-Related

- Conduct a third-party assessment of fire hazard and preparedness at our northern Saskatchewan operations.
- Engage a third-party expert to conduct physical risk assessments of our northern Saskatchewan operations.
- Complete a TCFD gap analysis.
- Develop an action plan to quantify Scope 3 emissions.

Saskatchewan Mine and Mill Facilities

- Achieve at least a 5% reduction in GHG intensity by 2030.

Ontario Fuel Services Facilities

- Develop a GHG reduction plan for our Ontario facilities that aligns with Ontario's new Emissions Performance Standard program and our low-carbon transition plan (currently in development).

Environmental Performance¹

- ▶ Improve effluent discharge management at our Saskatchewan and at our Ontario operations by maintaining quality within regulatory limits, predicted environmental effects, and better than historically strong performance.
- Progress groundwater restoration in our US operations by advancing one mine unit into the stability monitoring stage, one mine unit begins reverse osmosis treatment, and 87 production wells are evaluated as clean.

Tailings Management

- Adjust our tailings management system to achieve level A in all indicators of the Mining Association of Canada's Towards Sustainable Mining Tailings Management Protocol by 2022.



Social

Workplace Safety²

- ▶ Achieve a total recordable injury rate (TRIR) of 0.99 or less.
- ▶ Achieve 100% completion rate of job task observations.
- ▶ Complete implementation of a corporate ergonomic standard.
- Maintain long-term downward trend in combined employee and contractor radiation doses.

Indigenous and Community Relations

- ▶ Provide paid temporary work-placements for 12 RSNs, with a minimum of six positions provided to female RSNs, at our mining/milling operations.
- Annually maintain, or increase, the procurement of services for our northern Saskatchewan operations from northern-owned local businesses (82% in 2021).
- Develop a rotational elder program for McArthur River/Key Lake from our three impact communities.

Inclusion and Diversity

- Each year, strive for a complement of executives who are women that, at a minimum, reflects the proportion of women in our workforce (25% of our workforce in 2021 were women).
- For the restarts at McArthur River and Key Lake, strive for a 2022 year-end workforce that has representation of women and Indigenous people that is higher than the 2017 pre-shutdown representation levels of 11% women and 48% Indigenous people.

¹ Overriding modifier of no incidents which result in moderate or significant environmental impact, or current and future remediation costs of ≥ \$10 million or which has a reasonable potential to result in significant negative impact on the company's reputation with our major stakeholders and do not incur a significant environmental fine, which would result in a 0% payout on this measure.

² Overriding modifier of no fatalities or permanent disabilities which would result in 0% payout on the safety measure.

(▶) Indicates a short-term incentive program target.

The date stated in our targets indicates by year-end of the stated year.



Governance

Board Diversity

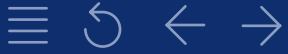
- At least 30% of board members are women (maintain annually).
- At least one director with Indigenous heritage (maintain annually).

Conduct and Ethics

- 100% of all targeted and new employees to complete Code of Conduct and Ethics online training in 2022.

Cybersecurity

- 100% of all employees complete the information security course (annually).
- Complete at least one internal audit on cybersecurity-related topics (annually).



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About Cameco

Cameco is one of the largest global providers of the uranium fuel needed to **energize a clean-air world**.

Our tier-one mining operations have the licensed capacity to produce more than 30 million pounds (our share³) of uranium concentrates annually, backed by 464 million pounds of proven and probable mineral reserves (our share⁴). See Cameco's [Proven and Probable Reserves webpage](#) for more information about reserves and resources. We are also a leading supplier of uranium refining, conversion and fuel manufacturing services.

Our competitive position is based on our controlling ownership of the world's largest high-grade uranium reserves and low-cost mining operations. Utilities around the world rely on our nuclear fuel products to generate safe, reliable, zero-emissions nuclear power. Together, we are meeting the ever-increasing demand for clean, baseload electricity while delivering safe, reliable solutions to today's clean-air crisis. Our shares trade on the Toronto and on the New York stock exchanges (TSX: CCO; NYSE: CCJ). Our head office is located in Saskatoon, Saskatchewan.

Vision

Energizing a clean-air world.

Values

At Cameco, we are guided by four key values that are at the core of everything we do:

- Safety and Environment
- People
- Integrity
- Excellence

As the foundation of our culture, these values, and their aligning [value statements](#), define who we are as a company and provide a framework for how we behave as we work to achieve our purpose. We strive to create an environment where our employees live our values every day.

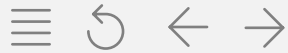


³ 53 million pounds on 100% basis

⁴ 828 million pounds on 100% basis

ABOVE

Cameco head office in Saskatoon, Saskatchewan.



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Operations within the Nuclear Fuel Cycle

Our uranium assets and our operations span the nuclear fuel cycle from exploration to fuel manufacturing. Utilities around the world rely on our nuclear fuel products to generate power in reliable and carbon-free nuclear reactors. Cameco participates in most stages of the nuclear fuel cycle.



1

Uranium Mining and Milling

Uranium ore is mined. At the mill, uranium ore is milled into yellowcake.

6 mines

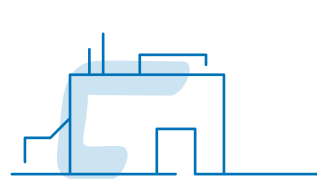
Underground Mines

- Cigar Lake (in operation)
- McArthur River/Key Lake* (transitioning to operating status in 2022)
- Rabbit Lake*

In Situ Recovery Mines

- Inkai (non-operated)
- Smith Ranch-Highland*
- Crow Butte*

* Care and maintenance



2

Refining

Yellowcake is turned into high purity UO_3 .

18 million kg of uranium capacity as UO_3 per year

This process occurs at our Blind River refinery.



3

Uranium Conversion

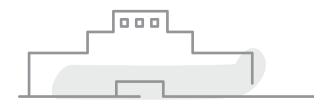
For heavy water reactors UO_3 is converted into UO_2 powder.

For light water reactors UO_3 is converted into UF_6 .

UF_6 is shipped as a solid to an enrichment center.

~21% of the world's UF_6 conversion capacity

This process occurs at our Port Hope conversion facility.



4a

For Light Water Reactors

Enrichment

For light water reactors, UF_6 is enriched to increase the amount of U-235. While Cameco does not commercially enrich uranium, it has a 49% interest in GLE, the exclusive licensee of a proprietary enrichment technology that is currently under development.

Fuel Manufacturing

Enriched UO_2 powder is compressed into pellets, packed into fuel rods and assembled into fuel bundles.

Fuel bundles for light water reactors

This process occurs at facilities not owned or operated by Cameco.



4b

For Heavy Water Reactors

Fuel Manufacturing

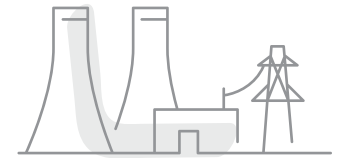
Fuel bundles and reactor components are manufactured.

UO_2 powder is compressed into pellets which are packed into metal tubes called fuel rods. Fuel bundles are assembled using several fuel rods.

1.2 million kg as UO_2 fuel pellets (licensed capacity)

Fuel bundles for heavy water reactors

Cameco's fuel manufacturing occurs at our Port Hope conversion facility and Cobourg facility.



5

Power Generator

Fuel bundles are used to make zero-emissions electricity.

Used fuel can be sent to be reprocessed.

This process occurs at facilities not owned or operated by Cameco.



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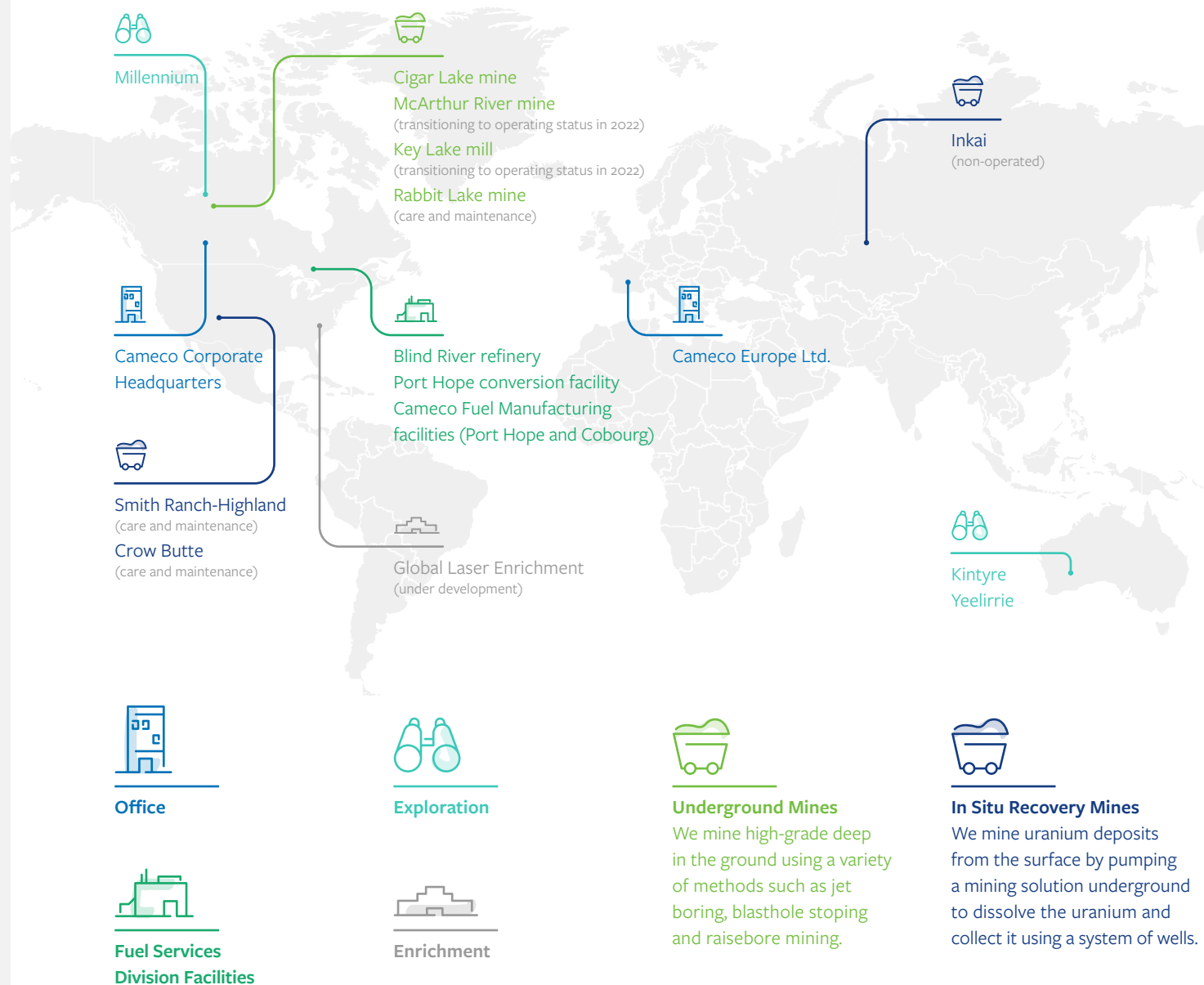
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Our Locations

Our uranium assets are located on three continents – North America, Asia and Australia – and include a large portfolio of low-cost mining operations, extensive mineral reserves and resources, as well as exploration and development projects.



LAND ACKNOWLEDGMENTS

We respectfully acknowledge the lands where Cameco operates. This includes:

Saskatchewan, Canada

Saskatoon corporate office is in Treaty 6 territory, the traditional territory of Cree Peoples, and the homeland of the Métis. Cigar Lake, Key Lake, Rabbit Lake, and McArthur River operations are in Treaty 10 territory, the traditional territory of the Dene and Cree Peoples, and the homeland of the Métis.

Ontario, Canada

Cobourg and Port Hope fuel services facilities are in the traditional territory of the Michi Saagig and Chippewa Nations, collectively known as the Williams Treaties First Nations, which include: Curve Lake, Hiawatha, Alderville, Scugog Island, Rama, Beausoleil, and Georgina Island First Nations. Blind River operation is in the traditional lands of the Mississaugas and we recognize the Robinson-Huron Treaty of 1850.

South Dakota, US

Crow Butte operation is located in Nebraska about 48 kilometres from the southern boundary of the Oglala Sioux Tribe Pine Ridge reservation in South Dakota, the closest Indigenous community to the mine.

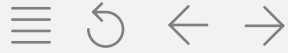
Wyoming, US

Smith Ranch-Highland operation is located about 242 kilometres from the Wind River reservation, home to Eastern Shoshone and Northern Arapaho Tribes, the closest Indigenous community to the mine.

Western Australia

Kintyre exploration project is in the East Pilbara region in a registered native title claim of the Martu People. Yeelirrie exploration project is in the native title claim of the Tjiwarl People.

We offer these acknowledgments to reaffirm our commitment and responsibility in building meaningful relationships and to improving our own understanding of local Indigenous Peoples and their cultures.



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Our Approach to ESG Reporting

At Cameco, we are committed to transparency and hold ourselves accountable for quality reporting on ESG matters to our providers of capital, customers, employees, regulators, local Indigenous Peoples, communities around our operations, and other stakeholders. For over 15 years we have disclosed our ESG performance through an extensive range of environment, safety, social, economic and governance indicators. In 2012, we began publicly disclosing our ESG performance in alignment with Global Reporting Initiative (GRI) Standards.

In an effort to continually evolve the robustness of our sustainability commitments and communications, starting in 2020, we aligned our ESG performance indicators with the ones recommended by the Sustainability Accounting Standards Board (SASB). We have also included a section in this report that addresses our response to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Determining Relevant ESG Topics to Report

The list (shown to the right) is the result of an extensive ESG materiality assessment we conducted in late 2020. This assessment included reviewing stakeholder requests, examining our previous sustainability materiality assessments and ESG topics of our peer companies, cross checking with our identified company risks, and excluding non-relevant topics based on location, sector, or specific business model. The result was a list of ESG-related topics relevant to Cameco which were further prioritized in May 2021 according to their importance and priority to our stakeholders and to Cameco's business and strategy. The topics were reviewed and validated by our executive team and board of directors. The content of this report takes into consideration this ESG materiality assessment, as well as relevant topics from SASB and TCFD recommendations. Materiality for the purposes of this report is different than how we address materiality for disclosure requirements under securities laws. In 2022, our executive management team met to review the list and elevated climate-related physical risks into our priority topics. We also reached out to key shareholders to provide an opportunity for feedback on our priority topics and our 2020 ESG report.

Priority ESG Topics

Environment

- Air quality
- Climate-related physical risks
- Decommissioning/closure
- GHG emissions and energy use
- Tailings management
- Transition to a low-carbon economy
- Waste
- Water

Social

- Inclusion and diversity
- Occupational safety and health
- Product and transportation safety
- Public safety
- Relationships with Indigenous Peoples and local communities

Governance

- Business ethics and integrity
- Corporate governance
- Cybersecurity
- Tax transparency



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Scope of this Report

This report communicates the ESG initiatives and key metrics that demonstrate Cameco's progress to date and our commitment to continual advancement.

- The terms Cameco, our, we, us, the company, and the organization, refer to Cameco Corporation and its wholly-owned subsidiaries.
- The terms workers and workforce refer to employees and contractors.
- Unless otherwise indicated, this report covers data and qualitative information for the year-ended December 31, 2021. When available, historical data is provided for 2019 and 2020.
- Our reported environmental and social performance covers all Cameco operated facilities and is reported on an operational control basis (100% of operated facilities) with the following exceptions:
 - Indicators that report the percentage of proven and probable reserves with a specific attribute are based on Cameco's share of proven and probable reserves.
 - Production of U₃O₈ is reported as Cameco's share of production with the exclusion of our joint venture (JV) in Kazakhstan (Inkai mine), unless otherwise indicated.
 - Direct economic value is reported based on revenue generated by Cameco.
 - Air emissions are reported for operated facilities in Canada only.
 - GHG emissions are reported using two methods: operational control and equity share approach. Under the equity share approach, we have adjusted the GHG emissions reported to align with our financial ownership: specifically, 69.805% of McArthur River mine, 83.333% of Key Lake mill, 50.025% of Cigar Lake mine, and we have included 40% of emissions from JV Inkai.

- Unless noted, financial data is in Canadian dollars, and environmental and production data are in metric units.
- The accuracy and transparency of this report is important to our company. Report content and performance indicators have been reviewed by senior management and relevant technical authorities within Cameco and we believe this report is an accurate representation of our performance. To build on our alignment with the SASB and TCFD frameworks used over the past two years, we have obtained third-party limited assurance for a number of key performance indicators mentioned in this year's report. The assurance letter can be found on [page 94](#).
- For all of our targets, the date stated indicates by year-end of the stated year. For example, completing an activity "by 2022", means completion "by the end of 2022".

Aligning with ESG Reporting Standards

We cross-reference our disclosures in this report to the following recognized standards:

SASB	92
TCFD	16

Read our caution regarding forward-looking statements on the inside back cover of this report.

In addition to this ESG report, Cameco publishes operation-specific environmental and social performance on local websites. Please visit these websites for more information on specific operations:

[Cameco Northern Saskatchewan](#)
cameconorth.com

[Cameco Fuel Services](#)
camecofuel.com

[Cameco Resources](#)
camecoresources.com

[Cameco Australia](#)
camecoaustralia.com



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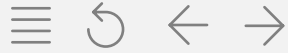
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Task Force on Climate-Related Financial Disclosures



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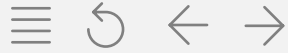
Our Responses to the TCFD Recommendations

We have prepared this section of the report to outline our responses to recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). This content is intended to help investors and other stakeholders understand how we integrate climate-related risks and opportunities (including physical and transition-related ones) into our governance, strategy, and risk management process. At Cameco, we recognize that climate change is an important and complex business and strategic matter, and we are committed to being an active partner in addressing climate change. We recognize that climate change, including shifts in temperature, precipitation and more frequent severe weather events, could affect our operations in a range of possible ways.

This is the second time we have reported in alignment with the TCFD recommendations. Climate-related disclosures have been integrated throughout this report and other disclosure documents. We identify material risks to our business operations, revenue, or expenditures in our [annual report](#) and [annual information form](#).

Demand for electricity is increasing globally, driven by rapid technology adoption, transportation electrification in advanced economies and rising standards of living in emerging economies.





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I. Governance

Board Oversight of Climate-related Risks and Opportunities

We believe that sound governance is the foundation for strong corporate performance in all areas of our business (see [page 74](#) for information on corporate governance). Within Cameco, our board of directors holds the highest level of oversight for our business strategy and strategic risks and opportunities. The board guides Cameco to operate as a sustainable business and optimize financial returns while effectively managing risk. Our board of directors is responsible for overseeing the management team and providing direction for our strategy and business affairs. Specific committees of the board oversee different risks and opportunities.

Cameco's board recognizes that climate-related risks and opportunities must be characterized and addressed appropriately. Cameco's board has deep experience in risk management and is continuing to advance their understanding of climate-related risks. To date, individual climate-related risks and opportunities have been discussed by the board, or within the various board committees. Examples of climate-related topics that have been discussed and reviewed include: potential impacts to operating facilities as a result of extreme weather events, regulatory risks related to GHG pricing and regulation in Canada, and Cameco's role as a supplier of choice and in advocating for nuclear energy as a central part of achieving a net-zero economy in a world with increasing electricity demand.

Management's Role in Assessing and Managing Climate-related Risks and Opportunities

Our executive officers provide strategic and operational leadership and take a proactive approach to managing risk across the company. As part of our Risk Management Program, our executive officers regularly report to the board and its committees on risks, which include any identified climate-related risks and opportunities.



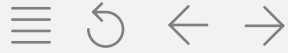
Our management team (officers and senior personnel) is experienced in managing uncertain risks and also assesses key climate change risks and opportunities facing our business. Additionally, our management team:

- Is responsible for preparing the company's disclosures of the major risks faced by the company.
- Has received several updates from internal experts on the topic of transition-related risks regarding regulation and pricing of GHG emissions in the last several years.
- Has allocated resources to improve energy management and increase the visibility of energy consumption with the goal of improving the energy intensity of our operations.
- Has established a climate transition working group composed of representatives from SHEQ, finance, technical services, operations, and asset management to further study the transition opportunities and risks to our operations.

- Participates, through industry associations, in numerous climate-related initiatives. During 2020 and 2021, we participated in the revision of a climate change protocol for the Mining Association of Canada (MAC), the development of a guide on climate change adaptation for MAC, the development of transitional finance taxonomy for Canada, and the completion of a comparative lifecycle assessment of low-carbon technologies including nuclear power.
- Participates directly and through industry associations in efforts related to the deployment of small modular reactor (SMR) technology in Saskatchewan and around the world.
- Participates as a member of [Electrifying Canada](#), a private sector-led initiative to create an actionable framework to electrify a large portion of the Canadian economy.

ABOVE

Cameco's board and executive officers recognize that climate-related risks and opportunities must be characterized and addressed appropriately.



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II. Risk Management

At Cameco, we have a formal Risk Management Program designed to identify and monitor significant risks that may impact our business, strategic goals, and objectives. Our Risk Management Program is based on the ISO 31000 Risk Management guidelines. ISO 31000 allows us to compare our risk management activities with internationally recognized practices and provides sound principles for effective management and governance of risks. Our program applies to all risks facing the company, including climate-related risks, and includes the following components:

Risk Identification

We identify a variety of risks to our business and our assets, including risks related to changes in applicable laws and regulations, and changes to the environment that affect our activities. On an annual basis, we complete an organization-wide risk review, which includes an evaluation of the effectiveness of mitigating controls and action plans, and the identification of new or emerging risks. Any risk that has the potential to significantly affect our ability to achieve our corporate objectives or strategic plan is considered an enterprise risk and is brought to the attention of senior management and the board. In 2021, climate change – physical or transitional risks impacting our financial performance or our reputation – was added as an enterprise risk.

Risk Assessment

We use a common risk matrix throughout the company to assess all risks to our business. Using the risk matrix, risk owners determine the consequences and likelihood of the identified risk by examining the effect that the risk may have on our four corporate measures of success: safe, healthy and rewarding workplace; clean environment; supportive communities; and outstanding financial performance. Once assessed, risks are then prioritized based on their likelihood, anticipated severity, anticipated time horizon of the risk, and the level of strategic impact.

Risks are categorized as:

Functional risks – Risks that are considered preventable, and are identifiable and quantifiable, with little to no direct strategic benefit.

Tactical risks – Risks that could threaten Cameco’s medium-term objectives. They may be external, and outcomes are identifiable, but uncertainty makes them difficult to assess.

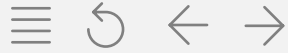
Strategic risks – Risks that threaten the key assumptions of our strategy. They are almost always external, and outcomes can vary and are difficult to quantify. Board oversight and reporting is required for these risks.

Monitoring and Reporting

We continually update our risk profile by performing regular monitoring of risks across the organization. Regular monitoring helps us to properly manage risks and identify any new risks. Detailed risk reporting is provided on a quarterly basis to senior management and the board on the status of the mitigating and/or monitoring plans for each of their enterprise risks. Management also reviews monthly updates on the company’s progress in managing these risks.

Sarah Wang, Manager, Strategy & Corporate Planning, with Dylan Bryngelson, Director, Corporate Strategy.





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III. Strategy

We present our climate-related risks and opportunities based on our current understanding of the historical and future climate and economic transition possibilities. We plan to update our understanding of these risks and opportunities considering future scenarios of how the physical climate and economy may change over time and will provide additional detail on our approach to this analysis in the next few years.

Resiliency of our Business Strategy

Cameco's business strategy is to capture full-cycle value by:

- Remaining disciplined in our contracting activity, and building a balanced portfolio in accordance with our contracting framework.
- Profitably producing from our tier-one assets and aligning our production decisions with our contract portfolio and market signals.
- Being financially disciplined to allow us to self-manage risk.
- Exploring other emerging and non-traditional opportunities within the fuel cycle, which align with our commitment to responsibly and sustainably manage our business and increase our contributions to global climate change solutions.

We expect our strategy will allow us to increase long-term value, and we will execute it with an emphasis on safety, people and the environment. We regularly review our business strategy so that we are positioned to take advantage of opportunities and address emerging risks. Our business strategy recognizes the significant opportunity offered by the energy transition and the need to remain resilient and focused on creating long-term value. As countries seek to meet their climate change goals, we believe that nuclear power will be instrumental in the energy transition and that we are uniquely positioned to contribute to that transition.

While the energy transition has risks, elements that make our company more resilient include:

1

A Global Customer Base

Diversification in our customer base and countries of business is one of the ways we build resiliency into our strategy. We sell uranium and fuel services directly to nuclear utility customers around the world as uranium ore concentrates, UO_2 , UF_6 , conversion services, or fuel fabrication. Since demand for uranium and nuclear power are dependent on national policies, a diversified customer base helps us weather changing sentiment and evolving policies. We expect diversification to provide a competitive advantage.

2

Conservative Financial Management

Our strategy is set within the context of what we believe is a transitioning market environment, where increasing populations, a growing focus on electrification and decarbonization, and geopolitical uncertainty are expected to strengthen the long-term fundamentals for our industry. Our management team has been disciplined and prudent in the execution of our strategy, we have a solid contract portfolio, and we maintain a strong balance sheet (see our most recent [quarterly financial results and MD&A](#)).



Our Blind River refinery in Ontario has the capacity to produce 18 million kg of uranium (as UO_2) per year.



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Investments in Innovation

In the last couple of years, we have made a number of investments to advance innovation and prepare us to take advantage of transition-related opportunities. These investments include:

- Progressing our digital transition initiative with the goal of improving operational efficiencies across the company.
- Announcing the launch of a centre for next generation nuclear technologies. The centre leverages our relationship with Bruce Power and supports the development of new technologies such as SMRs, cancer-fighting isotopes, and hydrogen development.
- Finalizing the ownership restructuring of Global Laser Enrichment LLC (GLE), with Cameco's interest in GLE increasing to 49% with an option to attain a majority interest of 75% ownership. GLE is the exclusive licensee of the proprietary SILEX laser uranium enrichment technology. While there are still a number of development milestones before this technology could be commercialized, we believe it will build on our existing world-class assets and capabilities in uranium production, refining, conversion, and fuel fabrication. It could also provide a stable source of North American-based uranium enrichment, strengthening the North American nuclear energy supply chain, and helping to address fuel concerns that could slow the progress of emerging SMR designs.
- Signing a number of memorandums of understanding, with various companies in 2021, to explore several areas of cooperation to advance the commercialization and deployment of SMRs in Canada and around the world.

We sell uranium and fuel services directly to nuclear utility customers around the world as uranium ore concentrates, UO₂, UF₆, conversion services, or fuel fabrication.

4

Recognition of Trade Exposure and Low GHG Emissions

Cameco has a small GHG footprint (approximately 273,000 tonnes of carbon dioxide equivalent [CO₂e] in 2021) compared with the energy density of our product. The majority of our direct GHG emissions are regulated under output-based pricing systems that recognize the impact of carbon pricing on industrial economic competitiveness. These emissions have been assigned annual reduction targets, recognizing that our products and services compete in a global marketplace.

Additionally, the tool adopted to encourage GHG mitigation in Canada, carbon pricing, is intended to be revenue-neutral. That is, the funds are to be directed towards GHG-mitigating activities. Since 2013, we have taken advantage of several energy conservation funds to assist our energy reduction efforts and we anticipate that this will continue as funding for the energy transition accelerates.





