Cameco Corporation

2020 Annual information form

March 19, 2021

Contents

Important information about this document **1**

Our business **4**

Operations and projects **20**

Uranium – Tier-one operations 21

Uranium – Tier-two operations 67

Uranium – Advanced projects 69

Uranium – Exploration and corporate development 70

Fuel services 71

Mineral reserves and resources **74**

Our approach to ESG matters **80**

The regulatory environment **88**

Risks that can affect our business **95**

Legal proceedings **116**

Investor information **116**

Governance **121**

Appendix A **126**

Important information about this document

This annual information form (AIF) for the year ended December 31, 2020 provides important information about Cameco Corporation. It describes our history, our markets, our operations and projects, our mineral reserves and resources, our approach to environmental, social and governance matters (ESG), our regulatory environment, the risks we face in our business and the market for our shares, among other things.

It also incorporates by reference:

- our management's discussion and analysis for the year ended December 31, 2020 (2020 MD&A), which is available on SEDAR (sedar.com) and on EDGAR (sec.gov) as an exhibit to our Form 40-F; and
- our audited consolidated financial statements for the year ended December 31, 2020 (2020 financial statements), which are also available on SEDAR and on EDGAR as an exhibit to our Form 40-F.

Throughout this document, the terms *we, us, our, the company* and *Cameco* mean Cameco Corporation and its subsidiaries.

We have prepared this document to meet the requirements of Canadian securities laws, which are different from what United States (US) securities laws require.

The information contained in this AIF is presented as at December 31, 2020, the last day of our most recently completed financial year, and is based on what we knew as of March 15, 2021, except as otherwise stated.

Reporting currency and financial information

Unless we have specified otherwise, all dollar amounts are in Canadian dollars. Any references to $(US) mean US dollars.

The financial information in this AIF has been presented in accordance with International Financial Reporting Standards (IFRS).

Caution about forward-looking information

Our AIF and the documents incorporated by reference include statements and information about our expectations for the future. When we discuss our strategy, plans and 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 US securities laws. We refer to them in this AIF as *forward-looking information*. In particular, the discussions under the headings *Market overview and developments* and *Marketing framework – balanced contract portfolio* in this AIF contain forward-looking information.

Key things to understand about the forward-looking information in this AIF:

- It typically includes words and phrases about the future, such as *anticipate, believe, estimate, expect, plan, will, intend, goal, target, forecast, project, strategy* and *outlook* (see examples on page 2).
- It represents our current views, and can change significantly.
- It is based on a number of *material assumptions*, including those we have listed below, 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 below. We recommend you also review other parts of this document, including *Risks that can affect our business* starting on page 95, and our 2020 MD&A, 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 near- and longer-term prospects, 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 AIF

- our view that we have the strengths to take advantage of the world's rising demand for safe, reliable, affordable and carbon-free energy
- our expectations for the future of the nuclear industry, including that nuclear power must be a central part of the solution to the world's shift to a low-carbon climate-resilient economy
- our expectations about 2021 and future global uranium supply, consumption, contracting, demand, and the market, including the discussion under the headings market overview and developments and marketing framework - balanced contract portfolio
- our expectation about 2021 and future consumption of conversion services
- our expectation that the US Department of Energy (DOE) will make available a portion of its excess uranium inventory over the next two decades
- the discussion under the heading *Our approach to ESG matters*, including our belief there is a significant opportunity for us to be part of the solution to combat climate change and that we are well positioned to deliver significant long-term business value
- our expectations relating to care and maintenance costs
- the discussion of our expectations relating to our Canada Revenue Agency (CRA) transfer pricing dispute, including our expectations regarding application of the court decisions to date to other tax years
- our expectations for future tax payments and rates, including effective tax rates
- future plans and expectations for our uranium properties, advanced projects, and fuel services operating sites, including production levels and the suspension of production at certain properties
- our expectations for the restart of the Cigar Lake mine
- our McArthur River/Key Lake production restart plans, including the factors for a restart decision, that all critical project work can be completed within a one-year time frame and that an experienced workforce will be available
- estimates of operating and capital costs and mine life for our tier one uranium operations
- estimated decommissioning and reclamation costs for uranium properties and fuel services operating sites
- the discussion of Joint Venture Inkai LLP's (JV Inkai) expansion plans for a 10.4 million pound per year operation
- our mineral reserve and resource estimates
- our expectations that the price of uranium, production costs and recovery rates will allow us to operate or develop a particular site or sites
- estimates of metallurgical recovery and other production parameters for each uranium property
- production estimates at the Cigar Lake and Inkai operations

Material risks

- actual sales volumes or market prices for any of our products or services are lower than we expect for any reason, including changes in market prices, loss of market share to a competitor, trade restrictions or the impact of the COVID-19 pandemic
- we are adversely affected by changes in currency exchange rates, interest rates, royalty rates, or tax rates
- our production costs are higher than planned, or our cost reduction strategies are unsuccessful, or necessary supplies are not available, or not available on commercially reasonable terms
- our strategies may change, be unsuccessful or have unanticipated consequences
- changing views of governments regarding the pursuit of carbon reduction strategies or our view may prove to be inaccurate on the role of nuclear power in pursuit of those strategies
- our estimates and forecasts prove to be inaccurate, including production, purchases, deliveries, cash flow, revenue, costs, decommissioning, reclamation expenses, or receipt of future dividends from JV Inkai
- 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 may be unable to successfully manage the current uncertain environment resulting from the COVID-19 pandemic and its related operational, safety, marketing, or financial risks successfully, including the risks of significant disruptions to our operations, workforce, required supply or services, and ability to produce, transport, and deliver uranium
- a major accident at a nuclear power plant
- we are impacted by changes in the regulation or public perception of the safety of nuclear power plants, which adversely affect the construction of new plants, the relicensing of existing plants and the demand for uranium
- government laws, regulations, policies or decisions that adversely affect us, including tax and trade laws and sanctions on nuclear fuel imports
- our uranium suppliers or purchasers fail to fulfil their commitments

- we are unable to enforce our legal rights under our agreements, permits or licences
- we are subject to litigation or arbitration that has an adverse outcome
- that we may not receive the expected refunds and payments from CRA
- that CRA will not accept the court rulings for the years that have been resolved in Cameco's favour and agree that they should apply to subsequent tax years
- that CRA will not return all or substantially all of the cash and security that has been paid or otherwise secured in a timely manner, or at all
- the possibility of a materially different outcome in disputes with CRA for other tax years
- there are defects in, or challenges to, title to our properties
- our mineral reserve and resource estimates are not reliable, or there are unexpected or challenging geological, hydrological or mining conditions
- we are affected by environmental, safety and regulatory risks, including workforce health and safety or increased regulatory burdens or delays resulting from the COVID-19 pandemic or other causes
- necessary permits or approvals from government authorities cannot be obtained or maintained
- we are affected by political risks
- our Cigar Lake development, mining or production plans are delayed or do not succeed for any reason
- the McClean Lake's mill production plan is delayed or does not succeed for any reason
- water quality and environmental concerns could result in a potential deferral of production and additional capital and operating expenses required for the Cigar Lake operation
- JV Inkai's development, mining or production plans are delayed or do not succeed for any reason, including the COVID-19 pandemic
- our expectations relating to care and maintenance costs prove to be inaccurate
- we are affected by natural phenomena, including inclement weather, fire, flood and earthquakes
- operations are disrupted due to problems with our own or our suppliers' or customers' facilities, the unavailability of reagents, equipment, operating parts and supplies critical to production, equipment failure, lack of tailings capacity, labour shortages, labour relations issues, strikes or lockouts, underground floods, cave-ins, ground movements, tailings dam failures, transportation disruptions or accidents, unanticipated consequences of our cost reduction strategies, or other development and operating risks

Material assumptions

- our expectations regarding sales and purchase volumes and prices for uranium and fuel services, trade restrictions, and that counterparties to our sales and purchase agreements will honour their commitments
- our expectations for the nuclear industry including its growth profile, market conditions, and the demand for and supply of uranium
- our expectations regarding spot prices and realized prices for uranium
- that the construction of new nuclear power plants and the relicensing of existing nuclear power plants not being more adversely affected than expected by changes in regulation or in the public perception of the safety of nuclear power plants
- our ability to continue to supply our products and services in the expected quantities and at the expected times
- our expected production levels for uranium and conversion services
- our cost expectations, including production costs, operating costs, capital costs, and the success of our cost reduction strategies
- our expectations regarding tax rates and payments, royalty rates, currency exchange rates and interest rates
- about our entitlement to and ability to receive expected refunds and payments from CRA
- our mineral reserve and resource estimates, and the assumptions upon which they are based, are reliable
- our understanding of the geological, hydrological and other conditions at our uranium properties
- our ability to abide by the provisions of the subsoil code and New Currency Law (as defined below) related to JV Inkai
- our Cigar Lake development, mining and production plans succeed
- the McClean Lake mill is able to process Cigar Lake ore as expected
- operations are not significantly disrupted as a result of political instability, nationalization, terrorism, sabotage, blockades, civil unrest, breakdown, natural disasters, outbreak of illness (such as a pandemic like COVID-19), governmental or political actions, litigation or arbitration proceedings, the unavailability of reagents, equipment, operating parts and supplies critical to production, labour shortages, labour relations issues, strikes or lockouts, underground floods, cave-ins, ground movements, tailings dam failure, lack of tailings capacity, transportation disruptions or accidents, unanticipated consequences of our cost reduction strategies, or other development or operating risks
- JV Inkai's development, mining and production plans succeed

- that courts will reach consistent decisions for subsequent tax years that are based upon similar positions and arguments
- that CRA will not successfully advance different positions and arguments that may lead to different outcomes for other tax years
- our decommissioning and reclamation estimates, including the assumptions upon which they are based, are reliable
- the ability of JV Inkai to pay dividends
- that care and maintenance costs will be as expected
- our 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 business

Our vision is to energize a clean-air world. We are a pure-play nuclear fuel investment with a proven track record and the strengths to take advantage of the world's rising demand for safe, reliable, affordable and carbon-free energy. Nuclear energy plants around the world use our uranium products to generate one of the cleanest sources of electricity available today.

Our operations and investments span the nuclear fuel cycle, from exploration to enrichment and fuel manufacturing. Our head office is in Saskatoon, Saskatchewan.

With our extraordinary assets, long-term contract portfolio, employee expertise, comprehensive industry knowledge and strong balance sheet, we are confident in our ability to increase long-term value.

Cameco Corporation
2121 – 11th Street West
Saskatoon, Saskatchewan
Canada S7M 1J3
Telephone: 306.956.6200

This is our head office, registered office and principal place of business.

We are publicly listed on the Toronto and New York stock exchanges, and had a total of 1,931 employees at December 31, 2020.

Business segments

URANIUM

Our uranium production capacity is among the world's largest. However, in 2020, with many of our operations in care and maintenance, we accounted for about 7% of world production. We have controlling ownership of the world's largest high-grade mineral reserves.

Product

- uranium concentrates (U_3O_8)

Mineral reserves and resources

Mineral reserves

- approximately 455 million pounds proven and probable

Mineral resources

- approximately 426 million pounds measured and indicated
- approximately 174 million pounds inferred

Tier-one operations

- McArthur River and Key Lake, Saskatchewan
- Cigar Lake, Saskatchewan
- Inkai, Kazakhstan

Tier-two operations

- Rabbit Lake, Saskatchewan
- Smith Ranch-Highland, Wyoming
- Crow Butte, Nebraska

Advanced projects

- Millennium, Saskatchewan
- Yeelirrie, Australia
- Kintyre, Australia

Exploration and corporate development

- focused on North America
- approximately 0.8 million hectares of land

FUEL SERVICES

We are an integrated uranium fuel supplier, offering refining, conversion and fuel manufacturing services.

Products

- uranium trioxide (UO_3)
- uranium hexafluoride (UF_6)
  (we have about 24% of world primary conversion capacity)
- uranium dioxide (UO_2)
- fuel bundles, reactor components and monitoring equipment used by CANDU reactors

Operations

- Blind River refinery, Ontario
  (refines uranium concentrates to UO_3)
- Port Hope conversion facility, Ontario
  (converts UO_3 to UF_6 or UO_2)
- Cameco Fuel Manufacturing Inc. (CFM), Ontario
  (manufactures fuel bundles and reactor components)

For information about our revenue and gross profit by business segment for the years ended December 31, 2020 and 2019, see our 2020 MD&A as follows:

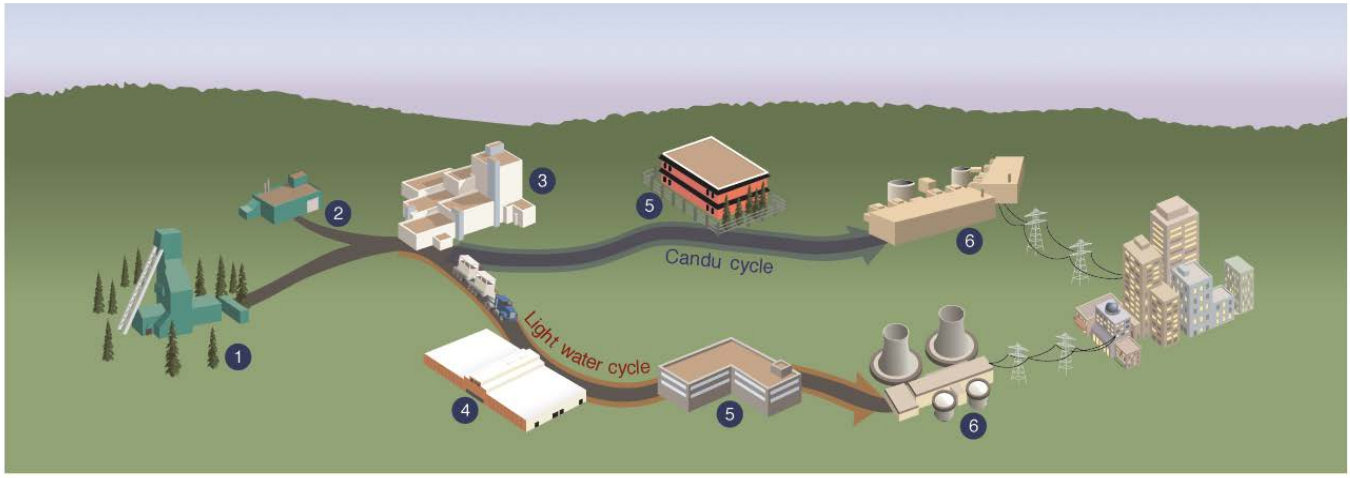
- uranium – page 53
- fuel services – page 55

OTHER FUEL CYCLE INVESTMENTS

Enrichment

We have a 49% interest in Global Laser Enrichment LLC (GLE) which is testing third-generation enrichment technology that, if successful, will use lasers to commercially enrich uranium. GLE is the exclusive licensee of the proprietary SILEX laser enrichment technology that is in the development phase.

The nuclear fuel cycle



Our operations and investments span the nuclear fuel cycle, from exploration to fuel manufacturing.

1 Mining

Once an orebody is discovered and defined by exploration, there are three common ways to mine uranium, depending on the depth of the orebody and the deposit's geological characteristics:

- *Open pit mining* is used if the ore is near the surface. The ore is usually mined using drilling and blasting.
- *Underground mining* is used if the ore is too deep to make open pit mining economical. Tunnels and shafts provide access to the ore.
- *In situ recovery (ISR)* does not require large scale excavation. Instead, holes are drilled into the ore and a solution is used to dissolve the uranium. The solution is pumped to the surface where the uranium is recovered.

1 Milling

Ore from open pit and underground mines is processed to extract the uranium and package it as a powder typically referred to as *uranium ore concentrates* (UOC) or *yellowcake* (U_3O_8). The leftover processed rock and other solid waste (*tailings*) is placed in an engineered tailings facility.

2 Refining

Refining removes the impurities from the uranium concentrate and changes its chemical form to *uranium trioxide* (UO_3).

3 Conversion

For light water reactors, the UO_3 is converted to *uranium hexafluoride* (UF_6) gas to prepare it for enrichment. For heavy water reactors like the CANDU reactor, the UO_3 is converted into powdered *uranium dioxide* (UO_2).

4 Enrichment

Uranium is made up of two main isotopes: U-238 and U-235. Only U-235 atoms, which make up 0.7% of natural uranium, are involved in the nuclear reaction (fission). Most of the world's commercial nuclear reactors require uranium that has an enriched level of U-235 atoms.

The enrichment process increases the concentration of U-235 to between 3% and 5% by separating U-235 atoms from the U-238. Enriched UF_6 gas is then converted to powdered UO_2.

5 Fuel manufacturing

Natural or enriched UO_2 is pressed into pellets, which are baked at a high temperature. These are packed into zircaloy or stainless steel tubes, sealed and then assembled into fuel bundles.

6 Generation

Nuclear reactors are used to generate electricity. U235 atoms in the reactor fuel fission, creating heat that generates steam to drive turbines. The fuel bundles in the reactor need to be replaced as the U-235 atoms are depleted, typically after one or two years depending upon the reactor type. The used – or *spent* – fuel is stored or reprocessed.

Spent fuel management

The majority of spent fuel is safely stored at the reactor site. A small amount of spent fuel is reprocessed. The reprocessed fuel is used in some European and Japanese reactors.

Major developments

2018.....

July
- We announce production from the McArthur River mining and Key Lake milling operations in northern Saskatchewan will be suspended for an indeterminate duration.

September
- We announce the Tax Court of Canada has ruled unequivocally in our favour in our dispute of the reassessments issued by CRA for the 2003, 2005 and 2006 tax years.

October
- We receive notification that CRA has filed an appeal with the Federal Court of Appeal regarding the Tax Court of Canada decision, which found in favour of Cameco for the 2003, 2005 and 2006 tax years.

2019 ……..

July
- We announce that a tribunal of international arbitrators has ruled in favour of Cameco Inc. in its contract dispute with TEPCO, awarding $40.3 million (US) in damages and $5 million (US) for costs, expenses and pre-award interest.
- We enter into a new collective agreement with unionized employees at our McArthur River and Key Lake operations, which expires on December 31, 2022.
- We enter into a new three-year collective agreement with unionized employees at our Port Hope conversion facility, which expires on July 1, 2022.

2020 ……..

March
- We announce the temporary suspension of production at Cigar Lake as a precautionary measure due to the threat posed by the COVID-19 pandemic.

April
- We announce temporary operational changes at our fuel services division as a precautionary measure due to the challenge of maintaining an adequate workforce due to the COVID-19 pandemic.
- We extend the temporary Cigar Lake production suspension and withdraw our 2020 outlook.

May
- We announce resumption of production at our Port Hope UF_6 plant and the Blind River refinery, and the continued Cigar Lake mine production suspension.

June
- We announce that the Federal Court of Appeal upheld the 2018 decision of the Tax Court of Canada in Cameco's favour for the 2003, 2005 and 2006 tax years.

September
- We resume production at Cigar Lake.

October
- We issue $400 million of debentures, bearing interest at $2.95%, maturing in 2027.
- We receive notification and announce that CRA has sought leave from the Supreme Court of Canada to appeal the June 2020 decision of the Federal Court of Appeal.

November
- We redeem $400 million of debentures, bearing interest at 3.75%, maturing in 2022.

December
- We announce a second temporary suspension of production at Cigar Lake as a precautionary measure due to the increasing risks posed by the COVID-19 pandemic.

For 2021, as of March 15, the one major development in our business was the February 18, 2021 dismissal by the Supreme Court of Canada of CRA's application to appeal the June 26, 2020 decision of the Federal Court of Appeal. The dismissal means that the dispute for the 2003, 2005 and 2006 tax years is fully and finally resolved in our favour.

How Cameco was formed

Cameco was incorporated under the *Canada Business Corporations Act* on June 19, 1987.

We were formed when two crown corporations were privatized and their assets merged:

- Saskatchewan Mining Development Corporation (SMDC) (uranium mining and milling operations); and
- Eldorado Nuclear Limited (uranium mining, refining and conversion operations) (now Canada Eldor Inc.).

There are constraints and restrictions on ownership of shares in the capital of Cameco (Cameco shares) set out in our company articles, and a related requirement to maintain offices in Saskatchewan. These are requirements of *the Eldorado Nuclear Limited Reorganization and Divestiture Act* (Canada), as amended, and *The Saskatchewan Mining Development Corporation Reorganization Act*, as amended, and are described on pages 117 and 118.

We have made the following amendments to our articles:

2002	• increased the maximum share ownership for individual non-residents to 15% from 5% • increased the limit on voting rights of non-residents to 25% from 20%
2003	• allowed the board to appoint new directors between shareholder meetings as permitted by the *Canada Business Corporations Act*, subject to certain limitations • eliminated the requirement for the chair of the board to be ordinarily resident in the province of Saskatchewan

We have one main subsidiary:

- Cameco Europe Ltd., a Swiss company we have 100% ownership of through subsidiaries

At January 1, 2021, we do not have any other subsidiary that is material, either individually or collectively.

For more information

You can find more information about Cameco on SEDAR (sedar.com), EDGAR (sec.gov) and on our website (cameco.com).

See our most recent management proxy circular for additional information, including how our directors and officers are compensated and any loans to them, principal holders of our securities, and securities authorized for issue under our equity compensation plans. We expect the circular for our May 6, 2021 annual meeting of shareholders to be available on April 6, 2021.

See our 2020 financial statements and 2020 MD&A for additional financial information.

Our strategy

Our strategy is set within the context of a challenging market environment, which we expect to give way to strong long-term fundamentals driven by increasing populations, and a growing focus on electrification and decarbonization. Nuclear energy must be a central part of the solution to the world's shift to a low-carbon, climate resilient economy. It is an option that can provide the power needed, not only reliably, but also safely and affordably, and in a way that will help avoid some of the worst consequences of climate change.

Tier-one focus

We are a pure-play nuclear fuel investment, focused on providing a clean source of energy, and taking advantage of the long-term growth we see coming in our industry. Our strategy is to focus on our tier-one assets and profitably produce at a pace aligned with market signals in order to preserve the value of those assets and increase long-term shareholder value, and to do that with an emphasis on safety, people and the environment.

For more information on our strategy, see our 2020 MD&A.

Market overview and developments

Growing confidence

In 2020, the COVID-19 pandemic disrupted global uranium production which added to the planned supply curtailments that have occurred in the industry for several years. The duration and extent of these disruptions are still not fully known. As a result, there was significant demand from producers – including Cameco – in the spot market to cover both the planned and unplanned reductions in primary supply. In contrast, long-term contracting was significantly reduced compared to 2019 as utilities focused on ensuring the safety of their employees and keeping their nuclear plants running to support the critical infrastructure needed throughout the pandemic. In addition, market access and trade policy issues continued to top the list of factors affecting the market in 2020. These issues created uncertainty and consumed a significant amount of time and focus from utilities during the year. The volume of uranium executed under long-term contracts was well below annual consumption levels, accelerating the inventory destocking that was already underway in the industry and adding to the growing wedge of uncovered requirement that we believe will need to be filled at a time when the availability of sufficient supply is not guaranteed. We expect a renewed focus on security of supply will provide the market signals producers need and we have growing confidence that the uranium market will undergo the same transition that is occurring in the conversion and enrichment markets.

Supply is not guaranteed

Low uranium prices, government-driven trade policies, and the COVID-19 pandemic continued to have an impact on the security of supply in our industry. In addition to the decisions many producers, including the lowest-cost producers, have made to preserve long-term value by leaving uranium in the ground, there have been a number of unplanned supply disruptions related to the impact of the COVID-19 pandemic on uranium mining and processing activities. Uranium is a highly trade-dependent commodity, and adding to security of supply concerns is the role of commercial and state-owned entities in the uranium market, and trade policies that highlight the disconnect between where uranium is produced and where it is consumed. About 80% of primary production is in the hands of state-owned enterprises, after taking into account the cuts to primary production that have occurred over the last several years. Furthermore, about 80% of primary production comes from countries that consume little-to-no uranium, and nearly 90% of uranium consumption occurs in countries that have little-to-no primary production. As a result, government-driven trade policies can be particularly disruptive for the uranium market. Some of the more significant supply and trade policy developments in 2020 and to-date are:

- Unplanned production disruptions at various production facilities due to the COVID-19 pandemic, including at the Cigar Lake mine and the McClean Lake mill, and across all uranium mines in Kazakhstan resulted in 2020 global uranium production being down about 15% compared to 2019 and led to an increase in spot market purchases by producers. Production in 2020 represented the lowest annual production since 2008, accounting for only 77% of reactor requirements.
- Kazatomprom (KAP) reaffirmed its intention to maintain its aggregate production reduction of 20% compared to planned levels under subsoil use contracts in 2021, with no additional production planned to replace the volumes lost in 2020 resulting from measures taken to combat COVID-19. It also announced its plan to extend the 20% reduction through 2022. KAP said full implementation of its decision would remove up to 14.3 million pounds U_3O_8 from 2022 expected global primary supply.
- During the year, KAP offered a secondary placement of its shares, increasing publicly-traded share capital from 15% to 18.8%.
- China General Nuclear Power Group is expected to acquire a 49% stake in Ortalyk LLP. This KAP subsidiary holds the Central Mynkuduk in situ recovery (ISR) mine with a capacity of about 5.2 million pounds U_3O_8 per year and the planned Zhalpak ISR mine with expected capacity of 1.95 million pounds U_3O_8 per year, subject to obtaining regulatory and government approvals.
- In December, the US Congress approved an omnibus spending bill for fiscal 2021, which will provide nearly $1.5 billion (US) in spending for nuclear programs. Notably it includes initial funding of $75 million (US) for the creation of a national uranium reserve. This funding, which was a primary recommendation in a strategy report released in April by the US Nuclear Fuel Working Group, opens the door for the US government to purchase domestically produced uranium and UF_6 to guard against potential commercial and national security risks as a result of the country's near-total reliance on foreign imports.
- The American Nuclear Infrastructure Act, a bipartisan US Senate bill, was approved in December, though full review is not expected until the next US Congress in 2021. The bill addresses national security, economic, and climate change elements related to the nuclear sector.

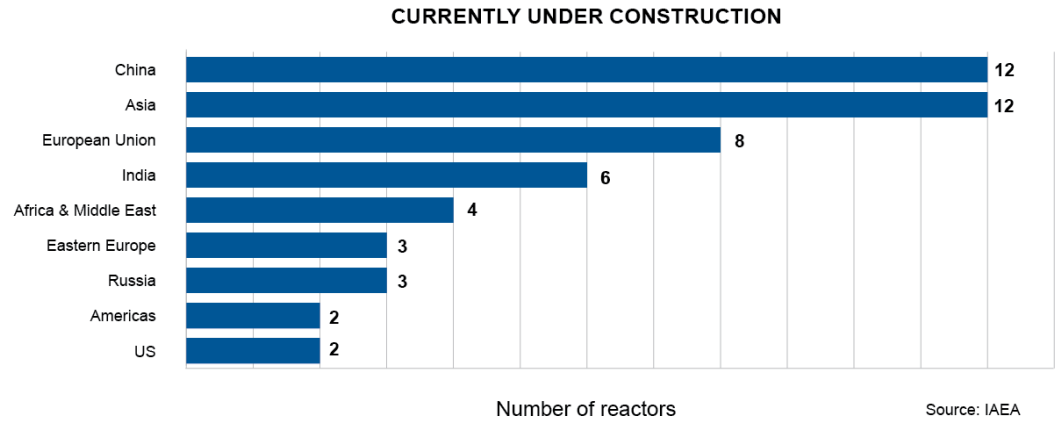
- An amendment to the Russian Suspension Agreement (RSA) was signed that extends the agreement from January 1, 2021 through December 31, 2040 and provides a clear set of rules around access to the US nuclear energy sector by Russian nuclear fuel suppliers. Since 1992, the importation of Russian uranium products in the US has been subject to a quota under the US-Russia Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation (the Russian Suspension Agreement). The amendment reduces the average overall quota and introduces caps, which will reduce the amount of Russian uranium, conversion and enrichment supplied to the US over the long-term. The amendment also includes important new provisions to ensure that all Russian origin uranium must be counted against the quota even if it is imported after further processing in other countries.
- BHP indicated that the economics for its expansion plans at the Olympic Dam mine (ODM) were challenging, and that it has decided not to proceed with the expansion at this time. ODM currently produces approximately 8 million pounds U_3O_8 per year and the expansion was projected to increase its annual uranium production up to as much as 14 million pounds.
- Energy Resources of Australia Ltd. announced on January 8, 2021 that processing operations have officially been discontinued at the Ranger uranium mine in the Northern Territory of Australia. The mine had averaged about 4 million pounds U_3O_8 in recent years and this shutdown concludes over 35 years of production.
- The board of directors of Orano's Cominak mine announced that the mine will shut down in March 2021 due to depletion of reserves. The mine had been producing about 3 million pounds U_3O_8 in recent years.

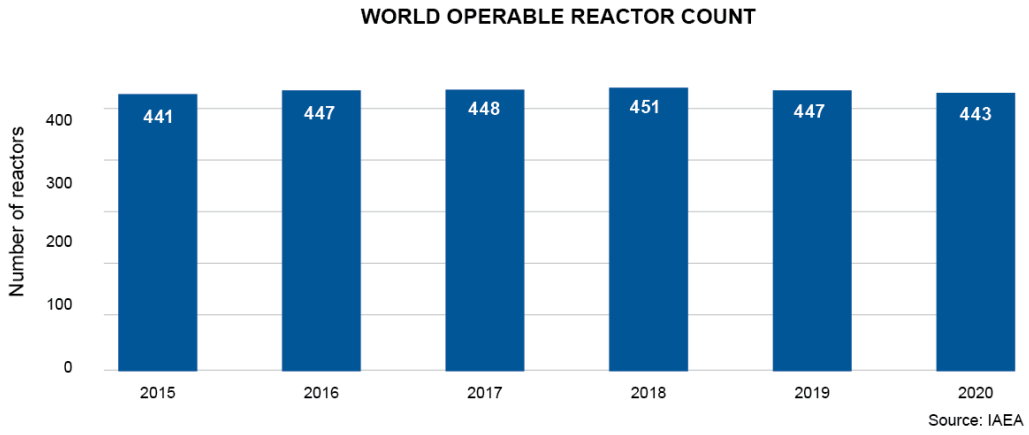
Demand has recovered and is growing

The demand gap left by forced and premature nuclear reactor shutdowns since March of 2011 was filled in 2018. According to the International Atomic Energy Agency there are currently 443 reactors operating globally and 52 reactors under construction. With a number of reactor construction projects recently approved, and many more planned, the demand for uranium is growing. This growth is largely occurring in Asia and the Middle East. Some of this growth is tempered by early reactor retirements, plans for reduced reliance on nuclear, or phase-out policies in other regions. In addition, the COVID-19 pandemic is expected to have a negative impact on global energy demand in the near term. For 2020, the International Energy Agency (IEA) expects global electricity demand to fall by 5% over 2019 with nuclear declining by 2.5% due to lower demand and delays for planned maintenance and construction of several projects. However, there is growing focus on electrification and an increasing recognition of the role nuclear power must play in providing safe, reliable, affordable carbon-free baseload electricity and achieving a low-carbon economy. Momentum is also building for non-traditional commercial uses of nuclear power such as development of small modular reactors and advanced reactors, with numerous companies and countries pursuing projects. With the ongoing challenges posed by the COVID-19 pandemic, many governments will continue to rely on nuclear plants as part of the critical infrastructure needed to guarantee the availability of 24-hour power. Some of the more significant demand developments in 2020 and to-date are:

- Many countries, US states, and utilities announced net-zero carbon targets in 2020. While most of these targets are further out in the future, many of the plans include an important role for nuclear. For example, a study suggests that for China to achieve its net-zero target by 2060, will require a 382% increase in nuclear power from 2025 levels.
- In the US, President Biden's campaign included positive statements about the need to maintain the existing nuclear power fleet and to build advanced reactors as part of an overall shift to non-emitting carbon power sources.
- Exelon announced plans to close its Byron and Dresden nuclear plants in Illinois in 2021, pointing to economics challenged by declining energy prices and market rules.
- Energy Harbor is facing challenges as a state law providing subsidies to its two nuclear plants in Ohio, Davis Besse and Perry, is now in question due to a lobbying and bribery scandal.
- In China, one new reactor began commercial operations in 2020 and two new reactor construction starts were recorded. A fourth power company, China Huaneng Group, was licensed to operate nuclear reactors in China.
- China's 14th Five-Year Plan and related policy documents covering the 2021-2025 period is ongoing, and publication of the plan is expected in March 2021.
- In Japan, many of the nine restarted reactors were off-line for a period of time for maintenance outages and antiterrorism upgrades. However, Kyushu's Genkai 3 and Sendai 1 and 2, and Kansai's Ohi 4 have restarted and are operating after meeting the new standards. Following the completion of upgrades and local approvals, three additional units are expected to restart in 2021, including Kansai's Takahama 1 and 2, and Mihama 3.
- Japan's Prime Minister, Yoshihide Suga, announced that the country aims to become carbon neutral by 2050. Regarding nuclear, he indicated Japan will continue to develop its nuclear energy supply with "maximum priority on safety". Japan's current energy plan calls for 20% to 22% nuclear by 2030.

- In France, President Macron stated in December that nuclear will remain a pillar of the French energy mix for decades to come and pressed for preparatory studies on new next-generation EPR reactors to be wrapped up in the coming months.
- Two countries had their first nuclear power plants connected to the grid in 2020: United Arab Emirates with Barakah 1, and Belarus with Ostrovets 1. These are the first two countries to begin new nuclear power production since 2013.
- In Eastern Europe, important steps were made to advance nuclear power in several countries including Hungary, Poland, Bulgaria, Romania, Ukraine and Slovenia.
- Belgium confirmed its 2025 nuclear phase-out policy, but left the door open for two to three reactors to stay online longer.
- The Netherlands announced they will begin a process that considers building up to 10 nuclear power plants.
- India's first domestically designed 700 MWe pressurized heavy water reactor was launched at Kakrapar, an important milestone for the country. Three more units of this design are expected to come online in the next few years.
- In South Korea, according to current government plans, no new nuclear power plants will be built in the country, except those already under construction. Existing nuclear power facilities will continue to operate but will not be granted operating extensions.
- In March 2021, Yellow Cake plc. raised $150 million to execute its option and purchase uranium concentrates from KAP.

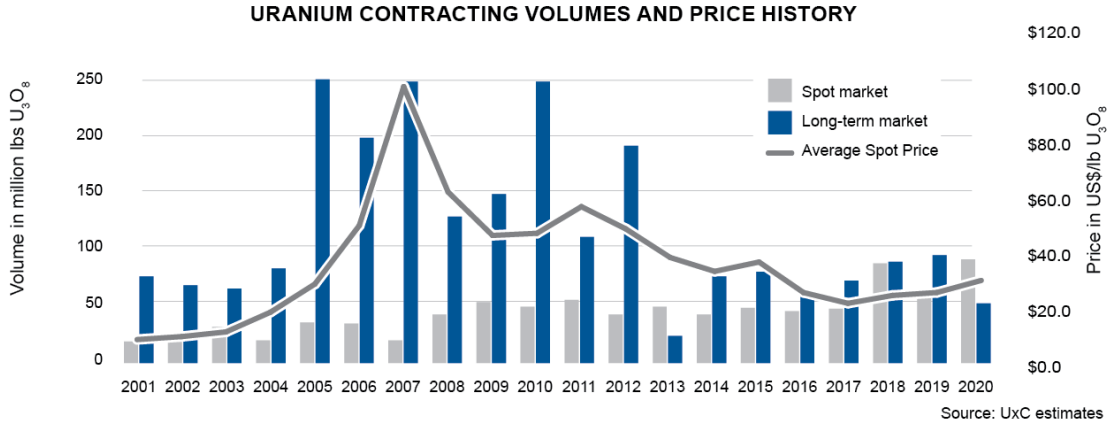




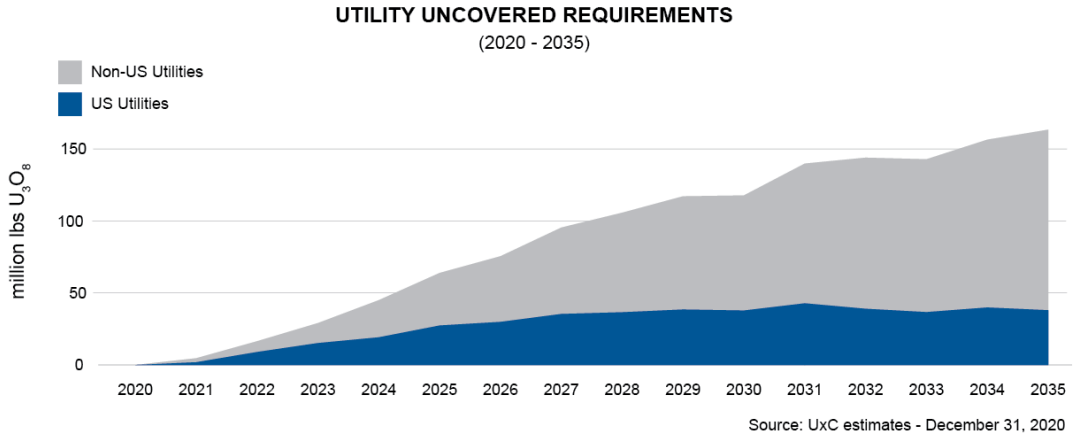
Opportunities for those who can wait

UxC reports that over the last five years only approximately 390 million pounds U_3O_8 equivalent have been locked-up in the long-term market, while approximately 815 million pounds U_3O_8 equivalent have been consumed in reactors. We remain confident that utilities have a growing gap to fill.