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Cameco's Role in the Energy Transition

Demand for electricity is increasing globally, driven by rapid technology adoption, transportation electrification in advanced economies and rising standards of living in emerging economies. By 2050, the International Energy Agency (IEA) projects that global electricity demand will increase by about 75% from 2020 levels⁵. At the same time, concerns about air pollution and climate change are driving demand for zero emissions electricity sources. At Cameco, we believe nuclear power must be an essential part of the energy transition and we are uniquely positioned to support zero emissions and reliable nuclear power growth.

Uranium is an Energy-dense Fuel for Clean-air Electricity

Three key attributes make uranium unparalleled in clean power generation. First, nuclear reactors emit no GHGs or other emissions that can impact air quality during operations. Second, on a life-cycle basis, nuclear power emits just a few grams of CO₂ equivalent per kWh of electricity produced. The life-cycle GHG emissions of nuclear power are similar to renewable forms of energy such as solar and wind⁶. Third, uranium is so energy-dense that the used uranium required to generate enough electricity for a person's lifetime would fit in a pop can⁷. The uranium Cameco sold in 2021 has the potential to fuel the generation of about 384,000 GWh. Generating that amount of electricity from zero-emissions nuclear power instead of coal-fired power is equivalent to taking more than 109 million cars off the road for one year⁸ (357 million tonnes of CO₂e⁹).

The Risks of Nuclear Losing Ground

In 2020, nuclear power provided 10% of the global electricity supply, nearly a third of the world's low-carbon electricity generation¹⁰. To combat climate change, the world needs more zero-emissions electricity, including nuclear power. The IEA has warned that a decrease in nuclear power as part of the energy mix by 2040 would have two implications: the energy transition would require \$1.6 trillion of additional investment over the next two decades, and a major clean energy shortfall would emerge by 2040¹¹. We will continue to support the development of nuclear energy and to uphold strong nuclear safeguards to support the peaceful use of nuclear materials for the development of zero-emissions electricity.

Nuclear Power as Part of the Solution

At Cameco, we believe a combination of strategies will be needed to meet society's decarbonization goals, and that nuclear power is and should be a key contributor to the solution. Nuclear plants help keep power grids stable. As we increase variable renewable generation from wind and solar, we will require stable zero-emissions baseload electricity that can help backup daily and seasonal variations. Additionally, uranium can be shipped across the world and has been safely transported for decades. Not all forms of energy can be moved easily, and some are dependent on nature (solar, wind and hydro). Uranium, however, can be exported from supplying countries to countries with lower access to energy resources.

Finally, the stringent monitoring and regulation at the national and international levels make nuclear power generation one of the safest energy technologies. Nuclear power has the lowest rate of fatalities and injuries per unit of generated electricity¹² and it is the only energy technology with international oversight at the United Nations' level through the International Atomic Energy Agency. At a global scale, there have been three major accidents in more than 18,500 cumulative reactor-years of commercial nuclear power operation across 36 countries¹³.

Cameco is a Safe Operator and is Low-Carbon

Cameco has been in the business of providing uranium fuel for over 30 years and is therefore poised to be an important part of the energy transition. Backed by years of safe performance, we continue to operate under stringent regulatory standards (read more on [page 76](#)). At Cameco, we believe our tier-one reserves and fuel services business can safely provide the uranium fuel the world needs as we continue to decarbonize our future. We are a constructive partner in the battle against climate change. We enable vast emissions reductions that can be achieved through nuclear power and are committed to transforming our own low GHG emissions footprint in our ambition to reach net-zero emissions.

⁵ IEA World Energy Outlook 2021. Stated Policies Scenario. <https://www.iea.org/reports/world-energy-model/stated-policies-scenario-steps>

⁶ <https://www.world-nuclear.org/information-library/energy-and-the-environment/carbon-dioxide-emissions-from-electricity.aspx>

⁷ <https://cna.ca/2019/06/25/your-lifetime-used-fuel-would-fit-in-a-soda-can-want-proof/>

⁸ Using Natural Resources Canada calculator <https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/calculator/ghg-calculator.cfm#results>

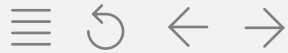
⁹ Calculated using technology-specific GHG intensity from IPCC, https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_annex-iii.pdf

¹⁰ <https://www.iea.org/newscenter/news/nuclear-power-proves-its-vital-role-as-an-adaptable-reliable-supplier-of-electricity-during-covid-19>

¹¹ <https://www.iea.org/reports/nuclear-power-in-a-clean-energy-system>

¹² <https://ourworldindata.org/grapher/death-rates-from-energy-production-per-twh>

¹³ <https://www.world-nuclear.org/information-library/safety-and-security/safety-of-plants/safety-of-nuclear-power-reactors.aspx>



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Transition-related Opportunities

The accomplishment of the Paris Agreement’s near-term 2030 and longer-term 2050 goals will require substantial additional reductions in GHG emissions in Canada and globally. At Cameco, we believe that maintaining and growing emissions-free nuclear power is and must remain a central part of many countries’, including Canada’s, credible plans to achieving their commitments under the Paris Agreement. There are multiple initiatives underway globally, and in Canada, that recognize the need to advance nuclear power as part of the transition to a low-carbon economy. We expect these changes to create the following opportunities for our business:

	TRANSITION-RELATED OPPORTUNITIES	HOW IS CAMECO POSITIONED TO TAKE ADVANTAGE OF IT?
Rising Demand for Electricity	As electrification of the world’s energy system continues, global demand for electricity is expected to increase by about 75% by 2050 from 2020 levels ¹⁴ .	We expect our uranium mining and fuel services activities to continue to support the increasing demand for carbon-free baseload electricity in the years to come.
Increased Uptake of Net-Zero Goals	Many countries and companies, including Cameco, recognize that to achieve the ambition of the Paris Agreement, net-zero emissions will need to be reached by 2050 or sooner.	We produce and supply uranium, a low-carbon fuel for clean-air nuclear power generation. Cameco has been in the business of providing this critical fuel for over 30 years and is poised to be an important part of the solution as countries and companies work to meet their net-zero goals.
Uranium considered an important mineral to support the energy transition	In 2021, the Government of Canada published a list of “critical minerals” defined as the building blocks for the clean and digitized economy. Uranium is one of the 31 minerals listed. Canada has a long history of producing many of these minerals and the potential to produce more.	We are one of the largest global providers of uranium. Our tier-one mining operations have the licensed capacity to produce more than 30 million pounds (our share) of uranium concentrates annually. Read more on page 11 .

¹⁴ IEA World Energy Outlook 2021. Stated Policies Scenario. <https://www.iea.org/reports/world-energy-model/stated-policies-scenario>



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TRANSITION-RELATED OPPORTUNITIES

Support for Nuclear Energy as Part of the Energy Transition

Evidence of increasing Canadian and global support for nuclear energy as part of the energy transition includes:

Mission Innovation, a global initiative of the European Commission and 22 countries, including Canada, aims to accelerate investment in global clean energy innovation and emphasizes the need to include nuclear in plans to achieve the goals of the Paris Agreement.

The International Energy Agency published a [report on nuclear energy in May 2019](#) highlighting that a steep decline in nuclear power would threaten energy security and climate change goals and result in four billion tonnes of additional carbon emissions by 2040.

Green Taxonomies: A number of countries have developed, or are developing, sustainable or green finance taxonomies to help investors direct capital toward activities and projects aligned with sustainability objectives such as those set out in the Paris Agreement. In many jurisdictions, nuclear power is being assessed for its inclusion in these taxonomies. For example, the European Commission has identified specific nuclear energy projects for inclusion under its sustainable financing taxonomy and therefore eligible for access to low-cost financing.

Renewed Commitment to Nuclear Energy

Energy security concerns (arising from the recent energy crisis being experienced in some parts of the world and amplified by geopolitical uncertainty) have motivated recent announcements in support of nuclear energy, including:

- In March 2022 the Belgian federal government [announced](#) that they would extend the life of two nuclear reactors by ten years.
- South Korea reversed its decision to phase out its reliance on nuclear power.
- In France, President Emmanuel Macron committed to 14 new nuclear reactors, and life extensions for France’s existing fleet.
- In the United Kingdom, the [British Energy Security Strategy](#), released in April 2022, outlines plans to build eight new nuclear power plants to reduce dependence on Russian oil and natural gas.

Need for Life Extension of Aging Nuclear Reactors

As part of the energy transition, power producers and countries may decide to extend the life of their nuclear reactors since “it is considerably cheaper to extend the life of a reactor than build a new plant, and costs of extensions are competitive with other clean energy options”¹⁵. Nuclear reactors were originally designed to operate for about 40 years. The approximately 440 nuclear reactors located throughout the world are, on average, 30 years old¹⁶. As power producers extend the operating lives of their reactors to 60 years, we expect to see increased demand for component updates and refurbishment services.

HOW IS CAMECO POSITIONED TO TAKE ADVANTAGE OF IT?

We advocate for nuclear energy through our participation in the following industry organizations:

The World Nuclear Association’s “Harmony” programme, which has set a target for nuclear power to provide 25% of electricity by 2050 to help avoid the worst consequences of climate change.

We are also members of the [Canadian Nuclear Association](#), the [Nuclear Innovation Institute in Canada](#), and the [Nuclear Energy Institute in the US](#).

We, on our own accord and through industry associations, have provided information and data to relevant authorities making the case that nuclear energy should be eligible for green financing.

Leveraging the assets and specialized skills of our fuel services division, we have been actively securing new contracts for reactor components to support the refurbishment of Canadian nuclear reactors.

¹⁵ <https://www.iea.org/reports/nuclear-power-in-a-clean-energy-system>

¹⁶ Chemical and Engineering News. September 20, 2020. <https://cen.acs.org/energy/nuclear-power/Combating-corrosion-worlds-aging-nuclear/98/i36>



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TRANSITION-RELATED OPPORTUNITIES

Support for Small Nuclear Reactors

There is increasing support for small modular reactor (SMR) technology, including:

Natural Resources Canada released a [Small Modular Reactor Action Plan](#) in December 2020 to help position Canada as a global leader in SMR development and adoption. The 2022-23 Federal Budget allocated more than \$120 million over five years to support SMR deployment in Canada; earmarked \$250 million over four years for pre-development activities laying the groundwork for clean electricity projects, including SMRs; and broadened the Canada Infrastructure Bank to enable investments in private sector-led projects that will accelerate Canada's transition to a low-carbon economy, with SMRs being eligible.

Four Canadian provinces (Ontario, New Brunswick, Alberta, and Saskatchewan) have signed a memorandum of understanding publicly stating their intention to work together to consider the incorporation of SMR technology in their electrical generation capacity as research and development in this area continues to advance toward commercial application. The provinces have since released a feasibility report (April 2021) and [A Strategic Plan for the Development of Small Modular Reactors](#) (released in March 2022) which outlines the path forward for developing and deploying SMRs.

In December 2021, Ontario Power Generation announced it would work with GE Hitachi Nuclear Energy to deploy the BWXR-300 SMR at its Darlington new nuclear site, the only site in Canada currently licensed for a new nuclear build.

The **United States** Department of Energy (DOE) launched the [Advanced Reactor Demonstration Program](#) in 2020 offering funds for the construction of two advanced reactors that could be operational within seven years¹⁷. Further, the DOE announced funding for five US-based teams developing affordable reactor technologies to be deployed over 10-14 years. The DOE also plans to build MARVEL, a 100 kilowatt microreactor in Idaho¹⁸.

In July 2020, under its [Advanced Modular Reactor programme](#), the United Kingdom awarded grants to three companies for reactor projects. Further funds are expected to go to British companies and start-ups to develop new ways of manufacturing advanced nuclear parts for modular reactor projects and towards strengthening the country's nuclear regulatory regime.

In **China**, the first of the two-unit 210 MWe high-temperature gas-cooled reactors, which are part of the Chinergy nuclear power demonstration project, [connected to the grid in December 2021](#). In addition, CNNC New Energy Corporation is promoting the ACP100 reactor. A preliminary safety analysis report for a single-unit demonstration plant at Changjiang was approved in 2020.

HOW IS CAMECO POSITIONED TO TAKE ADVANTAGE OF IT?

We are well positioned to provide fuel for SMRs that use uranium fuel. The size of the market opportunity and the volumes of uranium that would be consumed by SMRs will depend on a number of factors, including which specific SMR designs achieve commercialization and how many units get built around the world. We continue monitoring developments in new SMR technologies and intend to be prepared to satisfy future demand for uranium fuel from SMRs. For example, we signed a number of MOUs with various companies to explore several areas of cooperation to advance the commercialization and deployment of SMRs in Canada and around the world.

¹⁷ <https://www.reuters.com/business/energy/utility-small-nuclear-reactor-firm-select-wyoming-next-us-site-2021-06-02/>

¹⁸ world-nuclear.org/information-library/non-power-nuclear-applications/radioisotopes-research/research-reactors.aspx



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Climate-related Risks

In alignment with TCFD recommendations, we report two categories of climate-related risks: (1) **physical risks**, which primarily include business risks that could be created by acute or chronic changes in the climate, and (2) **transition-related risks**, which encompass several types of business risks (policy, legal, market, technology, and reputational) that could occur as the world transitions to a low-carbon economy.

We disclose material risks to our company, including any applicable risks that could be characterized as climate-related physical or transition risks, in our quarterly and annual reports, and in our [annual information form](#). The next section of this report describes the climate-related risks we have assessed:

1. Physical Risks

To support business continuity and protect our assets, we must consider physical risks resulting from climate change that are acute (event driven) or chronic (longer-term shifts in climate patterns).

Acute Risks

Currently and historically, we have identified operational risks related to acute changes in the climate that cause extreme weather events, such as flooding and wildfires. Any that are considered material are disclosed in our securities filings. Although we have not fully assessed all our assets for their vulnerability to extreme weather events, to date we have considered the following:

Flooding, Port Hope Conversion Facility – The conversion facility is located near the south end of the Ganaraska River. The mouth of the main branch of the river is located approximately 100 metres east of the facility and is separated from the site by the Port Hope Harbour. A flood analysis conducted in 2008 indicated that there would be sufficient conveyance at the site to provide positive discharge of major flood events, including the probable maximum flood which represents the highest flood that could physically occur at the site.



To mitigate these risks, we are constructing a barrier to provide an additional level of protection from flooding of the Ganaraska River. This additional level of flood protection will exceed the Ganaraska River Conservation Authority flood protection requirements.

Flooding, Blind River Refinery – In 2012, we completed a study to understand the potential for flooding at the refinery from an extreme flood event on the Mississagi River. The study found that the refinery is not at risk from flooding from a significant flood event on the Mississagi River or from an extreme event like the spring probable maximum flood. A combination of the spring probable maximum flood with potential breaching of the upstream earth embankment dams could potentially impact the refinery with water accumulating at the south and north ends of the site. To mitigate this risk, we installed a berm outside the refinery perimeter along the fence lines to mitigate the impact to the refinery in the extremely unlikely event of a worst-case flood scenario.

IN FOCUS

Enhancing our Understanding of Physical Risks

2021 was a year marked by extreme weather events in Canada, from wildfires in Saskatchewan to historic levels of flooding in British Columbia. We engaged experts to help us enhance our understanding of physical risks to our sites in the following ways:

In 2021, we initiated a project to assess how climate change will impact extreme precipitation events. In 2022, we plan to do further work to confirm these estimates and will utilize this information to update our operating criteria and refine closure plans for our tailings facilities.

We are currently working with third-party experts to model the impact of two physical climate scenarios (Intergovernmental Panel on Climate Change 5th Assessment Report, RCP 4.5 – a moderate change scenario and RCP 8.5 – a business-as-usual scenario) to our northern Saskatchewan operations in 2022.



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Flooding, Mine Tailings Facilities – Increases in precipitation and flooding could potentially impact our tailings facilities. To mitigate the risk of water overtopping the tailings facilities due to heavy rainfall events (which could lead to a potential dam failure or loss of containment), we routinely operate our facilities with the capacity to contain a 72-hour probable maximum precipitation event, which far exceeds the Canadian Dam Association guidance for our above-ground tailings facilities.

Wildfires, Northern Saskatchewan and Northern Ontario – Wildfires are common in northern Saskatchewan and northern Ontario and our facilities in this area could be impacted in the event of nearby wildfires or wildfires that impact key supply corridors (e.g., power supply, goods and materials supply). To mitigate the impact of nearby wildfires, we maintain buffer zones around our facility infrastructure. Emergency response includes on-site fire detection and suppression capabilities (e.g., fire water lines, firefighter equipment, water sources, fire extinguishers, facility fire suppression systems, and fire paneling), personnel training for wildfire fighting, and use of off-site resources from the province and other neighbouring facilities. Every five years, we plan to conduct a third-party assessment of wildfire hazards and preparedness. Our next assessment is to take place in 2022.

Chronic Changes in Weather Patterns

Chronic changes in weather patterns (temperature and precipitation changes) could impact our business. In 2020 and 2021, we participated in the development of a guide to climate change adaptation for the mining sector in Canada. We intend to use this guide as a reference when we update our prior assessments of the potential impacts of climate change at our mining and milling facilities. For all proposed new projects, operations, or expansions, we conduct environmental assessments that include the consideration of potential effects of the environment on the project, including short and long-term changes in climate. When significant environmental risks are identified, we integrate management strategies into the design, construction, and operation of the new project, operation, or expansion.



IN FOCUS

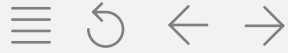
Wildfires in Saskatchewan

In July 2021, our Cigar Lake operation was threatened by wildfires in the vicinity. Non-critical activities were stopped in an orderly fashion and non-essential workers were evacuated as a precaution. Our on-site Emergency Response Team, supplemented by provincial resources and individuals from our nearby McArthur River Emergency Response Team, worked collaboratively to protect the site by applying retardant, completing backburns to reduce the “fuel” for the fires, and extinguishing spot fires.

Throughout the wildfire event no one was injured, and all infrastructure remained intact. Our fire preparedness was instrumental in successfully protecting our site and assets, and the proactive response from our sites demonstrated the thoroughness of our risk management. In addition, Saskatchewan fire officials confirmed that the design of our site, including fire breaks, installation of preventative measures (including sprinkler systems at the perimeter), and the construction of the buildings (metal cladding) were integral to preventing damage.

ABOVE

First responders help us protect our Cigar Lake operation from the 2021 wildfires.



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2. Transition-related Risks

We support and endorse the ambition outlined in the Paris Agreement. We recognize that the Paris Agreement and corresponding country-level goals will require substantial reductions in GHG emissions in Canada and globally. This transition to a low-carbon economy could potentially impact our company in the following ways:

	TRANSITION-RELATED RISKS	WHAT DO WE DO TO MITIGATE?
	REGULATORY RISKS	
	<p>GHG Regulation and Pricing</p> <p>Our Canadian facilities could experience higher annual operating costs due to changes in GHG pricing and regulations, such as carbon pricing, the <u>Canadian Clean Fuel Standard</u>, and/or other policy changes.</p>	<p>In the short and medium term, we expect to manage the increased operating costs through improved energy management and specific projects aimed at reducing energy consumption. Read more about this on pages 44 and 45.</p> <p>For our facilities that are not obligated to meet the requirements of output-based performance standard (OBPS) systems, we chose to opt into the OBPS systems in the provinces where we operate. At this point, the Scope 1 GHG emissions of all our Canadian facilities, except Cameco Fuel Manufacturing, are regulated through OBPS systems. OBPS systems recognize our facilities as trade-exposed and acknowledge the impact of GHG-limiting regulation and pricing on economic competitiveness. Under these systems, we pay a carbon price only if the reduction target is exceeded. The reduction targets established for our Canadian facilities are stated on page 30.</p> <p>Our Scope 2 GHG emissions are primarily associated with purchased electricity from Saskatchewan. Our main source of power for our northern Saskatchewan operations is hydroelectric, but we use a single emissions factor for the calculation of our Scope 2 emissions that reflects the energy mix of the entire provincial grid including several coal and natural gas-fired power generation stations. The Saskatchewan power utility is subject to GHG emissions standards that will become more stringent over time. Carbon pricing funds, collected on electricity, are remitted to the federal government, which has communicated its intent to reallocate them to reduce emissions from the power grid in the province. As the funds are reinvested, we expect our carbon cost exposure to remain relatively stable.</p> <p>With regard to the <u>Canadian Clean Fuel Standard</u>, our Canadian facilities do not consume large quantities of liquid fuels (diesel and gasoline).</p> <p>As part of our efforts to reduce costs, we have been focused on consolidating flights and freight shipments over the last number of years, which also has the effect of reducing fuel consumption and associated carbon pricing. We monitor additional costs for fuels purchased by third parties that act on our behalf to transport materials and employees within Canada. To date these increased costs have been low.</p>



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TRANSITION-RELATED RISKS

Green Taxonomies

A number of countries have developed, or are developing, sustainable or green finance taxonomies to help investors direct capital toward activities and projects aligned with sustainability objectives such as those set out in the Paris Agreement. In many jurisdictions, nuclear power is being assessed for its inclusion in these taxonomies.

Exclusion from these taxonomies could make nuclear power ineligible for financing under green financing or sustainability-related financing. In June 2021, the United Kingdom published its Green Financing Framework that excludes nuclear energy. Despite the exclusion, the document¹⁹ noted that, “...nuclear power is, and will continue to be, a key part of the UK’s low-carbon energy mix alongside solar and wind generation and carbon capture and storage”. In February 2022, the Canadian government also announced that nuclear projects are to be excluded from the Canada Green Bond Framework.

WHAT DO WE DO TO MITIGATE?

We, on our own accord and through industry associations, have provided information and data to relevant authorities making the case that nuclear energy should be eligible for green financing.

We are also seeing signs of nuclear support even in countries that have excluded nuclear from the green taxonomies, including:

- In the European Union, specific nuclear energy projects have been identified for inclusion under its sustainable financing taxonomy and are therefore eligible for access to low-cost financing.
- In Canada, the 2022-23 Federal Budget allocated up to \$3.8 billion over eight years to implement Canada’s first Critical Minerals Strategy, aimed at facilitating greater development of many of these minerals, including uranium.
- The US and many EU nations have expressed their intent to shift their sourcing of key critical minerals and energy inputs, including uranium and nuclear fuel, away from Russia and toward Western allies to ensure greater security of supply.

OTHER TRANSITION-RELATED RISKS

Technology Risks

Technology risks can include risks related to disruptive lower emissions technologies that cause earlier-than-planned replacement of capital assets.

We are currently undertaking a series of initiatives called the “digital transition” with two goals: (1) accelerate innovation and the adoption of advanced digital and automation technologies and (2) improve efficiency and reduce costs.

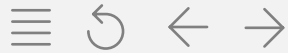
For example, we are implementing energy management information systems to understand where we use energy so we can make changes to become more efficient. In addition, we have established a cross-functional climate transition working group to further study the transition opportunities and risks to our operations. This working group is analyzing the costs and benefits of various potential projects to achieve transformational reductions in emissions.

Reputation and Market Access

Lack of sufficient transparency and action on climate issues could result in reputational damage with local stakeholders and the investment community.

We continually work to improve processes related to emissions data compilation and internal emissions reporting. We have reported our GHG emissions for more than 20 years and, in this report, have also begun addressing TCFD recommendations.

¹⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1001023/20210630_UK_Government_Green_Financing_Framework.pdf



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IV. Metrics and Targets

Metrics and targets are important tools to measure and monitor progress. We are focused on better understanding the impact of climate-related risks and opportunities by:

Measuring Transition-Related Impacts

We have established a climate transition working group composed of representatives from SHEQ, finance, technical services, operations, and asset management to further study the transition opportunities and risks to our operations. This working group has conducted a preliminary analysis of the increase in operating costs that could occur at our Canadian facilities (in the short, medium, and long-term) as a result of increased GHG pricing and regulation. The analysis illustrated that GHG pricing and regulation could result in a wide range of impacts on our annual operating costs for Canadian operations in the longer term, depending on the details of policy implementation. This analysis was intended to help us plan and evaluate initiatives that could help us achieve our net-zero ambition.

Focusing on GHG Reductions

We have tracked and reported GHG emissions for more than two decades. To reduce the energy intensity of our operations, we continue to focus on improving energy management and the visibility of energy consumption within our organization (Read more on [page 45](#)). In 2021, we committed to transforming our low GHG emissions footprint in our ambition to reach net-zero GHG emissions (Scope 1 and Scope 2). In addition to that ambition, we have targets to reduce our GHG emissions intensity for individual facilities that are aligned with current regulatory requirements in Canada (see table at right).

Developing a Low-Carbon Transition Plan

Our climate transition working group is looking for solutions to optimize our energy consumption and decarbonize our operations. We plan to complete a low-carbon transition plan in 2022 that maps out our net-zero alignment and pathways.

The following table summarizes our current climate-related targets:

CLIMATE-RELATED TARGETS	SCOPE OF THE TARGET
TARGETS TO ADDRESS REGULATORY RISKS	
Ambition to reach net-zero GHG emissions (Scope 1 and Scope 2) (timing will be determined by the low carbon transition plan).	Corporate
Complete a low-carbon transition plan in 2022 that maps out our net-zero alignment and pathways.	Corporate
Develop an action plan in 2022 to quantify Scope 3 emissions.	Corporate
Complete a TCFD gap analysis in 2022.	Corporate
Develop a GHG reduction plan for our Ontario facilities that aligns with Ontario's new Emissions Performance Standard program and our low carbon transition plan (currently in development).	Ontario fuel services facilities (Blind River refinery, Port Hope conversion facility, and Cameco Fuel Manufacturing)
GHG intensity reduction By 2030, 5% reduction in GHG intensity (tonnes of CO ₂ e per tonne of uranium) Baseline: Three consecutive years between 2014 and 2018. <i>For McArthur River/Key Lake: 2014-2016.</i> <i>For Cigar Lake: 2015-2017.</i> <i>Rabbit Lake: to be determined when it announces restart</i>	Saskatchewan mine and mill facilities (Cigar Lake mine and, when operating, McArthur River mine, Key Lake mill, Rabbit Lake mine)
TARGETS TO ADDRESS PHYSICAL RISKS	
Conduct a third-party assessment of fire hazards and preparedness in 2022.	Northern Saskatchewan operations
Engage a third-party expert to conduct physical risk assessments in 2022.	Northern Saskatchewan operations



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We recognize and embrace our responsibility to manage our activities with care for the protection of environmental resources. At Cameco, our stewardship is guided by a rigorous policy and programs designed to minimize our impacts on air, land, and water, and to safeguard the biodiversity of surrounding ecosystems.

1,190 MWh

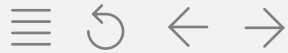
reduction in electricity use annually achieved through our ongoing efforts to reduce energy consumption

Climate Focus

In support of our net-zero ambition, 2021 saw the creation of our new climate transition working group

2022

We are committed to completing a low-carbon transition plan in 2022



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Water

WHY IT MATTERS TO CAMECO

We believe that responsible management of water is critical to our business success. We also recognize the importance of using and discharging water responsibly to preserve it for current and future generations. Across our operations, we interact with water in several ways and acknowledge that we share this valuable resource with Indigenous Peoples and local communities.

Our Approach

We work continuously with regulators, governments, researchers, and communities to understand possible impacts, develop best practices, and make changes that mitigate potential impacts on the environment. At our sites and facilities, we have robust water management and monitoring programs that apply to all our withdrawals and discharges of water, and we tailor our water management practices to local uses and conditions.