Like other commodities, the uranium industry is cyclical. History demonstrates that in general, when prices are rising and high, uranium is perceived as scarce, and a lot of contracting activity takes place. The heavy contracting that takes place during price runs, drives investment in higher-cost sources of production. Once that production is in the market, it tends to stay in the market longer than is economically rational, creating the perception that uranium is abundant and always will be, and prices decline. When prices are declining and low, like we have seen over the past number of years, there is no perceived urgency to contract, and contracting activity and investment in new supply drops off. After years of low investment in supply, as has been the case since 2011, security of supply tends to overtake price concerns at some point, and utilities re-enter the long-term market to ensure they have the reliable supply of uranium they need to run their reactors.



We believe the current backlog of long-term contracting presents a substantial opportunity for commercially motivated suppliers like us that can weather the low-price part of the cycle. As a low-cost producer, we manage our operations with these price cycles in mind.



In our industry, customers do not come to the market right before they need to load uranium into their reactors. To operate a reactor that could run for more than 60 years, natural uranium and the downstream services have to be purchased years in advance, allowing time for a number of processing steps before a finished fuel bundle arrives at the power plant. At present, we believe there is a significant amount of uranium that needs to be contracted to keep reactors running into the next decade.

UxC estimates that cumulative uncovered requirements are about 1.4 billion pounds to the end of 2035. The longer the recovery of the long-term market is delayed, the less certainty there will be about the availability of future supply to fill growing demand. In fact, recent data from the US Energy Information Administration shows that utility inventories are starting to decline and are approaching levels that could put security of supply at risk. Ultimately, we expect the current market uncertainty to give way to increasing concerns about the security of future supply.

As utilities' uncovered requirements grow, annual supply declines, demand for uranium from producers and other intermediaries increases, and with trade policy potentially restricting access to some markets, we believe the pounds available in the spot market will not be adequate to satisfy future demand. As a result, we expect there will be increased competition to secure uranium under long-term contracts on terms that will ensure the availability of reliable primary supply to meet growing demand.

Global population is on the rise, and there is a growing focus on electrification and decarbonization. With the world's need for safe, clean, reliable baseload energy, nuclear remains an important part of the energy mix. We remain confident in the future of the nuclear industry. With demand increasing due to restarts and new reactors, and supply becoming less certain as a result of low prices, production curtailments, lack of investment, end of reserve life, unplanned production disruptions, shrinking secondary supplies and trade policy issues, we're continuing to expect a market transition. While the timing of a market transition remains uncertain, we will continue to take the actions we believe are necessary to position the company for long-term success. Therefore, we will undertake contracting activity which aligns with the uncertain timing of a market recovery and is intended to ensure we have adequate protection and will benefit from higher prices under our contract portfolio, while maintaining exposure to the rewards that come from having uncommitted, low-cost supply to place into a strengthening market.

Marketing framework – balanced contract portfolio

As with our corporate strategy and approach to capital allocation, the purpose of our marketing framework is to deliver value. Our approach is to secure a solid base of earnings and cash flow by maintaining a balanced contract portfolio that optimizes our realized price.

We evaluate our strategy in the context of our market environment and continue to adjust our actions in accordance with our marketing framework:

- First, we will not produce from our tier-one assets to sell into an oversupplied spot market. We will not produce from these assets unless we can deliver our tier-one pounds under long-term contracts that provide an acceptable rate of return.
- Second, we do not intend to build an inventory of excess uranium. Excess inventory serves to contribute to the sense that uranium is abundant and creates an overhang on the market, and it ties up working capital on our balance sheet.
- Third, in addition to our committed sales, we will capture end-user demand in the market where we think we can obtain value. We will take advantage of opportunities the market provides, where it makes sense from an economic, logistical and strategic point of view. Those opportunities may come in the form of spot, mid-term or long-term demand, and will be additive to our current committed sales.
- Fourth, once we capture demand, we will decide how to best source material to satisfy that demand. Depending on the timing and volume of our production, purchase commitments, and our inventory volumes, this means we will be active buyers in the market in order to meet our demand obligations.
- And finally, in general, if we choose to source material to meet demand by purchasing it, we expect the price of that material will be more than offset by the leverage to market prices in our sales portfolio over the long-term.

In addition to this framework, our contracting decisions always factor in who the customer is, our desire for regional diversification, the product form, and logistical factors.

Ultimately, our goal is to protect and extend the value of our contract portfolio on terms that recognize the value of our assets and pricing mechanisms that provide adequate protection when prices go down and allow us to benefit when prices rise. We believe using this framework will allow us to create long-term value. Our focus will continue to be on maximizing cash flow, so we can execute on our strategy and self-manage risk.

Long-term contracting

Uranium is not traded in meaningful quantities on a commodity exchange. Utilities have historically bought the majority of their uranium and fuel services products under long-term contracts with suppliers and have met the rest of their needs on the spot market. We sell uranium and fuel services directly to nuclear utilities around the world as uranium concentrates, UO_2 and UF_6, conversion services, or fuel fabrication. We have a solid portfolio of long-term sales contracts that reflect the long-term, trusting relationships we have with our customers.

In general, we are always active in the market, buying and selling uranium when it is beneficial for us and in support of our long-term contract portfolio. We undertake activity in the spot and term markets prudently, looking at the prices and other business factors to decide whether it is appropriate to purchase or sell into the spot or term market. Not only is this activity a source of profit, it gives us insight into underlying market fundamentals.

We deliver large volumes of uranium every year, therefore our net earnings and operating cash flows are affected by changes in the uranium price. Market prices are influenced by the fundamentals of supply and demand, market access and trade policy issues, geopolitical events, disruptions in planned supply and demand, and other market factors.

The objectives of our contracting strategy are to:

- maximize realized price while providing some certainty for our future earnings and cash flow
- focus on meeting the nuclear industry's growing annual uncovered requirements with our tier-one production
- establish and grow market share with strategic customers

We target a portfolio of long-term contracts that have a ratio of 40% fixed-pricing and 60% market-related pricing mechanisms, including provisions to protect us when the market price is declining and allow us to benefit when market prices go up. This is a balanced and flexible approach that allows us to adapt to market conditions and put a floor on our average realized price, and deliver the best value over the long term.

This approach has allowed us to realize prices higher than the market prices during periods of weak uranium demand, and we expect it will enable us to realize increases linked to higher market prices in the future.

Fixed-price contracts for uranium: typically use a pricing mechanism based on a term-price indicator at the time the contract is accepted and escalated over the term of the contract.

Market-related contracts for uranium: are different from fixed-price contracts in that the pricing mechanism may be based on either the spot price or the long-term price, and that price is as quoted at the time of delivery rather than at the time the contract is accepted. These contracts sometimes provide for discounts, and often include floor prices and/or ceiling prices, which are usually escalated over the term of the contract.

Fuel services contracts: the majority of our fuel services contracts use a fixed price mechanism per kgU, escalated over the term of the contract, and reflect the market at the time the contract is accepted.

Optimizing the contract portfolio

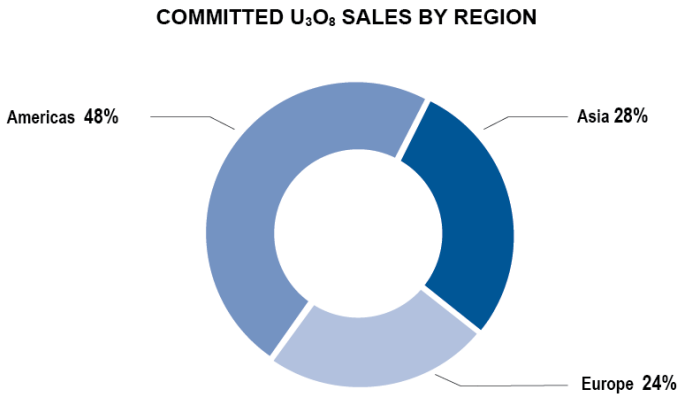
We work with our customers to optimize the value of our contract portfolio. With respect to new contracting activity, as we have seen in our fuel services segment, there is often a lag from when contracting discussions begin and when contracts are executed. With our pipeline of business under negotiation in our uranium segment being larger than we have seen since 2011, and a value driven strategy, we are being strategically patient in considering the commercial terms we are willing to accept. Much of our pending business is off-market and, in the past, off-market activity has been a leading indicator of a contracting cycle. We remain confident that we can add acceptable new sales commitments to our portfolio of long-term contracts to support the restart of our McArthur River/Key Lake operation. Given our view that uranium prices need to rise to ensure the availability of long-term supply to fuel growing demand for safe, clean, reliable, carbon-free nuclear energy, our preference today is to sign long-term contracts with market-related pricing mechanisms. Unsurprisingly, we believe our customers too expect prices to rise and prefer to lock-in today's low prices, with a fixed-price mechanism. Our goal is to balance all these factors, along with our desire for regional diversification, with product form, and logistical factors to ensure we have adequate protection and will benefit from higher prices under our contract portfolio, while maintaining exposure to the rewards that come from having low-cost supply to deliver into a strengthening market.

With respect to our existing contracts, at times we may also look for opportunities to optimize the value of our portfolio. In cases where a customer is seeking relief under an existing contract due to a challenging policy, operating, or economic environment, or we deem the customer's long-term demand to be at risk, we may consider options that are beneficial to us and allow us to maintain our customer relationships.

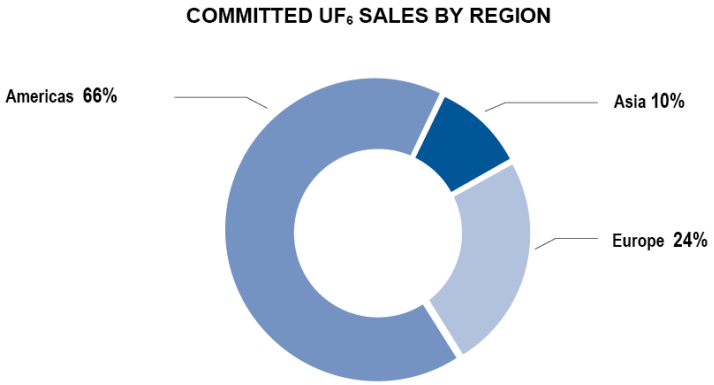
Contract portfolio status

We have commitments to sell over 113 million pounds of U_3O_8 with 32 customers worldwide in our uranium segment, and over 53 million kilograms as UF_6 conversion with 31 customers worldwide in our fuel services segment. The annual average sales commitments over the next five years in our uranium segment is around 16 million pounds, with commitment levels in 2021 and 2022 higher than in 2023 through 2025.

Customers – U_3O_8:
Five largest customers account for 60% of commitments



Customers – UF_6 conversion:
Five largest customers account for 54% of commitments



Managing our contract commitments

To meet our delivery commitments, we use our uranium supply, which includes uranium obtained from:

- our existing production
- purchases under our JV Inkai agreement, under long-term agreements and in the spot market
- our existing inventory

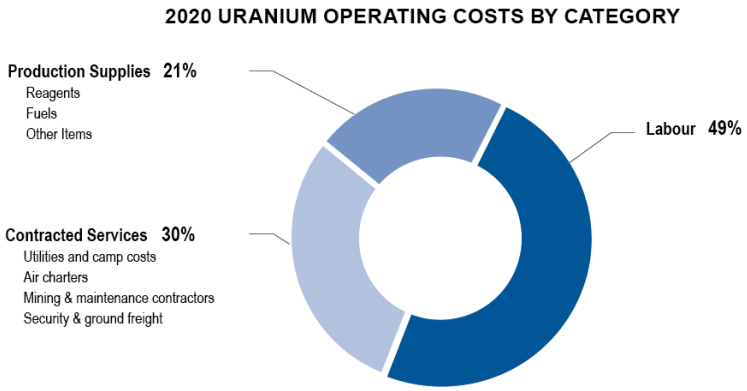
We allow sales volumes to vary year-to-year depending on:

- the level of sales commitments in our long-term contract portfolio
- our production volumes
- purchases under existing and/or new arrangements
- discretionary use of inventories
- market opportunities

Managing our costs

Production costs

In order to operate efficiently and cost-effectively, we manage operating costs and improve plant reliability by prudently investing in production infrastructure, new technology, and business process improvements. Like all mining companies, our uranium segment is affected by the cost of inputs such as labour and fuel.



Given the current market dynamics and the risks posed by the COVID-19 pandemic, we start 2021 with all our uranium mining operations on care and maintenance. We expect to restart Cigar Lake, but the timing and the production rate will be dependent on how the COVID-19 pandemic is impacting the availability of the required workforce at Cigar Lake, how cases are trending in Saskatchewan, in particular in northern communities, and the views of public health authorities. In general, while McArthur River and Key Lake are shut down, our annual cost of production is expected to reflect the estimated life-of-mine operating cost, between $15 and $16 per pound, of mining and milling our share of Cigar Lake mineral reserves. However, our cash production costs in 2021 may be impacted by the timing of the restart and the production rate of Cigar Lake.

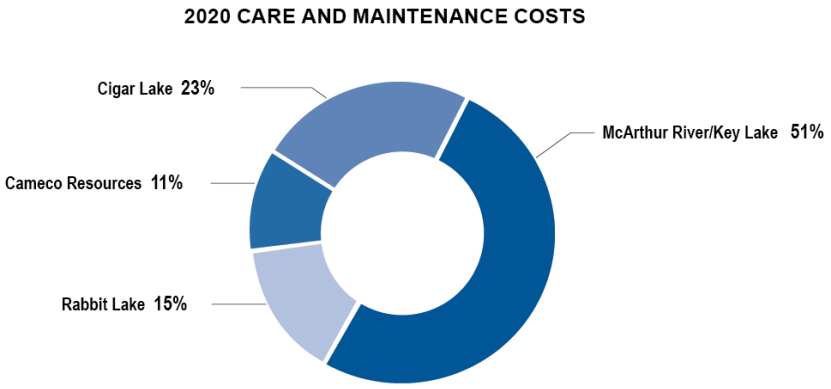
Operating costs in our fuel services segment are mainly fixed. In 2020, labour accounted for about 51% of the total. The largest variable operating cost is for zirconium, followed by anhydrous hydrogen fluoride, and energy (natural gas and electricity).

Care and maintenance costs

In 2021, we expect to incur between $150 million and $170 million in care and maintenance costs related to the suspension of production at our McArthur River/Key Lake mine and mill, Rabbit Lake mine and mill, and US operations. The largest proportion of these costs will be incurred at McArthur River/Key Lake. In addition, we expect to incur care and maintenance costs of between $8 million to $10 million per month while production at Cigar Lake is suspended due to the risks posed by the COVID-19 pandemic.

As noted above, the restart of Cigar Lake is dependent on the risks posed by the COVID-19 pandemic. At McArthur River/Key Lake, the restart of the mine and mill is a commercial decision that will be based on our ability to commit our share of production from this operation under acceptable long-term contracts and to benefit from the favourable life-of-mine economics it provides. Therefore, while on care and maintenance we are focused on improving operational effectiveness, including the use of digital and automation technologies. Our goal is to streamline our processes and leverage digital and automation technologies to reduce our future operating costs and increase the degree of operating flexibility we have when we restart this tier-one asset and eliminate the costs associated with care and maintenance. As a result, care and maintenance costs are expected to be higher for McArthur River/Key Lake compared to Rabbit Lake and in the US. Upon its restart, care and maintenance costs at McArthur River/Key Lake will be eliminated. Our Rabbit Lake and US operations are higher-cost, and with plenty of idle tier-one capacity and tier-one expansion capacity globally that can come back on line relatively quickly, the restart horizon is less certain.

While Rabbit Lake and our US operations are in standby, we will continue to evaluate our options in order to minimize costs.



Purchases and inventory costs

Our costs are also affected by the purchases of uranium and conversion services we make under long-term contracts and on the spot market.

To meet our delivery commitments, we make use of our mined production, inventories, purchases under long-term contracts, and purchases we make on the spot market. In 2021, the price for the majority of our purchases will be quoted at the time of delivery.

The cost of purchased material may be higher or lower than our other sources of supply, depending on market conditions. The cost of purchased material affects our cost of sales, which is determined by calculating the average of all of our sources of supply, including opening inventory, production, and purchases, and adding royalties, selling costs, and care and maintenance costs. If market prices exceed our cost of inventory, we expect the cost of sales may be impacted.

Financial impact

As greater certainty returns to the uranium market, our view is that the market needs to transition to one where uranium prices reflect the cost of bringing on new primary production to meet growing demand.

We have taken a number of deliberate and disciplined actions to reduce supply and streamline operations. Some of these actions come with a cost in the near term, like care and maintenance costs and purchase costs higher than our production costs, but we believe the benefit over the long term will far outweigh those costs.

We believe our actions will help shield the company from the nearer term risks we face and will reward shareholders for their continued patience and support of our strategy to build long-term value.

Supply sources

Uranium supply sources include primary production (production from mines that are currently in commercial operation) and secondary supply sources (excess inventories, uranium made available from defense stockpiles and the decommissioning of nuclear weapons, re-enriched depleted uranium tails, and used reactor fuel that has been reprocessed).

Primary production

While the uranium production industry is international in scope, there are only a small number of companies operating in relatively few countries. In addition, there are barriers to entry and bringing on and ramping up production can take between seven and 10 years. A number of projects have been cancelled or delayed, and some production has been discontinued due to the low uranium prices that have persisted since 2011. Today's uranium prices are not high enough to encourage investment in new mine development and not high enough to incent some existing mines to continue to produce.

We estimate world mine production in 2020 was about 123 million pounds U_3O_8, down from 142 million pounds in 2019:

- About 80% of estimated world production came from five countries: Kazakhstan (40%), Australia (13%), Namibia (11%) Canada (8%), and Uzbekistan (7%).

- About 70% of estimated world production was attributable to five producers. We accounted for about 7% (9.2 million pounds) of estimated world production in 2020.

Secondary sources

There are a number of secondary sources, but most of these sources are finite and will not meet long-term needs:

- The US government has historically made some of its inventories available to the market, although in smaller and predictable quantities.
- The Russian government also holds substantial volumes of nuclear fuel inventory largely in the form of depleted uranium, but overall, their contribution to secondary supplies has reduced significantly since the end of the HEU Agreement.
- Utilities, mostly in Europe and some in Japan and Russia, use reprocessed uranium and plutonium from used reactor fuel.
- Re-enriched depleted uranium tails and uranium from underfeeding are also generated using excess enrichment capacity.

Uranium from US inventories

We expect a sizeable portion of the US Department of Energy (DOE) inventory will be available to the market over the next two decades, although a significant portion of the inventory requires either further processing or the development of commercial arrangements before it can be brought to market.

DOE Excess Uranium Inventory Management Plan

Historically, the DOE was one of the primary sources of secondary supplies in the uranium market. This role has been significantly reduced since the suspension of the barter program of its natural UF_6 inventory. DOE's current primary contribution to secondary supplies is high-enriched uranium (HEU) downblending. The vast majority of the DOE's inventory is large volumes of depleted uranium (DU).

In 2018, the DOE suspended its practice of bartering its excess uranium through 2019. The barter suspension has since been extended on an annual basis. Considerations for 2021 are ongoing, but the DOE has indicated a commitment to continue the suspension of the UF_6 barter program. There is currently no available timetable to dispose of the remaining natural UF_6 in DOE's excess inventory, estimated at less than 9 million pounds.

Trade restraints and policies

The importation of Russian uranium into the US market is regulated by the amended *USEC Privatization Act* and by the Agreement Suspending the Antidumping Action against Russian Uranium Products (RSA), which together impose annual quotas on imports of Russian uranium. These quotas were set at the equivalent of 20% of annual US reactor demand and expired at the end of 2020. An amendment to the RSA was signed that extends the agreement from January 1, 2021 through December 31, 2040 and provides a clear set of rules around access to the US nuclear energy sector by Russian nuclear fuel suppliers. Since 1992, the importation of Russian uranium products in the US has been subject to a quota under the RSA. The amendment reduces the average overall quota and introduces caps, which will reduce the amount of Russian uranium, conversion and enrichment supplied to the US over the long-term. The amendment also includes important new provisions to ensure that all Russian origin uranium must be counted against the quota even if it is imported after further processing in other countries.

The US restrictions do not affect the sale of Russian uranium to other countries. About 70% of world uranium demand is from utilities in countries that are not affected by the US restrictions. Utilities in some countries, however, adopt policies that limit the amount of Russian uranium they will buy. The Euratom Supply Agency in Europe must approve all uranium related contracts for members of the European Union (EU), and limits the use of certain nuclear fuel supplies from any one source to maintain security of supply, although these limits do not apply to uranium sold separately from enriched uranium product.

In December, the US Congress approved an omnibus spending bill for 2021, which will provide nearly $1.5 billion (US) in spending for nuclear programs. Notably it includes initial funding of $75 million (US) for the creation of a national uranium reserve. This funding, which was a primary recommendation in a strategy report released in April by the US Nuclear Fuel Working Group, opens the door for the US government to purchase domestically produced uranium and UF_6 to guard against potential commercial and national security risks as a result of the country's near-total reliance on foreign imports.

Conversion services

We have about 24% of world UF_6 primary conversion capacity and supply UO_2 for Canadian-made CANDU reactors. For conversion services, we compete with a small number of primary commercial suppliers, in addition to the secondary supplies described above, to meet global demand.

Operations and projects

Uranium

Tier-one operations	
McArthur River mine/Key Lake mill	21
Cigar Lake	37
Inkai	51
Tier-two operations	
Rabbit Lake	67
US ISR Operations	68
Advanced projects	
Millennium	69
Yeelirrie	69
Kintyre	69
Exploration and corporate development	70

Fuel services

Refining	
Blind River refinery	72
Conversion and fuel manufacturing	
Port Hope conversion services	73
Cameco Fuel Manufacturing Inc.	74

Uranium production

Cameco's share (million lbs U_3O_8)	**2019**	**2020**	**2021 Plan**
McArthur River/Key Lake	- [1]	- [1]	- [1]
Cigar Lake	9.0	5.0[2]	- [3]
Rabbit Lake	- [1]	- [1]	- [1]
US ISR Operations	- [1]	- [1]	- [1]
Total	**9.0**	**5.0**	- [1,3]

[1] The McArthur River/Key Lake operations and the Rabbit Lake operation are in a safe and sustainable state of care and maintenance, and we are no longer developing new wellfields at US ISR Operations.

[2] In April 2020, we withdrew our production outlook for the Cigar Lake mine due to the first precautionary suspension to manage the risks posted by the COVID-19 pandemic. With the restart of the mine in September 2020, a production target of up to 5.3 million pounds (our share) was set. In December 2020, production was again temporarily suspended as a precautionary measure to manage the risks posed by the COVID-19 pandemic.

[3] Production at the Cigar Lake mine is currently temporarily suspended.

We expect total production from Inkai to be 8.3 million pounds in 2021 on a 100% basis, assuming no production disruptions due to the COVID-19 pandemic or other causes. Due to equity accounting, our share of production is shown as a purchase.

Uranium – Tier-one operations

McArthur River mine/Key Lake mill

McArthur River is the world's largest high-grade uranium mine, and Key Lake is the world's largest uranium mill.

Ore grades at the McArthur River mine are 100 times the world average, which means it can produce more than 18 million pounds per year by mining only 200 to 400 tonnes of ore per day. We are the operator of both the mine and mill.

In 2018, a decision was made to suspend production at the mine and mill for an indeterminate duration. A restart of the mine and mill is a commercial decision that will be based upon our ability to commit our share of production from this operation under acceptable long-term contracts and to benefit from the favourable life-of-mine economics it provides.

McArthur River is considered a material uranium property for us.

Location	Saskatchewan, Canada
Ownership	69.805% - McArthur River 83.333% - Key Lake
End product	uranium concentrate
ISO certification	ISO 14001 certified
Mine type	underground
Estimated mineral reserves (our share)	273.6 million pounds (proven and probable), average grade U_3O_8 – 6.89%
Estimated mineral resources[1] (our share)	7.2 million pounds (measured and indicated), average grade U_3O_8 – 2.45% 1.8 million pounds (inferred), average grade U_3O_8 – 2.85%
Mining methods	blasthole stoping raiseboring
Licensed capacity	mine and mill: 25.0 million pounds per year
Total packaged production 2000 to 2020	325.4 million pounds (McArthur River/Key Lake) (100% basis)
2020 production	0 million pounds
2021 production outlook	0 million pounds
Estimated mine life	23 years (based upon the production schedule in the March 29, 2019 technical report)
Estimated decommissioning cost (100% basis)	$42 million – McArthur River $223 million – Key Lake

[1] Mineral resources that are not mineral reserves have no demonstrated economic viability.

Business structure

McArthur River is owned by a joint venture (MRJV) between two companies:

- Cameco – 69.805%
- Orano Canada Inc. (Orano) – 30.195%

Key Lake is owned by a joint venture between the same two companies:

- Cameco – 83.333%
- Orano – 16.667%

History

1976	• Canadian Kelvin Resources Ltd. and Asamera Oil Corporation Ltd. form an exploration joint venture, which includes the lands that the McArthur River mine is situated on
1977	• SMDC, one of our predecessor companies, acquires a 50% interest
1980	• McArthur River joint venture is formed • SMDC becomes the operator • Active surface exploration begins • Between 1980 and 1988 SMDC reduces its interest to 43.991%
1988	• Eldorado Resources Limited merges with SMDC to form Cameco • We become the operator • Deposit discovered by surface drilling
1988-1992	• Surface drilling reveals significant mineralization of potentially economic uranium grades, in a 1,700 metre zone at depths of between 500 to 640 metres
1992	• We increase our interest to 53.991%
1993	• Underground exploration program receives government approval – program consists of shaft sinking (completed in 1994) and underground development and drilling
1995	• We increase our interest to 55.844%
1997-1998	• Federal authorities issue construction licences for McArthur River after reviewing the environmental impact statement, holding public hearings, and receiving approvals from the governments of Canada and Saskatchewan
1998	• We acquire all of the shares of Uranerz Exploration and Mining Ltd. (UEM), increasing our interest to 83.766% • We sell half of the shares of UEM to Orano, reducing our interest to 69.805%, and increasing Orano's to 30.195%
1999	• Federal authorities issue the operating licence and provincial authorities give operating approval, and mining begins in December
2003	• Production is temporarily suspended in April because of a water inflow • Mining resumes in July
2009	• UEM distributes equally to its shareholders: – its 27.922% interest in the McArthur River joint venture, giving us a 69.805% direct interest, and Orano a 30.195% direct interest – its 33.333% interest in the Key Lake joint venture, giving us an 83.33% direct interest, and Orano a 16.667% direct interest
2013	• Federal authorities granted a 10-year renewal of the McArthur River and Key Lake operating licences
2014	• After a two-week labour disruption, we enter into a four-year collective agreement with unionized employees at McArthur River and Key Lake operations
2017	• We announce our plan to temporarily suspend production at McArthur River and Key Lake in 2018
2018	• We announce the suspension of production at McArthur River and Key Lake for an indeterminate duration

Technical report

This description is based on the project's technical report: McArthur River Operation, Northern Saskatchewan, Canada, dated March 29, 2019 (effective December 31, 2018). The report was prepared for us in accordance with *Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects* (NI 43-101), by or under the supervision of Linda Bray, P. Eng., Gregory M. Murdock, P. Eng., and Alain D. Renaud, P. Geo., The following description has been prepared under the supervision of Biman Bharadwaj, P. Eng., Gregory M. Murdock, P. Eng., and Alain D. Renaud, P. Geo. They are all qualified persons within the meaning of NI 43-101, but are not independent of us.

The conclusions, projections and estimates included in this description are subject to the qualifications, assumptions and exclusions set out in the technical report. We recommend you read the technical report in its entirety to fully understand the project. You can download a copy from SEDAR (sedar.com) or from EDGAR (sec.gov).

For information about uranium sales see pages 13 to 15, environmental matters see *Our approach to ESG matters* and *The regulatory environment* starting on pages 80 and 88, and taxes see page 95.

For a description of royalties payable to the province of Saskatchewan on the sale of uranium extracted from orebodies within the province, see page 94.

For a description of risks that might affect access, title or the right or ability to perform work on the property, see *Regulatory risks* starting at page 110, *Environmental risks* starting at page 110 and *Legal and other risks* starting at page 112.

About the McArthur River property

Location

The McArthur River mine site is located near Toby Lake, approximately 620 kilometres north of Saskatoon. The mine site is in close proximity to other uranium production operations: the Key Lake mill is 80 kilometres southwest by road and the Cigar Lake mine is 46 kilometres northeast by air.

Access

Access to the property is by an all-weather gravel road and by air. Supplies are transported by truck from Saskatoon and elsewhere. There is a 1.6 kilometre unpaved air strip and an air terminal one kilometre east of the mine site, on the surface lease.

Saskatoon, a major population centre south of the McArthur River property, has highway and air links to the rest of North America.

Leases

Surface lease

The MRJV acquired the right to use and occupy the lands necessary to mine the deposit under a surface lease agreement with the province of Saskatchewan. The most recent agreement was signed in November 2010. It covers 1,425 hectares and has a term of 33 years.

We are required to report annually on the status of the environment, land development and progress on northern employment and business development.

Mineral lease

We have the right to mine the deposit under ML 5516, granted to us by the province of Saskatchewan. The lease covers 1,380 hectares and expires in March 2024. We have the right to renew the lease for further 10-year terms.

Mineral claims

A mineral claim gives us the right to explore for minerals and to apply for a mineral lease. There are 27 mineral claims, totaling 86,350 hectares, surrounding the deposit. The mineral claims are in good standing until 2022, or later.

Environment, social and community factors

The climate is typical of the continental sub-arctic region of northern Saskatchewan. Summers are short and cool even though daily temperatures can sometimes reach above 30°C. The mean daily temperature for the coldest month is below -20°C, and winter daily temperatures can reach below -40°C.

The deposit is 40 kilometres inside the eastern margin of the Athabasca Basin in northern Saskatchewan. The topography and environment are typical of the taiga forested lands in the Athabasca Basin.

We are committed to building long-lasting and trusting relationships with the communities in which we operate. For more information, see *Our approach to ESG matters* at page 80.

No communities are in the immediate vicinity of McArthur River. The community of Wollaston Lake is approximately 120 kilometres by air to the east of the mine site. The community of Pinehouse is approximately 300 kilometres south of the mine by road.

Athabasca Basin community resident employees and contractors fly to the mine site from designated pick-up points. Other employees and contractors fly to the mine from Saskatoon with pick-up points in Prince Albert and La Ronge.

Geological setting

The deposit is in the southeastern portion of the Athabasca Basin in northern Saskatchewan, within the southwest part of the Churchill structural province of the Canadian Shield. The deposit is located at or near the unconformity contact between the Athabasca Group sandstones and underlying metasedimentary rocks of the Wollaston Domain.

The deposit is similar to other Athabasca Basin deposits but is distinguished by its very high grade and overall size. Unlike Cigar Lake, there is no development of extensive hydrothermal clay alteration in the sandstone above the uranium mineralization and the deposit is geochemically simple with negligible amounts of other metals.

McArthur River's geological setting is similar to the Cigar Lake deposit in that the sandstone that overlies the deposit and basement rocks contains large volumes of water at significant pressure.

Mineralization

McArthur River's mineralization is structurally controlled by a northeast-southwest trending reverse fault (the P2 fault), which dips 40-65 degrees to the southeast and has thrust a wedge of basement rock into the overlying sandstone with a vertical displacement ranging between 60 and 80 metres.

The deposit consists of nine mineralized zones with delineated mineral resources and/or reserves: Zones 1, 2, 3, 4, 4 South, A, B, McA North 1 and McA North 2. These and three under-explored mineralized showings, known as McA North 3, McA North 4 and McA South 1, as well as other mineralized occurrences have also been identified over a strike length of 2,700 metres.

The main part of the mineralization, generally at the upper part of the basement wedge, averages 12.7 metres in width and has a vertical extent ranging between 50 metres and 120 metres.

The deposit has two distinct styles of mineralization:

- high-grade mineralization at the unconformity near the P2 reverse fault and within both sandstone and basement rocks
- fracture controlled and vein like mineralization that occurs in the sandstone away from the unconformity and within the basement quartzite

The high-grade mineralization along the unconformity constitutes the majority of the mineralization within the McArthur River deposit. Mineralization occurs across a zone of strongly altered basement rocks and sandstone across both the unconformity and the P2 structure. Mineralization is generally within 15 metres of the basement/sandstone contact with the exception of Zone 2.

Uranium oxide in the form of uraninite and pitchblende (+/- coffinite) occurs as disseminated grains in aggregates ranging in size from millimetres to decimetres, and as massive mineralization up to several metres thick.

Geochemically, the deposit does not contain any significant quantities of the elements nickel, copper, cobalt, lead, zinc, molybdenum and arsenic that are present in other unconformity related Athabasca uranium deposits although locally elevated quantities of these elements have been observed in Zone B.

Deposit type

McArthur River is an unconformity-associated uranium deposit. Deposits of this type are believed to have formed through an oxidation-reduction reaction at a contact where oxygenated fluids meet with reducing fluids. The geological model was confirmed by surface drilling, underground drilling, development and production activities.

About the McArthur River operation

McArthur River is a fully developed property with sufficient surface rights to meet current mining operation needs. Beginning in February 2018, we had a planned production suspension. In response to market conditions, in July 2018 we decided to extend the suspension for an indeterminate duration.

We began construction and development of the McArthur River mine in 1997 and completed it on schedule. Mining began in December 1999 and commercial production on November 1, 2000. We have successfully extracted over 325 million pounds (100% basis) since we began mining in 1999.

The mineral reserves at McArthur River are contained within seven zones: Zones 1, 2, 3, 4, 4 South, A and B. Prior to care and maintenance, there were two active mining zones and one where development was significantly advanced.

Zone 2 has been actively mined since production began in 1999. The ore zone was initially divided into three freeze panels. As the freeze wall was expanded, the inner connecting freeze walls were decommissioned in order to recover the inaccessible uranium around the active freeze pipes. Mining of Zone 2 is almost complete. About 4.8 million pounds of mineral reserves remain (100% basis) and we expect to recover them using a combination of raisebore and blasthole stope mining.

Zone 4 has been actively mined since 2010. The zone was divided into four freeze panels, and like in Zone 2, as the freeze wall was expanded, the inner connecting freeze walls were decommissioned. Zone 4 has 117.5 million pounds of mineral reserves (100% basis) secured behind freeze walls and it will be the main source of production when mine production restarts. Raisebore mining and blasthole stoping will be used to recover the mineral reserves.

Zone 1 is the next planned mine area to be brought into production. Freezehole drilling was 90% complete and brine distribution construction was approximately 10% complete when work ceased in 2018 as part of the production suspension. Work remaining before production can begin includes completion of the freezehole drilling, brine distribution construction, ground freezing and drill and extraction chamber development. Once complete, an additional 46.6 million pounds of mineral reserves (100% basis) will be secured behind freeze walls. Blasthole stope mining is currently planned as the main extraction method.

Permits

We need three key permits to operate the McArthur River mine:

- Uranium Mine Operating Licence – renewed in 2013 and expires on October 31, 2023 (from the Canadian Nuclear Safety Commission (CNSC));
- Approval to Operate Pollutant Control Facilities – renewed in 2017 and expires on June 30, 2023 (from the Saskatchewan Ministry of Environment (SMOE)); and
- Water Rights Licence and Approval to Operate Works – amended in 2011 and valid for an undefined term (from the Saskatchewan Watershed Authority).

The CNSC licence conditions handbook allows McArthur River to produce up to 25.0 million pounds (100% basis) per year.

Infrastructure

Surface facilities are 550 metres above sea level. The site includes:

- an underground mine with three shafts: one full surface shaft and two ventilation shafts
- 1.6 kilometre gravel airstrip and air terminal
- waste rock stockpiles
- water containment ponds and treatment plant
- a freshwater pump house
- a powerhouse
- electrical substations
- backup electrical generators
- a warehouse
- freeze plants
- a concrete batch plant
- an administration and maintenance shop building
- a permanent residence and recreation facilities
- an ore slurry load out facility

Water, power and heat

Toby Lake, which is nearby and easy to access, has enough water to satisfy all surface water requirements. Collection of groundwater entering our shafts is sufficient to meet all underground process water requirements. The site is connected to the provincial power grid, and it has backup generators in case there is an interruption in grid power.

McArthur River operates throughout the year despite cold winter conditions. During the winter, we heat the fresh air necessary to ventilate the underground workings using propane-fired burners.

Employees

Employees are recruited with preference given to residents of northern Saskatchewan.

We reached a new collective agreement with unionized employees at our McArthur River/Key Lake operations in July 2019. The new agreement expires on December 31, 2022.

Mining methods and techniques

The McArthur River deposit presents unique challenges that are not typical of traditional hard or soft rock mines. These challenges are the result of mining in or near high pressure ground water in challenging ground conditions with significant radiation concerns due to the high-grade uranium ore. As such, mine designs and mining methods are selected based on their ability to mitigate hydrological, radiological and geotechnical risks.

There are three approved mining methods at McArthur River: raisebore mining, blasthole stope mining and boxhole mining. However, only raisebore and blasthole stope mining remain in use. These methods all use ground freezing to mine the McArthur River deposit.

Ground freezing

All the mineralized areas discovered to date at McArthur River are in, or partially in, water-bearing ground with significant pressure at mining depths. This high pressure water source is isolated from active development and production areas in order to reduce the inherent risk of an inflow. To date, McArthur River has relied on pressure grouting and ground freezing to successfully mitigate the risks of the high pressure ground water.

Chilled brine is circulated through freeze holes to form an impermeable freeze barrier around the area being mined. This prevents water from entering the mine, and helps stabilize weak rock formations. Ground freezing reduces, but does not fully eliminate, the risk of water inflows.