Water Management in Saskatchewan

Although northern Saskatchewan is considered a region of low baseline water stress²⁰, and our uranium mining and milling processes in the area do not require large volumes of freshwater withdrawal, we must still manage water to operate our facilities safely and efficiently. We focus on monitoring and managing our water intakes and water discharges, and on developing practices that support the continued protection of the environment.

Water Sources and Uses

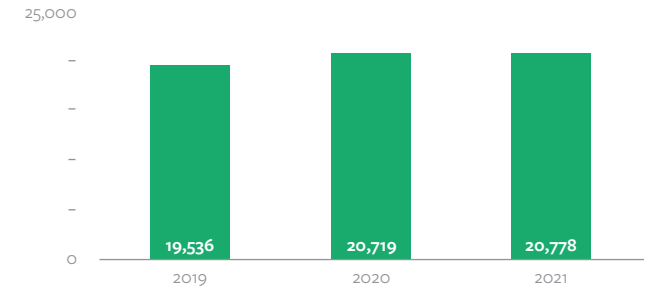
The vast majority of water (groundwater, surface water, or precipitation) managed by our Saskatchewan facilities is **intercepted** as part of our mining operations through mine dewatering or from the operation of our tailings management facilities. Wherever possible, we use this intercepted water to support our operational water requirements. For example, at our McArthur River mine (when operating) we collect clean groundwater that comes into the mine and use this water for industrial purposes both underground and on-surface at the mine.

Where necessary, additional water is **withdrawn** from local surface water bodies or groundwater sources for specific purposes, such as for potable water and industrial uses like jet boring. Water withdrawn for these purposes is a very small proportion (around 1%) of the total water we manage in northern Saskatchewan. We are currently studying how water needed for the jet boring mining method at our Cigar Lake mine could be recycled and re-used. If we can identify a viable technology, we would expect to see a reduction in the amount of surface water directly withdrawn for underground use by the Cigar Lake mine.

OUR PERFORMANCE

Water Withdrawn

(includes water that is intercepted) thousand m³



The volume of water withdrawn has remained relatively stable over time. Note: Water withdrawn includes water we intercept and manage.

We do not withdraw any water from regions of high water stress.

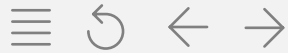


The vast majority of water managed by our Saskatchewan facilities is intercepted as part of our mining operations through mine dewatering or from the operation of our tailings management facilities.

ANALYST CORNER

SASB EM-MM-140a.1

²⁰ Using the World Resources Institute's Aqeduct™ Water Risk Atlas, <https://www.wri.org/aqueduct>



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Water Discharges

At Cameco, we carefully manage our treated water discharges to keep potential risks to human health and the environment as low as reasonably achievable and to comply with all legal and regulatory requirements. To protect people and the environment we have implemented management tools, consistent with our overall management approach, which include:

Inflow Reduction

In our underground mines in northern Saskatchewan, we need to actively collect water that flows into the underground mines from the surrounding rock structures and pump it out to maintain safe mining conditions. Some techniques we use to minimize the amount of water that flows into the mines include ground freezing (circulating a brine that helps to freeze the ground around the ore), pressure grouting (injecting grout into the voids of the rock), and shotcrete (spraying concrete on the walls of the mine). These techniques also reduce the risk of a ground failure, which could lead to an uncontrolled inflow of groundwater. By reducing the amount of water that comes into the mine, we reduce the amount of water we need to manage, treat, and subsequently, release.

Water Segregation and Diversion

The best way to keep water clean is to keep it segregated from our processes. Where possible, practical, and economical, we divert water or otherwise keep it from coming into contact with radioactive materials or mineralized rock. By doing this, we reduce the amount of water we handle and ultimately need to treat and release.

Water treatment

Water is treated and released in accordance with our operating approvals. We use conventional water treatment processes to make sure water is safe before it is released to the environment. We have made significant investments to improve the quality of water released from our Saskatchewan mining and milling operations to surface water bodies.



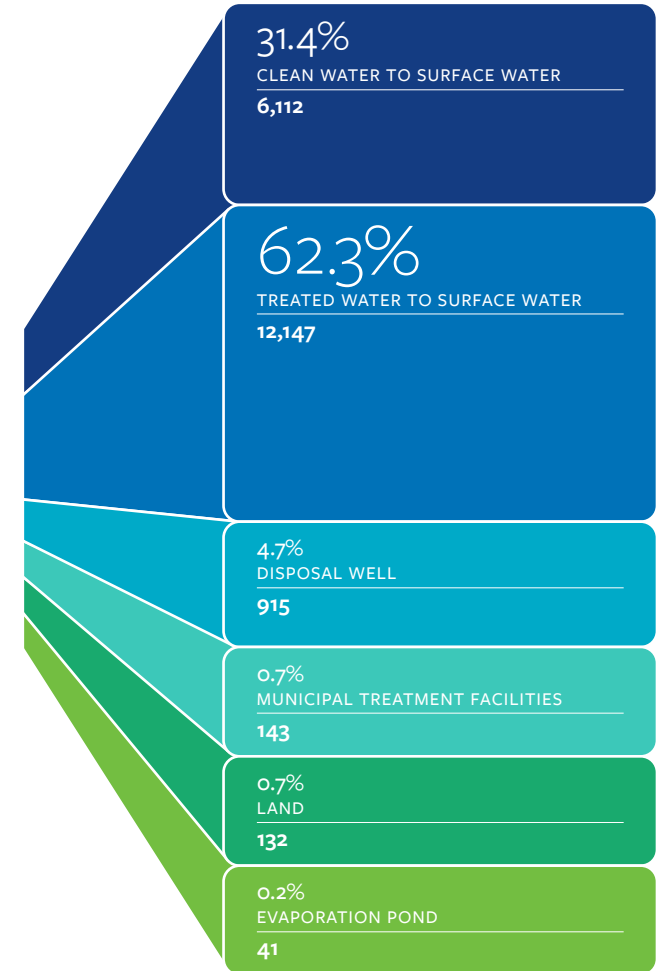
We use water treatment processes to make sure water is safe before it is released to the environment.

Discharge monitoring

We have robust monitoring programs to verify that human health and the environment remain protected in the vicinity of our operations. We adhere to regulatory requirements from the CNSC, Saskatchewan Ministry of Environment, and Environment and Climate Change Canada. These regulatory bodies set the levels for a variety of substances that are allowable in the treated water that is released. To meet these requirements, we use either an automatic interval sampling system or a “batch pond release” method. The automatic interval sampling system involves collecting samples and monitoring the continuous discharge of treated water, which is subject to strict and routine testing. The “batch pond release” method involves storing treated water in a holding pond and testing the water quality. If it meets the required quality, it is released; if it does not, then we can send the batch of water for treatment again. In 2021, Cameco facilities met all applicable regulatory requirements.

2021 Water Discharges

19,490 thousand m³



Note: This chart includes company-wide data. We do not discharge water using disposal wells in our Saskatchewan operations, but we do at our US operations. Water withdrawn includes water we intercept and manage. Graphic not to scale.



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Watershed Stewardship

As part of our environmental monitoring programs, we take more than 22,000 samples related to water quality each year. We collect water samples at or immediately downstream of our operations (near-field), in close proximities to our operations (mid-field), and at locations at a further distance (five to 10 kilometres) from our operations (far-field). These samples are sent for testing for different chemicals and other indicators of quality to both internal laboratories and an accredited third-party facility. The laboratories use a variety of analytical techniques, including inductively coupled plasma-mass spectroscopy, known for its ability to detect very low concentrations of most elements in the periodic table in either a liquid or solid sample.

We also maintain a groundwater monitoring program. We collect groundwater samples in the vicinity of our operations and monitor for changes in composition. Every five years, monitoring data is assessed in detail and compared to previous predictions to validate that the environment remains protected. Read more about our [environmental risk assessments](#).

In addition to our own programs, independent community-based environmental monitoring programs in northern Saskatchewan (read more on [pages 55 and 56](#)) provide opportunities for community members to participate in and collect environmental samples. These programs have shown that water remains safe to drink and that traditionally harvested foods remain safe to eat.

>22,000

samples related to water
quality taken each year

Zane Itterman, Environment Officer, McArthur River
collects a water sample near our Key Lake operation.





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Water Management in Our Fuel Services Division

The four facilities in our fuel services division manage water from a combination of municipal water sources, surface water from nearby waterbodies, groundwater, and precipitation. Our fuel services division uses water for steam generation, fire protection and emergency response, process and laboratory facility uses, drinking water, sanitary services, and cooling purposes. We also extract groundwater as part of environmental remediation.

A large proportion of the water we withdraw is used as non-contact cooling water (water that is used for cooling and that does not come into direct contact with any solids, liquids or gases used in our processes, or finished products). Cooling water is returned to the environment or the municipal sanitary sewer system. Out of our four Fuel Services Division facilities, our Port Hope conversion facility requires the most water for the once-through non-contact cooling water. To improve water management at this facility, we are currently transitioning to a new closed loop cooling water system (see sidebar to read more). Learn more about our [water management in our fuel services division](#).

Water Management in the US

In our US operations we mine using in situ recovery (ISR) methods. These operations do not require large volumes of fresh water for mining activities. At our US operations, we primarily manage brackish, non-potable groundwater for mining operations and active groundwater restoration. Read more about our [water management practices in the US](#).



IN FOCUS

Improving Cooling Water Management

A new closed-loop cooling water system will be installed this year at our Port Hope conversion facility to replace the existing open loop system. Rather than using harbour water for process cooling and then discharging it back to the harbour, the new system will circulate water in a closed cycle and would eliminate the need to use surface water for once-through cooling purposes. The system will use air-cooled chillers with free-cooling technology to reduce energy use in colder temperatures.

In 2021, the project team completed a significant portion of the detailed design engineering, procured the project's major equipment, poured concrete pads for the equipment and completed planning for the balance of work, which will occur between April and October 2022.

[Port Hope conversion facility.](#)





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Tailings and Mining Waste Management

WHY IT MATTERS TO CAMECO

Tailings are an inevitable byproduct of most mining activities. Responsible and safe management of mining waste streams is critical to protecting the environment as well as the safety of our workers, operations and communities. To strengthen our tailings management approach, we seek to apply lessons learned from industry incidents and are committed to continuous improvement.

Operational Context

Tailings management is relevant only to our Canadian operations as the in situ recovery method used in our US operations does not create tailings or waste rock.

We maintain four tailings facilities in Saskatchewan, two at our Key Lake site and two at our Rabbit Lake site. Both Key Lake and Rabbit Lake have one active in-pit tailings facility (**in-pit facility**) and one above-ground tailings management facility (**above-ground tailings facility**).

Our two **in-pit facilities** allow us to store tailings in the excavation of former mine pits. The design of these facilities with permeable surround, which have both been in operation for more than 20 years, was identified as an industry best practice by our independent tailings review board. The storage of tailings below ground surface within in-pit facilities means that these facilities are not susceptible to catastrophic failures that could release tailings solids or liquids to the surrounding environment. In addition, reuse of former mine pits reduces our overall land disturbance. The design allows for containment of tailings water during the operating phase and allows groundwater to bypass the facilities after they are decommissioned.

Our two **above-ground tailings facilities** are no longer used for ongoing tailings placement but contain tailings from historic mining operations. We have repurposed these facilities to safely dispose of radiologically contaminated solids at Rabbit Lake, and both solid and liquid waste at Key Lake, without disturbing additional land. These above-ground tailings facilities use engineered dams to contain the tailings. The dams were constructed using the centerline and modified centerline methods at Rabbit Lake and using the single-stage method at Key Lake. These construction methods contribute to structural stability.



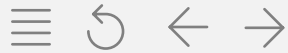
We maintain four tailings facilities in Saskatchewan, two at our Key Lake site and two at our Rabbit Lake site.



DEFINITIONS

Mining at our operations in northern Saskatchewan requires the excavation of rock to access the uranium-bearing ore. This **waste rock** is classified as either mineralized or non-mineralized. Waste rock generated during underground mining is temporarily stored underground before being moved to the surface for storage (see [page 41](#)).

Milling of uranium ore produces **tailings**, which are primarily composed of residues (the residual rock left after the uranium is recovered from the ore), mineral precipitates, sewage, and minor amounts of other processing chemicals. Tailings are safely stored on-site within engineered tailings management facilities. The annual tonnage of tailings produced is dependent on the ore grade and the production rate. The high uranium grade of our mines in northern Saskatchewan means we obtain more uranium per tonne of rock processed than low-grade facilities, resulting in lower amounts of tailings produced compared to other mining operations.



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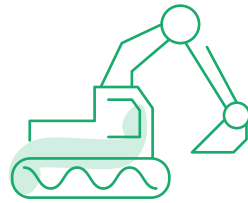
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Managing Tailings Facilities Through Their Lifecycle



Construction and Design

Stable Tailings Facilities

Our two above-ground tailings facilities use engineered dams to contain the tailings. The dams were constructed using the centerline, modified centerline and single stage method. These construction methods contribute to structural stability. Our two active in-pit tailings facilities store tailings below the natural ground surface and therefore pose no risk of a flow-type failure associated with dams.

Protecting Groundwater

Our in-pit facilities use a permeable surround design concept that will allow groundwater to bypass the facility after closure, minimizing the impact to groundwater. Upon closure, our above-ground tailings facilities will be graded, covered and vegetated to minimize water entering the facility and reduce the impact to groundwater. [Read more.](#)



Good Management Practices

Towards Sustainable Mining (TSM) Tailings Management Protocol

We follow the TSM Tailings Management Protocol developed by the Mining Association of Canada (MAC). At our operating sites, every year we self-assess our practices, and every three years, we undergo third-party verification. [Read more.](#)

Gaps Against the Global Industry Standard on Tailings Management (GISTM)

In 2021, the MAC conducted a gap analysis between the TSM protocol and GISTM. Cameco used this gap analysis as part of an audit of our facilities completed in 2021. [Read more.](#)



Monitoring

Regular Inspections

At our four tailings facilities, we conduct a range of daily, weekly, monthly, and annual inspections to examine various aspects of tailings management. These inspections include monitoring the geotechnical (physical structure) and geochemical (chemical composition and distribution) stability of the tailings and their associated containment structures.

Improved Dam Monitoring

At our two above-ground tailings facilities, we replaced older piezometers with vibrating wire piezometers (VWPs) in 2021. The instrument is connected to data loggers that offer remote access and enable more frequent sampling.

These VWPs measure pore pressure*, which is an important parameter to assess the performance of tailings dams and the stability of the structure.

Environmental Monitoring

We monitor groundwater and surface water downgradient of the above-ground facilities to verify that water quality remains at estimated and allowable levels.



Assessments and Reviews

Assessments

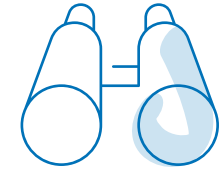
The following assessments are designed to support the continued safe operations of our tailings and identify risks:

1. Independent tailings review board
2. Dam safety reviews
3. Consequence of failure classification
4. Facility risk assessments
5. Other reviews

Read more about each of these type of assessments in the next few pages.

Learnings From Events

Over the past decade, we have completed reviews of international incidents related to tailings dam (including Mount Polley Fundao and Brumadinho). Read about our learnings [here.](#)



Long-Term Risks

Environmental Risk Assessments

We have assessed the geochemical stability of our tailings, developed hydrogeological models and we use this information in environmental risk assessment models to evaluate the potential impacts to surface water from our tailings management facilities once decommissioned.

* Pore pressure – the pressure of the water held within the mix of soil and rock that makes up the dam.



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Tailings Management Practices

We employ broad, risk-based practices to effectively manage our tailings and mine waste storage facilities. We are committed to maintaining our rating and adherence to the MAC TSM tailings management protocols.

Analysis of tailings failures in the mining sector have indicated that inadequate management practices can contribute to failures. Learnings from recent incidents continue to deepen our focus on maintaining robust management practices at our tailings facilities.

Towards Sustainable Mining Tailings Management Protocol

At Cameco, we follow the [Towards Sustainable Mining Tailings Management Protocol](#) (TSM protocol) developed by the Mining Association of Canada (MAC).

At our Key Lake operation, we completed an internal audit and external verification to confirm our conformance with the [TSM protocol \(2019\)](#) in 2021. We achieved an A rating across all protocol indicators. Possible ratings range from Level C to Level AAA, with increasing ratings reflecting the comprehensiveness of the relevant management system. Level A is the expectation and a rating that is reflective of good management practices.

At our Rabbit Lake operation, we continue to adjust and strengthen our tailings management practices. This site has been in care and maintenance since 2016 and we anticipate completing an internal audit in 2022.

Following the best practices identified in the TSM protocol, means:

- ✓ Our Chief Operating Officer is accountable for tailings management
- ✓ We conduct annual tailings management reviews
- ✓ We have:
 - o A tailings management policy and commitment
 - o Site-specific tailings management systems
 - o Emergency preparedness and response plans
 - o Site-specific operation, maintenance, and surveillance (OMS) manuals

Gaps against the Global Industry Standard on Tailings Management (GISTM)

In 2021, MAC conducted a gap analysis between the GISTM and the TSM protocol and shared the results publicly. MAC indicated that the TSM protocol met or exceeded the GISTM in a several aspects (this [document](#) contains detailed information).

Using MAC's gap analysis, we conducted a GISTM audit of our facilities in 2021 which revealed opportunities to better align with the GISTM. We are taking actions over time to address those that make sense for our facilities.

Cameco remains committed to the MAC TSM protocol. The tailings management component of the TSM protocol is an accepted and mature framework, which we feel provides a more robust and rigorous system for measuring tailings performance than the GISTM. As such, we do not plan to fully implement GISTM at this time. We will, however, continue to monitor the development and uptake of GISTM, including through our active membership on the MAC TSM tailings working group, which is working to improve alignment with GISTM.



We follow the Towards Sustainable Mining Tailings Management Protocol. At our operating sites, every year we self-assess our practices, and every three years, we undergo third-party verification.



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Tailings Assessments

Frequent reviews and assessments help us identify and appropriately manage risks in the design, structure, or management of our tailings facilities. We conduct different assessments of our tailings facilities including:

1

Working with an Independent Tailings Review Board

In 2021, we continued to address and incorporate recommendations from the independent tailings review board. The board meets annually to review our tailings facilities' design, management, and performance, and to provide an independent, qualified, non-binding opinion on the state and risk associated with our tailings facilities. The review board includes two experts, each with more than 35 years of national and international experience in mining waste management and tailings. Based on their review, the board concluded that overall, Cameco's four tailings facilities were in sound condition without evidence of immediate safety issues and were being managed consistent with sound engineering practices.

2

Completing Dam Safety Reviews

For our two above-ground tailings facilities with dams, we completed dam safety reviews in accordance with Canadian Dam Association guidelines in 2020. The goal of this review is to assess and evaluate the safety of a dam against potential failure modes. The review is conducted by a qualified engineer and is based on current knowledge and guidelines, which might be different than at the time of construction. At Rabbit Lake, the dam safety review found that the dams were in a satisfactory condition, there were no dam safety deficiencies apparent, and that the dams appear stable with no visible signs that would suggest potential geotechnical instability.

At Key Lake, the dam safety review found the facility to be generally in sound condition without evidence of any dam safety issues, and that it is being managed consistent with sound engineering and good industry practice.

3

Assessing Consequence of Failure

While significant effort is put into ensuring our tailings facilities are stable, and we remain confident in the stability of these facilities, it is good practice to assess the consequence of a dam failure. Studies to assess a dam failure scenario for our two above-ground tailings facilities were completed in 2020. The results of these studies allow us to classify the dams in accordance with standard consequence classifications and enhance our emergency response plans. It is important to note that this assessment is not an indication of the likelihood of failure, rather it assesses the consequence of failure, should one occur. In accordance with the Canadian Dam Association's consequence classification rating system for dams, dams are classified as having a Low, Significant, High, Very High, or Extreme Consequence based on defined criteria. Under this set of criteria, our dams were determined to have a "Significant" consequence (the second-lowest level in the scale, [see graphic here](#)). Significant consequence means a low potential for loss of life, people are only temporarily in the inundation zone, no significant loss or deterioration of biodiversity or landscape, and low economic losses.

Mykola Gauk, Mechanical Engineer, Technical Services department.





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4

Risk Assessments

In 2021, we conducted a Failure Modes and Effects Analysis (FMEA) for three out of our four tailings facilities. FMEA is a systematic, proactive method to identify where and how a facility might fail and to assess the relative impact of different failures. The FMEA process was able to highlight critical controls for each facility, areas of risk that were well managed, and areas that could be reduced further through additional study or implementation of mitigative actions. From this process, a risk register was developed that presents the current known risks and ranking, and that can be updated to reflect changes to existing risks and to add new risks as they become known.

ABOVE

A view of our Key Lake in-pit tailings management facility, looking north showing the buttress rock placed on the west end.

5

Updating Our Precipitation Estimates

We recognize that climate change has the potential to impact the intensity of future precipitation events. In 2021, we initiated a project to assess how a range of hypothetical storm events and snowpacks may be impacted by climate change. While more work is required to validate these estimates, once complete, we will be using this information to support the continued safe operation of our tailings facilities and in developing closure designs. Read about how we are starting to model climate change assumptions into our mines and tailings facilities on [page 26](#).

6

Other Reviews

We conduct reviews at regularly scheduled intervals and as required including:

- **Annual performance reviews** assess the operational, geotechnical, and geochemical aspects of the tailings facility performance.
- Our **5-year Groundwater and Environmental Performance Review** includes an evaluation of our groundwater monitoring program. The review assesses measured conditions relative to previously predicted conditions and identifies changes or corrective actions, where required.
- As required, we also conduct an **evaluation of tailings geochemistry** to confirm that geochemical controls remain consistent with predictions. This evaluation is conducted during the annual performance reviews and through a periodic drilling program.



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Waste Rock and Other Mining Wastes

Our mining waste from Saskatchewan also includes waste rock. Waste rock is rock that has been excavated to gain access to ore but does not have metal concentrations of economic interest. At Cameco, our active mines are underground operations and generate low waste rock volumes. We classify waste rock based on its mineral/elemental content. Waste rock comes in three general types, and management procedures vary based on type.

Mineralized

Low-grade uranium ore with more than 0.03% U_3O_8 concentration. Mineralized waste rock is generated by our McArthur River mine during operation and is transported to our Key Lake mill where it is ground and blended with high-grade ore slurry received from the McArthur River mine before entering the remainder of the milling process. Mineralized waste rock is stored on engineered, lined pads to minimize soil and groundwater contamination. As part of our decommissioning plans, all mineralized waste rock will be milled, or otherwise disposed of within the mine workings or mine pits.

Non-Mineralized

Rock that has virtually no uranium (less than 0.03% U_3O_8) and is categorized as clean or potentially acid-generating, based on the likelihood of acidification.

Clean

Rock that has virtually no uranium (less than 0.03% U_3O_8) and is not potentially acid-generating. Wherever possible, we reuse clean waste rock to replace underground material removed during extraction, to produce sprayed concrete (shotcrete), or for road maintenance. Clean waste rock piles will be regraded to blend into the natural environment, covered (as necessary), and revegetated with native vegetation species (read more on [page 50](#)).

Potentially Acid-Generating

Rock potentially containing sufficient concentrations of sulfide minerals that could oxidize and generate acid rock drainage. Although we generate very low volumes of this type of rock, we store it for longer periods in separate lined rock piles. Potentially acid-generating rock will be disposed of in the mine workings or in saturated pits.

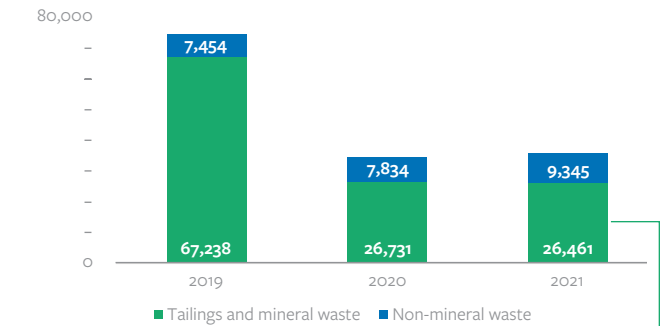
We also generate sludges and slimes through the mining and milling process. At our Key Lake, McArthur River and Rabbit Lake mines these waste streams are incorporated into the tailings, or placed underground within the mine for disposal. At our Cigar Lake mine, slimes generated during mining are stored on surface in lined facilities. Upon completion of mining activities, we plan to return the slimes to the underground workings for final disposal.



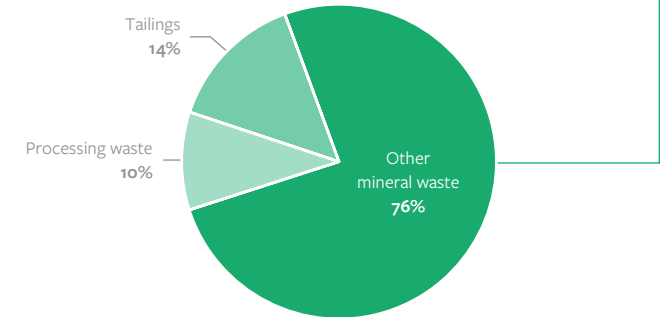
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2021 Tailings and Mineral Waste Breakdown



At Cameco, our active mines are underground operations and generate low waste rock volumes.



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SASB EM-MM-150a.4
SASB EM-MM-150a.7
SASB EM-MM-150a.10

Non-Mineral Waste

WHY IT MATTERS TO CAMECO

We generate and manage waste from our operating facilities. We are committed to managing our waste streams in accordance with our compliance obligations and in a way that protects people and the environment, paying special attention to hazardous and radioactive waste.

Radioactive Waste

We take into account the ALARA (as low as reasonably achievable) principle across our operations (see [page 60](#) for radiation safety) and for the management of all wastes, including radioactive waste. Following this principle means that we design our systems and procedures to minimize worker exposure to this waste. Radioactive waste has different classifications depending on the jurisdiction and must be managed in the following ways:

- At our fuel services division in Ontario, we classify radioactive waste into contaminated non-combustible and contaminated combustible categories. We have programs to incinerate combustible waste and to decontaminate scrap metal and release it to a third party for recycling. Other waste is safely stored at a licensed Cameco facility until it is further processed and released from regulatory control or transferred to another properly licensed organization or facility.
- In Saskatchewan, we refer to the ultra low-level radioactive waste generated as contaminated waste. This waste is transferred to above-ground tailings facilities at Key Lake and Rabbit Lake for placement and cover.
- In the US, low-level radioactive waste is referred to as 11 e(2) byproduct, which is transferred to another licenced facility in the US where uranium is recovered from the waste and the remaining material is safely disposed of.

Prior to Cameco’s formation in 1988, the site where our Port Hope conversion facility is located had been used for the storage of legacy radioactive waste for several decades. After meeting prescribed waste acceptance criteria, this waste is eligible for disposal in a government-owned, long-term waste management facility. Vision in Motion is an ongoing project at the Port Hope conversion facility that supports proper characterization and disposal of this waste (see our [2020 ESG report](#) for details).

Non-hazardous Wastes

We seek to reduce the amount of waste we generate and to divert as much as we can by reusing, recycling, or recovering material. Recyclable materials are either picked up by municipal recycling authorities or shipped to off-site recycling programs. Non-recyclable materials are disposed of at Cameco-operated landfills or transported to local municipal landfills. Read about our recycling efforts [here](#).