Blasthole stoping

Blasthole stoping began in 2011 and was the main extraction method prior to our production suspension. It is planned in areas where blastholes can be accurately drilled and small stable stopes excavated without jeopardizing the freeze wall integrity. The use of this method has allowed the site to improve operating costs by increasing overall extraction efficiency by reducing underground development, concrete consumption, mineralized waste generation and improving extraction cycle time.

Raisebore mining

Raisebore mining is an innovative non-entry approach that we adapted to meet the unique challenges at McArthur River, and it has been used since mining began in 1999. This method is favourable for mining the weaker rock mass areas of the deposit, and is suitable for massive high-grade zones where there is access both above and below the ore zone.

Initial processing

McArthur River produces two product streams, high-grade slurry and low-grade mineralized rock. Both product streams are shipped to the Key Lake mill to produce uranium ore concentrate.

The high-grade material is ground and thickened into a slurry paste underground and then pumped to surface. The material is then thickened and blended for grade control and shipped to Key Lake in slurry totes using haul trucks.

The low-grade mineralized material is hoisted to surface and shipped as a dry product to Key Lake using covered haul trucks. Once at Key Lake, the material is ground, thickened and blended with the high-grade slurry to a nominal 5% U_3O_8 mill feed grade. It is then processed into uranium ore concentrate and packaged in drums for further processing offsite.

New mining areas

We must bring on new mining zones to sustain production. Prior to the production shutdown, two new areas were under active development. Zone 1 was in the freeze drilling stage (90% complete) and Zone 4 South was in the initial freeze drift development stage.

In 2018, all development and construction activities for the new mining zones were halted as part of the production suspension.

Tailings

McArthur River does not have a tailings management facility (TMF) as it ships all mineralized material to Key Lake for final milling and processing.

Waste rock

The waste rock piles are confined to a small footprint on the surface lease and managed in contained facilities. These are separated into three categories:

- clean waste (includes mine development waste, crushed waste, and various piles for concrete aggregate and backfill)
- low-grade mineralization temporarily stored on lined pads until trucked to Key Lake
- waste with acid-generating potential – temporarily stored on lined pads – for concrete aggregate

Water inflow incidents

There have been two notable water inflow incidents at the McArthur River mine. These two inflows have strongly influenced our mine design, inflow risk mitigation and inflow preparedness:

Bay 12 Inflow: Production was temporarily suspended on April 6, 2003, as increased water inflow due to a rock fall in a new development area (Bay 12 located just above the 530 metre level) began to flood the lower portions of the mine, including the underground grinding circuit area. Additional dewatering capacity was installed and the flooded areas were dewatered and repaired. We resumed mining in July 2003 and sealed off the excess water inflow in July 2004.

590-7820N Inflow: In November 2008, there was a small water inflow in the lower Zone 4 development area on the 590 metre level. It did not impact production, but did delay local development for approximately one year. In January 2010, the inflow was sealed off and local development was resumed.

Pumping capacity and treatment limits

Our standard for this mine is to secure pumping capacity of at least one and a half times the estimated maximum sustained inflow. We review our dewatering system and requirements at least once a year and before we begin work on any new zone. As our mine plan is advanced, our dewatering system will be expanded to handle water from the new mine areas. We believe we have sufficient pumping, water treatment and surface storage capacity to handle the estimated maximum sustained inflow.

Production

McArthur River Mine

In 2018, 0.5 million pounds of U_3O_8 was mined in early January in order to complete mining that was in progress at the end of December 2017; our share was 0.35 million pounds. No mining took place in 2019 and 2020. In 2021, we expect no mine production.

The mine plan is designed to extract all of the current McArthur River mineral reserves. The following is a general summary of the mine plan production schedule parameters on a 100% basis for these mineral reserves:

Total mine production	• 2,133,000 tonnes of ore • 386 million pounds of U_3O_8, based on current unmined mineral reserves • Average grade of 8.21% • 200 to 400 tonnes per day, varying with ore grade

Note: Broken ore inventory (previously mined material) is not included in the mine production plan total. Current broken inventory consists of 4.2 million pounds of high-grade ore stored underground at McArthur River and 1.4 million pounds of low-grade mineralization stored on the surface stockpile pads at McArthur River and Key Lake.

Key Lake Mill

In 2018, 0.2 million pounds of U_3O_8 was produced as part of the Key Lake final clean out prior to shutdown; our share was 0.1 million pounds. Since then, there has been no production. In 2021, we expect no production.

The mill plan is designed to process all the current McArthur River mineral reserves plus Key Lake low-grade mineralization remaining from the Deilmann and Gaertner pits. In addition, a small amount of recycled product from Blind River and Port Hope facilities is planned to be processed. The following is a general summary of the mill plan production schedule parameters on a 100% basis for these mineral reserves, mineralized material, and product:

Total mill production	• 3,771,000 tonnes of mill feed including blend and recycle material • Average feed grade of 4.72% • 393 million pounds of U_3O_8 packaged based on an average recovery of 99.0%

Production Suspension

In 2018, we had a temporary planned production suspension. In response to market conditions, in July 2018 we decided to extend the suspension for an indeterminate duration. The action resulted in the permanent layoff of approximately 520 site employees. A reduced workforce of approximately 185 Cameco employees remain employed at the McArthur River and Key Lake sites to keep the facilities in a state of safe care and maintenance. Our objective is that the McArthur River and Key Lake operations are available to return to production in a timely manner once a decision is made to end the production suspension. There was nominal production in 2018. There was no production in 2019 and 2020 due to the suspension.

2021 Production

Due to continued uranium price weakness, we have suspended production for an indeterminate duration. The restart of the mine and mill is a commercial decision that will be based on our ability to commit our share of production from this operation under acceptable long-term contracts and to benefit from the favourable life-of-mine economics it provides. As a result of the suspension, and the time required to restart the mine and mill, we do not expect the operation to produce any uranium in 2021. Our share of the cash and non-cash costs to maintain both operations during the suspension is expected to range between $8 million and $10 million per month.

The operational changes we have made, including the suspension of production for an indeterminate duration, and the associated workforce reduction, carry with them the risks of a delay in restarting operations and subsequent production disruption.

Production restart plan

Due to the suspension of production for an indeterminate duration, no actual production start-up date is currently available. Year 1 of the production plan represents the first year of assumed production after restart is announced and could potentially occur any time after 2021.

The main steps in preparing the mine and mill for restart of production are:

Restart planning: Detailed restart planning including identification of critical project and maintenance work required to be completed prior to restarting the operations.

Restart announcement: Once conditions required to support restarting the McArthur River and Key Lake operations have been met, an announcement will be made.

Critical project execution: The current assumption is that all critical project work can be completed within a one year time frame.

Maintenance readiness check: As a significant number of the facilities will have been shut down for more than two years, equipment and facility readiness checks will be performed prior to restarting operations.

Recruitment: Workers will be mobilized in stages (restart planning team, maintenance preparation team, and operational team).

Training: It is currently assumed that a sufficient number of experienced workers can be recruited in order to minimize operational training requirements and timelines.

Once critical projects, maintenance readiness checks and sufficient recruitment and training have occurred, the mine and mill will restart operations. It is projected that this will take a minimum of 9 months. Initial mill feed for the Key Lake restart will come from the high-grade broken inventory (4.2 million pounds at a grade of 17% U_3O_8) stored underground at McArthur River.

Production plan

McArthur River currently has sufficient mineral reserves to permit mining for 23 years. Although McArthur River and Key Lake have licence permits for 25 million pounds U_3O_8 production per year, the production profile assumes the following:

- in the year of restart, 4 million pounds of packaged production; and
- for subsequent years, 18 million pounds of packaged production per year until year 21 with production ramping down in the last two years.

Optimizing production

The technical report dated March of 2019 is based on a production rate of 18 million pounds per year, however, once a restart decision is made, we plan to optimize the production rate to respond to market signals. We expect that this paced approach will allow us to extract maximum value from the operation as the market transitions.

Innovation

In 2020, we began a program to advance the assessment of innovation opportunities at the McArthur River mine and Key Lake mill. We established a team of internal experts who have been tasked with assessing, designing and implementing opportunities to improve operating efficiency. During the year, the team advanced a portfolio of 43 projects focused on improvement of the mine and mill through application of automation, digitization and optimization. The initial assessment of the majority of the projects was completed, which will allow us to complete the pre-feasibility work and to define the business case. We expect projects that meet our investment criteria will be advanced to implementation in 2021.

Key Lake mill

Location and access

The Key Lake mill is located in northern Saskatchewan, 570 kilometres north of Saskatoon. The site is 9 kilometres long and 5 kilometres wide and is connected to McArthur River by an 80 kilometre all-weather road. There is a 1.6 kilometre unpaved air strip and an air terminal on the east edge of the site.

Permits

We need two key permits to operate the Key Lake mill:

- *Uranium Mill Operating Licence* – renewed in 2013 and expires on October 31, 2023 (from the CNSC); and
- *Approval to Operate Pollutant Control Facilities* – renewed in 2014 and expires on November 30, 2021 (from the SMOE).

The CNSC licence conditions handbook allows the Key Lake mill to produce up to 25.0 million pounds (100% basis) per year.

Supply

All McArthur River ore, including our share, is milled at Key Lake. We do not have a formal toll milling agreement with the Key Lake joint venture.

In June 1999, the Key Lake joint venture (Cameco and UEM) entered into a toll milling agreement with Orano to process their total share of McArthur River ore. The terms of the agreement (as amended in January 2001) include the following:

- processing is at cost, plus a toll milling fee; and
- the Key Lake joint venture owners are responsible for decommissioning the Key Lake mill and for certain capital costs, including the costs of any tailings management associated with milling Orano's share of McArthur River ore

With the UEM distribution in 2009 (see History on page 22 for more information), we made the following changes to the agreement:

- the fees and expenses related to Orano's pro-rata share of ore produced just before the UEM distribution (16.234% – the first ore stream) have not changed. Orano is not responsible for any capital or decommissioning costs related to the first ore stream.
- the fees and expenses related to Orano's pro-rata share of ore produced as a result of the UEM distribution (an additional 13.961% – the second ore stream) have not changed. Orano's responsibility for capital and decommissioning costs related to the second ore stream are, however, as a Key Lake joint venture owner under the original agreement.

The agreement was amended again in 2011 and now requires:

- milling of the first ore stream at the Key Lake mill until May 31, 2028; and
- milling of the second ore stream at the Key Lake mill for the entire life of the McArthur River project

Processing

McArthur River low-grade mineralization, including legacy low-grade mineralized waste rock stored at Key Lake, is slurried, ground and thickened at Key Lake and then blended with McArthur River high-grade slurry to a nominal 5% U_3O_8 mill feed grade. All remaining uranium processing (leaching through to calcined uranium ore concentrate packaging) and tailings disposal also occur at Key Lake.

The Key Lake mill comprises the following eight plants:

- ore slurry receiving plant
- grinding/blending plant
- reverse osmosis plant
- leaching/counter current decantation plant
- solvent extraction plant
- yellowcake precipitation/dewatering/calcining/packing/ammonium sulphate plant
- bulk neutralization/lime handling/tailings pumping
- powerhouse/utilities/acid plant/oxygen plant complex

Recovery and metallurgical testing

The McArthur River original flowsheet was largely based on the use of conventional mineral processing concepts and equipment. Where necessary, testwork was undertaken to prove design concepts or adapt conventional equipment for unique services. Simulated ore was utilized in much of the testwork because the off-site testing facilities were not licensed to receive radioactive materials. Testwork at the Key Lake metallurgical laboratory also confirmed the suitability of the Key Lake mill circuit for processing McArthur River ore with some Key Lake circuit modifications.

To date, numerous changes have been made to both the McArthur River and Key Lake processing and water treatment circuits to improve their operational reliability and efficiency. From a uranium recovery perspective, the most important was to change the McArthur River grinding circuit classification system from screens to cyclones. This was completed in late 2009 and provided a measurable recovery increase as well as reduced particle segregation issues. From 2012 to 2017 Key Lake achieved an annual mill recovery of 99% and this is assumed to continue.

Recent testing at Key Lake has shown that use of a silica coagulant was able to alleviate the issues caused by the cement dilution in the ore from McArthur River. This has eliminated the need to operate the gravity concentrator circuit as well as increased the solvent extraction circuit capacity.

Waste rock

There are five rock stockpiles at the Key Lake site:

- three contain non-mineralized waste rock. These will be decommissioned when the site is closed.
- two contain low-grade mineralized material. These are used to lower the grade of McArthur River ore before it enters the milling circuit.

Treatment of effluent

We modified Key Lake's effluent treatment process to satisfy our licence and permit requirements.

Tailings capacity

There are two TMFs at the Key Lake site:

- an above-ground impoundment facility, where tailings are stored within compacted till embankments. We have not deposited tailings here since 1996, and are looking at several options for decommissioning this facility in the future; and
- the Deilmann pit, which was mined out in the 1990s. Tailings from processing McArthur River ore are deposited in the Deilmann TMF.

Beginning in July 2001, periodic sloughing of the pit walls in the western portion of the Deilmann TMF was experienced. We therefore implemented a long-term stabilization plan and the final phase was completed in 2019. We are completing a study to determine if additional work is warranted.

In 2014, the CNSC approved an increase in Key Lake's tailings capacity. We expect to have sufficient tailings capacity to mill all the known McArthur River mineral reserves and resources, should they be converted to reserves, with additional capacity to toll mill ore from other regional deposits.

Decommissioning and financial assurances

In 2003, we prepared a preliminary decommissioning plan for both McArthur River and Key Lake, which were approved by the CNSC and the SMOE. In 2008, when we renewed our CNSC licence, we revised the accompanying preliminary decommissioning cost estimates. In 2013, when we again renewed our CNSC licence, we revised the accompanying preliminary decommissioning cost estimates. Our Key Lake preliminary decommissioning cost estimate was further revised and we received final approval from the CNSC in 2015. Most recently, we submitted an update for the McArthur River preliminary decommissioning cost estimate ($42 million) and for the Key Lake preliminary decommissioning cost estimate ($223 million), received the required regulatory approvals, and letters of credit have been posted with the Saskatchewan government as financial assurances. These documents include our estimated cost for implementing the decommissioning plan and addressing known environmental liabilities.

Operating and capital costs

The following is a summary of the operating and capital cost estimates for the life of mine, stated in constant 2020 dollars and reflecting a forecast life-of-mine mill production of 389 million pounds U_3O_8 packaged.

Operating Costs ($Cdn million)	Total (Year 0 – Year 23)
McArthur River Mining	
Site administration	$943.7
Mining costs	1,696.2
Process	281.6
Corporate overhead	193.9
Total mining costs	$3,115.4
Key Lake Milling	
Administration	$1,039.7
Milling costs	1,422.9
Corporate overhead	159.9
Total milling costs	$2,622.5
Total operating costs	**$5,737.9**
Total operating cost per pound U_3O_8	**$14.76**

Notes:
1. Presented as total cost to the McArthur River Joint Venture.
2. This cost profile assumes the McArthur River mine and Key Lake mill are both in a state of care and maintenance during Year 0 with a decision to restart in Year 1. No such decision has been made.

Estimated operating costs to the MRJV consist of annual expenditures at McArthur River to mine the mineral reserves, process it underground, including grinding, density control and pumping the resulting slurry to surface for transportation to Key Lake.

Operating costs at Key Lake consist of costs for receipt of the slurry, up to and including precipitation of the uranium into yellowcake, including cost of disposal of tailings to the Deilmann TMF.

There will be increased operating costs in the year the decision is made to restart operations. These include recruitment costs to achieve required operating staff levels, required equipment and process circuits, repair costs, and mine working and processing plants commissioning costs.

Capital Costs ($Cdn million)	Total (Year 0 – Year 23)
McArthur River Mine Development	$432.9
McArthur River Mine Capital	
Freeze infrastructure	$132.3
Concrete batching and delivery	29.9
Other mine capital	259.2
Total mine capital	$421.4
Key Lake Mill Sustaining	
Total mill capital	$235.4
Total capital costs	**$1,089.8**

Notes:
1. Presented as total cost to the McArthur River Joint Venture.
2. This cost profile assumes the McArthur River mine and Key Lake mill are both in a state of care and maintenance during Year 0 with a decision to restart in Year 1. No such decision has been made.
3. Mine development includes delineation drilling, mine development, probe and grout drilling, freeze drilling, and minor support infrastructure.

Estimated capital costs to the MRJV include sustaining costs for both McArthur River and Key Lake, as well as underground development at McArthur River to bring mineral reserves into production. Overall, the largest segment of capital at McArthur River is mine development. Other significant capital includes freeze infrastructure costs.

Production from the McArthur River and Key Lake operations has been suspended for an indeterminate duration and no decision has been made to restart operations.

The economic analysis, effective as of December 31, 2018 being the effective date of the technical report, resulted in an estimated pre-tax net present value (NPV) (at a discount rate of 8%) to Cameco for net cash flows from January 1, 2019 forward of $2.97 billion for its share of the current McArthur River mineral reserves. Using the total capital invested to December 31, 2018, along with the operating and capital estimates for the remainder of the mineral reserves, the pre-tax internal rate of return (IRR) was estimated to be 11.6%.

The analysis was from the point of view of Cameco, which owns 69.805% of the MRJV, and incorporated a projection of Cameco's sales revenue from its proportionate share of the related production, less its share of related operating and capital costs of the MRJV, as well as royalties and surcharges that will be payable on the sale of concentrates.

For the purpose of the economic analysis, the projected impact of income taxes was excluded due to the nature of the required calculations. McArthur River operates as an unincorporated joint venture and is, therefore, not subject to direct income taxation at the joint venture level. It is not practical to allocate a resulting income tax cost to Cameco's portion of the McArthur River operation, as Cameco's tax expense is a function of several variables, most of which are independent of its investment in McArthur River.

Economic Analysis ($Cdn M)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
Production volume (000's lbs U3O8)	-	2,788	12,508	12,550	12,653	12,591	12,621	12,611	12,550	12,556	12,587	12,553	12,569
Sales revenue	$ -	$ 131.7	$ 572.2	$ 577.5	$ 602.8	$ 618.7	$ 635.0	$ 651.6	$ 662.9	$ 683.3	$ 698.0	$ 709.1	$ 719.4
Operating costs	68.2	137.5	171.1	169.5	169.0	168.9	170.1	172.9	177.5	177.9	179.3	179.9	180.0
Capital costs	3.7	31.1	36.7	31.9	31.0	42.9	36.8	34.7	35.0	42.6	43.6	74.4	32.0
Basic royalty	-	5.6	24.3	24.5	25.6	26.3	27.0	27.7	28.2	29.0	29.7	30.1	30.6
Resource surcharge	-	3.9	17.2	17.3	18.1	18.6	19.0	19.5	19.9	20.5	20.9	21.3	21.6
Profit royalty	-	-	42.6	49.7	53.5	54.1	57.3	59.6	60.4	62.3	64.1	61.1	69.1
Net pre-tax cash flow	$ (71.9)	$ (46.5)	$ 280.2	$ 284.6	$ 305.5	$ 307.9	$ 324.8	$ 337.2	$ 341.8	$ 351.0	$ 360.4	$ 342.3	$ 386.2

Economic Analysis ($Cdn M)	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Total
Production volume (000's lbs U3O8)	12,567	12,630	12,618	12,602	12,591	12,603	12,611	12,649	12,779	11,705	6,060	272,553
Sales revenue	$ 748.7	$ 757.8	$ 772.9	$ 787.6	$ 780.6	$ 787.7	$ 794.5	$ 796.9	$ 805.1	$ 737.4	$ 381.8	$ 15,413.2
Operating costs	182.1	184.7	185.3	184.5	184.0	182.1	181.8	178.8	175.4	171.0	148.6	4,080.3
Capital costs	33.3	23.6	21.7	21.4	21.6	21.9	17.7	11.9	6.4	1.4	-	657.5
Basic royalty	31.8	32.2	32.8	33.5	33.2	33.5	33.8	33.9	34.2	31.3	16.2	655.1
Resource surcharge	22.5	22.7	23.2	23.6	23.4	23.6	23.8	23.9	24.2	22.1	11.5	462.4
Profit royalty	73.1	75.7	78.1	80.5	79.5	80.8	82.5	84.2	86.6	78.5	31.7	1,465.0
Net pre-tax cash flow	$ 405.9	$ 418.9	$ 431.7	$ 444.1	$ 438.9	$ 445.7	$ 454.9	$ 464.3	$ 478.2	$ 433.0	$ 173.8	$ 8,092.9

Pre-tax NPV (8%) to January 1, 2019	$ 2,973.3
Pre-tax IRR (%)	11.6%

Notes:

1. For the purposes of performing the economic analysis, Year 0 is assumed to be 2019, and Year 1 is assumed to be 2020.
2. The economic analysis assumes the McArthur River mine and Key Lake mill are both in a state of care and maintenance during Year 0 with a restart occurring in Year 1. No such restart decision has been made.
3. Production volume does not include recycled product received from the Blind River Refinery and the Port Hope Conversion Facility.
4. Operational and capital spending in Year 0 is representative of annual spending while the McArthur River mine and Key Lake mill are both in a state of care and maintenance.

Our expectations and plans regarding McArthur River/Key Lake, including forecasts of operating and capital costs, net cash flow, production and mine life are forward-looking information and are based specifically on the risks and assumptions discussed on pages 2, 3 and 4. We may change our operating or capital spending plans in 2021, depending upon the impact of COVID-19, uranium markets, our financial position, results of operation, a decision to invest in cost reduction and operational efficiency projects, or other factors. Estimates of expected future production, and capital and operating costs are inherently uncertain, particularly beyond one year, and may change materially over time.

Exploration, drilling, sampling, data quality and estimates

There are no historical mineral resource estimates within the meaning of NI 43-101 to report. The original McArthur River mineral resource estimates were derived from surface diamond drilling from 1980 to 1992. In 1988 and 1989, this drilling first revealed significant uranium mineralization. By 1992, we had delineated the mineralization over a strike length of 1,700 metres at depths of between 500 to 640 metres. The very high grade found in the drillholes justified the development of an underground exploration project in 1993.

Exploration

Drilling has been carried out extensively from both surface and underground in order to locate and delineate mineralization. Surface exploration drilling is initially used in areas where underground access is not available and is used to guide the underground exploration programs.

There was no exploration drilling in 2020 during the mine production suspension.

Drilling

Surface drilling

We have carried out surface drilling since 2004, to test the extension of mineralization identified from the historical surface drillholes, to test new targets along the strike, and to evaluate the P2 trend northeast and southwest of the mine. Surface drilling since 2004 has extended the potential strike length to more than 2,700 metres.

We have completed preliminary drill tests of the P2 trend at 300 metre intervals or less over 11.5 kilometres (5.0 kilometres northeast and 6.4 kilometres southwest of the McArthur River deposit) of the total 13.75 kilometres strike length of the P2 trend. Surface exploration drilling in 2015 focused on additional evaluation in the southern part of the P2 trend south of the P2 main mineralization. Starting in 2016, exploration efforts shifted away from the P2 trend to the north part of the property.

Underground drilling

In 1993, regulators approved an underground exploration program, consisting of shaft sinking, lateral development and drilling. We completed the shaft in 1994.

We have drilled more than 1,260 underground drillholes since 1993 to get detailed information along 1,800 metres of strike length. The drilling was primarily completed from the 530 and 640 metre levels.

Other data

In addition to the exploration drilling, geological data has been collected from the underground probe and grout, service, drain, freeze, and geotechnical drill programs.

Recent activity

In 2017, we continued with underground delineation drilling of Zone B and Zone 4 in order to provide the information required for more detailed mining plans. In 2018, all underground delineation drilling was halted as part of the production suspension. Drilling results are reflected in our reported mineral resources and reserves.

Sampling, analysis and data verification

Surface samples

Surface holes were generally drilled on sections spaced between 50 and 200 metres with 12 to 25 metres between holes on a section when necessary. Drilled depths average 670 metres.

The orientation of mineralization is variable but, in general, vertical holes generally intersect mineralization at angles of 25 to 45 degrees, resulting in true widths being 40 to 70% of the intersected width. Angled holes usually intercept mineralization closer to perpendicular, giving intercepts that are closer to true width.

Any stratigraphy exhibiting noteworthy alteration, structures or radiometric anomalies is split and sampled.

Given that the vast majority of the deposit has been delineated from underground, few surface holes are currently sampled and used for mineral resource and reserve estimation purposes.

Underground samples

Underground drilling is generally planned to provide close to true thicknesses results. All underground exploration holes are core drilled and gamma probed whenever possible. McArthur River uses a high-flux gamma probe designed and constructed by alphaNUCLEAR, a member of the Cameco group of companies. This high-flux gamma probe utilizes two Geiger Müller tubes to detect the amount of gamma radiation emanating from the surroundings. The count rate obtained from the high-flux probe is compared against chemical assay results to establish a correlation to convert corrected probe count rates into equivalent % U_3O_8 grades for use when assay results are unavailable. The consistency between probe data and chemical assays demonstrates that secular equilibrium exists within the deposit. A small portion of the data used to estimate mineral resources is obtained from assays, and in these cases, the core depth is validated by comparing the down-hole gamma survey results with a hand-held scintillometer on core before it is logged, photographed, and then sampled for uranium analysis. Attempts are made to avoid having samples cross geological boundaries.

When sampled, the entire core from each sample interval is taken for assay or other measurements are used to characterize the physical and geochemical properties of the deposit. This reduces the sample bias inherent when splitting core. Core recovery throughout the deposit has generally been very good. However, in areas of poor core recovery uranium grade determination is generally based on radiometric probe results.

The typical sample collection process at our operations includes the following procedures:

- marking the sample intervals on the core boxes, at the nominal 50 cm sample length, by a geoscientist
- collection of the samples in plastic bags, taking the entire core
- documentation of the sample location, including assigning a sample number, and description of the sample, including radiometric values from a hand-held device
- bagging and sealing, with sample tags inside bags and sample numbers on the bags; and
- placement of samples in steel drums for shipping

Sample security

Current sampling protocols dictate that all samples are collected and prepared under the close supervision of a qualified geoscientist in a restricted core processing facility. The core samples are collected and transferred from the core boxes to high-strength plastic sample bags, then sealed. The sealed bags are then placed in steel drums and shipped in compliance with the Transport of Dangerous Goods regulations with tamper-proof security seals. Chain of custody documentation is present from inserting samples into steel drums to the final delivery of results by the Saskatchewan Research Council Geoanalytical Laboratories (SRC).

All samples collected are prepared and analysed under the close supervision of qualified personnel at SRC, which is a restricted access laboratory licensed by the CNSC.

Analysis

Drill core assay sample preparation is performed at SRC's main laboratory, which is independent of the participants of the MRJV. It involves jaw crushing to 60% @ 2 mm and splitting out a 100 – 200 g sub-sample using a riffle splitter. The sub-sample is pulverized to 90% @ -106 microns using a puck and ring grinding mill. The pulp is then transferred to a labelled plastic snap top vial. Assaying by SRC involved digesting an aliquot of pulp in a 100 ml volumetric flask in concentrated 3:1 HCI:HNO_3, on a hot plate for approximately one hour. The lost volume is then made up using deionized water prior to analysis by ICP-OES. Instruments used in the analysis are calibrated using certified commercial solutions. This method is ISO/IEC 17025:2005 accredited by the Standards Council of Canada.

Quality control and data verification

The quality assurance and quality control procedures used during early drilling programs were typical for the time. Many of the original signed assay certificates from surface drilling are available and have been reviewed by Cameco geologists.

More recent sample preparation and assaying was completed under the close supervision of qualified personnel at SRC and includes preparing and analysing standards, duplicates and blanks. A standard is prepared and analysed for each batch of samples and one out of every 40 samples is analysed in duplicate.

In 2013, McArthur River implemented an SQL server based centralized geological data management system to manage all drillhole and sample related data. All core logging, sample collection, downhole probing and sample dispatching activities are carried out and managed within this system. All assay, geochemical and physical analytical results obtained from the external laboratory are uploaded directly into the centralized database, thereby mitigating the potential for manual data transfer errors. The database used for the current mineral resource and mineral reserve estimates was validated by Cameco qualified geoscientists.

Additional quality control measures procedures taken include:

- review of drillhole collar coordinates and downhole deviations in the database against planned location of the holes
- comparison of the information in the database against the original data, including paper logs, assay certificates and original probing data files
- validation of core logging information in plan and section views, and review of logs against photographs of the core
- checking for data errors such as overlapping intervals and out of range values
- radiometric probes undergo annual servicing and re-calibration as well as additional checks including control probing to ensure precision and accuracy of the probes; and
- validating uranium grades comparing radiometric probing, core radioactivity measurements and sample assay results

No new measurement data has been collected since the decision was made to suspend production at the mine and mill. No quality control and data verification related issues of note were identified during the minor mineral resource estimation work performed in 2020.

Since the start of commercial production, we have regularly compared information collected from production activities, such as freezeholes, raisebore pilot holes, radiometric scanning of scoop tram buckets and mill feed sampling, to the drillhole data. We also compared the uranium block model with mine production results on a monthly basis to ensure an acceptable level of accuracy was maintained.

Our geoscientists, including a qualified person as such term is defined in NI 43-101, have witnessed or reviewed drilling, core handling, radiometric probing, logging and sampling facilities used at the McArthur River operation and consider the methodologies to be satisfactory and the results representative and reliable.

Accuracy

We are satisfied with the quality of data and consider it valid for use in the estimation of mineral resources and reserves for McArthur River. Comparison of actual mine production with past expected production supports this opinion.

Mineral reserve and resource estimates

Please see page 74 for our mineral reserve and resource estimates for McArthur River.

Uranium – Tier-one operations

Cigar Lake

Cigar Lake is the world's highest grade uranium mine, with grades that are 100 times the world average. We are a 50% owner and the mine operator. Cigar Lake uranium is milled at Orano's (previously AREVA's) McClean Lake mill. Production is temporarily suspended at the mine and mill.

Cigar Lake is considered a material uranium property for us.

Location	Saskatchewan, Canada
Ownership	50.025%
End product	uranium concentrate
ISO Certification	ISO 14001 certified
Mine type	underground
Estimated mineral reserves (our share)	82.8 million pounds (proven and probable), average grade U_3O_8 – 15.92%
Estimated mineral resources[1] (our share)	52.4 million pounds (measured and indicated), average grade U_3O_8 – 13.88% 11.4 million pounds (inferred), average grade U_3O_8 – 5.55%
Mining method	jet boring system (JBS)
Licensed capacity	mine: 18.0 million pounds per year (our share 9.0 million pounds per year)
Total production 2014 to 2020	93.0 million pounds (100% basis)
2020 production	5.0 million pounds (10.1 million pounds on 100% basis)
2021 production outlook	Production temporarily suspended
Estimated mine life	2029 (based on current mineral reserves)
Estimated decommissioning cost (100% basis)	$62 million

[1] Mineral resources that are not mineral reserves have no demonstrated economic viability.

Business structure

Cigar Lake is owned by a joint venture of four companies (CLJV):

- Cameco – 50.025% (operator)
- Orano – 37.100%
- Idemitsu Canada Resources Ltd. – 7.875%
- TEPCO Resources Inc. – 5.000%

History

1976	• Canadian Kelvin Resources and Asamera Oil Corporation form an exploration joint venture, which includes the lands that the Cigar Lake mine was built on
1977	• SMDC, one of our predecessor companies, acquires a 50% interest
1980	• Waterbury Lake joint venture formed, includes lands now called Cigar Lake
1981	• Deposit discovered by surface drilling – it was delineated by a surface drilling program between 1982 and 1986
1985	• Reorganization of the Waterbury Lake joint venture - Cigar Lake Mining Corporation becomes the operator of the Cigar Lake lands and a predecessor to Orano becomes the operator of the remaining Waterbury Lake lands • SMDC has a 50.75% interest
1987-1992	• Test mining, including sinking shaft 1 to 500 metres and lateral development on 420 metre, 465 metre and 480 metre levels
1988	• Eldorado Resources Limited merges with SMDC to form Cameco
1993-1997	• Canadian and Saskatchewan governments authorize the project to proceed to regulatory licensing stage, based on recommendation of the joint federal-provincial panel after public hearings on the project's environmental impact
2000	• JBS tested in waste and frozen ore
2001	• Joint venture approves a feasibility study and detailed engineering begins in June
2002	• Joint venture is reorganized, new joint venture agreement is signed, Rabbit Lake and JEB toll milling agreements are signed, and we replace Cigar Lake Mining Corporation as Cigar Lake mine operator
2004	• Environmental assessment process is complete • CNSC issues a construction licence
2005	• Development begins in January
2006	• Two water inflow incidents delay development: – in April, shaft 2 floods – in October, underground development areas flood • In November, we begin work to remediate the underground development areas
2008	• Remediation interrupted by another inflow in August, preventing the mine from being dewatered
2009	• Remediation of shaft 2 completed in May • We seal the 2008 inflow in October
2010	• We finish dewatering the underground development areas in February, establish safe access to the 480 metre level, the main working level of the mine, and backfill the 465 metre level • We substantially complete clean-up, inspection, assessment and securing of underground development and resume underground development in the south end of the mine
2011	• We begin to freeze the ground around shaft 2 and restart freezing the orebody from underground and from the surface • We resume the sinking of shaft 2 and early in 2012 achieve breakthrough to the 480 metre level, establishing a second means of egress for the mine • We receive regulatory approval of our mine plan and begin work on our Seru Bay project • Agreements are signed by the Cigar Lake and McClean Lake joint venture participants to mill all Cigar Lake ore at the McClean Lake mill and the Rabbit Lake toll milling agreement is terminated
2012	• We achieve breakthrough to the 500 metre level in shaft 2 • We assemble the first JBS unit underground and move it to a production tunnel where we commence preliminary commissioning
2013	• CNSC issues an eight-year operating licence • We begin jet boring in ore

2014	• First Cigar Lake ore shipped to McClean Lake mill • McClean Lake mill starts producing uranium concentrate from Cigar Lake ore
2015	• We declared commercial production in May
2016	• We updated the CNSC on our commissioning activities to satisfy a condition in our federal licence.
2020	• In March, production is temporarily suspended as a precautionary measure due to the COVID-19 pandemic • In September, production resumes • In December, production is temporarily suspended as a precautionary measure due to the COVID-19 pandemic

Technical report

This description is based on the project's technical report: Cigar Lake Operation, Northern Saskatchewan, Canada, dated March 29, 2016 (effective December 31, 2015) except for some updates that reflect developments since the technical report was published. The report was prepared for us in accordance with NI 43-101, by or under the supervision of Scott Bishop, P. Eng., Alain G. Mainville, P. Geo., and Leslie D. Yesnik, P. Eng. The following description has been prepared under the supervision of Biman Bharadwaj, P. Eng., Scott Bishop, P. Eng., Alain D. Renaud, P. Geo., and Lloyd Rowson, P. Eng. They are all qualified persons within the meaning of NI 43-101, but are not independent of us.

The conclusions, projections and estimates included in this description are subject to the qualifications, assumptions and exclusions set out in the technical report except as such qualifications, assumptions and exclusions may be modified in this AIF. We recommend you read the technical report in its entirety to fully understand the project. You can download a copy from SEDAR (sedar.com) or from EDGAR (sec.gov).

For information about uranium sales see pages 13 to 15, environmental matters see *Our approach to ESG matters and The regulatory environment* starting on pages 80 and 88, and taxes see page 95.

For a description of royalties payable to the province of Saskatchewan on the sale of uranium extracted from orebodies within the province, see page 94.

For a description of risks that might affect access, title or the right or ability to perform work on the property, see *Regulatory risks* starting at page 110, *Environmental risks* starting at page 110 and *Legal and other risks* starting at page 112.

About the Cigar Lake property

We began developing the Cigar Lake underground mine in 2005, but development was delayed due to water inflows. In October 2014, the McClean Lake mill produced the first uranium concentrate from ore mined at the Cigar Lake operation. Commercial production was declared in May 2015.

Location

The Cigar Lake mine site is located near Waterbury Lake, approximately 660 kilometres north of Saskatoon. The mine site is in close proximity to other uranium production operations: McClean Lake mill is 69 kilometres northeast by road and McArthur River mine is 46 kilometres southwest by air from the mine site.

Access

Access to the property is by an all-weather road and by air. Site activities occur year round, including supply deliveries. There is an unpaved airstrip and air terminal east of the mine site.

Saskatoon, a major population centre south of the Cigar Lake deposit, has highway and air links to the rest of North America.

Leases

Surface lease

The CLJV acquired the right to use and occupy the lands necessary to mine the deposit under a surface lease agreement with the province of Saskatchewan. The lease covers approximately 1,042 hectares and expires in May 2044.

We are required to report annually on the status of the environment, land development and progress on northern employment and business development.

Mineral lease

We have the right to mine the deposit under ML 5521, granted to the CLJV by the province of Saskatchewan. The lease covers 308 hectares and expires in December 2021. The CLJV has applied for the renewal of the lease for a further 10-year term.

Mineral claims

A mineral claim gives us the right to explore for minerals and to apply for a mineral lease. There are 38 mineral claims totaling 95,293 hectares, adjoining the mineral lease and surrounding the site. The mineral claims are in good standing until 2032 or later.

Environment, social and community factors

The climate is typical of the continental sub-arctic region of northern Saskatchewan. Summers are short and cool even though daily temperatures can sometimes reach above 30°C. The mean daily temperature for the coldest month is below -20°C, and winter daily temperatures can reach below -40°C.

The deposit is 40 kilometres west of the eastern margin of the Athabasca Basin in northern Saskatchewan. The topography and environment are typical of the taiga forested lands in the Athabasca Basin. This area is covered with 30 to 50 metres of overburden. Vegetation is dominated by black spruce and jack pine. There is a lake known as “Cigar Lake” which, in part, overlays the deposit.