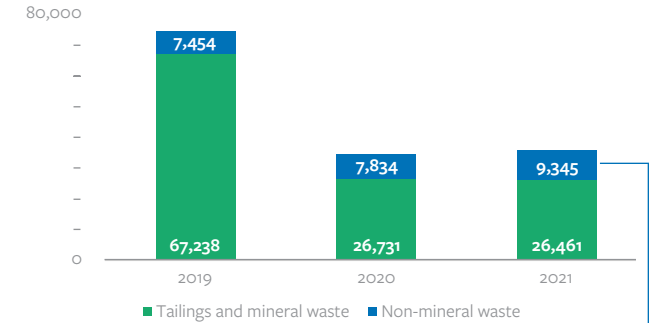
Hazardous Waste

At all of Cameco’s operated facilities, hazardous waste is collected and stored on site in designated hazardous waste storage areas and picked up or transferred to a third party for disposal or recycling.

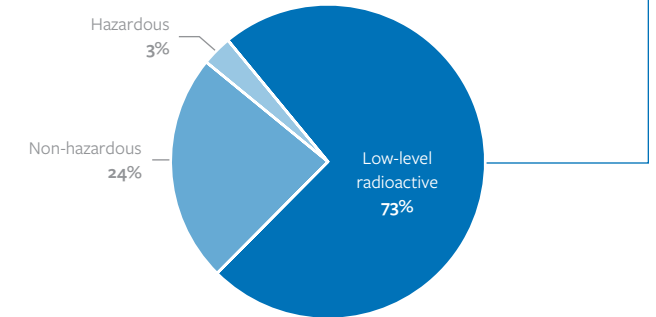
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Waste

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2021 Non-mineral Waste Breakdown



In addition to tailings and mineral waste (see preceding pages), we generate and manage hazardous, non-hazardous and low-level radioactive waste. We do not generate intermediate or high-level radioactive waste in either our mining operations or in our fuel services division.



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SASB EM-MM-110a.1
SASB EM-MM-110a.2

GHG Emissions and Energy Use

WHY IT MATTERS TO CAMECO

We have tracked and reported greenhouse gas (GHG) emissions for more than two decades and we recognize that our GHG emissions are increasingly important to our investors and stakeholders. In keeping with our ambition to reach net-zero emissions, we continue to pursue strategies to reduce emissions in our operations and become more efficient in our use of resources. As part of the energy value chain, our product contributes to zero-carbon nuclear power generation.

Sources of GHG Emissions

Our GHG emissions are directly related to the type and amount of energy that we consume. We do not have significant GHG emissions that are produced by sources other than energy consumption.

Scope 1

Our Scope 1 (direct) emissions are primarily associated with the consumption of gaseous fuels (propane and natural gas) for heating. We also use diesel and gasoline to operate heavy-duty and light vehicles across our operations, and relatively small quantities of diesel for back-up power generation at our mine and mill facilities in Saskatchewan. We do not have significant GHG emissions that are produced by sources other than fuel consumption (such as flaring, venting, or fugitive emissions).

Scope 2

We report our Scope 2 (acquired energy) emissions associated with the purchase of grid-supplied electricity. The majority of these emissions are generated as a result of the purchase of power from the provincial power utility in Saskatchewan. Our main source of power for our northern Saskatchewan operations is hydroelectric²¹, however, our Scope 2 emissions use a single emissions factor that reflects the energy mix from the entire provincial grid.

The Saskatchewan power utility has several coal and natural gas power generating stations that are included in that single emissions factor, which is used for all electricity purchased in the province. All power generating facilities are subject to increasingly stringent regulations that limit GHG emissions intensity. Additionally, Saskatchewan’s power utility continues to progress its ambitions to reduce GHG emissions by 50% by 2030 from a 2005 baseline²². Given the utility’s continued adoption of renewable energy, we anticipate that emissions associated with the generation of grid electricity in Saskatchewan will continue to decline. Electricity purchased in Ontario for use at fuel refining, conversion, and manufacturing facilities is largely non-emitting (a mix of nuclear power, hydroelectric, natural gas, and wind).

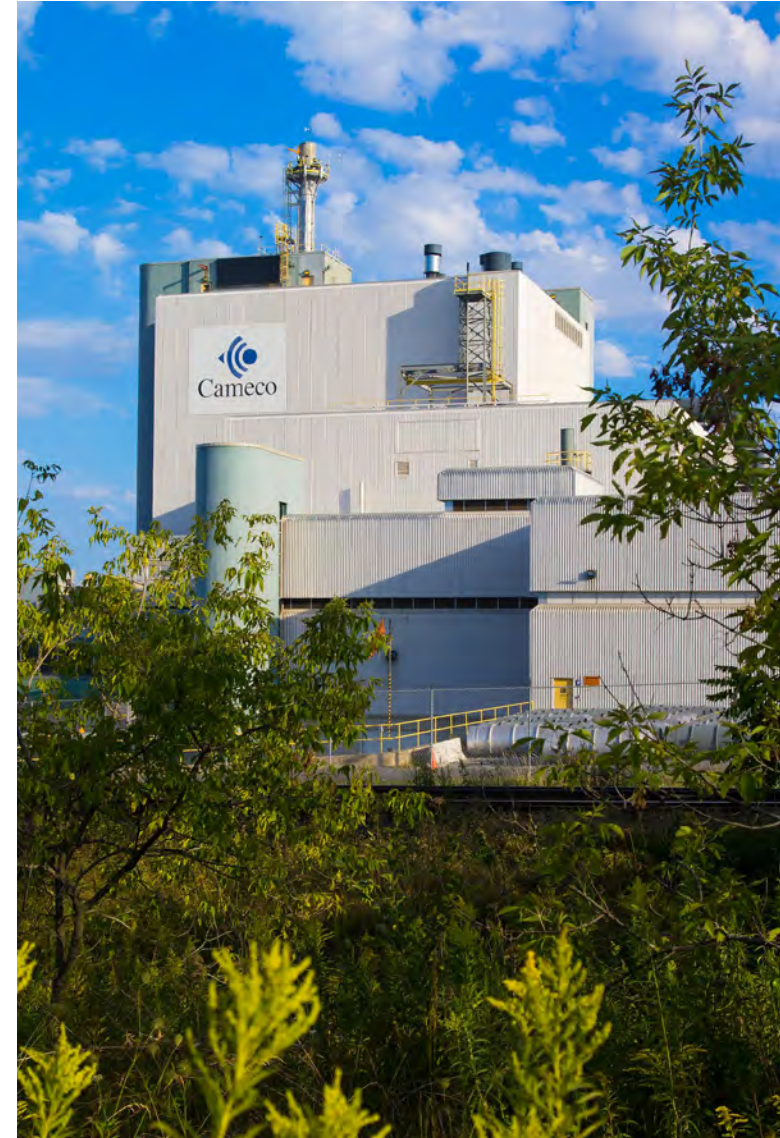
Scope 3

We do not quantify and report our Scope 3 emissions on an annual basis. Based on our estimates and information from third-party studies²³, we believe our focus needs to remain on our Scope 1 and 2 GHG emissions. However, to better understand our value chain impacts, we have committed to developing an action plan to quantify our Scope 3 emissions and we will continue to work with our partners and progress our efforts to understand the Scope 3 emissions associated with the transport of materials and employees by third parties.

²¹ The region of northern Saskatchewan where Cameco’s facilities are located is largely served by power provided by Island Falls Hydroelectric Station.

²² <https://www.saskpower.com/about-us/Our-Company/Blog/2021/Renewable-Power-Update-Fall-2021#:~:text=We're%20on%20track%20to,key%20to%20reducing%20GHG%20emissions>

²³ Parker, D.J., McNaughton, C.S., and Sparks, G.A. 2016. Life Cycle Greenhouse Gas Emissions from Uranium Mining and Milling. Environ. Sci. Technol., 2016, 50 (17), pp 9,746–9,753.



Our Port Hope conversion facility in Ontario.



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Energy Use

We use energy for various purposes including:

Ventilation

We maintain adequate ventilation by using single-pass, non-recirculating ventilation systems in our process buildings and underground mines to minimize radiation exposure and keep our workers safe. The resulting energy-intensive nature of this approach aligns with the regulatory requirement to maintain radiation exposure consistent with the ALARA principle (as low as reasonably achievable, while taking into account social and economic factors).

Ground Freezing

At some of our underground mines, we use grid-supplied electricity to freeze the ground around the uranium ore deposit. This process helps to reduce the amount of water we manage, reduce radiation exposure for workers and improve ground stability around the mine.

Heating

We use natural gas, propane and electricity to heat buildings, and propane to heat the air used in mine ventilation. We also use energy to heat water and other liquids for domestic and industrial uses.

Moving Water

We need to move the water that we manage (see the Water section of this report on [page 32](#)).

Processing and Transporting our Products

We use energy to power mining and processing equipment and transport materials through various stages.

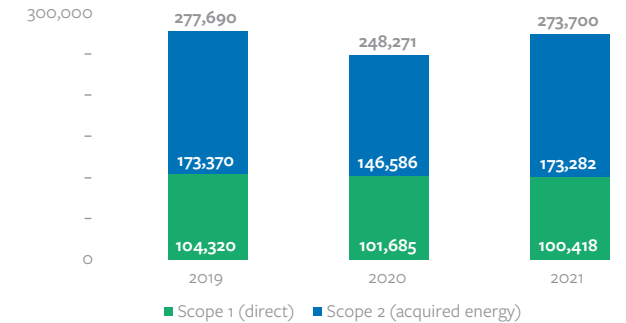
ABOVE

At our Cigar Lake operation, we use grid-supplied electricity to freeze the ground around the uranium ore deposit.

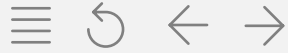
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GHG Emissions – Operational Control

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Our corporate GHG emissions fluctuate in response to changes in our business strategy and, in recent years, have been lower due to the non-producing state of several of our operations. In 2020, our GHG emissions were lower than in previous years as a result of production suspension at our Cigar Lake mine due to the COVID-19 pandemic. More than half of our GHG emissions are associated with electricity consumption (Scope 2). In the near term, we anticipate that our corporate GHG emissions will increase given our announcement of our plan to begin production at McArthur River and milling operations at Key Lake, and continue production at Cigar Lake. Returning our tier-one assets to a producing state, albeit at lower production capacity, will increase the carbon intensity of our operations and result in a sizeable increase to our corporate GHG emissions.



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Energy Efficiency and Visibility

We have been focused on improving the visibility of energy consumption within our organization and implementing improvements to reduce energy consumption at all our operations. We have made measurable reductions in energy used for mine ventilation, building heating and ventilation, and compressed air systems, and have several ongoing reduction initiatives at our mining, milling and fuel services facilities. Our 2021 activities include:



Efficient Compressor Systems

Our Port Hope conversion facility uses compressed air in the production of converted uranium. In 2021, we installed new highly efficient compressor systems and introduced additional controls to manage our compressor systems more efficiently. Our ongoing efforts to optimize our systems have resulted in a 1,190 MWh reduction in electricity use annually and reduced our peak power demand by 28%.



Energy Monitoring

We implemented improvements to energy monitoring and measurement systems at our Cigar Lake mine and began using an integrated energy management information system to monitor and improve energy performance. Our energy management information system converts energy and utility data into energy performance information that we can use to plan, make decisions, and take actions to manage energy use, energy cost and GHG emissions.



Upgrade HVAC Systems

At Cigar Lake, we upgraded HVAC controls and implemented a building temperature standard to better manage energy consumption related to building heating. At Cigar Lake's camp, we implemented changes to the HVAC system to recover heat from exhaust air.



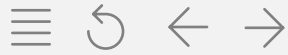
Building and Lighting Assessments

At McArthur River and Key Lake, we conducted building envelope, lighting, and ventilation assessments, and identified key improvements to optimize those systems in our ongoing efforts to reduce energy use and associated GHG emissions.



Collaboration

Cameco continues to engage with industry groups to support our vision of energizing a clean-air world and support the transition to a low carbon economy. Our active engagement with the Mining Association of Canada (MAC) and ongoing work to better understand how our operations can align with MAC's Toward Sustainable Mining Climate Change Protocols demonstrate our continued efforts to be a constructive partner in the fight against climate change.



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SASB EM-MM-160a.3

Land and Biodiversity

WHY IT MATTERS TO CAMECO

We strive to minimize the impacts of our activities on the land, plants, and animals in our operating areas in compliance with regulations and with a commitment to monitoring and measuring our impacts. A considerable portion (38% of our proven and 53% of our probable) of reserves are in or near sites with protected conservation status or endangered species habitat, as defined by the International Union for Conservation of Nature.

Operational Context

The mining methods we currently use at Cameco (underground mining and ISR) result in less land disturbance than open-pit mining. Our company-wide footprint is about 3,000 hectares. About 40% of this footprint is from our US ISR operations where the land is occupied by our operations but does not require extensive surface disturbance. Underground mining also requires relatively small surface disturbance. However, we recognize we share this land with Indigenous communities in northern Saskatchewan and we respect their traditional land use. Read about our relationships with Indigenous communities on [page 52](#).

Biodiversity Protection in the US

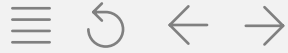
In our US operations, some of our land is adjacent to Fort Robinson State Park, which is a wildlife and historic area operated by the State of Nebraska. In order to protect species and habitats in Nebraska, we monitor swift fox presence in active development areas. In Wyoming, we perform seasonal avian surveys for raptors and sage grouse. We also modify field construction activities during nesting seasons, if located in proximity to active nesting or denning areas.

Addressing Biodiversity Concerns in our Plans in Australia

For our exploration projects, we take environmental and biodiversity concerns into consideration in the early stages of project development. While our two Australian projects (Kintyre and Yeelirrie) are currently on hold, our plans include considerations for biodiversity concerns. Details are available in our [2020 ESG report](#).



Royal Mulla Mulla (*Ptilotus rotundifolius*), a perennial plant species from the amaranth family, which is native to western Australia.



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Biodiversity Protection in Canada

We meet all level AA requirements of the MAC's Towards Sustainable Mining (TSM) biodiversity management protocols for our Key Lake, McArthur River and Cigar Lake operations. As our Rabbit Lake operation is in a safe state of care and maintenance, we currently do not report into TSM.

We have specific programs to evaluate and minimize our impact on biodiversity:



Woodland Caribou Research

Woodland caribou are listed as a threatened species in Canada's *Species at Risk Act*. We have contributed to the body of knowledge on woodland caribou populations and habitat in the Saskatchewan Boreal Shield (SK1) region where we operate by conducting direct data collection and research. We have also joined with government and industry peers to support University of Saskatchewan research on woodland caribou, including a study that ran from 2014 to 2018 and found that the SK1 region has a relatively large, stable population of woodland caribou.



Wildlife Management

Wildlife management practices are carried out to minimize potential for wildlife and human interactions. Our practices involve educating our workforce and contractors (topics include food and waste management control, consequences for habituated wildlife, wildlife behaviour, basic personal safety precautions, minimum steps to take if wildlife is encountered, the process for reporting, conditioning programs, and wildlife activity notifications).

We also practice attractant management, i.e., removing foods, wastes, or other smells that could potentially attract wildlife to our sites, managing food storage and disposal, and using other means to limit attractants. Additionally, we monitor our sites and surrounding areas. Employees document sightings of a variety of species around our sites, including bear, fox, wolf, or other species that may frequent the area.



Aquatic Environment Surveys

To understand the potential influence of our operations on aquatic ecosystems, we conduct aquatic surveys every three years on our primary drainage areas. These surveys measure water quality, sediment quality, fish populations, levels of chemicals in fish, and other organisms, in addition to a periodic survey of semi-aquatic mammals.



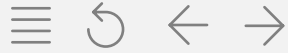
Avian Risk Assessments

During exploration activities, or if clearing may be required during a bird's breeding period, we engage a qualified external biologist to complete an avian risk assessment to determine if our activities would pose risks to breeding birds. Risk evaluation includes detection surveys, bird behavioural observations, and habitat evaluation.



Desktop Review of Species at Risk

We periodically review the scientific literature, published lists from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and the *Species at Risk Act* to identify species at risk in northern Saskatchewan. We typically update this review on a five-year cycle in alignment with our environmental risk assessments.



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SASB EM-MM-120a.1

Air Quality

WHY IT MATTERS TO CAMECO

Protecting air quality is essential to being a good neighbour and a safe employer. We continually monitor air quality near our facilities and mines. While our mining operations are located in remote areas of Canada and the US, the facilities in our fuel services division are located in or near populated areas in Ontario. Protecting local air quality is a priority for all regions.

Our Approach

We operate our facilities while keeping our air emissions well below allowable regulatory limits. As an additional level of control, we also have implemented action levels, which are not an indication of an unsafe condition, but rather an early warning that something has changed and should be investigated. We monitor our compliance with regulatory limits and with our own action levels by testing and sampling, including ambient air monitoring and stack sampling. We have processes that we follow in the event that we exceed our action levels or regulatory limits.

We take samples of ambient air around our facilities using several methods. Ambient air monitoring helps us measure the presence and concentration of specific substances, including uranium suspended in air, to determine air quality.

In addition, at all mines (when in operation) and facilities, we collect and verify representative samples of emissions at the place of origin from industrial sources to determine the total amount of pollutants emitted to the atmosphere. This is called stack sampling. At operations that are adjacent to human populations, stack sampling is completed on a frequent basis (e.g., continuous, daily, or other regular interval).

Measuring Air Emissions

Our operations generate the following air emissions that can impact air quality:

AIR EMISSIONS (TONNES)	2019	2020	2021
NOx (excluding N ₂ O)	118	138	119
Particulate matter (PM ₁₀)	156	149	214
Carbon Monoxide (CO)	10	9	0
Ammonia (NH ₃)	39	38	35
Volatile organic compounds (VOCs)	1	1	0
SOx	0	0	0
Hydrogen Fluoride	0.53	0.61	0.63
Uranium	0.05	0.05	0.04

Note: Air emissions data is limited to the facilities that we own and operate, which are in Canada.



Air sampling at Cameco's Blind River refinery.



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Decommissioning and Closure

WHY IT MATTERS TO CAMECO

Our commitment to protecting the environment and the needs of the communities around our operations extends to the full life-cycle of our mines and facilities. This includes planning for decommissioning and preparing our sites for permanent closure.

Planning

In keeping with the conditions of our licences, permits, and approvals, we develop preliminary decommissioning plans for our mines and fuel services facilities. This conceptual plan describes activities required to reclaim the site to defined final end-state objectives, after the operating life of a facility. The plan includes a preliminary cost estimate for labour, materials, equipment, waste management, regulatory approvals, monitoring, and administration to carry out the plan. This cost estimate is the basis for determining our decommissioning obligations.

Decommissioning and Reclamation Obligations

At the end of 2021, our estimate for our future decommissioning and reclamation costs (total and undiscounted) for our existing operating assets is approximately \$1.10 billion. The expected timing for these costs is based on life-of-mine plans, but the majority of expenditures are expected to occur after 2026. Every quarter, we update these estimates based on new cash flow estimates, discount and inflation rates. To ensure we can pay for these future obligations, we have financial assurances of \$1.01 billion (in the form of letters of credit or surety bonds to satisfy current regulatory requirements).



DEFINITIONS

Mine closure – The period of time when extraction has stopped, and final decommissioning is being planned and completed.

Step 1: **Mine decommissioning:** Remove structures from the site and verify that mine shafts are blocked off appropriately. The focus is on confirming that structural elements and environmental threats are properly abated to support smooth environmental remediation and mine reclamation.

Step 2: **Mine reclamation:** Ensure mining land can be returned to a biologically-sound state ideal for wildlife, recreation, or commercial uses. This includes site remediation, and cleanup and restoration.

We plan for decommissioning and maintain up-to-date cost estimates so we can effectively proceed with decommissioning and reclamation work as a site reaches the end of its life.



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Proactive Reclamation

If part of an active site is ready for decommissioning and reclamation before the full site reaches the end of its life, we will proceed proactively with decommissioning and reclamation work on that area. Some of the decommissioning and reclamation projects we have undertaken in the last few years include:

Water Restoration in the US

Once we complete our mining operations in an area (or unit), we need to ensure that post-mining concentrations of metals, metalloids, and total dissolved solids in the groundwater do not present an unacceptable long-term risk to human health or the environment. We use a combination of physical and chemical processes during groundwater restoration that include reverse osmosis treatment and bioremediation (remediation using microorganisms). Across our three mines in the US, there are seven mine units that are currently undergoing active groundwater restoration. Once groundwater processing is completed it is monitored for a number of years to verify that water quality is stable. Finally, decommissioning of the mining area can be completed by plugging and abandoning all wells and removing surface infrastructure, followed by revegetation.



We revegetate waste rock piles through a multi-stage process that begins with native species like mosses, lichens, and shrubs.



Waste Rock Pile Revegetation at Key Lake

The Key Lake operation continues to undergo reclamation activities. Our multi-stage revegetation process begins with native species such as mosses, lichens, and shrubs that create a suitable environment for the introduction of other native species to accelerate natural reforestation. The sandy local soils, however, make it more difficult to establish vegetation. At one of the site's waste rock piles we have been successful at revegetating a portion of a covered pile through the use of native lake bottom sediments to establish shrubs, bushes and trees.

READ MORE

Preliminary Decommissioning Plans

Read a summary of our preliminary decommissioning plans for the following sites:

- [McArthur River](#)
- [Key Lake](#)
- [Cigar Lake](#)
- [Rabbit Lake](#)



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Social

Our relationships with our workforce, Indigenous Peoples, and local communities are fundamental to Cameco's success. The protection of our workforce and the public guides our risk assessment and the planning of our operations and product transport activities. To deliver on our vision to energize a clean-air world, we invest in programs to attract and retain a diverse, skilled workforce dedicated to continuous improvement and committed to our values.

48%

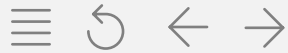
of our employees in northern Saskatchewan are Indigenous

~200

individuals enrolled in our courses aimed at building capacity and enhancing employability in northern Saskatchewan

554

completed surveys as part of our safety culture assessments across three sites



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SASB EM-MM-210a.3
SASB EM-MM-210b.1

Relationships with Indigenous Peoples and Local Communities

WHY IT MATTERS TO CAMECO

We believe that Indigenous Peoples and local communities should benefit from resource development on or near their communities or traditional lands, through employment, training, business opportunities, community investment, and environmental stewardship. Cameco has a long history of working collaboratively with Indigenous Peoples and local communities, exemplified by the long-term relationships and numerous mutually beneficial agreements we have with Indigenous Peoples in Canada and Australia.

Our Company-wide Approach

Our Code of Conduct and Ethics contains our commitment to communicate with community members in an open and understandable way and to listen to their concerns and ideas about our business activities. In our interactions, we aim to listen respectfully and answer questions honestly, and if we do not know an answer, we endeavour to find the answer and follow up. We disclose information in good and bad times and in a manner that is timely, complete, accurate, and balanced. In addition, each of our Canadian operations has public information programs with defined public disclosure protocols that outline how we communicate with local and other audiences. Our public disclosure protocols state that Cameco is committed to honest and ethical communication, both in principle and practice.

The uranium mines, mills and processing facilities we operate are located in three regions: northern Saskatchewan, Ontario and the US. We also have advanced exploration projects in Saskatchewan and Australia. In each of these jurisdictions, we interact with unique local and Indigenous communities. We tailor our engagement approach across our operating areas to reflect the needs of the local communities.



OUR PERFORMANCE

Strong Support Where We Operate

Understanding how the public feels about our operations and whether we have their continued support is essential to our business. Periodic public opinion polling is one of the ways we confirm the level of support for our operations. Our latest polling data indicates continued strong support for our operations in Canada. Our Ontario facilities ranked highest in our latest polling results.

PUBLIC SUPPORT (%)	2018	2019	2020	2021
Saskatchewan	80%	85%	83%	82%
Northern SK	82%	85%	75%	78%
Port Hope, ON	85%	91%	90%	91%
Blind River, ON	97%	- *	- *	96%

Cameco's operations continue to see strong support from the communities where we operate. The economic impacts of a continued shutdown at McArthur River and Key Lake operations, which resulted in the loss of jobs and business opportunities, may have continued to affect northern Saskatchewan support in 2020-2021.

* Polling in Blind River is conducted less frequently than other sites and was not completed in 2019 and 2020.

Due to the continued shutdown of our US operations, we have not conducted polling in this region since 2016.

Despite restrictions, we were able to host "Fun in the Field" at Fookes Delta, an event that involved local youth in environmental monitoring. Students searched the delta for signs of moose and collected vegetation samples while respecting COVID-19 protocols.



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Northern Saskatchewan

Since Cameco was formed in 1988, we have worked in close collaboration with northern Saskatchewan communities, the majority of which are Indigenous. We regularly work with more than 17 Indigenous communities around our Cigar Lake mine, McArthur River mine, Key Lake mill, and Rabbit Lake mine and mill. All of these operations are located on traditional territory and have formal collaboration agreements in place with these local Indigenous communities. Our community and Indigenous relations activities in this area are supported by our five community liaisons (Black Lake First Nation, Fond du Lac First Nation, Hatchet Lake First Nation, English River First Nation and Pinehouse). Read about the [five-pillar approach](#) we use in northern Saskatchewan to guide and define our activities.

In 2021, we focused our efforts on:

Supporting Indigenous Traditional Knowledge

We donated funds for construction of a cultural cabin in northern Saskatchewan. The English River First Nation community uses this cabin to host elders' camps, student camps, as a land base for caribou hunts, and for other activities that support a traditional way of life.

Building Capacity

We developed courses that help increase employability in the region (see sidebar for details). In 2022, we plan to provide three-month work placements to some of the course graduates at our mine sites.

Community Support

We continued to provide COVID-related support to communities in Saskatchewan.

ABOVE

Chelsea Iron, Cameco community liaison, assists a northerner with one of the online training courses.



IN FOCUS

Building Capacity Through Training Courses

In 2021, we developed and made available 15 online courses to Residents of Saskatchewan's North in English River First Nation, Pinehouse and Lac La Ronge Indian Band to build capacity and enhance employability in the region. The courses are designed to enhance:

- **Digital readiness:** Foundational skills necessary to take part in a digital workplace (such as mobile technologies and understanding dashboards).
- **Industry readiness:** Basic knowledge of the mining industry (such as first aid).
- **Cameco readiness:** Specific knowledge to our sites, operations and business (such as underground mine safety awareness).

The courses do not require any prior industry knowledge and are self-paced to offer students flexibility. Technical support was provided 24/7, through a partner organization, to help students resolve email access or other technical issues.

About 200 individuals have registered for the courses, 33% of whom are women. To date, 824 hours have been spent learning and more than 2,000 lessons have been completed.

We developed these courses with the assistance of external service providers and received external funding to share the development and delivery costs.

This work furthers our efforts to maintain our strong Indigenous employment record and our important relationships with northern and Indigenous communities in Saskatchewan.



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SASB EM-MM-210b.1



Ontario

Our Ontario facilities are located in three municipalities and include our Cameco Fuel Manufacturing (CFM) facilities (in Port Hope and Cobourg), our Port Hope conversion facility (in Port Hope), and our Blind River refinery (near Blind River). We collaborate with these municipalities and nine Indigenous communities. We have a mature public information program to provide relevant information to the community on how activities at our facilities affect the environment and the health and safety of employees and the community. The program is dynamic and uses traditional radio and print media and community-based activities, as well as website and social media outreach to communicate with the public. Read about [community activities at our Ontario sites](#).