We are committed to building long-lasting and trusting relationships with the communities in which we operate. For more information, see *Our approach to ESG matters* at page 80.

The closest inhabited site is Points North Landing, 56 kilometres northeast by road. The community of Wollaston Lake is approximately 80 kilometres by air to the east of the mine site.

Athabasca Basin community resident employees and contractors fly to the mine site from designed pick-up points. Other employees and contractors fly to site from Saskatoon with pickup points in Prince Albert and La Ronge.

Geological setting

The deposit is at the unconformity contact separating late Paleoproterozoic to Mesoproterozoic sandstone of the Athabasca Group from middle Paleoproterozoic metasedimentary gneiss and plutonic rocks of the Wollaston Group. The Key Lake, McClean Lake and Collins Bay deposits all have a similar structural setting. While Cigar Lake shares many similarities with these deposits, it is distinguished from other similar deposits by its size, very high grade, and the high degree of clay alteration.

Cigar Lake’s geological setting is similar to McArthur River’s: the permeable sandstone, which overlays the deposit and basement rocks, contains large volumes of water at significant pressure. Unlike McArthur River, however, the deposit is flat lying.

Mineralization

The Cigar Lake deposit has the shape of a flat- to cigar-shaped lens and is approximately 1,950 metres in length, 20 to 100 metres in width, and ranges up to 13.5 metres thick, with an average thickness of about 5.4 metres. It occurs at depths ranging between 410 to 450 metres below the surface. The eastern part of Cigar Lake is approximately 670 metres long by 100 metres wide and the western part is approximately 1,280 metres long by 75 metres wide.

The deposit has two distinct styles of mineralization:

- high-grade mineralization at the unconformity which includes all of the mineral resources and mineral reserves
- fracture controlled, vein-like mineralization which is located either higher up in the sandstone or in the basement rock mass

Most of the uranium metal is in the high-grade mineralization at the unconformity, which has massive clays and high-grade uranium concentrations. This is currently the only economically viable style of mineralization, in the context of the selected mining method and ground conditions.

The uranium oxide in the form of uraninite and pitchblende occurs as disseminated grains in aggregates ranging in size from millimetres to decimetres, and as massive lenses of mineralization up to a few metres thick in a matrix of sandstone and clay. Coffinite (uranium silicate) is estimated to form less than 3% of the total uranium mineralization.

Geochemically, the deposit contains quantities of the elements nickel, copper, cobalt, lead, zinc, molybdenum and arsenic, but in non-economic concentrations. Higher concentrations of these elements are associated with massive pitchblende or massive sections of arseno-sulphides.

Deposit type

Cigar Lake is an unconformity-associated uranium deposit. Deposits of this type are believed to have formed through an oxidation-reduction reaction at a contact where oxygenated fluids meet with reducing fluids.

About the Cigar Lake operation

Cigar Lake is a developed property with sufficient surface rights to meet current mining operation needs. We are currently mining in the eastern part of the ore body.

Permits

Please see page 46 for more information about regulatory approvals for Cigar Lake.

Infrastructure

Surface facilities are 490 metres above sea level. The site includes:

- an underground mine with two shafts
- access road joining the provincial highway and McClean Lake
- site roads and site grading
- airport and terminal
- employee residence and construction camp
- Shaft No. 1 and No. 2 surface facilities
- freeze plants and brine distribution equipment
- surface freeze pads
- water supply, storage and distribution for industrial water, potable water and fire suppression
- propane, diesel and gasoline storage and distribution
- electrical power substation and distribution
- compressed air supply and distribution
- mine water storage ponds and water treatment
- sewage collection and treatment
- surface and underground pumping system installation
- waste rock stockpiles
- garbage disposal landfill
- administration, maintenance and warehousing facilities
- underground tunnels
- ore load out facility
- concrete batch plant
- Seru Bay pipeline
- emergency power generating facilities

The Cigar Lake mine site contains all the necessary services and facilities to operate a remote underground mine, including personnel accommodation, access to water, airport, site roads and other necessary buildings and infrastructure.

Water, power and heat

Waterbury Lake, which is nearby, provides water for the industrial activities and the camp. The site is connected to the provincial electricity grid, and it has standby generators in case there is an interruption in grid power.

Cigar Lake operates throughout the year despite cold winter conditions. During the winter, we use propane-fired burners to heat the fresh air necessary to ventilate the underground workings.

Employees

Employees are recruited with preference given to residents of northern Saskatchewan.

Mining methods

We use the JBS method to mine the Cigar Lake deposit.

Bulk ground freezing

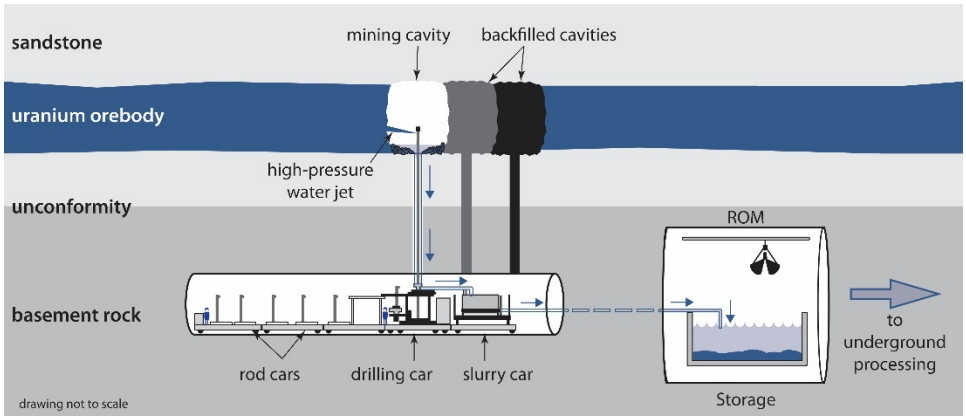
The permeable sandstone that overlays the deposit and basement rocks contains large volumes of water under significant pressure. From surface, we freeze the ore zone and surrounding ground in the area to be mined to prevent water from entering the mine, to help stabilize weak rock formations, and meet our production schedule. This system freezes the deposit and underlying basement rock in two to four years, depending on water content and geological conditions. We have identified greater variation of the freeze rates of different geological formations encountered in the mine, based on information obtained through surface freeze drilling. To manage our risks and to meet our production schedule, the area being mined must meet specific ground freezing requirements before we begin jet boring. Bulk freezing reduces but does not eliminate the risk of water inflows.

Artificial ground freezing is accomplished by drilling a systematic grid of boreholes through the orebody from surface. A network of supply and return pipes on surface convey a calcium chloride brine to and from each hole. The warm brine returning from each hole is chilled to a temperature of approximately -30ºC at the surface freeze plant and recirculated.

JBS mining

After many years of test mining, we selected jet boring, a non-entry mining method, which we have developed and adapted specifically for this deposit. This method involves:

- drilling a pilot hole into the frozen orebody, inserting a high pressure water jet and cutting a cavity out of the frozen ore;
- collecting the ore and water mixture (slurry) from the cavity and pumping it to storage (sump storage), allowing it to settle;
- using a clamshell, transporting the ore from sump storage to an underground grinding and processing circuit;
- once mining is complete, filling each cavity in the orebody with concrete; and
- starting the process again with the next cavity.



This is a non-entry method, which means mining is carried out from headings in the basement rock below the deposit, so employees are not exposed to the ore. This mining approach is highly effective at managing worker exposure to radiation levels. Combined with ground freezing and the cuttings collection and hydraulic conveyance system, jet boring reduces radiation exposure to acceptable levels that are below regulatory limits.

The mine equipment fleet is currently comprised of three JBS units plus other equipment to support mine development, drilling and other services, and is sufficient to meet production requirements for the remainder of the mine life.

We have divided the orebody into production panels. At least three production panels need to be frozen at one time to achieve the full annual production rate of 18 million pounds. One JBS machine will be located below each frozen panel and the three JBS machines required are currently in operation. Two machines actively mine at any given time while the third is moving, setting up, or undergoing maintenance.

Mine development

Mine development for construction and operation uses two basic approaches: drill and blast with conventional ground support is applied in areas with a competent rock mass. Most permanent areas of the mine, which contain the majority of the installed equipment and infrastructure, are hosted in competent rock mass and are excavated and supported conventionally. The

production tunnels immediately below the orebody are primarily in poor, weak rock mass and are excavated and supported using the New Austrian Tunnelling Method (NATM). NATM was adopted as the primary method of developing new production cross-cuts, replacing the former Mine Development System (MDS).

NATM, as applied at Cigar Lake, involves a multi-stage sequential mechanical excavation, extensive external ground support and a specialized shotcrete liner. The liner system incorporates yielding elements which permit controlled deformation required to accommodate additive pressure from mining and ground freezing activities. The production tunnels have an inside diameter of five metres and are approximately circular in profile.

We plan our mine development to take place away from known groundwater sources whenever possible. In addition, we assess all planned mine development for relative risk and apply extensive additional technical and operating controls for all higher risk development.

Mine access

There are two main levels in the mine: the 480 and 500 metre levels. Both levels are located in the basement rocks below the unconformity. Mining is conducted from the 480 metre level which is located approximately 40 metres below the ore zone. The main underground processing and infrastructure facilities are located on this level. The 500 metre level is accessed via a ramp from the 480 metre level. The 500 metre level provides for the main ventilation exhaust drift for the mine, the mine dewatering sump and additional processing facilities. All construction required for production has been completed.

Processing

Cigar Lake ore slurry is processed in two locations:

Cigar Lake – The ore slurry produced by the JBS is pumped to Cigar Lake's underground crushing, grinding and thickening facility. The resulting finely ground, high density ore slurry is pumped 500 meters to surface to one of the two slurry holding tanks. It is blended and thickened, removing excess water. The final slurry is pumped into transport truck containers like the ones used at McArthur River.

Water from this process, including water from underground operations, is treated on the surface. Any excess treated water is released into the environment.

McClean Lake – Containers of ore slurry are trucked to Orano's McClean Lake mill, 69 kilometres to the northeast for further processing (Leaching to Yellowcake Packaging). See *Toll milling agreement* below for a discussion of this arrangement.

Recovery and metallurgical testing

Extensive metallurgical test work was performed on core samples of Cigar Lake ore over a seven-year period from 1992 to 1999. This work was used to design the McClean Lake mill circuits relevant to Cigar Lake ore and associated modifications. Samples used for metallurgical test work may not be representative of the deposit as a whole. Additional test work, completed in 2012 with drill core samples, verified that a high uranium recovery rate could be achieved regardless of the variability of the ore. Test work also concluded that more hydrogen gas evolution took place than previously anticipated, which resulted in modifications to the leaching circuit. Leaching modifications were completed in 2014.

The 1992 – 1999 work was performed in France at Orano's SEPA test centre. The results of this test work have provided the core process criteria for the design of the additions and modifications required at the McClean Lake mill for processing Cigar Lake ore. To date, a range of monthly average ore grades, as high as 28% U_3O_8, have been processed at the McClean Lake milling facility. Based on the test results and past mill performance, an overall uranium recovery of 98.5% is expected.

There is a risk that elevated arsenic concentration in the mill feed may result in increased leaching circuit solution temperatures. The leach process cooling system was updated in 2016 and testing confirmed solution temperature control. The plan is to continue to monitor leaching temperature.

Tailings

Cigar Lake site does not have a TMF. The ore is processed at the McClean Lake mill. See *Toll milling agreement* below for a discussion of the McClean Lake TMF.

Waste rock

The waste rock piles are separated into three categories:

- clean rock – will remain on the mine site for use as aggregate for roads, concrete backfill and future site reclamation
- mineralized waste (>0.03% U_3O_8) – will be disposed of underground at the Cigar Lake mine; and
- waste with acid-generating potential – temporarily stored on lined pads

The latter two stockpiles are contained on lined pads; however, no significant mineralized waste has been identified during development to date.

Production

The mine plan is designed to extract all of the current Cigar Lake mineral reserves. The following is a general summary of the mine plan production schedule parameters on a 100% basis for these mineral reserves:

Total mill production	• 163 million pounds of U_3O_8, based on current mineral reserves and an overall milling recovery of 98.5% • Full annual production of 18 million pounds of U_3O_8[1]
Total mine production	• 472,000 tonnes of ore
Average annual mine production	• 100 to 200 tonnes per day during peak production, depending on ore grade
Average mill feed grade	• 15.9% U_3O_8

[1] In 2016, Orano received approval to increase the annual production of the mill to 24 million pounds U_3O_8.

In 2020, total packaged production from Cigar Lake was 10.1 million pounds U_3O_8; our share was 5.0 million pounds. Production was temporarily suspended twice in 2020 due to precautionary measures taken with the increasing risks posed by the COVID-19 pandemic.

An initial suspension was announced in March 2020 with the operations moving to care and maintenance in April. In September we safely restarted the Cigar Lake mine. As planned, it took about two weeks to achieve initial production once the mine was restarted.

As announced in December 2020, production at the Cigar Lake mine was temporarily suspended again as a precautionary measure with a negative trend in the pandemic in Saskatchewan which created increased uncertainty for the continuous operation of the mine due to access to qualified operational personnel.

Our production and development plans for 2021 are uncertain as the Cigar Lake mine remains suspended and a restart of the operation and the production rate will be dependent on our ability to maintain safe and stable operating protocols along with a number of other factors, including how the COVID-19 pandemic is impacting the availability of the required workforce, how cases are trending in Saskatchewan, in particular in northern communities, and the views of the public health authorities.

As a result of the suspensions in production, we have also experienced delays and deferrals in project work, including lower capital expenditures, which introduces potential risk to the production rate in 2022.

While Cigar Lake is on care and maintenance, we expect to incur costs of between $8 million and $10 million per month, which will be expensed directly to cost of sales. We may also incur additional costs related to the purchase of uranium, which comes at a higher cost than our production.

Decommissioning and financial assurances

In 2002, our *preliminary decommissioning plan* for Cigar Lake was approved by the CNSC and the SMOE. We revised this plan and the accompanying *preliminary decommissioning cost estimate* when we renewed our federal licence in 2008. We further revised this plan and the accompanying *preliminary decommissioning cost estimate* ($49 million) and received our operating licence in 2013.

We submitted an update for the Cigar Lake preliminary decommissioning cost estimate ($62 million), received the required regulatory approvals, and letters of credit have been posted with the Saskatchewan government as financial assurances.

The reclamation and remediation activities associated with waste rock and tailings at the McClean Lake mill are covered by the plans and cost estimates for this facility.

Water inflow and mine/mill development

Cigar Lake water inflow incidents

From 2006 through 2008, the Cigar Lake project suffered several setbacks as a result of three water inflow incidents. The first occurred in 2006, resulting in the flooding of the then partially completed Shaft No. 2. The two subsequent incidents involved inflows in the mine workings connected to Shaft No. 1 and resulted in flooding of the mine workings. We executed recovery and remediation plans for all three inflows. Re-entry into the main mine workings was achieved in 2010 and work to secure the mine was completed in 2011.

The mine is fully remediated and entered commercial production in 2015. Lessons learned from the inflows have been applied to the subsequent mine plan and development in order to reduce the risk of future inflows and improve our ability to manage water inflows.

Increased pumping capacity

In 2012, we increased the installed mine dewatering capacity to 2,500 cubic metres per hour. Mine water treatment capacity has been increased to 2,550 cubic metres per hour, and regulatory approval to discharge routine and non-routine treated water to Seru Bay is in place. As a result, we believe we have sufficient pumping, water treatment and surface storage capacity to handle the estimated maximum inflow.

Current status of development

Construction of all major permanent underground development and process facilities required for the duration of the mine life is complete. A number of underground access drifts and production cross-cuts remain to be driven as part of ongoing mine development to sustain production rates.

On surface, construction of all permanent infrastructure required to achieve nameplate capacity has been completed.

In alignment with our production plans, underground mine development continued in 2020 between January to March and September to December. Development included focus on two new production panels in the eastern portion of the orebody along with initial access development towards the western portion. Development of the two production panels in the east was completed in 2020. Development in the western portion of the orebody is planned for 2021, along with further development in the eastern portion of the orebody to ensure new production panels are available in alignment with long-term production plans.

During 2020, we:

- substantially completed the extension of the underground electrical distribution system and commenced the extension of the underground piping infrastructure to support mining the west portion of the orebody
- executed planned annual maintenance activities during the first two weeks of September, prior to the safe restart of production following the five-month precautionary suspension of production due to the COVID-19 pandemic
- executed production activities from three production tunnels in the eastern part of the orebody
- expanded our ground freezing program ensuring continued frozen ore inventory growth in alignment with our long-term production plans; and
- completed a project looking at alternative mining methods that have potential to be utilized as alternatives to the underground jet boring system at Cigar Lake

In 2021, we plan to:

- continue surface freeze drilling and complete construction and commissioning of the freeze distribution infrastructure expansion in support of future production
- continue underground mine development on two new production tunnels as well as expand ventilation and access drifts in alignment with the long-term mine plan; and
- substantially complete the expansion of the underground piping and infrastructure towards new production panels required to sustain production

The McClean Lake mill has been expanded to process and package all Cigar Lake ore. Construction of the expanded facility was completed in 2016. Additional minor upgrades related to throughput optimisation were completed in 2020.

Toll milling agreement

The McClean Lake joint venture agreed to process Cigar Lake's ore slurry at its McClean Lake mill, according to the terms in its agreement with the CLJV: JEB toll milling agreement (effective January 1, 2002 and amended and restated effective November 30, 2011), dedicating the necessary McClean Lake mill capacity to process and package 18 million pounds of Cigar Lake uranium concentrate annually.

The CLJV pays a toll milling fee and its share of milling expenses.

The McClean Lake mill started receiving Cigar Lake ore in March 2014 and produced its first drum of Cigar Lake yellowcake in October 2014. All of Cigar Lake's ore slurry from current mineral reserves will be processed at the McClean Lake mill, operated by Orano. Orano does not expect any major infrastructure is necessary at McClean Lake mill in order to receive and process Cigar Lake's mineral reserves. Minor upgrades related to throughput optimisation were completed in 2020.

The McClean Lake joint venture commenced work in 2012 to optimize its TMF to accommodate all of Cigar Lake's current mineral reserves. The first stage of the work is complete with additional work involving increasing the required elevation of a liner for the facility scheduled to take place from 2022 to 2024. With the liner extended, the tailing management facility is expected to have capacity to receive tailings from processing all of Cigar Lake's current mineral reserves.

The McClean Lake joint venture is responsible for all costs of decommissioning the McClean Lake mill. As well, the joint venture is responsible for the liabilities associated with tailings produced from processing Cigar Lake ore at the McClean Lake mill.

The collective agreement between Orano and unionized employees at the McClean Lake mill expired on May 31, 2019. Unionized employees at the McClean Lake ratified a three-year collective bargaining agreement in November 2019.

Regulatory approvals

There are three key permits that are required to operate the mine.