United States

Our operations in the US include three in situ recovery operations: Crow Butte in Nebraska, and Smith Ranch-Highland and North Butte in Wyoming. Our mining is predominantly on privately-held ranch land that we lease from the owners, along with some parcels owned by Cameco. The mines are located in sparsely populated areas and none of the operations have formal collaboration agreements with communities. All sites were in active production from the early 1990s; however, as a result of our 2016 decision to curtail US production due to ongoing weakness in the global uranium market, production ceased in 2018 and our US operations are now in care and maintenance. Since moving to a state of care and maintenance, we have had to decrease our community involvement accordingly.

Australia

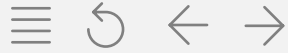
Cameco has been exploring for uranium in Australia since 1996 and holds two of the country's largest undeveloped uranium deposits, Kintyre and Yeelirrie. Our activities at these two sites have been scaled back and continue at a pace aligned with market signals. We remain committed to our relationships with the local communities and continue to work with community groups in these two areas. We also continue to engage regularly with local governments and government agencies about the status of the projects and local events or occurrences.

Kazakhstan

Joint Venture Inkai LLP (JV Inkai) is a limited liability partnership between Cameco (40%) and Kazatomprom (60%). Inkai is considered a material uranium property for Cameco. JV Inkai operates an in situ recovery (ISR) producing mine located in Kazakhstan. The Kazakh Subsoil and Subsoil Use Code imposes local content requirements for works, services and employees. As such, at least 40% of the costs of the acquired goods and equipment, 90% of contract work and 100%, 70% and 60% of employees, depending on their qualifications (workers, engineers and management, respectively), must be of local origin. In accordance with the resource use contract, JV Inkai has also financed education, training and re-training of local employees and has provided support for low-income families in the Suzak District.

ABOVE

Our Crow Butte operations in the US.



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Collaborating with Communities on Environmental Monitoring

In addition to our own environmental monitoring programs, we collaborate with community and regional partners through two key programs to uphold our commitments to measuring and mitigating the environmental impacts of our activities.

Eastern Athabasca Regional Monitoring Program

The Eastern Athabasca Regional Monitoring Program (EARMP) is a long-term environmental monitoring program, established in 2011, to monitor the potential cumulative downstream effects of uranium mining and milling operations in the Eastern Athabasca region of northern Saskatchewan. This industry-government partnership brings together Cameco, the Government of Saskatchewan, the Canadian Nuclear Safety Commission, and Orano Canada Inc. All samples are analyzed by the Saskatchewan Research Council, an accredited third-party laboratory. The program has two components:

Community Program

The goal of the EARMP community program is to determine the safety of traditionally harvested food for local consumption through sampling and analytical testing. The program, which is managed by a First Nations-owned company, Canada North Environmental Services Ltd. (CanNorth), includes long-term monitoring at community harvesting areas to assess variability and potential changes over time. The collection of the traditional food samples is carried out independently by community members or in conjunction with a representative from CanNorth. EARMP communicates monitoring results to community members and others through reporting, meetings, and public media.



The most recent results indicate that the measured concentrations of elements of potential concern in samples collected from water, fish, and mammals that were tested in the 2020-2021 community monitoring program were like baseline and regionally measured levels, meaning that these traditional foods continue to be safe and healthy dietary choices for residents of the Athabasca Basin.

Technical Program

The technical monitoring program was established to monitor potential long-term changes in the aquatic environment far downstream from uranium mining and milling operations in the Eastern Athabasca region. This program collects water, sediment, fish (flesh and bone), and other organisms for analysis. As with the community program, the testing is conducted by CanNorth.



Reports from both programs are publicly available at cameconorth.com and at earmp.ca.



DEFINITIONS

Traditional foods are native foods (such as wild game, birds, fish, and berries) obtained from the land by local residents during subsistence hunting and gathering.

ABOVE

Traditional activities in northern Saskatchewan.



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Community Based Environmental Monitoring Program

The Community Based Environmental Monitoring Program (CBEMP) is a component of the collaboration agreement among Cameco, Orano Canada Inc., four municipalities, and three First Nations in northern Saskatchewan (Ya' thi Néné collaboration agreement). Different from the EARMP's region-wide sampling, each year, on a rotational basis, this program focuses on a community-specific traditional foods study. Last year, we focused on two communities (Uranium City and Camsell Portage) which had not yet been sampled as part of the program. Local residents take part in the sample collection which provides opportunities for employment, training and business development. In 2021, several Cameco departments worked together to enable a capacity building opportunity for the Ya' thi Néné by creating an increased role for them within the program. The work included expanding their involvement in interviewing, engaging the Ya' thi Néné Land and Resource Office to participate in sample collection, and providing exposure to other project coordination activities in conjunction with our Community Relations Liaison.

Through the CBEMP, local community members can have confidence that traditionally harvested foods remain safe to eat and water remains safe to drink, and that the surrounding areas have not been affected by the active uranium mining and milling operations in the region. Since 2018 (previously the Athabasca Working Group Environmental Monitoring Program had been in place since 2000), CBEMP results continue to indicate that country foods identified by members of the Black Lake Denesuline First Nation, the Northern Hamlet of Stony Rapids, the Fond du Lac Denesuline First Nation, Hatchet Lake Denesuline First Nation and the Northern Settlement of Wollaston Lake remain safe for consumption.



Reports from this program are publicly available at cameconorth.com.

MEET OUR PEOPLE



Victor Fern

COMMUNITY RELATIONS LIAISON
FOND DU LAC, SASKATCHEWAN

“I’ve shared CBEMP results with community leadership, showing that country foods remain safe; the water remains safe. I feel comfortable sharing that information with the knowledge that we can continue our traditional way of life.”

In 2020, after 30 years working in Cameco’s mines at the Cigar Lake and Rabbit Lake operations, Victor Fern became the Community Relations Liaison for Fond du Lac, Uranium City and Camsell Portage. “In my new role, I have a lot of support from my coworkers and corporate office to share information between local communities and the company. Living a traditional way of life is very important to me. Working with Cameco has given me the ability to provide for my family, while continuing to live a traditional lifestyle.”

As a Community Relations Liaison, Victor works closely with leadership in the Athabasca Basin and liaises with industry. “One of the best parts about my job is speaking with all members of the community, elders, land and resource users, and the youth. I talk about our traditional way of life and how I’ve worked in the mines for many years. I think it is important to talk about how these two things can coexist and work for the betterment of the region – how the environment is critical to our culture and how we should protect it. I also enjoy helping the young generation with job opportunities.”

“As Indigenous people, we need wild food in our diets and in our bodies. I’ve learned a lot from my involvement in the Community Based Environmental Monitoring Program. I’ve worked with traditional land and resource users, talking with them in my Dene language. I’ve shared CBEMP results with community leadership, showing that country foods remain safe; the water remains safe. I feel comfortable sharing that information with the knowledge that we can continue our traditional way of life.”

“I am a multi-generational uranium mining worker and am proud to have two sons who now work for Cameco at the mines. I encourage the young generation to pursue careers in the industry because this provides an opportunity for long-term employment in the region and possibilities for advancement, while staying a part of our community.”



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Occupational Safety and Health

WHY IT MATTERS TO CAMECO

Cameco works in challenging physical environments and with substances that require special attention and care. It is our responsibility to keep the occupational health and safety risks associated with our business at levels as low as reasonably achievable, and to send our workers home safely at the end of their shift or work rotation.

Our Approach

Safety is a core value at Cameco and the paramount consideration that guides all decisions and actions related to our more than 2,600 employees and contractors. We build safety into the design and operation of our facilities, have a management system that supports the integration of safety into everything we do, and promote a strong safety culture across our workforce.

1 Safety Culture Survey

We conduct a safety culture assessment at each Canadian site approximately every five years. In 2021, we completed the assessment for our Cigar Lake mine, Port Hope conversion facility, and at Cameco Fuel Manufacturing. A total of 554 workers filled out a detailed survey and we interviewed 133 employees to understand their views. The safety culture assessments conducted in 2021 showed an overall trend to more positive perceptions of Cameco's safety culture. Our strong response to the COVID-19 pandemic and our progress towards a more respectful workplace were viewed positively. One of the areas identified for improvement was enhancing communications given challenges presented by the COVID-19 pandemic (e.g, fewer in-person meetings).

2 Strong Systems

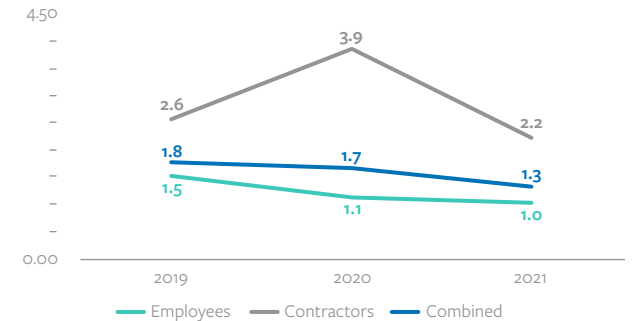
We manage the safety of our workers through programs, systems, and standards, with our [Safety, Health, Environment and Quality \(SHEQ\) Policy](#) providing overarching guidance. Read how [our management system](#) contributes to a safe work environment.



OUR PERFORMANCE

Total Recordable Injury Rate

incidents per 200,000 worked hours



We continue to focus on contractor safety and have recently reviewed and augmented our Contractor Management Program. Read more on [page 82](#).



2021 saw our best safety performance ever, with the lowest TRIR in Cameco's history.



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SASB EM-MM-320a.1

3

Proactive Safety Behaviours

While good standards and procedures are important, strong safety performance requires more than simply following procedures. We encourage workers to stop work when they feel unsure or unsafe and to discuss issues with their supervisors and subject matter experts before proceeding. To identify and reduce hazards, we use specific tools and procedures, including:

- Five-point safety system cards, which encourage workers to ask five safety-related questions to eliminate hazards.
- STOP, a safety observation program designed to identify and address unsafe conditions and work practices before an incident or injury occurs.
- Field level risk assessments, job hazard assessments, job task observations, and self-check to assess workplace hazards prior to and during work.

4

Training

Training is an important part of the process to help workers understand how to work safely. Training covers all aspects of our business and includes technical operational skills, specific safety procedures, radiation protection, and emergency response. Required training is carefully tracked to verify that qualified individuals carry out activities. For example, we selected six of our common highest-risk tasks across the company to develop and deliver consistent training on. We track training compliance for these six activities and aim for 100% compliance at each site.



These six training courses, referred to as the High-Risk Safety Training 6, are:

1. Fall Protection
2. Confined Space
3. Control of Hazardous Energy Refresher
4. Electrical Safety – Non-Electrical Worker
5. Basic Radiation (Refresher)
6. Job Hazard Analysis

In 2021, our sites achieved a 90.5% average level of compliance across our six training areas. Sites that have not achieved 100% of required training for safety-related tasks have mechanisms in place to verify that only those currently qualified are allowed to conduct the required activities.

ABOVE

Larissa Campbell, contract Millwright with PBN conducts a safety inspection in the steam plant at our Key Lake operation.

IN FOCUS

Ergonomics

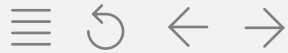
We strive to protect our workers from common injuries related to ergonomics (such as repetitive strain injuries or soft tissue injuries) which can affect employees across the company, both in the office and in our operations. Our ergonomics practices and training help to increase the safety, comfort and performance of our workers.

In 2021, we developed and rolled out a new ergonomics standard across the company.

We:

- ✓ Completed internal and external benchmarking
- ✓ Brought a group of subject matter experts together to develop the standard
- ✓ Incorporated feedback from all sites
- ✓ Developed a company-wide mandatory training program

All required employees completed the training by the end of 2021. We have set a three-year re-training cycle.



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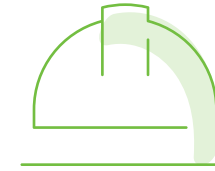
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Tailored Safety Programs

We have safety risks similar to other mining and chemical processing companies, and also experience the unique challenges associated with radiation. Some of the ways we manage these safety risks are noted on the following two pages.



Mine Safety

Much of the uranium we produce comes from underground mines, which present specific risks that need to be mitigated, including fall of ground, water inflow, and fires.

Preventing Fall of Ground

We mitigate fall of ground risks by strictly adhering to our corporate Ground Control Standard, conducting in-depth workplace inspections, and providing workers with multiple avenues to report hazardous or uncertain conditions. We also provide specific training on scaling (a technique to clean loose rock from the roof, walls, and rock face) which includes recognition of fall of ground hazards.

Preventing and Managing Water Inflow

Non-routine water inflow risks are mitigated through proper mapping of the orebody before mining, and the use of best mining practices. Ground freezing also reduces the risk of water inflow and provides additional ground stability. All underground workers receive water inflow prevention and awareness training.

Preventing Fires

All our facilities must be compliant with the National Fire Code. We also follow strict safe work practices, including requiring hot work permits and emphasizing hazard recognition. In the case of a fire in one of our mines, we have both permanent and mobile underground refuge stations and numerous portable fire extinguishers along with personal protective equipment underground. We also complete annual stench gas release exercises at our mine sites. Stench gas is a powerful odour quickly dispersed throughout an underground mine to alert workers of danger and initiate protective actions.

Hazardous Substances

Across our operations, we work with hazardous substances that pose potential health and safety risks. To protect our employees, we use a layers of defence model across our facilities. A few examples of these layers of defence are described below:

Engineering Controls

To safely handle hazardous substances we isolate them from the workplace (to the extent possible) with passive and active engineering controls (e.g., tanks with exhaust ventilation). For example, at our Port Hope conversion facility, for specific substances we employ automated leak detection that enables the plant to shut itself down and automatically divert any air in the room to scrubbers before exhausting to the atmosphere.

Highly Trained Operators

For example, in our Port Hope conversion facility, we have a detailed operator training and certification process. Each area of the plant requires about six to 12 months of training.

Specialized Processes

We supplement engineering controls with administrative ones and personal protective equipment. For example, we work with beryllium, a metal used in the manufacturing of fuel bundles. Beryllium dust is hazardous to human health and requires specialized controls. We use a zoning system in which rooms are ventilated separately and adhere to a standardized and stringent cleaning regime, including determining the level of surface and airborne dust contamination. All workers wear appropriate respiratory protection and must follow strict protocols for changing clothing when entering and exiting areas where we work with beryllium.



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Radiation

The fundamental approach we take to protect workers from radiation risks is to incorporate radiation protection principles into the design and operation of our facilities and core to these are “time, distance, and shielding”. The effectiveness of our control measures is assessed through extensive monitoring of our workers and the work environment.

Monitoring

To keep doses as low as reasonably achievable (ALARA), all employees and contractors designated as nuclear energy workers are monitored to assess their radiation doses.

External doses are measured with individually issued dosimeters (a device used to measure an absorbed dose of radiation) that are worn by workers.

Internal doses are monitored through personal monitors, area monitoring or bioassay measurements, depending on the site.

Alerts

We have extensive area sampling programs to verify that radiation sources are controlled and workplace conditions are safe for our workers.

At locations where conditions can change rapidly, we continuously monitor the radiation levels and have systems that alert workers of elevated conditions.

Low Radiation Exposure

The average radiation dose to Cameco site workers is consistently less than 5% of the regulated annual limit for nuclear energy workers.²⁴

The average dose to workers (employees and contractors) at Cameco was **0.60 mSv** in 2021, while the annual dose limit (set by the Canadian Nuclear Safety Commission) for nuclear energy workers is **50 mSv**.²⁵



DEFINITION

A **millisievert (mSv)** is the International Standard unit used to measure the amount of radiation received. (One millisievert is one thousandth of a sievert.)

A Few Numbers for Context:²⁶

Typical chest X-ray:
0.10 mSv

Annual public dose limit:
1 mSv

Average total dose from natural
background radiation:
2.4 mSv

Typical chest computerized
tomography (CT) scan:
7 mSv

²⁴ <https://s3-us-west-2.amazonaws.com/assets-us-west-2/annual/CCO-2021-corporate-profile.pdf>

²⁵ <http://nuclearsafety.gc.ca/eng/resources/radiation/introduction-to-radiation/radiation-doses.cfm>

²⁶ https://www.world-nuclear.org/getmedia/280bdda7-182d-49d1-9e96-67f5dc66e2e5/pocket_guide_radiation.pdf.aspx



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Nuclear Safeguards

WHY IT MATTERS TO CAMECO

The uranium and nuclear fuel products we supply to our utility customers around the world are used exclusively for the generation of safe zero-emissions nuclear power. We operate in a highly regulated industry with mature and established safeguards. We take our national and international obligations seriously and have designed our programs and processes to meet or exceed all applicable regulations regarding nuclear safeguards.

Nuclear Safeguard Practices

To implement nuclear safeguards across our business, we employ a variety of practices, such as:

Established Customer Relationships

Our products are delivered to customers and accounts at licensed and safeguarded facilities in accordance with the Nuclear Cooperation Agreements (NCAs) in place with each respective country. The contracts we develop with our customers require the uranium we provide only be used for power generation purposes and for peaceful purposes (not for military or weapons use). We have long-established relationships with nuclear operating utilities that are safe, reliable operators and are subject to extensive regulation and licensing requirements. New customers are subject to a due diligence process to verify that our contracts meet the requirements of the Canadian NCAs and our corporate requirements.

Safeguards at Our Operations

All of our operations are subject to the international safeguards regime. Our refinery, conversion plant, and CFM are subject to enhanced safeguards, including frequent inspections by the International Atomic Energy Agency (IAEA), an international organization that works to promote the peaceful use of nuclear energy.

Safeguards During Transportation

In order to export our uranium products, we must secure the proper export licences and export permits from the CNSC and Global Affairs Canada. These arrangements are governed by the bilateral and multilateral agreements that are in place between countries. The export licence and permit verifies that the facility receiving the material is properly licensed to receive the material, that the competent authorities have been notified, and provides approval so that the material can enter the country where the facility is located. For the import of uranium products going to our facilities in Canada, we are responsible for obtaining an import licence from the CNSC. The licence verifies that Cameco is authorized to receive the material and that our facilities are properly licensed to receive it.



The uranium and nuclear fuel products we supply are used exclusively for the generation of safe zero-emissions nuclear power.



DEFINITIONS

Nuclear safeguards are measures to verify that countries comply with their international obligations not to use nuclear materials for nuclear weapons.

Following International Nuclear Agreements

Nuclear co-operation – We abide by Canadian nuclear policy and conduct business in accordance with the NCAs that Canada has with other countries.

Non-proliferation – We are subject to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), an international treaty established in 1970 created to prevent the spread of nuclear weapons and weapons technology, foster the peaceful uses of nuclear energy, and further the goal of achieving general and complete disarmament. As Canada is a signatory to the NPT, we are subject to the treaty and comply with all IAEA requirements. The IAEA monitors what we produce and where we ship our products through a number of inspections and measurements that verify our inventories both within our equipment and of our finished product.



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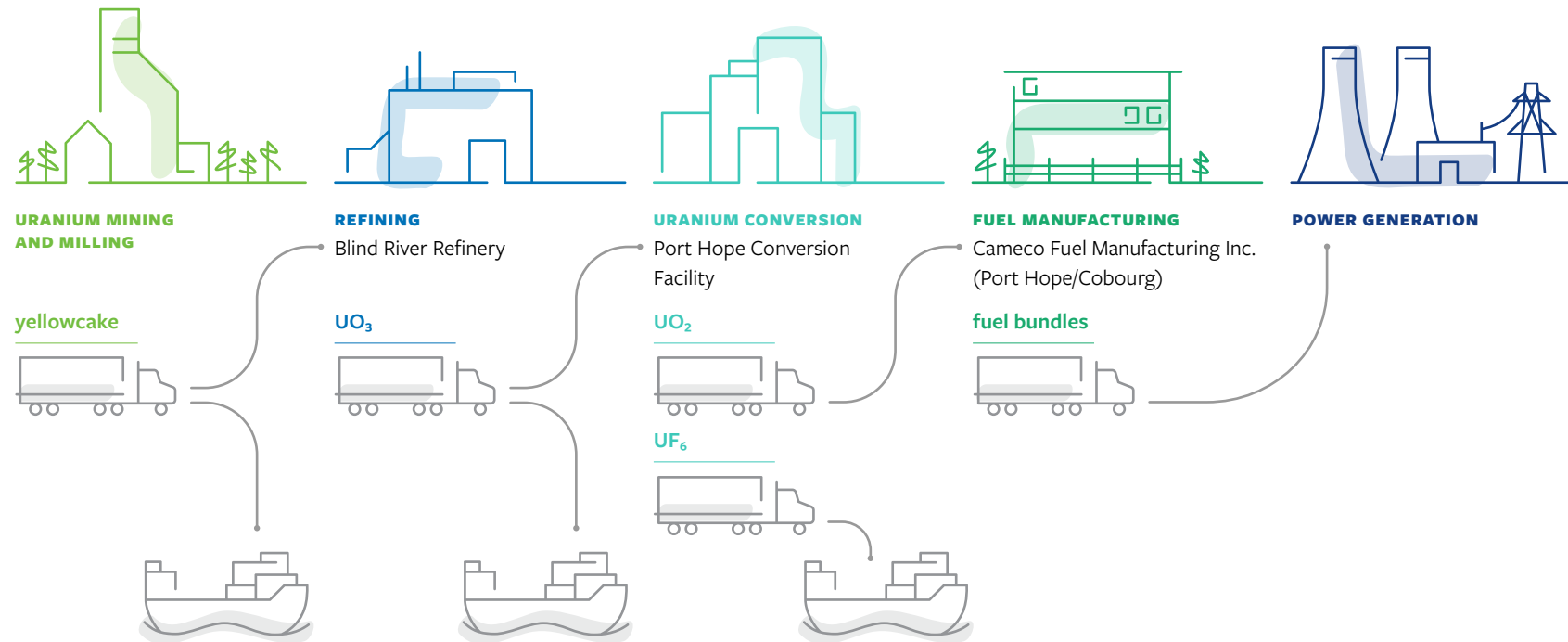
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Product and Transportation Safety

WHY IT MATTERS TO CAMECO

We work with products that require special attention and care, and we take this responsibility seriously. Cameco has safely worked with and transported radioactive materials routinely for more than 30 years. Our exceptional transportation safety record is not something we take for granted.

Transport Methods



We transport the majority of our products between Cameco sites using third-party trucking companies.

We ship our uranium products to the location requested by the customers by road on trucks (within North America) and by sea on large container vessels operated by third parties (outside of North America). Our sites and transportation procedures are regularly inspected by CNSC and Transport Canada.

Expectations

Our SHEQ Program contains two key transport standards, one for ground transport in North America and one for marine transport. We review and update these standards at least every three years. The applicable standard is provided to the carrier during the bidding process as part of the contract.

North American Ground Transport Standard

For our trucking providers, this standard includes our requirements on items such as level of driver training (e.g., Transportation of Dangerous Goods [TDG] Class 7), radiation protection programs, reporting requirements, transport security, condition of the equipment used, and emergency contact.

Marine Transport Standard

This standard includes our expectations on items such as TDG Class 7 training, radiation protection programs, reporting requirements, transport security, condition of the equipment used, and emergency contact.



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Qualifications

We regularly work with a small set of specialized carriers and freight forwarders that are qualified to deal with Class 7 radioactive materials. Cameco's SHEQ department conducts pre-screening of our carriers, independent of the procurement process. All carriers and freight forwarders used by Cameco are expected to have formal quality assurance programs. When we ship UF₆, U₃O₈, UO₂, or UO₃ outside of Canada, we hire a freight forwarder, a logistics company that coordinates the transport of the product from our facility to the shipping location specified by the customer. For example, a freight forwarder coordinates booking the trucking to meet the ocean liner and the corresponding slot on the vessel, and verifies that all the necessary documentation to support the shipment is in place.

Audits

We audit carriers (other than shipping or rail lines) every three years to assess compliance with our transport standards. We also audit all freight forwarders that we use, including auditing their audits of any subcontracted companies they employ.

CAMECO PRODUCTS

Triuranium octoxide (U₃O₈), also known as yellowcake – solid, directly from our Key Lake and Orano's McClean Lake mills

Uranium trioxide (UO₃) – solid, after it has been processed in our Blind River refinery

Uranium dioxide (UO₂) – solid ceramic-grade powder, from our Port Hope conversion facility

Uranium hexafluoride (UF₆) – filled as liquid and turns solid, from our Port Hope conversion facility

Fuel bundles – a set of fuel rods, each containing ceramic UO₂ pellets

To enhance training opportunities, we also include one or two of our carriers or trucking companies when we complete full-scale emergency exercises.

Information and Labelling

We follow specific requirements for markings on the container regarding the contents and how to handle them safely. We also follow appropriate category labelling, which indicates the level of radiation coming off the container, and placarding requirements, which mark the sea container, flat rack, or truck.

Our Products and Packaging

Our products are packaged and handled to maintain safety. Packaging for uranium products must meet the rigorous requirements found in the CNSC's Packaging and Transport of Nuclear Substances Regulations. For additional quality assurance, we also audit our drum manufacturers.

PACKAGING

Drums, transported in trucks, or drums, secured within a sea container, which is then placed inside the vessel

Transported from Blind River refinery to Port Hope conversion facility in totes specifically designed for this purpose, or drums, secured within a sea container, which is then placed inside the vessel

Drums, transported in trucks, or drums, secured within a sea container, which is then placed inside the vessel

Specially designed cylinders. The cylinder is placed on a cradle system on top of a specialized sea container (flat rack) or trailers.

Specially designed protective packaging to preserve product integrity.



According to the IAEA, in more than 50 years there has never been a transport incident that has caused a significant radiological hazard to people or the environment.²⁷

²⁷ <https://www.iaea.org/topics/transporting-radioactive-materials>



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Public Safety and Emergency Preparedness

WHY IT MATTERS TO CAMECO

Keeping our employees, contractors and the general public safe is the ultimate goal of our programs. Taking the time to prepare for emergencies and maintain public safety leads to a stronger reputation, community relationships, and improved safety for all.

Public Safety

In accordance with our Risk Management Program, we systematically identify and track the potential risks that could threaten public safety at every facility we operate. As risks are identified, we work to change processes, materials or systems, where we can, to minimize or eliminate the potential hazard. We use process hazard assessments to identify hazards, examine our controls, and minimize risks.

As our mines are in relatively remote areas, we direct more of our public safety efforts to our fuel services division as its facilities are located directly within the community. We predominantly focus on:

Keeping Public Radiation Exposure Low

Our goal is to keep radiation doses ALARA. At our Port Hope conversion facility, we monitor fence line doses, model the potential dose to public, and use both high-volume air samplers and dust fall jars to monitor trends and quickly respond to any increase in emissions. Cameco's average public dose across our three fuel services division sites is well below the public dose limit of 1 mSv (for reference, the average annual dose from natural background radiation in Canada is 1.8 mSv).

Minimizing Chemical Risks

Within our fuel services division, we manage a number of hazardous chemicals, such as HF, UF₆, and fluorine gas. We use a defence-in-depth approach to protect our people and the public. This starts with the specialized design of our facilities and systems (the first layer) and extends through multiple controls to the last layer of defence, which is emergency response.

Emergency Preparedness and Response

We are the primary responders for all of our sites with the exception of Cameco Fuel Manufacturing, where the municipal fire departments fulfill that role. Therefore, we prepare and train our own emergency response teams. For example, at our Port Hope conversion facility, we train our workers up to the technician level for emergency response and follow National Fire Protection Association 472, a standard which outlines the levels of competence required by responders to emergencies involving hazardous materials. Many of our workers have industrial firefighting professional certification and we have our own fire truck. We typically complete either one full-scale or one tabletop exercise each year. Read about our response to wildfires near our Cigar Lake operations during 2021 on [page 27](#).

During transportation of our materials, we have an emergency response assistance plan that sets out procedures in the event of an emergency. We also have a network of emergency response contractors on retainer through Green for Life in Canada and National Response Corporation in the US. If a significant transport incident were to occur, then we rapidly deploy to the site and contact the incident commander who retains control of the emergency situation. Cameco will then offer emergency assistance and provide materials expertise and our specialized radiation monitoring devices. We collect any spilled material and package and ship anything that is contaminated back to our mine sites where it is handled accordingly. After any incident, we follow best practices in sharing learnings with industry, for example, through the World Nuclear Transport Institute.



Members of our Key Lake fire team. We are the primary responders for all our sites with the exception of Cameco Fuel Manufacturing, where the municipal fire departments fulfill that role.



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Inclusion and Diversity

WHY IT MATTERS TO CAMECO

We understand the value of a diverse workforce and we embrace, encourage, and support workplace inclusion. Members of a diverse workplace bring new ideas, perspective, experiences, and expertise to the company. Our goal is to create an inclusive work environment, with a diverse and representative workforce being our measure of success.

Our Approach

In achieving our goal, we are committed to respecting human rights and treating all employees fairly. We adhere to all laws in the countries where we operate, including human rights, labour and employment laws. We support and respect the protection of human rights and share the values reflected in the *Universal Declaration of Human Rights*.

Our commitment to diversity begins at the top through our Board Diversity Policy (read more on [page 74](#)). We work toward a culture where each of our workers feels welcome, valued, and an integral part of the team. We also recognize that in order to successfully progress toward this culture, we must engage members of the workforce throughout the journey. Five ways we support inclusion and diversity are:

1

Inclusive Guiding Standards

Our [People Policy](#) describes our commitment to developing and supporting a flexible, skilled, stable, and diverse workforce, and acting to eliminate racism wherever it exists. The policy is supported by multiple corporate human resources programs, standards, and practices, including our Respectful Workplace Program, our Workplace Inclusion and Accommodation Program, and our Inclusion and Diversity Plan.

2

Inclusion and Diversity Committee

In 2021, we established an inclusion and diversity committee to champion our work in this area. The committee has 32 members who are employees and leaders drawn from all company locations and diversity groups. The committee helps us: engage the workforce through open and respectful communication; advocate, lead, and support change; and provide awareness and understanding of the benefits of inclusion and diversity. Current work includes reviewing any changes to recruitment processes and providing oversight of diversity initiatives. The committee reports to the president and CEO, the senior vice-president and chief corporate officer, and the vice-president of human resources.

3

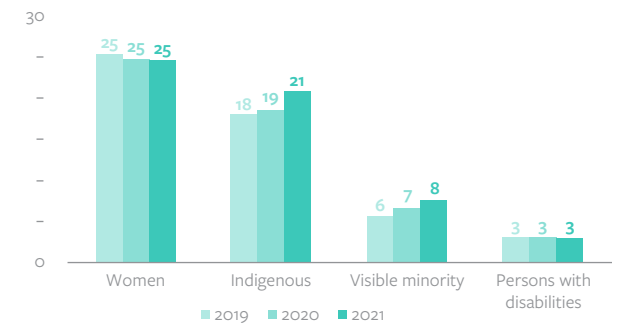
Promoting a Respectful Workplace

All employees take mandatory respectful workplace training to continue building awareness on topics like respect in the workplace and harassment. We also provide separate training to our leaders regarding their responsibilities to create a respectful work environment. As of April 20, 2022, 90% of employees have completed the respectful workplace training and 83% of supervisors completed the supervisory training.

OUR PERFORMANCE

Diversity Across Our Workforce

per cent



This chart only includes employees from our Canadian operations (including temporary and casual), as other jurisdictions are not (at this time) required to collect or maintain diversity information on employees. Figures as of December 31 each year.

Workforce Diversity

As a Canadian federally regulated employer, we comply with the *Employment Equity Act*. The act requires us to engage in proactive employment practices to increase the representation of four designated groups: Indigenous people, visible minorities, persons with disabilities, and women.



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Uncovering Unconscious Biases

Employees across the company, including our senior executive team, have participated in a mandatory 3.5-hour course covering biases commonly seen in industries like ours, specifically male-dominated workplaces. As of April 20, 2022, approximately 87% of our organization has participated in the training. Online training continued into 2021 for new employees and those who missed the initial course.

5

Increasing Awareness

We strive to increase awareness and foster understanding by providing videos, intranet articles, diversity displays, and weekly employee emails on a variety of timely and relevant topics. On an annual basis Cameco recognizes National Indigenous History Month, National Indigenous Peoples Day, the National Day for Truth and Reconciliation, International Women's Day, Black History Month, and Pride Month. In addition, various inclusion and diversity awareness topics are provided throughout the year, such as dyslexia awareness and gender pronouns.



Indigenous individuals comprised 48% of the workforce at our operations in northern Saskatchewan at the end of 2021.

Indigenous Employment

Working closely with the Indigenous communities around our operations has always been part of the way we do business. We employ Indigenous individuals across our business areas in a variety of skilled positions, from operators and supervisors to technicians and corporate professional roles. In northern Saskatchewan, we have had a long-standing commitment to maximizing the employment of Indigenous individuals. At the end of 2021, Indigenous individuals comprised 48% of the workforce at our operations in northern Saskatchewan. See [page 72](#) for information on the northern preference local workforce component of our Key Lake and McArthur River collective bargaining agreement.

Indigenous Apprenticeship Program

Our goal is to provide opportunities and sustainable benefits for Indigenous people through employment, education, and training. As our operations become more digital, we have recognized a need to offer digital skills training to Indigenous individuals so they can participate in technical roles. In 2021, we started a northern Indigenous apprenticeship program for digital instrumentation technologists. Five individuals from northern Saskatchewan communities are currently working with Cameco as part of this program. All are Indigenous and RSNs, and three are women (60%).

MEET OUR PEOPLE



Taryn Roske

JBS OPERATOR
CIGAR LAKE, SASKATCHEWAN

Taryn Roske started her mining career as a Radiation Technician at our Rabbit Lake operation in northern Saskatchewan and is the first Indigenous woman to be a Jet Bore System (JBS) Operator at our Cigar Lake mine.

Born and raised in La Ronge, Saskatchewan, she has embraced her position as both an Indigenous and female role model. "I work hard and have a good job and have tried being a person who breaks stereotypes.

"I am grateful for the opportunities I've had to grow and develop at Cameco." In her 12 years with the company, she has also held roles as an Environmental Technician at our Key Lake mill site and as a Radiation Technician at our Cigar Lake mine.

Taryn says she is proud of the fact that Cameco works to support Indigenous culture. "Cameco has made a good effort to hire as many Indigenous people as possible and have a wonderful lifelong career without ever having to leave their community," said Taryn. "In my first two years at Cigar, they brought elders to site and had a sweat lodge ceremony and invited anyone available to participate. It was an amazing experience for people to engage in native traditions and I hope, post-COVID, we can get back to doing these types of things and teaching about different traditions."



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Gender Diversity

At Cameco, we want to foster a work environment that is inclusive and barrier-free.

Inclusive Language

We have evaluated our recruitment practices such as our job postings and job evaluation tools to make them gender-neutral and barrier-free for underrepresented groups. We also recently developed a gender-neutral language guide to raise awareness about our word choices during daily business emails and interactions.

Women in Leadership

Diversity is also an important element of executive and board leadership (read about our Board Diversity Policy on [page 74](#)). We strive for a percentage of women executive officers that, at a minimum, reflects the proportion of women in our workforce. We did not meet this specific target in 2021 (20% of executive officers were women while 25% of the workforce were women in 2021). However, we expect that our long-term inclusion and diversity efforts will result in more women being identified and prepared for senior-level positions within the company.

Helping Women Advance Their Careers

To support women in our workforce, Cameco has participated for many years in external mentorship programs such as Womentorship and Mine Your Potential Mentorship Program. From 2018-2021, 41 mentees and 65 mentors have participated in the Mine Your Potential Mentorship Program. In 2019, Cameco's senior vice-president and chief corporate officer, one of the founding partners of the DAWN initiative (Driving the Advancement of Women in Nuclear), introduced specific initiatives to help advance gender equity within the company and in the nuclear workforce. DAWN is comprised of several women and men in leadership positions throughout the nuclear industry. Cameco is implementing DAWN actions to advance gender equity through our inclusion and diversity plan.

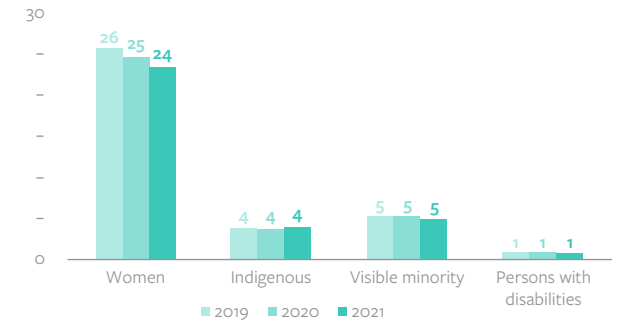
ABOVE

Safety Officer Tammie Werner performs equipment and inventory checks in the ambulance.

OUR PERFORMANCE

Diversity in Management

per cent



We continue to improve our workplace practices to foster an inclusive environment that aims to support a diverse workforce and their advancement into leadership positions. This data only covers Canadian employees. Management includes select professional and supervisory positions, and all manager positions and above.



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SPOTLIGHT

Culture Workshops

At Cameco, we believe inclusivity is essential to a healthy workplace culture. We want to create an equitable workplace in which all employees can thrive and where everyone feels safe, included and respected.

What?

To better understand and improve our culture, in 2021 we began hosting virtual “Building our Future Together” workshops with small groups of employees (up to 10). The two-hour workshops employ an interactive whiteboarding software enabling participants to join remotely and participate anonymously in exercises and discussions.

The workshop exercises are centred around three focus areas:

- 1 Energizing our people
- 2 Be safe
- 3 Be inclusive

How?

Interactive Exercises

Employees participate in a number of exercises during the workshop. The exercise illustrated below, for example, focuses on the “Be inclusive” topic. Workshop participants placed their bike on the mountain to rate where they felt Cameco was on its journey to inclusiveness and respect. Participants then added their comments on “digital” sticky notes to explain their ranking and then engaged in conversations with others in the workshop.

Why?

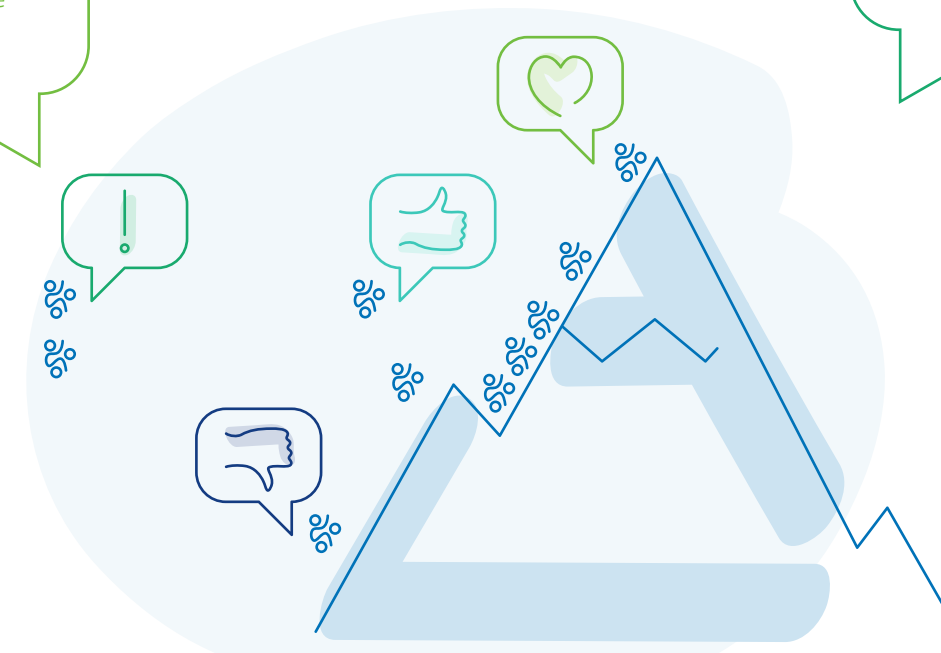
The workshops serve three purposes:

- 1 To raise awareness about our behaviours and how they are setting the foundations for our success.
- 2 To expose employees to a new digital tool, which helps to develop technological skills.
- 3 To collect feedback from employees on the current state of our culture and ideas for improving it.

Who?

More than 90% of employees have already participated.

The workshops will continue to be hosted, with the intent of having all company employees participate by the end of 2022. The workshops hosted so far have been very well received and employees have eagerly provided feedback through ranking exercises, polls, virtual discussions using “digital” sticky notes, and an anonymous follow-up survey regarding culture.





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Employee Development

WHY IT MATTERS TO CAMECO

We believe that building the skills and competency of our workforce is critical to attracting and retaining talent, mitigating risks, and developing a team that is engaged and stays informed on industry trends and best practices. Building competencies includes both operational and professional development training for all employees.

Systematic Approach to Training

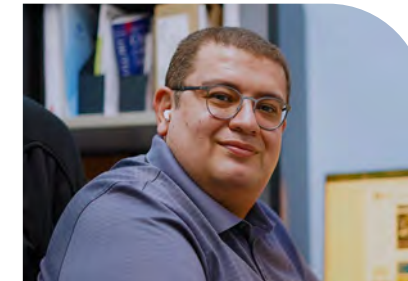
We take a systematic approach to training, which means we have an orderly, logical and documented approach to determining what employees must know and do at a particular job or in a specific profession. Taking this approach helps employees build competencies based on appropriate education, skills, experience, and behaviours, and provides a means of measuring, monitoring, and improving the performance of employees.

Every Cameco employee receives a standard set of qualifications and training, which includes onboarding, site-specific orientations, respectful workplace, unconscious bias, IT security, and our Code of Conduct and Ethics. In addition, most operations positions have a detailed job task analysis and specific compliance training (for example, safety and operational training). All training requirements are assigned, and completion is tracked, in our internal learning management system.

[Stephanie Simonot, a Mill Operator at Key Lake, reviews operating trends using data visualization software.](#)



MEET OUR PEOPLE



Wael Farag

TECHNICAL SUPPORT ANALYST II
PORT HOPE, ONTARIO

Wael Farag has worked at Cameco for 2.5 years, starting in Saskatoon through a work placement program for a three-month internship. “Everyone is so friendly and welcoming!” he says. “They make you feel right at home. Ever since I joined Cameco, I never felt like I was ‘just an intern’ but rather a part of the family.”

Wael was then hired on a temporary month-to-month contract which lasted one-and-a-half years. Later in mid-2021, he joined Cameco’s Business Technology Services team on a full-time permanent position at Port Hope conversion facility in Ontario. “Since I started with Cameco, I have grown greatly in my career. My tasks kept expanding and I am now a Technical Support Analyst II, providing second-level support along with multiple other technical responsibilities. I’m always learning something new which keeps things fun and challenging.

“I always feel that the management and team are always willing to listen to new ideas and encourage involvement in making decisions. There is also a great opportunity for continuous learning and development through various training courses.

“Cameco is a respectable and diverse workplace with a great team environment and supportive leadership. What I like most about it is the people. I like how everyone comes together to support and maintain this work environment.”



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Digital Learning Centre

In May 2021, we rolled out Cameco's Digital Learning Centre, a portal for Cameco employees to access digital learning resources, such as information on various digital themes, software training, and upskilling of basic digital skills. The site contains a blend of internally and externally created content, including self-directed online courses, presentations, and podcasts. For example, each employee now has access to the full LinkedIn Learning suite (more than 30,000 videos), which enables employees to develop technological skills and easily find solutions to technical issues via an online learning resource. Just-in-time training of this nature is designed to provide our employees with quick access to solutions.

New Leadership Competencies

In 2021, we introduced new leadership competencies under the acronym "ABLE": *Achieve results, Build trust, Lead change, and Energize people*. For each competency, there are three primary characteristics and five examples of what each leadership characteristic would look like in the work environment. We believe all employees can be leaders in different capacities so the characteristics and responsibilities outlined under ABLE are things that can be exhibited and practiced by all employees. We are working to build awareness around the competencies through the culture workshops (see previous page) and company-wide communications.

Amanda Weitzel, Coordinator, Delivery Systems, Technical Services Department.



TRAINING

45,522

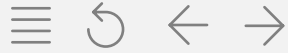
training courses completed across
the organization in 2021

19,779

hours of training delivered to
employees (average 35.1 hours per
year per employee) in Saskatchewan
mining division in 2021

25,743

hours of training delivered to
employees (average 38.9 hours per
year per employee) in fuel services
division in 2021



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Health and Wellness

WHY IT MATTERS TO CAMECO

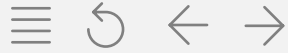
The health and well-being of our employees is important to us. “Live better” is a philosophy that guides our wellness programs. This philosophy recognizes the importance of maintaining balance across four essential health dimensions: physical, intellectual, emotional and spiritual.

We offer a variety of company-wide and site-specific programs and initiatives to support physical, financial and mental well-being, including a group benefits program and an employee and family assistance program. To support financial wellness, we offer a retirement program and employee share ownership plan. To foster physical wellness, we have on-site fitness facilities, lifestyle programs, team activities, and site-to-site fitness challenges. We also commonly feature articles on our employee intranet site including tips and advice from experts in these areas, as well as offering employees flexible work arrangements. Read more about our wellness programs on our [website](#).

We are currently working with our benefits program provider to complete overall organizational health and wellness assessments. The assessments will review our company’s health, disability management, and mental health programs and practices. The report will be finalized in 2022 and will provide insights for future health and wellness programming.

Employees at Key Lake work out in the on-site fitness facility. Key Lake’s amenities include a hot tub, a weight room, an archery area, a baseball field, tennis courts, pool and poker tables, and a studio room for various activities. Key Lake’s social club also organizes recreational events for employees to enjoy when they aren’t working.





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WHY IT MATTERS TO CAMECO

Cameco respects the rights of our employees to associate and welcomes the contributions of organized labour. In 2021, 25% of our employees were covered under collective bargaining agreements.

Unionized employees at our Key Lake and McArthur River sites, our Port Hope conversion facility, and Cameco Fuel Manufacturing are represented by the United Steelworkers. For more than two decades, our collective bargaining agreement (CBA) for our Key Lake and McArthur River sites has included a northern preference provision, which gives preference to northern and northern Indigenous workers in hiring, apprenticeships, recall, and retention during workforce reductions within the first 10 years of employment.

We endeavour to be proactive in our communications, honest and transparent as decisions are made, and engage early to build trust with all union representatives. Along with the standard grievance process for specific issues and the formal bargaining process at the end of each CBA expiry, we host ongoing meetings between union and management (approximately four to seven per year) that have specific agendas. In 2021, we completed negotiations for a new CBA at Cameco Fuel Manufacturing. In 2022, we have collective agreements ending in June (for our Port Hope conversion facility) and in December (for our Key Lake and McArthur River sites).



Unionized employee Teron Roberts is an Auto Mechanic at our McArthur River operation.



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Governance

At Cameco, we believe that sound governance is the foundation for strong corporate performance. We are dedicated to our core value of integrity and apply high standards of ethical behaviour and transparency to our business activities. We have a suite of policies, programs and practices to manage and protect our systems, information and assets.

18th

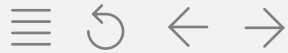
out of 222 companies in the Globe and Mail's Board Games 2021

44%

of our board members are from historically underrepresented groups – three are women (33%) and one is Indigenous (11%)

50%

of our short-term incentive targets are tied to ESG performance measures



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Corporate Governance

WHY IT MATTERS TO CAMECO

We view effective corporate governance as an essential element in the ongoing success and sustainability of our company. We are committed to governance practices that align with our values and our strategy, and that are consistent with regulatory expectations and evolving best practices.

Our board of directors plays an important role in providing oversight of the management team and providing direction for our strategy and business affairs. The board guides Cameco to operate as a sustainable business, to optimize financial returns while effectively managing risk, and to conduct our business in a way that is transparent, independent and ethical.

Board Composition and Renewal

The nominating, corporate governance and risk committee reviews director competencies every year against a skills matrix to validate that they continue to meet Cameco's needs. Each director completes a self-assessment of his or her competencies following a prescribed rating scale and meets with the nominating, corporate governance and risk committee chair or the board chair to review their self-assessment. The committee reviews the results for consistency and to confirm that the directors possess skills in these areas. We have term limits and a retirement policy for directors and have added two new directors in the past five years. Read more on page 30 of our [2022 Management Proxy Circular](#).



In the Globe and Mail's Board Games 2021, Cameco ranked 18th out of 222 companies, and ranked first in the "Materials" industry, with a score of 94 out of 100.

Board Diversity

A board with a mix of diverse skills, backgrounds, experience, gender, and age, that also reflects the evolving demographics and geographic areas where we carry out business, is important for sound decision-making and good governance. The board has a formal diversity policy, which includes a set of measurable objectives for achieving diversity on the board, including the identification and nomination of directors who are women or who have Indigenous heritage. Of our current directors, three are women (33% of the total number of directors). To incorporate Indigenous perspectives and to reflect the communities where we operate, especially since a significant portion of Cameco's operations are in northern Saskatchewan, our diversity policy requires at least one director to have Indigenous heritage and be from Saskatchewan. Of our current directors, one is Indigenous (11% of the total number of directors), and we have had Indigenous directors on our board since 1992. Our diversity policy also requires the board to have directors with extensive experience in geographical areas where we have or anticipate having significant business interests, and to represent a range of ages. Read more on page 34 of our [2022 Management Proxy Circular](#).

In the Globe and Mail's Board Games 2021, Cameco ranked 18th out of 222 companies, and ranked first in the "Materials" industry, with a score of 94 out of 100.

GOVERNANCE INFORMATION

ETHICS

Code of Conduct and Ethics for directors, officers and employees	Yes
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BOARD COMPOSITION AND INDEPENDENCE

Size of board	9
Independent directors	8
Separate chair and CEO	Yes
Independent chair (required)	Yes
Comprehensive board assessment process	Yes
Directors that are financially literate	100%
Board meetings held in 2021	8
Average meeting attendance	100%

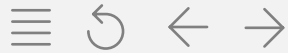
BOARD RENEWAL AND DIVERSITY

Annual election of directors	Yes
Average age of directors	64
Mandatory retirement age	Yes
Average director tenure	8.5 years
Women board members	33%
Board Diversity Policy	Yes
Indigenous board members	11%

All chart information as of December 31, 2021.

For More Information

- [2022 Management Proxy Circular](#), page 44, 'Our Corporate Governance'
- [Code of Conduct and Ethics](#)
- [2021 Annual Report](#)
- [2021 Annual Information Form](#)
- Our key governance documents are available on our website (cameco.com/about/governance).



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Governance For ESG Matters

WHY IT MATTERS TO CAMECO

We are dedicated to conducting our business responsibly and overseeing and managing our risks in a diligent manner. We integrate key ESG factors (safety performance, a clean environment, and supportive communities) into our executive and employee compensation strategy as success in these areas is critical to Cameco's long-term success and sustainability.

Role of the Board

Our board of directors' primary role is to provide strategic direction and risk oversight in order to help the company achieve its vision to energize a clean-air world. Within Cameco, our board of directors holds the highest level of oversight for our business strategy and strategic risks, including ESG matters and climate-related risks. The board also oversees our strategic planning process and annual corporate objectives; and approves incentive compensation for our senior executives, all of which are based on performance against our four measures of success, including ESG performance. ESG governance, risk oversight and disclosure are regular topics of discussion at board and committee meetings.

ESG Steering Committee

Given the evolving ESG landscape, we have a multi-disciplinary steering committee, chaired by our senior vice-president and chief corporate officer. The group includes representatives from across the organization. The role of the steering committee is to review our ESG governance and reporting, and our current approach to sustainability, against evolving trends.

Compensation Tied to ESG

Our compensation program emphasizes our balanced scorecard approach and our commitment to integrating ESG measures into our executive compensation. 50% of our short-term incentive targets for employees, including executives, are tied to ESG performance measures.

BOARD / BOARD COMMITTEE	ESG TOPICS
BOARD OF DIRECTORS	<ul style="list-style-type: none"> Business strategy Opportunity and impact of energy transition on business strategy COVID-19 pandemic
NOMINATING, CORPORATE GOVERNANCE AND RISK	<ul style="list-style-type: none"> Oversight of the Risk Management Program Board diversity
SAFETY, HEALTH AND ENVIRONMENT	<ul style="list-style-type: none"> Regulatory compliance Occupational health and safety Radiation protection Public safety Water Tailings and mine waste Non-mineral waste Indigenous relationships Changes to climate patterns Energy management and GHG emissions Air emissions GHG regulation and pricing Biodiversity and land Product safety Transportation safety Nuclear safeguards
HUMAN RESOURCES AND COMPENSATION	<ul style="list-style-type: none"> Inclusion and diversity Indigenous workforce Unions Employee engagement
AUDIT AND FINANCE	<ul style="list-style-type: none"> Tax strategy Anti-competition Supply chain diversity spend Anti-corruption Business ethics and integrity
TECHNICAL	<ul style="list-style-type: none"> Cybersecurity

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Board of Directors

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Executive Team

MANAGEMENT

ESG Steering Committee

INCLUDES REPRESENTATIVES FROM:

- Executives
- Investor Relations
- Governance
- Sustainability
- Safety, health, environment and quality (SHEQ)
- Communications
- Legal

Subject Matter Experts

INCLUDES:

- Operations
- Human resources
- Safety, health, environment and quality (SHEQ)
- Investor relations, tax and treasury
- Risk management
- Indigenous, community and stakeholder relations
- Legal
- Governance
- Supply chain management
- Customer relations
- Corporate strategy

TRACK ESG PERFORMANCE, INITIATIVES, AND PROGRESS

* Report ESG performance and progress



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Management Approach for ESG Matters

At Cameco, ESG considerations are integrated within our strategic direction and our business planning processes and reporting. We have a strong and well-established management system and practices, and we strive to continuously improve their rigour.

Cameco's Management System

Our management system describes the framework of policies, processes, and procedures we use to help us fulfill all the tasks required to achieve our objectives and strategy. The Cameco management system (CMS) sets out our vision, values, and measures of success. It identifies our policies and also speaks to our strategic planning process, leadership alignment and accountability, compliance and assessment, people and culture, process identification and work management, risk management, communications and stakeholder support, knowledge and information management, change management, problem identification and resolution, and continual improvement. (Read more about [Cameco's management system](#).)

Stringent Regulatory Environment

In addition to following the same provincial or state and federal compliance requirements for environmental and social performance as other mining companies, the facilities we operate are federally regulated through their entire life-cycle by national regulators including the Canadian Nuclear Safety Commission (CNSC), the United States Nuclear Regulatory Commission (NRC) or its designate. Some of the enhanced oversight activities that apply to our facilities include:

Inspections

Our operations are regularly inspected by the applicable regulatory authorities, including the International Atomic Energy Agency (IAEA), to verify that we have systems in place to protect people and the environment (read more about our [systems for environmental protection](#)).

Relicensing

We are subject to a comprehensive relicensing process by the federal regulator on a regular basis. The relicensing proceedings are multi-year processes that culminate with public proceedings that feature interventions and [participant funding](#). Read about our most recent relicensing process in the sidebar.

Transparency

These life-cycle regulators regularly provide independent reports (that include the environmental and social performance) of our operated facilities to the public. For example, the CNSC publishes [annual regulatory oversight reports for our Canadian operations](#).

Audits

Read about our [internal and external audits](#).

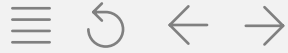


IN FOCUS

Cigar Lake Relicensing

In June 2021, our Cigar Lake mine in northern Saskatchewan received a 10-year licence renewal from the CNSC. The extensive relicensing process began in January 2019 with the establishment of a core working group that mapped out our deliverables and schedule. The process included the formal application for renewal, updates to site safety and control area programs, meetings with CNSC staff and engagement with northern communities and collaboration agreement partners.

It all culminated with a virtual public hearing on April 28 and 29. In making its decision, the CNSC considered oral and written submissions from Cameco, CNSC staff and 31 intervenors. We received strong support at the hearing from a wide range of intervenors. CNSC staff spoke of the maturity of Cigar Lake's management systems, the strong performance over the preceding licence term that included commissioning of a new mining method and then ramping up and sustaining full operations. During the hearing, regulators also indicated that Cameco's operations are among the top performers in Saskatchewan and in Canada.



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Business Ethics and Integrity

WHY IT MATTERS TO CAMECO

At Cameco, one of our four core values is integrity. Through our personal and professional integrity, we lead by example, earn trust, honour our commitments, and conduct our business ethically. Our reputation for maintaining high standards of ethical behaviour has helped Cameco to grow into the global business it is today.

Business Ethics

Our [Code of Conduct and Ethics](#) guides how we uphold our value of integrity. The Code applies to all employees, officers and members of Cameco's board and subsidiary boards and sets out our principles and guidelines for ethical behaviour at Cameco and with our shareholders, our communities and all our stakeholder groups. Read more on pages 52 and 53 of our [2022 Management Proxy Circular](#). Cameco's corporate ethics program is underpinned by:

1

Conduct and Ethics Training

All new Cameco employees take a mandatory Code of Conduct and Ethics training course. In addition, employees who are in high-risk roles or who are responsible for key internal controls complete a refresher course and submit a declaration statement every year, and at least every three years all employees complete the refresher course and declaration statement. The refresher course includes training on key issues such as conflicts of interest, fraud prevention, privacy matters, acceptable gifts and invitations from vendors, respectful workplace matters, and avenues available to raise concerns about ethics matters.

2

Ethics Hotline

We encourage our employees to speak to their manager, or to the human resources, legal, or internal audit groups regarding any ethics concerns. Through a third-party service provider, we also offer an anonymous ethics hotline that is open to all employees, contractors, and suppliers from across our operations. Information about the hotline is broadly communicated to employees and is included in our [Supplier Code of Conduct and Ethics](#) to let suppliers know they can communicate any concerns to us in this way. Every year, we complete a benchmarking exercise of our hotline statistics against other companies comparable to our size and industry, based on information obtained from a third party. Results of our benchmarking are reported to our executive team and to the audit and finance committee of the board.

3

Conduct and Ethics Committee

At Cameco, we have a conduct and ethics committee that shares the responsibility for oversight of ethics matters and practices. Our conduct and ethics committee includes representatives from internal audit, human resources, legal, and our executive team. The committee actively reviews all ethics hotline matters as they arise and formally meets quarterly to review the current status of ethics matters. Our executive officers and the audit and finance committee of the board receive quarterly updates on any new matters that could impact the integrity of financial reporting or the credibility of Cameco's executive or senior management team.

SOX Compliance

Controls around key ethics-related risks are assessed annually by our internal Sarbanes-Oxley (SOX) compliance function and audited by our external auditors.

100%

of new employees completed the mandatory Code of Conduct and Ethics course in 2021

100%

of employees completed the Code of Conduct and Ethics refresher course in 2021



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ANALYST CORNER

SASB EM-MM-210a.3
SASB EM-MM-510a.1

Anti-corruption

Cameco places great importance on the integrity of its relationships with government agencies, officials, political parties, leaders, and candidates for public office around the world and is committed to maintaining high standards of ethical behaviour throughout our value chain. Cameco has no production in countries with high levels of corruption risk (as determined by the 20 lowest rankings in Transparency International's Corruption Perception Index). We believe that all business transactions, no matter where they occur in the world, must be conducted in a manner that enhances our reputation for integrity and best business practices. We uphold these values in the following ways:

1

Anti-corruption Program

Our Global Anti-Corruption Program supplements our Code of Conduct and Ethics by setting out the principles, practices, and rules employees, and third parties acting on behalf of Cameco, are expected to follow. This program applies to all our operating subsidiaries, including our offices in the US, Australia, Europe, and Kazakhstan. Examples of actions we take as part of our program include monitoring in-country risk, conducting applicable due diligence related to third parties and affiliated entities, and monitoring gifts and hospitality. We also complete an anti-corruption risk assessment as part of our Risk Management Program (read more on [page 19](#)). We have had an Anti-Corruption Policy/Program since 2006.

In 2021, we updated the program with the implementation of three new procedural documents:

- **Integrity Due Diligence and Monitoring** – We implemented an Integrity Due Diligence Procedure that formally documents the key processes and requirements involved in our risk-based due diligence process. Key documents that are used when conducting due diligence were also updated as part of this process.
- **Risk Assessment Procedure** – We developed a Risk Assessment Procedure that will supplement the regular quarterly and annual risk assessments that are required as part of the ERM process.
- **Monitoring Procedure** – We finalized a Monitoring and Testing Procedure that sets out the process for developing and implementing annual testing and monitoring activities.

2

Training

In addition to Code of Conduct and Ethics training, we provide scenario-based and discussion-centric anti-corruption training to employees who are in higher-risk roles, conduct business in higher-risk countries, or directly interact with public officials. We provide similar training to third parties that act as our representatives in higher-risk countries.

3

Fraud Risk Assessment

We complete a full fraud risk assessment every two years which seeks to identify Cameco's vulnerabilities to fraudulent activity and assess the risk (likelihood and impact) that those exposures may result in potential material misstatements in the financial statements, material loss and/or reputational damage.



We believe that wherever we do business, it must be conducted in a manner that enhances our reputation for integrity and best business practices. Our current operations are not in areas of conflict.



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ANALYST CORNER

SASB EM-MM-210a.3

Human Rights

We are committed to respecting and observing the protection of human rights and share the values reflected in international proclamations about human rights, such as the Universal Declaration of Human Rights. We respect human rights wherever we operate and prohibit human trafficking, slavery, and child labour within our operations and our supply chain. We strive to provide a safe and healthy working environment that is free from harassment and discrimination. We have formalized our commitment to human rights in our Code of Conduct and Ethics and our People Policy. We also have a Supplier Code of Conduct and Ethics that sets standards for those who provide goods and/or services to Cameco and states our expectation that they comply with all human rights, labour and employment laws in the countries where they operate. Cameco assesses the risk around respectful workplace and protected grounds in the *Canadian Human Rights Act* annually as part of our Risk Management Program.

Competition Law Compliance

Competition laws (referred to in the US as “antitrust laws”) are an important aspect of free and open markets. They are designed to provide consumers with product choice and competitive prices, to protect competitors from unfair competition, and to promote economic efficiency. A mere allegation of anti-competitive conduct can be damaging to a company’s reputation and disruptive to its business. We follow competition and antitrust laws in all our interactions with our customers, suppliers, and competitors. In 2021, there were no legal actions initiated against Cameco related to anti-competitive behaviour. We work to prevent anti-competitive behaviour in the following ways:

1

Competition Law Program

Our Competition Law Compliance Program guides our actions and is updated regularly. It outlines our expectations of all employees, officers, and directors.



2

Training

In addition to mandatory Code of Conduct and Ethics training for all employees, we provide targeted competition law training to our executives and certain departments to support them in understanding the rules. These employees have been selected because they are in higher-risk roles or directly interact with our suppliers, customers, and competitors. Our training covers high-risk areas including discussions with competitors, arrangements with customers and suppliers, and joint ventures.

Transparent Disclosure

Our corporate reputation, both locally and internationally, is tied to how we communicate with our stakeholders. We continually provide important financial and operational details to the public, ensuring that complete, accurate and balanced information is disclosed openly and honestly.

Public Policy Involvement

We co-operate and engage with government bodies and regulatory agencies about public policy positions, laws and regulations that are relevant to our business. Our activities may include direct lobbying on specific policy proposals or advocating our positions on issues of key importance to the company through industry or business associations such as the Saskatchewan Mining Association, the Mining Association of Canada, and the Canadian Nuclear Association, among others. At all times, we conduct ourselves ethically and with integrity, and duly publicly report interactions with government officials on the lobbying registries in jurisdictions that maintain such systems.



We strive to clearly communicate information in a way that can be understood without adding unnecessary complexity.



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Tax Transparency

WHY IT MATTERS TO CAMECO

Cameco's commitment to ethical behaviour and integrity includes transparency into our corporate taxation. As a resource company, we pay significant amounts of tax across multiple jurisdictions, including income taxes, uranium royalties, property taxes, sales and use tax, and indirect taxes. In addition, we collect and remit employment taxes from our almost 2,100 employees.

Our Approach

At Cameco, we believe that tax is a fundamental component of overall financial performance. Although we do not have a formal tax policy, we are guided by our Code of Conduct and Ethics and comply with all tax laws that apply to our operations. Our tax department works collaboratively with other business units to preserve long-term value, and we monitor and adjust to legislative changes in each jurisdiction where we do business. Cameco employs qualified personnel and engages with respected external service providers for their expertise prior to the execution of any significant transactions.

Each quarter, the Chief Financial Officer provides a report to the audit and finance committee of the board updating them on tax-related activities, issues, risks, and the potential impact of legislative or tax policy changes since the prior quarter.

We approach all tax authorities in a professional, collaborative, and transparent way. We seek to help them understand our business and resolve uncertain or disputed matters through well-supported tax filing positions, timely audit inquiry responses and clear communication. Where we do not agree with tax authority assessments, we will proactively appeal and defend our positions.

As a Canadian multinational company with a global customer base, Cameco needs to charge for various goods and services provided to and from its various subsidiaries and affiliated companies. We do this in compliance with relevant laws in the affected jurisdictions. As such, our consolidated tax rate is a blend of rates applicable in Canada and in the jurisdictions of our foreign subsidiaries and affiliates.

We adhere to the arm's-length principle, seeking to align intercompany pricing and other terms and conditions with comparable contracts between arm's length parties.

Commitment to Transparency

We have annually reported payments to governments, as required by Canada's *Extractive Sector Transparency Measures Act (ESTMA)*, since 2016. Extending beyond tax transparency, the report details royalties, fees, and other payments made to Indigenous, municipal, provincial, and federal governments in Canada, the US, and Australia by Cameco and our subsidiaries for commercial development related to the exploration and extraction of minerals. Read [Cameco's 2021 ESTMA Report](#).



As a resource company, we pay significant amounts of tax across multiple jurisdictions, including income taxes, uranium royalties, property taxes, sales and use tax, and indirect taxes.





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Cybersecurity

WHY IT MATTERS TO CAMECO

In the digital era, cybersecurity threats pose an ongoing risk to organizations across industries. While Cameco has not suffered any significant data breaches, or any significant financial losses relating to cyberattacks, technology failure, or security breaches to date, we recognize the high importance of maintaining constant vigilance and resilience to these types of threats.

Our Approach

We protect our systems, information, and physical assets through a cybersecurity program that aligns with the [National Institute of Standards and Technology \(NIST\) Cybersecurity Framework](#) and implement applicable security controls and benchmarks from the [Center for Internet Security \(CIS\)](#). We also work regularly with government organizations, such as the [Canadian Centre for Cyber Security](#) which provides regular updates on emerging issues. We have a well-defined incident response process in place which includes keeping external security specialist firms on retainer and having our security incident response interfaced with our corporate crisis management plans, which enables rapid response and activation of subject matter experts.

Cybersecurity Risks

On an annual basis, our internal audit team develops a risk-based internal audit plan, which also covers one or more cybersecurity related subjects. As part of our integrated audit, we also engage external auditors to complete reviews every year to examine our security controls and IT internal controls. We also commission third-party cybersecurity experts to complete external multistage penetration tests and use their findings to further enhance our security processes and controls. Each quarter, we present a dashboard to the board that highlights changes to our cybersecurity risk profile, outlines areas of focus, provides a self-rating, and describes how we are responding to the external environment. In 2021, we completed an internal audit of Microsoft Office 365 Security Configuration.

Data Protection

Under the CNSC's *Nuclear Safety and Control Act*, strict regulations dictate what data we can and cannot expose. At Cameco, apart from controlled nuclear technology (as regulated by CNSC), we also maintain and keep secure employee and contractor personal data, our intellectual property, and data on our industrial control systems. We protect this data through a “defense in depth” strategy, that includes several layers of security processes, technology and controls, and incorporates multiple redundancies. We also restrict access to our systems and data and log and monitor sensitive access.

Cybersecurity Awareness

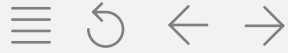
Every employee plays a role in protecting Cameco from cybersecurity threats. We work to educate and inform our workforce to recognize potential threats and help prevent cyber-related incidents. As employees join the company, we provide cybersecurity awareness training and require an annual mandatory e-learning module and sign-off. We also run a contractor module, and a special module for employees who use our industrial control systems. We supplement this training with awareness campaigns, topical emails, and articles in Cameco's weekly email news bulletin and intranet site. In 2021, 100% of our employees completed our information security course.



We protect our systems, information, and physical assets through a cybersecurity program that aligns with the NIST Cybersecurity Framework and implement applicable security controls and benchmarks from the CIS.

ABOVE

Stephanie Zawada, Analyst, Business Intelligence, Business Technology Services department.



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Responsible Supply Chain

WHY IT MATTERS TO CAMECO

We are committed to fair competition in all dealings with suppliers, supporting local procurement, and making our purchases honestly and objectively. We also want to make sure that our suppliers and contractors respect and uphold our ethical, safety and environmental practices.

Supplier and Contractor Selection

We use ISNetworld to screen contractors who provide services at our sites. All contractors must meet our basic ISNetworld requirements, including demonstrating technical capabilities and having adequate safety practices and appropriate insurance in place. As a supplier to the Canadian nuclear industry, our fuel services facilities follow Canadian Standards Association's N299, a set of quality assurance program requirements for the supply of items and services for nuclear power plants. CSA N299 outlines a minimum set of requirements for quality assurance systems and is designed to verify production processes, inspection, testing, and corrective actions. According to this standard, if a product or service is considered high risk, we must have stricter requirements of suppliers to verify that they are qualified to supply the item. Cameco will only purchase these high-risk items through a supplier that meets or exceeds all our requirements. For example, for supply of zirconium, we have a special vendor approval process, and for transportation, we only work with a small set of specialized carriers and freight forwarders that are qualified to deal with radioactive materials.

Contractor Management Program

In 2021, we reviewed our contractor management program. We developed a procedure for our employees to offer further guidance on how to provide risk-informed oversight. The procedure distinguishes between routine and non-routine oversight, specifies contractor training verification frequency, and details the expectations of our site safety workers. We also added a flow chart that highlights the key requirements and documentation that must be provided. In 2022, we will start providing awareness training to senior managers accountable for the implementation of this program.

Expectations of Suppliers

We believe that a sustainable and ethical supply chain starts with choosing suppliers that will uphold our standards. Our Supplier Code of Conduct and Ethics outlines our expectations for those who provide goods and/or services to Cameco, including their representatives and employees. The Supplier Code requires our suppliers to adhere to all human rights, labour, and employment laws in the countries where they operate. Suppliers and their employees are expected to treat everyone with respect and dignity, not tolerate harassment, and take appropriate action if complaints occur.

MEET OUR PEOPLE



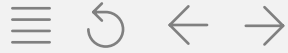
Zemaye Ahme

CONTRACT ADMINISTRATOR I
SCM, SASKATCHEWAN

Zemaye Ahme began as a Senior Administrative Assistant in our Supply Chain Management (SCM) group in March 2020 and has since progressed to become a Contract Administrator. "Working at Cameco has been a dream come true for me. It was not easy to start a new job during the pandemic, as everyone had been advised to work remotely. I did not have the chance to meet my colleagues physically, however, they made me feel very welcome virtually."

Zemaye brings to Cameco her education and experience as a lawyer from the United Kingdom and Lagos. "Since joining the company two years ago, I have had two different roles, and have learnt so much in both roles. I have felt supported in my career progression, especially with my move to Contract Administrator. Cameco gives one the opportunity to grow professionally through training and secondments. It is a big company, and there are a variety of opportunities for staff to develop and take on new and exciting, roles.

"The best part of my job is being an integral part of the transactions and projects that allow Cameco to operate as it does. I enjoy learning new things all the time and so seeing the way our projects are run (from inception to close out) is something that I love. I feel privileged to have had such support in my time here and I am proud to be a part of the Cameco family."



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Auditing

In addition to screening, we also audit our most critical suppliers in the following ways:

- For critical supplies that come from outside of Canada, such as anhydrous hydrogen fluoride (a crucial input to the conversion process for UF₆ which comes from the US and Spain), we third-party audit our suppliers' facilities every three years on average to assess safety practices and quality management processes.
- For drum suppliers, Cameco conducts a quality audit on drum manufacturers every five years. Read more on [page 63](#).
- For our transportation providers (trucking), freight-forwarders and transportation emergency response providers, we audit them every two years. These audits are typically conducted by Cameco staff with a third-party firm used for our two large transporters. Read more on [page 63](#).

Commitment to Local Procurement

We are committed to using local suppliers wherever we operate. It is a commitment codified in our Procurement of Goods and Services Policy and exemplified by our spending in northern Saskatchewan, where we have procured more than \$274 million in services from local companies over the past three years. In 2021, 82% of all service spend at northern Saskatchewan mine sites was with northern local businesses.

In northern Saskatchewan, we have commitments through collaboration agreements with a select number of construction and civil works companies that are Preferred Northern Contractors (PNCs). All PNCs must also follow our standards. Read more about PNCs on [page 72](#).



SERVICES PROCURED FROM LOCAL COMPANIES (% OF SPENDING)

	2019	2020	2021
Company-wide	61%	55%	63%
Northern Saskatchewan	85%	81%	82%
Ontario	45%	41%	47%
US	43%	67%	65%

ABOVE

We seek to procure the majority of our services for our operations from local businesses. Athabasca Catering Ltd. (pictured) is one of the community-owned ventures from the Athabasca Basin with whom we are currently working.



In northern Saskatchewan, we have procured more than \$274 million in services from local companies over the past three years.



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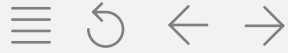
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COMPANY CONTEXT	UNIT	2019	2020	2021	REFERENCE
OPERATIONS					
Revenues	thousand CAD \$	1,862,925	1,800,073	1,474,984	GRI 201-1
Total mining production ¹	lbs U ₃ O ₈	9,047,595	5,064,503	6,091,172	EM-MM-000.A
Production in our fuel services division (includes results for UF ₆ , UO ₂ , and fuel fabrication)	KgU	13,263,756	11,641,285	12,097,638	EM-MM-000.A
ENVIRONMENT					
WATER					
Total water withdrawn ²	thousand m ³	19,536	20,719	20,778	GRI G4 EN8
Fresh water withdrawn in regions with High or Extremely High Baseline Water Stress ³	per cent	NR	0	0	EM-MM-140a.1
Number of incidents of non-compliance associated with water quality permits, standards, and regulations ⁴	number	0	0	0	EM-MM-140a.2
WATER QUALITY					
Water discharged ⁵ to:					
Surface water (clean diverted water to surface water)	thousand m ³	6,445,573	6,143,196	6,111,667	GRI G4 EN22
Surface water (clean treated water to surface water)	thousand m ³	12,118,755	13,144,970	12,146,931	GRI G4 EN22
Municipal treatment facilities	thousand m ³	191,003	164,201	142,744	GRI G4 EN22
Land application via irrigation	thousand m ³	135,930	145,724	131,613	GRI G4 EN22
Deep disposal well ⁶	thousand m ³	975,324	1,048,988	915,108	GRI G4 EN22
Evaporation pond	thousand m ³	27,140	11,665	41,463	GRI G4 EN22

NOTES

NR = Not Reported

For details on indicator boundaries see [our ESG Performance Table \(XLS file\)](#).

¹ Cameco's equity share of production from Cameco operated facilities. Cameco's share of production from Joint Venture Inkai mine in Kazakhstan is not included.

² Includes intercepted water. Cameco withdraws water from surface water, collects groundwater, and withdraws water from municipal water utilities in the areas where we operate. Rainwater that comes into contact with our operations is collected and stored, which is reflected in our water withdrawal volumes. Cameco does not withdraw wastewater directly from other organizations. Water withdrawal from our exploration activities is not included. Cameco is currently evaluating how this indicator is reported to align with the new GRI standards and plans to update the way water withdrawal is reported in future ESG reports.

³ Fresh water defined as water with an average total dissolved solids (TDS) less or equal to 1,000 mg/L for the purpose of this indicator. Areas of High or Extremely High Baseline Water Stress were identified using the World Resources Institute Aqueduct tool. Cameco's North Butte operation is classified in an area of high water stress (3-4). Cameco withdraws fresh water from a drinking water aquifer at North Butte for use in firewater suppression systems, bathrooms, and sinks within surface buildings. The quantity of water withdrawn is < 5,000 m³ annually. This is such a small proportion of total water withdrawn that it is not measurable within the corporate total.

⁴ Incidents of non-compliance associated with water quality permits, standards, and regulations are water-related incidents that resulted in formal enforcement actions.

⁵ This indicator presents the annual volume of planned water discharge in thousands of cubic metres (thousand m³) by destination (i.e. surface water, municipal treatment facilities, land, evaporation pond, or deep disposal well) and treatment method (i.e. treated by Cameco, treated by municipal authorities, clean, or untreated). Cameco does not reuse water produced by other organizations. The annual volume of water discharged to evaporation from our Smith Ranch-Highland operation is not included.

⁶ We only dispose of water into licensed disposal wells in our US operations.



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ENVIRONMENT CONTINUED	UNIT	2019	2020	2021	REFERENCE
TAILINGS AND MINERAL WASTES					
Weight of tailings and mineral waste	tonnes	67,238	26,731	26,461	
Annual change in unreclaimed waste rock inventory ⁷	tonnes	44,040	23,089	15,443	
Weight of other mineral waste ⁸	tonnes	21,749	1,429	7,236	
Weight of tailings waste ⁹	tonnes	1,449	2,213	3,782	EM-MM-150a.5
Per cent of tailings waste recycled	per cent	0	0	0	
Number of tailings impoundments (tailings management facilities) ¹⁰	number	4	4	4	EM-MM-540a.1
Number of tailings impoundments, broken down by Canadian Dam Association Consequence Classification Rating ¹⁰	number	N/A	Significant	Significant	EM-MM-150a.3
NON-MINERAL WASTES¹¹					
Weight of low-level radioactive waste ¹²	tonnes	5,707	6,258	6,862	-
Low-level radioactive waste diverted	tonnes	1,466	1,043	1,279	-
Low-level radioactive waste landfilled or stored	tonnes	4,241	5,216	5,583	-
Weight of non-hazardous waste ¹³	tonnes	1,564	1,330	2,192	GRI 306-3
Non-hazardous waste diverted	tonnes	748	645	663	GRI 306-4
Non-hazardous waste landfilled or stored	tonnes	816	685	1,530	GRI 306-5
Weight of hazardous waste ¹⁴	tonnes	183	247	291	EM-MM-150a.7
Hazardous waste diverted	tonnes	130	155	261	GRI 306-4
Hazardous waste landfilled or stored	tonnes	53	92	30	GRI 306-5
PROCESSING WASTE¹⁵					
Weight of total mineral processing waste	tonnes	2,509	4,273	2,665	EM-MM-150a.2
Per cent of total mineral processing waste diverted	per cent	35	29	57	EM-MM-150a.2

NOTES

⁷ Includes mineralized and non-mineralized waste rock.

⁸ Includes water treatment sludges and mine slimes.

⁹ Includes the amount of tailings generated by Cameco operated facilities.

¹⁰ Cameco has four tailings facilities but two are in-pit facilities. In-pit facilities are below the ground surface, so we do not classify them with respect to the consequence of a dam failure.

¹¹ Non-mineral waste does not include solid waste generated as tailings, water treatment sludge and slime, or waste rock. Non-mineral waste does include mineral processing waste. Cameco does not generate intermediate or high-level radioactive waste. The total amount of low-level radioactive, non-hazardous, and hazardous waste generated in each category is separated and presented by disposal method: diverted, landfilled, or stored on site. Diverted materials include those that are recycled, reused, repurposed, or reprocessed. We separate waste into these disposal categories using internal tracking systems that track the inventory of waste on site and the transfer of waste off site. The amount of waste transferred off site is confirmed through information provided by the receiving organization.

¹² Low-level radioactive waste includes industrial materials that have become contaminated with radioactive material and are more radioactive than clearance levels and exemption quantities allow. Includes industrial materials such as protective equipment, paper, cardboard, equipment, tools, metal, plastic, concrete, sand, sludges, insulation, and wood. At our Saskatchewan facilities, this waste is referred to as contaminated waste. At our US facilities, it is referred to as 11e2 byproduct.

¹³ Non-hazardous waste includes domestic, commercial, and industrial materials that become waste, such as plastic, tin, paper and cardboard, tires, metal, wood pallets, kitchen cooking oil, and wood.

¹⁴ Hazardous waste includes hazardous recyclable materials, and generally means a waste with hazardous properties that may have potential effects to human health or the environment. Includes materials such as used petroleum fuels (oil, diesel, gas), batteries, paint and paint-related materials, compressed gas cylinders, and light fixtures.

¹⁵ Mineral processing waste is defined as the total non-hazardous, hazardous, and low-level radioactive waste generated during mineral processing by all facilities within the fuel services division. The waste generated during mineral processing is a subset of the categories above and should not be added to the wastes describes above.



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GHG EMISSIONS/ENERGY USE¹⁶					
Gross global Scope 1 emissions (equity share) ¹⁷	tonnes CO ₂ e	89,052	86,981	85,909	EM-MM-110a.1
Scope 2 emissions (equity share)	tonnes CO ₂ e	132,270	113,707	131,089	GRI 305-2
Gross global Scope 1 emissions (operational control) ¹⁸	tonnes CO ₂ e	104,320	101,685	100,418	GRI 305-1
Scope 2 emissions (operational control)	tonnes CO ₂ e	173,370	146,586	173,282	GRI 305-2
Total energy consumed ¹⁹	GJ	3,261,156	3,189,800	3,222,286	EM-MM-130a.1
Grid electricity	per cent	46	46	47	EM-MM-130a.1
TRANSITION TO A LOW CARBON ECONOMY					
Scope 1 emissions covered under emissions-limiting regulations (operational control)	per cent	96	96	96	EM-MM-110a.1
Scope 1 emissions covered under emissions-limiting regulations (equity share)	per cent	73	75	74	EM-MM-110a.1
AIR QUALITY²⁰					
Carbon Monoxide (CO)	tonnes	10	9	0	EM-MM-120a.1
NOx (excluding N ₂ O)	tonnes	118	138	119	EM-MM-120a.1
SOx	tonnes	0	0	0	EM-MM-120a.1
Particulate matter (PM ₁₀)	tonnes	156	149	214	EM-MM-120a.1
Volatile organic compounds (VOCs)	tonnes	1	1	0	EM-MM-120a.1
Ammonia (NH ₃)	tonnes	39	38	35	-
Uranium	tonnes	0.05	0.05	0.04	-
Hydrogen Fluoride	tonnes	0.53	0.61	0.63	RT-CH-120a.1
BIODIVERSITY/LAND					
Proved reserves in or near sites with protected conservation status or endangered species habitat ²¹	per cent	33	34	38	EM-MM-160a.3
Probable reserves in or near sites with protected conservation status or endangered species habitat	per cent	61	57	53	EM-MM-160a.3

NOTES

¹⁶ Cameco's Scope 1 greenhouse gas (GHG) emissions are presented as tonnes of carbon dioxide equivalents (CO₂e). CO₂e is used to compare the emissions from various GHG sources based on their global warming potential (GWP). Cameco adopted the GWPs published by Environment and Climate Change Canada (ECCC) and the United States Environmental Protection Agency (US EPA), which reference the GWPs stated in the International Panel on Climate Change's Fourth Assessment Report. Cameco's significant sources of direct GHG emissions include those generated by the consumption of fuel from non-renewable sources and industrial processes. Emission factors that are country- and fuel-specific are used to convert the fossil fuels consumed to GHG emissions in CO₂e. For our Canadian operations, we have used emission factors published by ECCC through the Greenhouse Gas Reporting Program. For our US operations, we use the emission factors published by the US EPA in the most recent Emission Factors for Greenhouse Gas Inventories document.

Cameco's indirect (Scope 2) GHG emissions are presented as CO₂e. CO₂e is used to compare the emissions from various GHG sources based on their GWP. Cameco adopted the GWPs published by ECCC and the US EPA, which reference the GWPs stated in the International Panel on Climate Change's Fourth Assessment Report. Indirect GHG emissions are calculated by applying a utility- or region-specific emission factor to the amount of electricity purchased from that area, which is determined through utility invoices.

¹⁷ Under the equity share approach, we have adjusted the GHG emissions reported to align with our financial ownership, specifically: 69.805% of McArthur River mine, 83.333% of Key Lake mill, 50.025% of Cigar Lake mine, and we have included 40% of emissions from JV Inkai.

¹⁸ Operational control basis means we report 100% of GHG emissions from Cameco-operated facilities regardless of financial ownership.

¹⁹ Cameco's energy consumption includes energy consumed as fuel from non-renewable sources and energy consumed as electricity. Energy consumed as fuel from non-renewable sources is calculated by applying a fuel- and region-specific energy content factor to the consumed volume of non-renewable energy sources at Cameco's operations. These energy sources include propane, natural gas, diesel and gasoline. Cameco does not utilize renewable energy sources directly. Energy consumed as electricity is calculated by applying a conversion factor of 0.0036 gigajoules per kilowatt hour (GJ/kwh) to the raw electricity consumption. Cameco does not sell energy as electricity, heating, cooling, or steam.

²⁰ Air emissions are reported for operated facilities in Canada only. Air emissions from our in situ recovery operations in the US are not material for this indicator and are not included. Air emissions of NOx, SO₂, CO, VOCs, PM, PM₁₀, PM_{2.5} and NH₃ are calculated using the guidance provided by Environment and Climate Change Canada through the National Pollutant Release Inventory. The total air emissions for these constituents include air emissions released through point sources such as process stacks, storage and handling, fugitive emissions, and as a result of road dust. Air emissions of uranium and Hydrogen Fluoride include air emissions released through point sources.

²¹ Protected conservation status or endangered species habitat in alignment with SASB Standards definition.



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ACID-GENERATING SEEPAGE, WASTE ROCK					
Percentage of mine sites where acid-generating seepage into surrounding surface water and/or groundwater is:					
Predicted to occur ²²	per cent	17	20	33	EM-MM-160a.2
Actively mitigated ^{22,23}	per cent	17	20	33	EM-MM-160a.2
Under treatment or remediation ²²	per cent	0	0	0	EM-MM-160a.2
Percentage of annual production output in metric tons (on an equity share basis) where acid-generating seepage into surrounding surface water and/or groundwater is:					
Predicted to occur	per cent	73	64	63	EM-MM-160a.2
Actively mitigated ²³	per cent	73	64	63	EM-MM-160a.2
Under treatment or remediation	per cent	0	0	0	EM-MM-160a.2
DECOMMISSIONING/CLOSURE					
Terrestrial acreage disturbed ²⁴	hectares	3,174	3,199	3,199	EM-MD-160a.3
Terrestrial acreage restored	hectares	25	0	0	EM-MD-160a.3

SOCIAL	UNIT	2019	2020	2021	REFERENCE
OCCUPATIONAL SAFETY/HEALTH					
Avg. radiation dose to employees ²⁵	mSv/year	0.89	0.88	0.95	-
Avg. radiation dose to contractors ²⁵	mSv/year	0.20	0.22	0.24	-
Avg. radiation dose to employees and contractors ²⁵	mSv/year	0.57	0.59	0.60	-
Total Recordable Injury Rate (TRIR) ²⁶					
TRIR employees	incidents per 200,000 hours worked	1.5	1.1	1.0	EM-MM-320a.1
TRIR contractors	incidents per 200,000 hours worked	2.6	3.9	2.2	EM-MM-320a.1
TRIR combined (all Cameco)	incidents per 200,000 hours worked	1.8	1.7	1.3	-
Fatality rate employees	fatalities per 200,000 hours worked	0	0	0	EM-MM-320a.1
Fatality rate contractors	fatalities per 200,000 hours worked	0	0	0	EM-MM-320a.1

NOTES

- ²² The percentage of mine sites have been restated since the publication of our 2020 ESG report.
- ²³ Active mitigation includes placing waste rock on a lined facility and collecting seepage.
- ²⁴ Cameco's land, leased and owned, currently in use and not yet rehabilitated. This indicator excludes advanced exploration projects (Kintyre, Yeelirrie, Millennium), office structures, exploration activities, operations in which Cameco does not have operational control, or rented facilities that Cameco operates (Cobourg). The definition of land disturbed and not yet rehabilitated is dependent on the jurisdiction of the operation. In Saskatchewan, total land disturbed and not yet rehabilitated is accepted by regulators as "Developed" land. In the US, total land disturbed and not yet rehabilitated is defined by regulators as "Affected Area". For Ontario, total land disturbed is equal to the licensed area of the facility.
- ²⁵ The average radiation dose is an arithmetic average of the annual effective doses received by all workers monitored for radiation at Cameco-operated facilities at our mining, milling, and fuel services divisions in Saskatchewan, Ontario, and the US.
- ²⁶ TRIR as defined by US OSHA.



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TRANSPORTATION SAFETY					
Number of transport incidents ²⁷	number	0	0	0	RT-CH-540a.2
EMPLOYEES					
Total number of employees ²⁸	number	1,885	1,931	2,095	EM-MM-000.B
Total number of contractors ²⁹	number of FTEs	506	389	596	EM-MM-000.B
Voluntary turnover rate ³⁰	per cent	4	3	4	CG-EC-330a.2
Involuntary turnover rate	per cent	3	1	2	CG-EC-330a.2
DIVERSITY AND INCLUSION³¹					
Total workforce					
Women	per cent	25	25	25	GRI 405-1
Indigenous	per cent	18	19	21	GRI 405-1
Visible Minority	per cent	6	7	8	GRI 405-1
Persons with Disabilities	per cent	3	3	3	GRI 405-1
Management ³²					
Women	per cent	26	25	24	GRI 405-1
Indigenous	per cent	4	4	4	GRI 405-1
Visible Minority	per cent	5	5	5	GRI 405-1
Persons with Disabilities	per cent	1	1	1	GRI 405-1
UNIONS					
Employees covered under collective bargaining agreements	number	23	24	25	EM-MM-310a.1
Employees covered under collective bargaining agreements in Canada	number	24	25	26	EM-MM-310a.1
Employees covered under collective bargaining agreements outside of Canada	number	0	0	0	EM-MM-310a.1
Number of strikes and lockouts ³³	number	0	0	0	EM-MM-310a.2
Duration of strikes and lockouts	worker days idle	0	0	0	EM-MM-310a.2

NOTES

- ²⁷ Transport incidents include any transport incident that involves a release or potential release, per Section 8.2. of the Transportation of Dangerous Goods Regulation in Canada or 49 CFR 171.15 in the US.
- ²⁸ This indicator reports the total number of regular and temporary full- and part-time employees.
- ²⁹ Full time equivalent (FTE) contractors is equal to the number of contractor hours divided by 2,000 hours, as 2,000 hours is deemed the number of hours for a full-time equivalent employee.
- ³⁰ Turnover is calculated on regular full- and part-time employees.
- ³¹ Diversity information for employees is only maintained on all regular and temporary full- and part-time in Canada. Our US operations are no longer required to file their equity information, as the operations have less than 100 employees.
- ³² Management includes select professional and supervisory positions, and all manager positions and above.
- ³³ Work stoppages involving 1,000 or more workers lasting one full shift or longer.



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SOCIAL CONTINUED	UNIT	2019	2020	2021	REFERENCE
RELATIONSHIPS WITH COMMUNITIES					
Number of non-technical delays ³⁴	number	0	4	2	EM-MM-210b.2
Duration of non-technical delays ³⁴	days	0	237	110	EM-MM-210b.2
PUBLIC SUPPORT³⁵					
Saskatchewan	per cent	85	83	82	-
Northern Saskatchewan	per cent	85	75	78	-
Port Hope, Ontario	per cent	91	90	91	-
Blind River, Ontario	per cent	N/A	N/A	96	-
Nebraska	per cent	N/A	N/A	N/A	-
Wyoming	per cent	N/A	N/A	N/A	-
INDIGENOUS RIGHTS					
Proved reserves in or near Indigenous land ³⁶	per cent	NR	82	75	EM-MM-210a.2
Probable reserves in or near Indigenous land ³⁶	per cent	NR	70	77	EM-MM-210a.2
Indigenous employees in all positions at Northern Saskatchewan Operations	per cent	45	46	48	-
Indigenous employees in management positions at Northern Saskatchewan Operations	per cent	6	8	8	-
Progressive Aboriginal Relations Achievement Level ³⁷	level	Gold	Three-year cycle	Three-year cycle	-
CONFLICT ZONES					
Percentage of proven reserves in or near areas of conflict	per cent	0	0	0	EM-MM-210a.1
Percentage of probable reserves in or near areas of conflict	per cent	0	0	0	EM-MM-210a.1

NOTES

- ³⁴ Non-technical delays are defined as all delays that are not technical in nature that result in production interruptions. Non-technical delays in 2020 were related to the global COVID-19 pandemic. The non-technical delays in 2021 were related to COVID-19 and the wildfire in close proximity to our Cigar Lake mine.
- ³⁵ Reported data on public support is taken directly from polling Cameco undertakes in the various regions in which we operate. Data collection is undertaken by marketing research experts using industry-accepted methodology aimed at collecting unbiased opinions of community support. Accuracy of individual polls varies by region and from year to year based on individual sample sizes. It is important to note that polling questions in Ontario are framed in terms of support for Cameco operations specifically while other regions are asked about their support of the uranium industry more broadly.
- ³⁶ Cameco defines Indigenous Land as Indigenous Territory, which is overlapping within the area of our northern Saskatchewan operations. Per the constitution of Kazakhstan, the land is owned by the state and there are no groups designated as Indigenous. The 2020 percentages have been restated since the publication of our 2020 ESG report.
- ³⁷ The Canadian Council of Aboriginal Business (CCAB) promotes the full involvement of Indigenous people in Canada's economy by building bridges between corporate Canada and Indigenous communities. Progressive Aboriginal Relations (PAR) recognized performance in the areas of Indigenous employment, business development, individual capacity, and community relations. Cameco has been awarded the CCAB's PAR gold-level distinction since 2001 on a three-year certification cycle.



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GOVERNANCE	UNIT	2019	2020	2021	REFERENCE
ETHICS					
New employees who have completed Code of Conduct and Ethics course	per cent	100	100	100	-
Targeted employees who have completed annual Code of Conduct and Ethics refresher course ³⁸	per cent	100	100	100	-
CYBERSECURITY					
Percentage of employees who received cybersecurity training	per cent	99	99	100	-
ANTI-CORRUPTION					
Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	tonnes	0	0	0	EM-MM-510a.2
LOCAL PROCUREMENT					
Proportion of services procured by local providers by Cameco	per cent	61	55	63	GRI 204-1
Proportion of services procured by local providers ³⁹ in:					
Northern Saskatchewan ⁴⁰	per cent	85	81	82	GRI 204-1
Ontario ⁴¹	per cent	45	41	47	GRI 204-1
US ⁴²	per cent	43	67	65	GRI 204-1

NOTES

³⁸ In 2019 and 2020, "targeted employees" included all directors and above, as well as employees who work in supply chain management, human resources, tax, treasury, finance, business technology services, marketing, corporate development, legal and executive offices. These individuals must complete a mandatory online Code of Conduct and Ethics (Code) refresher training course, including the requirement to adhere to the Code and report any potential, perceived or actual conflicts of interest. In 2021, "targeted employees" included all employees.

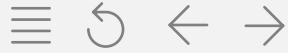
³⁹ Local supplier – Is defined differently for each of Cameco's operating locations as follows:

⁴⁰ Northern Saskatchewan local supplier – A company or joint venture that is at least 50% owned by people or communities from the Northern Saskatchewan Administration District.

⁴¹ Ontario local supplier – One located in the province of Ontario.

⁴² US local supplier – A supplier located in the same state as the US mine operations. For Crow Butte operations, it is a supplier located in the state of Nebraska. For Smith Ranch-Highland operations, it is a supplier located in the state of Wyoming.

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SASB REF	SASB SUGGESTED DISCLOSURES	2021
GHG EMISSIONS		
EM-MM-110a.1	Gross global Scope 1 emissions (equity share) [tonnes CO ₂ e]	85,909
EM-MM-110a.1	Percentage covered under emissions-limiting regulations	74
EM-MM-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	pages 7, 9, 30, 43-45
AIR QUALITY		
EM-MM-120a.1	Carbon Monoxide (CO) [tonnes]	0
EM-MM-120a.1	Nitrogen Oxides (NO _x) (excluding N ₂ O) [tonnes]	119
EM-MM-120a.1	Sulphur Oxides (SO _x) [tonnes]	0
EM-MM-120a.1	Particulate matter (PM ₁₀) [tonnes]	214
EM-MM-120a.1	Mercury (Hg) [tonnes]	N/A
EM-MM-120a.1	Lead (Pb) [tonnes]	N/A
EM-MM-120a.1	Volatile organic compounds (VOCs) [tonnes]	0
ENERGY MANAGEMENT		
EM-MM-130a.1	Total energy consumed [GJ]	3,222,286
EM-MM-130a.1	Percentage grid electricity	47
EM-MM-130a.1	Percentage renewable	Not reported
WATER MANAGEMENT		
EM-MM-140a.1	Total water withdrawn (fresh and non-fresh) [thousand m ³]	20,778
EM-MM-140a.1	Total water consumed	Not reported
EM-MM-140a.1	Percentage of fresh water withdrawn and consumed in regions with High or Extremely High Baseline Water Stress	0
EM-MM-140a.2	Number of incidents of non-compliance associated with water quantity and/or quality permits, standards, and regulations	0

SASB REF	SASB SUGGESTED DISCLOSURES	2021
WASTE & HAZARDOUS MATERIALS MANAGEMENT		
EM-MM-150a.4	Total weight of non-mineral waste generated [tonnes]	9,345
EM-MM-150a.5	Total weight of tailings produced [tonnes]	3,782
EM-MM-150a.6	Total weight of waste rock generated [tonnes]	Not reported
EM-MM-150a.7	Total weight of hazardous waste generated [tonnes]	291
EM-MM-150a.8	Total weight of hazardous waste recycled [tonnes]	Not reported
EM-MM-150a.9	Number of significant incidents associated with hazardous materials and waste management	Not reported
EM-MM-150a.10	Description of waste and hazardous materials management policies and procedures for active and inactive operations	pages 41-42
TAILINGS STORAGE FACILITIES MANAGEMENT		
EM-MM-540a.1	Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP	Link
EM-MM-540a.1	Consequence classification by Canadian Dam Association Consequence Classification Rating	Significant
EM-MM-540a.2	Summary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities	pages 39-40
BIODIVERSITY IMPACTS		
EM-MM-160a.1	Description of environmental management policies and practices for active sites	pages 46-47; read more
EM-MM-160a.2	Percentage of mine sites (percentage of mine sites by annual production output in metric tons on an equity share basis) where acid-generating seepage into surrounding surface water and/or groundwater is: 1) predicted to occur	33 (63)
EM-MM-160a.2	Percentage of mine sites (percentage of mine sites by annual production output in metric tons on an equity share basis) where acid-generating seepage into surrounding surface water and/or groundwater is: 2) actively mitigated	33 (63)
EM-MM-160a.2	Percentage of mine sites (percentage of mine sites by annual production output in metric tons on an equity share basis) where acid-generating seepage into surrounding surface water and/or groundwater is 3) under treatment or remediation	0
EM-MM-160a.3	Percentage of proven reserves in or near sites with protected conservation status or endangered species habitat	37.5
EM-MM-160a.3	Percentage of probable reserves in or near sites with protected conservation status or endangered species habitat	52.6



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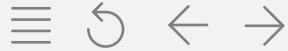
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SASB REF	SASB SUGGESTED DISCLOSURES	2021
SECURITY, HUMAN RIGHTS & RIGHTS OF INDIGENOUS PEOPLES		
EM-MM-210a.1	Percentage of proven reserves in or near areas of conflict	0
EM-MM-210a.1	Percentage of probable reserves in or near areas of conflict	0
EM-MM-210a.2	Percentage of proven reserves in or near Indigenous land	75
EM-MM-210a.2	Percentage of probable reserves in or near Indigenous land	77
EM-MM-210a.3	Discussion of engagement processes and due diligence practices with respect to human rights, Indigenous rights, and operation in areas of conflict	pages 52-56, 65, 78-79
COMMUNITY RELATIONS		
EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	pages 52-54
EM-MM-210b.2	Number of non-technical delays	2
EM-MM-210b.2	Duration of non-technical delays	110
LABOUR RELATIONS		
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements	25
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, employees in Canada	26
EM-MM-310a.1	Percentage of active workforce covered under collective bargaining agreements, employees outside of Canada	0
EM-MM-310a.2	Number of strikes and lockouts	0
EM-MM-310a.2	Duration of strikes and lockouts [days]	0
WORKFORCE HEALTH & SAFETY		
EM-MM-320a.1	Total Recordable Injury Rate as defined by OSHA for employees	1.0
EM-MM-320a.1	Total Recordable Injury Rate as defined by OSHA for contractors	2.2
EM-MM-320a.1	Fatality rate for employees	0
EM-MM-320a.1	Fatality rate for contractors	0
EM-MM-320a.1	Near miss frequency rate (NMFR) for employees	Not reported
EM-MM-320a.1	Near miss frequency rate (NMFR) for contractors	Not reported
EM-MM-320a.1	Average hours of health, safety, and emergency response training for employees	Not reported
EM-MM-320a.1	Average hours of health, safety, and emergency response training for contractors	Not reported

SASB REF	SASB SUGGESTED DISCLOSURES	2021
BUSINESS ETHICS & TRANSPARENCY		
EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	pages 78-79
EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index [tonnes]	0

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Independent practitioner’s limited assurance report on selected performance indicators presented within Cameco Corporation’s 2021 ESG Report

To the Board of Directors and management of Cameco Corporation

We have undertaken a limited assurance engagement on the following selected performance indicators (the subject matter) presented within the Performance Table within Cameco Corporation (Cameco)’s 2021 ESG Report, hosted on Cameco’s website¹, for the reporting period or as at date stated in the selected subject matter listed below.

Selected Subject Matter

Our limited assurance engagement was performed on the following selected performance indicators:

¹ The maintenance and integrity of Cameco’s website is the responsibility of Cameco; the work carried out by PricewaterhouseCoopers LLP does not involve consideration of these matters and, accordingly, PricewaterhouseCoopers LLP accepts no responsibility for any changes that may have occurred to the reported information or criteria since they were posted on the website.

PERFORMANCE METRIC	2021 VALUE	REPORTING PERIOD / “AS AT” DATE	REPORT PAGE
1. Air Emissions – Uranium (tonnes)	0.04	For the year ended December 31, 2021	87
2. Total Energy Consumed (GJ)	3,222,286	For the year ended December 31, 2021	87
3. Gross global Scope 1 emissions (equity share) (tonnes CO ₂ e)	85,909	For the year ended December 31, 2021	87
4. Gross global Scope 1 emissions (operational control) (tonnes CO ₂ e)	100,418	For the year ended December 31, 2021	87
5. Scope 2 (Equity Share) (tonnes CO ₂ e)	131,089	For the year ended December 31, 2021	87
6. Scope 2 (Operational Control) (tonnes CO ₂ e)	173,282	For the year ended December 31, 2021	87
7. Total Recordable Incident Rate (employees)	1.0	For the year ended December 31, 2021	88
8. Total Recordable Incident Rate (contractors)	2.2	For the year ended December 31, 2021	88
9. Number of Transport Incidents	0	For the year ended December 31, 2021	89
10. Average Radiation Dose (employees and contractors)	0.60	For the year ended December 31, 2021	88
11. Total Water Withdrawn (thousand m ³)	20,778	For the year ended December 31, 2021	85
12. Weight of Tailings and Mineral Waste (tonnes)	26,461	For the year ended December 31, 2021	86
13. Total workforce – Women (per cent)	25%	As at at December 31, 2021	89
14. Total workforce – Management – Women (per cent)	24%	As at at December 31, 2021	89
15. Total workforce – Indigenous (per cent)	21%	As at at December 31, 2021	89
16. Total workforce – Management – Indigenous (per cent)	4%	As at at December 31, 2021	89
17. Percentage of Cameco’s Northern Saskatchewan Operations Employees that have self identified as Indigenous	48%	As at at December 31, 2021	90
18. 100% of all employees completed the Code of Conduct and Ethics Refresher course in 2021	100%	For the year ended December 31, 2021	91
19. Local Procurement in Northern Saskatchewan	82%	For the year ended December 31, 2021	91



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Management's Responsibility

Management is responsible for the preparation of the selected subject matter in accordance with the following criteria:

- Global Reporting Initiative (GRI) standards;
- Sustainability Accounting Standards Board (SASB); and
- Management's internally developed criteria

The relevant criteria is presented in the Performance Table within the Cameco 2021 ESG Report for the selected subject matter referenced in the above table. Management is also responsible for such internal control as management determines necessary to enable the preparation of the selected subject matter that is free from material misstatement, whether due to fraud or error.

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the selected subject matter based on the evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000, *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information*. This standard requires that we plan and perform this engagement to obtain limited assurance about whether the selected subject matter is free from material misstatement.

A limited assurance engagement involves performing procedures (primarily consisting of making inquiries of management and others within the entity, as appropriate, and applying analytical procedures) and evaluating the evidence obtained. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users of our report. The procedures are selected based on our professional judgment, which includes identifying areas where the risks of material misstatement, whether due to fraud or error, in preparing the selected subject matter in accordance with the applicable criteria are likely to arise.

Our limited assurance procedures included, but were not limited to the following:

- Making enquiries of corporate management and senior executives to obtain an understanding of the overall governance and internal control environment relevant to the management, aggregation and reporting of the selected subject matter;
- Analytical reviews and trend analysis of reported data for the selected subject matter;
- Conducted a limited sample of virtual site interviews where required to further understand data measurement, collection, reporting and control processes for the selected subject matter; and
- Obtained and inspected a limited sample of underlying documentation to support the selected information.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement and, consequently, the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our Independence and Quality Control

We have complied with the relevant rules of professional conduct/code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements*, and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Cameco Corporation's selected subject matter for the reporting period stated above is not prepared, in all material respects, in accordance with the applicable criteria.

Purpose of Statement and Restriction on Use of Our Report

The selected subject matter has been prepared to report Cameco's performance for the selected subject performance data, as defined by the relevant standards or by management's internally developed criteria. As a result, the selected subject matter may not be suitable for another purpose. Our report is intended solely for the use of the Board and management of Cameco in reporting the selected subject matter in accordance with the criteria. We neither assume nor accept any responsibility or liability to any third party in respect of this report.

PricewaterhouseCoopers LLP

Chartered Professional Accountants
Vancouver, British Columbia
July 5, 2022



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Forward-looking Statements

Caution About Forward-looking Information

Our ESG Report includes statements and information about our expectations for the future. When we discuss our strategy, plans, future financial and operating performance, or other things that have not yet taken place, we are making statements considered to be forward-looking information or forward-looking statements under Canadian and United States (US) securities laws. We refer to them in this ESG Report as forward-looking information.

Forward-looking information typically includes words and phrases about the future, such as: anticipate, believe, estimate, expect, plan, will, intend, goal, target, forecast, project, strategy and outlook. It represents our current views and can change significantly. Commitments, goals and targets discussed in this report are aspirational and there can be no assurance that they will be achieved.

The forward-looking information in our ESG Report is based on a number of material assumptions, including those we have listed on [page 4 of our 2021 Annual MD&A](#), which may prove to be incorrect. Actual results and events may be significantly different from what we currently expect, due to the risks associated with our business. We list a number of these material risks on [page 3 of our 2021 Annual MD&A](#). We recommend you also review our most recent annual information form, which includes a discussion of other material risks that could cause actual results to differ significantly from our current expectations. Forward-looking information is designed to help you understand management's current views of our economic, environmental, social and governance-related impacts and objectives, and it may not be appropriate for other purposes. We will not necessarily update this information unless we are required to by securities laws.

Examples of forward-looking information in this ESG Report include: our views regarding our ability address environmental, social and governance (ESG) risks and opportunities, including our expectation that nuclear power must be a central part of the solution to the world's shift to a low carbon climate resilient economy; our planned measures to address climate change impacts in our operations; our expectations respecting the impact of new technology to enable us to achieve our ESG goals; our expectations regarding continued and increased government support for energy conservation and emissions reduction; our expectations about uranium supply, consumption and demand; our goals regarding waste reduction and plans for reusing, recycling, or recovering material; our decommissioning estimates and reclamation plans; our commitment to local procurement and supply chain management; our workforce health and safety goals and assessments; and our commitment to diversity and workforce development plans.

Material risks that could lead to different results include the risks that: our strategies may change, be unsuccessful or have unanticipated consequences; changing views of governments regarding the pursuit of carbon reduction strategies; our estimates and forecasts or the data underlying our estimates prove to be inaccurate; we are affected by environmental, safety and regulatory risks, including workforce health and safety, climate-related risks and increased regulatory burdens or delays; we are affected by terrorism, sabotage, blockades, civil unrest, social or political activism, outbreak of illness (such as a pandemic like COVID-19), accident or a deterioration in political support for, or demand for, nuclear energy; we are impacted by changes in the regulation or public perception of the safety of nuclear power plants; risks relating to the development and use of new technology or lack of appropriate technologies needed to advance our goals; negative publicity with respect to the handling of environmental or social matters; and disruptions in our operations and other development and operating risks.

Material assumptions that we have made include assumptions regarding: the nuclear industry, including its growth profile, market conditions and the demand for and supply of uranium; the continuing pursuit of carbon reduction strategies by governments, and the role of nuclear energy in the pursuit of those strategies; our ability to implement our strategies successfully; our ability, and our contractors' ability, to comply with current and future environmental, safety and other regulatory requirements and to obtain and maintain required regulatory approvals; our ability to deploy sufficient capital to fund the expenditures and implement the operational changes necessary to achieve our environmental and social goals; and the availability or development of technologies needed to achieve our ESG goals.

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