Operating and processing licences

Federally, Cigar Lake holds a "Uranium Mine Licence" from the CNSC with a corresponding Licence Conditions Handbook (LCH). Provincially, Cigar Lake holds an "Approval to Operate Pollutant Control Facilities" from the SMOE and a "Water Rights Licence to Use Surface Water and Approval to Operate Works" from the Saskatchewan Watershed Authority.

The CNSC licence was issued for an eight-year term in June 2013 and expires on June 30, 2021. The SMOE approval was renewed in 2017 and expires in 2023. The Saskatchewan Watershed Authority water rights licence was obtained in 1988 and was last amended in July 2011. It is valid for an undefined term.

The current Cigar Lake LCH authorizes an annual production rate up to 18 million pounds per year. In 2016, Orano received approval to increase annual production of the McClean Lake mill to 24 million pounds per year.

The CNSC licence is set to expire in June 2021. The CNSC has set an April date for the licence renewal hearing and it will be held virtually. At this time, we have submitted all of the relevant supporting program documents and we, along with the CNSC, are preparing the Commission Member Documents that the CNSC will review as part of this proceeding. The CNSC has yet to finalize intervener funding for this hearing.

Water treatment/effluent discharge system

The mine dewatering system was designed and constructed to handle both routine and non-routine water treatment and effluent discharge, and it has been approved and licensed by the CNSC and the SMOE.

We began discharging treated water to Seru Bay in August 2013 following the receipt of regulatory approvals.

The Cigar Lake orebody contains elements of concern with respect to the water quality and the receiving environment. The distribution of elements such as arsenic, molybdenum, selenium and others is non-uniform throughout the orebody, and this can present challenges in attaining and maintaining the required effluent concentrations.

There have been ongoing efforts to optimize the current water treatment process and water handling systems to ensure acceptable environmental performance, which is expected to avoid the need for additional capital upgrades and potential deferral of production.

Operating and capital costs

The following is a summary of the Cigar Lake operating and capital cost estimates for the remaining life of mine, stated in constant 2020 dollars and reflecting a forecast life-of-mine mill production of 163.1 million pounds.

Operating Costs ($Cdn million)	Total (2021[1] – 2030)
Cigar Lake Mining	
Site administration	$413.5
Mining costs	633.4
Process	167.7
Corporate overhead	75.7
Total mining costs	$1,290.3
McClean Lake Milling	
Administration	$401.1
Milling costs	700.1
Corporate overhead	37.9
Toll milling	176.7
Total milling costs	$1,287.8
Total operating costs	**$2,606.1**
Total operating cost per pound U_3O_8	**$15.98**

Note: presented as total cost to the CLJV (100% basis)

[1] While the estimates assume a resumption of operations in 2021, no decision has been made.

Operating costs consist of annual expenditures at Cigar Lake to mine the ore, treat the ore underground, including crushing, grinding and density control, followed by pumping the resulting slurry to surface for transportation to McClean Lake.

Operating costs at McClean Lake consist of the cost of offloading and leaching the Cigar Lake ore slurry into uranium solution and further processing into calcined U_3O_8 product.

Capital Costs ($Cdn million)	Total (2021[1] – 2030)
Cigar Lake Mine Development	$124.1
Cigar Lake Mine Capital	
Sustaining capital	$74.7
Capacity replacement capital	45.5
Growth capital	-
Reclamation	0.1
Total mine capital	$120.3
McClean Lake mill sustaining capital	$84.4
McClean Lake mill expansion capital	76.8
Total mill capital	$161.2
Total capital costs	**$405.7**

Note: presented as total cost to the CLJV (100% basis)

[1] While the estimates assume a resumption of operations in 2021, no decision has been made.

Estimated capital costs to the CLJV include sustaining capital for Cigar Lake and McClean Lake mill, as well as underground development at Cigar Lake to bring mineral reserves into production. Overall, the largest capital cost at Cigar Lake is surface freeze drilling and brine distribution infrastructure. Other significant capital includes tunnel outfitting and mine development costs.

Our expectations and plans regarding Cigar Lake, including forecasts of operating and capital costs, production and mine life are forward-looking information, and are based specifically on the risks and assumptions discussed on pages 2, 3 and 4. We may change operating or capital spending plans in 2021, depending on the impact of COVID-19, uranium markets, our financial position, results of operation and other factors. Estimates of expected future production and capital and operating costs are inherently uncertain, particularly beyond one year, and may change materially over time.

Exploration, drilling, sampling, data quality and estimates

There are no historical estimates within the meaning of NI 43-101 to report. The Cigar Lake uranium deposit was discovered in 1981 by surface exploration drilling.

We focus most of our exploration activities on mineral lease ML 5521. Orano is responsible for exploration activity on the 38 surrounding mineral claims. The data from the exploration program on the 38 mineral claims is not part of the database used for the estimate of the mineral resources and mineral reserves at Cigar Lake.

Exploration

After the 2006 water inflow events, it was recognized that more detailed geophysical information in the immediate deposit area was required. Since 2006, a number of geophysical surveys over the Cigar Lake deposit provided additional knowledge on geological structures and fault zones. In the fall of 2007, a supplementary geophysical program was conducted over a portion of the eastern area of the deposit to identify major structures within the sandstone column. This has allowed for better mine planning and mitigation of potential risk.

Drilling

Surface drilling – mineral lease

The last diamond drillhole of the 1981 program was located south of Cigar Lake and was the discovery hole for the Cigar Lake uranium deposit. The deposit was subsequently delineated by surface drilling during the period 1982 to 1986, and followed by several small campaigns of drilling for geotechnical and infill holes to 2007. Additional diamond drilling campaigns over the eastern part of the deposit and the western portion were conducted by us between 2007 and 2012, which targeted a broad range of technical objectives. From 2012 until 2016, we managed diamond drilling programs mainly focused on surface ground freezing programs on the eastern part of the deposit. In 2016, we initiated a surface delineation program on the western portion of the deposit, which ended in 2017.

Average drill depths for surface delineation holes range from approximately 460 m to 500 m, with the majority of surface freezeholes drilled to a depth of approximately 462 m. Delineation drilling in the eastern area has been done at a nominal drillhole fence spacing of 25 to 50 m (east-west), with holes at 20 to 25 m (north-south) spacing on the fences. The approximate surface freezehole spacing is 7 x 7 metres.

The western area was historically drilled at a nominal drillhole fence spacing of 200 m, with holes at 20 m spacing on the fences. An additional 32 infill drillholes were completed in 2011 and 2012 by Cameco for select areas, locally reducing the drillhole spacing down to an approximate 15 x 15 m pattern. A total of 51,080 m, for 124 of holes, were drilled during the 2016 and 2017 drilling programs.

Drilling results have been used to delineate and interpret the 3-dimensional geometry of the mineralized areas, the litho structural settings, the geotechnical conditions, and to estimate the distribution and content of uranium and other elements.

Surface freezehole drilling over the eastern part of the deposit was ongoing until the temporary suspension of activities in December. Drilling results obtained as of September, 2020 representing 89 additional freezeholes are reflected in our reported mineral resources and reserves.

Underground drilling – mineral lease

Diamond drilling from underground is primarily to ascertain rock mass characteristics in advance of development and mining. Cigar Lake Mining Corporation, the previous operator, and Cameco have conducted underground geotechnical drilling since 1989 at Cigar Lake, with the exception of the period from 2007 to 2009 during which time the mine was flooded.

At one time, freezeholes were drilled from underground into the deposit for the purpose of freezing the ground prior to mining. No underground freezeholes have been drilled since 2006. None of them are currently used for freezing or for mineral resource and reserve estimation purposes.

Sampling, analysis and data verification

Sampling

Vertical surface drilling generally represented the true thickness of the zone since the mineralization is flat. All holes are core drilled and gamma probed whenever possible. Cigar Lake uses a high-flux gamma probe designed and constructed by alphaNUCLEAR, a member of the Cameco group of companies. This high-flux gamma probe utilizes two Geiger Müller tubes to detect the amount of gamma radiation emanating from the surroundings. The count rate obtained from the high-flux probe is compared against chemical assay results to establish a correlation to convert corrected probe count rates into equivalent % U_3O_8 grades for use when assay results are unavailable. The consistency between probe data and chemical assays demonstrates that secular equilibrium exists within the deposit. Approximately 25% of the data used to estimate mineral resources is obtained from assays, and in these cases, the core depth is validated by comparing the down-hole gamma survey results with a hand-held scintillometer on core before it is logged, photographed, and then sampled for uranium analysis. Attempts are made to avoid having samples cross geological boundaries.

When sampled, the entire core from each sample interval is taken for assay or other measurements that are used to characterize the physical and geochemical properties of the deposit, except for some of the earliest sampling in 1981 and 1982. This reduced the sample bias inherent when splitting core. Core recovery throughout the deposit has generally been very good. However, in areas of poor core recovery uranium grade determination is generally based on radiometric probe results.

The typical sample collection process at our operations included the following procedures:

- marking the sample intervals on the core boxes, at the nominal 50 cm sample length, by a geoscientist
- collection of the samples in plastic bags, taking the entire core
- documentation of the sample location, including assigning a sample number, and description of the sample, including radiometric values from a hand-held device
- bagging and sealing, with sample tags inside bags and sample numbers on the bags; and
- placement of samples in steel drums for shipping

Sample security

Current sampling protocols dictate that all samples are collected and prepared under the close supervision of a qualified geoscientist in a restricted core processing facility. The core samples are collected and transferred from the core boxes to high-strength plastic sample bags, then sealed. The sealed bags are then placed in steel drums and shipped in compliance with the Transport of Dangerous Goods regulations with tamper-proof security seals. Chain of custody documentation is present from inserting samples into steel drums to the final delivery of results by SRC. All samples collected are prepared and analysed under the close supervision of qualified personnel at SRC, which is a restricted access laboratory licensed by the CNSC.

Analysis

Since 2002, assay sample preparation has been done at SRC, which is independent of the participants of CLJV. It involves jaw crushing to 60% @ -2 mm and splitting out a 100 – 200 g sub-sample using a riffle splitter. The sub-sample is pulverized to 90% @ -106 microns using a puck and ring grinding mill. The pulp is then transferred to a labelled plastic snap top vial. Assaying by SRC involved digesting an aliquot of pulp in a 100 ml volumetric flask in concentrated 3:1 HCI:HNO_3, on a hot plate for approximately one hour. The lost volume is then made up using deionized water prior to analysis by ICP-OES. Instruments used in the analysis are calibrated using certified commercial solutions.

Quality control and data verification

The quality assurance and quality control procedures used during the early drilling programs were typical for the time. The majority of uranium assays in the database were obtained from Loring Laboratories Ltd., which is independent of the participants of CLJV. For uranium assays up to 5% U_3O_8, 12 standards and two blanks were run with each batch of samples and for uranium assays over 5% U_3O_8, a minimum of four standards were run with each batch of samples.

More recent sample preparation and assaying is being completed under the close supervision of qualified personnel at SRC and includes preparing and analysing standards, duplicates and blanks. A standard is prepared and analysed for each batch of samples and one out of every 40 samples is analysed in duplicate. Samples that fail quality controls are re-analyzed.

The original database, which forms part of the database used for the current mineral resource and mineral reserve estimates, was compiled by previous operators. Many of the original signed assay certificates are available and have been reviewed by Cameco geologists.

In 2013, Cigar Lake implemented an SQL server based centralized geological data management system to manage all drillhole and sample related data. All core logging, sample collection, downhole probing and sample dispatching activities are carried out and managed within this system. All assay, geochemical and physical analytical results obtained from the external laboratory are uploaded directly into the centralized database, thereby mitigating potential for manual data transfer errors. The database used for the current mineral resource and mineral reserve estimates was validated by Cameco qualified geoscientists.

Additional data quality control measures taken include:

- review of drillhole collar coordinates and downhole deviations in the database against planned location of the holes. Results were within acceptable tolerances.
- comparison of the information in the database against the original data, including paper logs, assay certificates and original probing files. Assay and density measurements were verified against original documentation during the mineral resource estimate update with no discrepancies being observed.
- validation of core logging information in plan and section views, and review of logs against photographs of the core
- checking for data errors such as overlapping intervals and out of range values. No issues were observed in 2020.
- radiometric probes undergo annual servicing and re-calibration as well as additional checks including control probing to ensure precision and accuracy of the probes. No issues of significance were identified in 2020 with the exception of one radiometric probe which failed our quality control checks and was sent for re-calibration. Potentially impacted drillholes were re-probed to ensure their accuracy; and
- validating uranium grades comparing radiometric probing with core radioactivity measurements and sample assay results. Uranium grades were validated during the mineral resource update by comparing equivalent % U_3O_8 grades against sample assay results. The current correlation to convert corrected probe count rates into equivalent % U_3O_8 grades was deemed to be valid.

Since the start of commercial production, we have compared the uranium block model with mine production results on a quarterly basis to ensure an acceptable level of accuracy is maintained.

Our geoscientists, including a qualified person as such term is defined in NI 43-101, have witnessed or reviewed drilling, core handling, radiometric probing, logging and sampling facilities used at the Cigar Lake operation and consider the methodologies to be satisfactory and the results representative and reliable.

Accuracy

We are satisfied with the quality of data and consider it valid for use in the estimation of mineral resources and reserves for Cigar Lake. Comparison of actual mine production with expected production supports this opinion.

Mineral reserve and resource estimates

Please see page 74 for our mineral reserve and resource estimates for Cigar Lake.

Uranium – Tier-one operations

Inkai

Inkai is a very significant uranium deposit, located in Kazakhstan.

The operator is JV Inkai limited liability partnership, which we jointly own (40%) with KAP (60%).

Inkai is considered a material uranium property for us.

Location	South Kazakhstan
Ownership[1]	40%
End product	uranium concentrate
Certifications	BSI OHSAS 18001 ISO 14001 certified
Estimated mineral reserves (our share)	97.5 million pounds (proven and probable), average grade U_3O_8 – 0.03%
Estimated mineral resources (our share) [2]	12.8 million pounds (measured and indicated), average grade U_3O_8 – 0.03% 30.0 million pounds (inferred), average grade U_3O_8 – 0.03%
Mining method	in situ recovery (ISR)
Licensed capacity	10.4 million pounds per year (our share 4.2 million pounds per year)[1]
Total production 2009 to 2020	64.5 million pounds (100% basis)
2020 production	7.0 million pounds (100% basis)
2021 forecast production	8.3 million pounds (100% basis)[1]
Estimated mine life	2045 (based on current licence term)
Estimated decommissioning cost (100% basis)	$11 million (US) (this estimate is currently under review)

[1] We signed an agreement with our partner KAP and JV Inkai to restructure and enhance Inkai. Under the agreement, effective January 1, 2018, our ownership interest in the joint venture is 40% and we equity account for our investment. Due to equity accounting, our share of production is shown as a purchase. For more information, see *Production increase and restructuring – Implementation Agreement* on page 57.

[2] Mineral resources that are not mineral reserves have no demonstrated economic viability.

Business structure

JV Inkai is a Kazakhstan limited liability partnership between two companies:

- Cameco – 40%
- KAP – 60%

History

1976-78	• Deposit is discovered • Exploration drilling continues until 1996
1979	• Regional and local hydrogeology studies begin • Borehole tests characterize the four aquifers within the Inkai deposit (Uvanas, Zhalpak, Inkuduk and Mynkuduk)
1988	• Pilot test in the northeast area of block 1 begins, lasts 495 days and recovers 92,900 pounds of uranium
1993	• First Kazakhstan estimates of uranium resources for block 1
1996	• First Kazakhstan estimates of uranium resources for block 2 • Kazakhstan regulators registers JV Inkai, a joint venture among us, Uranerzbergbau-GmbH and KATEP
1997	• KAP is established
1998	• KATEP transfers all of its interest in JV Inkai to KAP • We acquire all of Uranerzbergbau-GmbH's interest in JV Inkai, increasing our interest to 66 2/3% • We agree to transfer a 6 2/3% interest to KAP, reducing our holdings to a 60% interest
1999	• JV Inkai receives a mining licence for block 1 and an exploration with subsequent mining licence for blocks 2 and 3 from the government of Kazakhstan
2000	• JV Inkai and the government of Kazakhstan sign a subsoil use contract (called the *resource use contract*), which covers the licences issued in 1999 (see above)
2002	• Pilot leach test in the north area of block 2 begins
2005	• Construction of ISR commercial processing facility at block 1 begins
2006	• Complete pilot leach test at block 2 • Exploration-delineation drilling initiated at block 3
2007	• Sign Amendment No.1 to the resource use contract, extending the exploration period at blocks 2 and 3
2008	• Commission front half of the main processing plant in the fourth quarter, and begin processing solution from block 1
2009	• Sign Amendment No. 2 to the resource use contract, which approves the mining licence at block 2, extends the exploration period for block 3 to July 13, 2010, and requires JV Inkai to adopt the new tax code and meet the Kazakhstan content thresholds for human resources, goods, works and services • Commission the main processing plant, and started commissioning the first satellite plant
2010	• Receive regulatory approval for commissioning of the main processing plant • File a notice of potential commercial discovery at block 3 • Receive approval in principle for the extension of block 3 exploration for a five-year appraisal period that expires July 2015, and an increase in annual production from blocks 1 and 2 to 3.9 million pounds (100% basis)
2011	• Receive regulatory approval for commissioning of the first satellite plant • Sign Amendment No. 3 to the resource use contract, which extends the exploration period for block 3 to July 2015 and provides government approval to increase annual production from blocks 1 and 2 to 3.9 million pounds (100% basis) • Sign a memorandum of agreement with KAP to increase annual production from blocks 1 and 2 from 3.9 million pounds to 5.2 million pounds (100% basis)
2012	• Sign a memorandum of agreement with KAP setting out the framework to increase annual production from blocks 1 and 2 to 10.4 million pounds (100% basis), to extend the term of JV Inkai's resource use contract through 2045 and to cooperate on the development of uranium conversion capacity, with the primary focus on uranium refining rather than uranium conversion • Start construction of a test leach facility at block 3
2013	• Sign Amendment No. 4 to the resource use contract, which provides government approval to increase annual production from blocks 1 and 2 to 5.2 million pounds (100% basis)
2015	• At block 3, construction of the test leach facility is completed and the pilot leach test initiated

2016	• Sign an agreement with KAP and JV Inkai to restructure and enhance JV Inkai, subject to closing, increasing KAP's holdings to a 60% interest and reducing our holdings to a 40% interest. • Sign Amendment No. 5 to the resource use contract, which extends the exploration period for block 3 to July 2018
2017	• In December, close the agreement with KAP and JV Inkai to restructure and enhance JV Inkai. Under the agreement, effective January 1, 2018, our ownership interest dropped to 40% and we will equity account for our investment. • Sign Amendment No. 6 to the resource use contract, which grants JV Inkai the right to produce up to 10.4 million pounds per year and extends the term of the resource use contract until July 13, 2045.

Technical report

This description is based on the project's technical report: Inkai Operation, South Kazakhstan Oblast, Republic of Kazakhstan, dated January 25, 2018 (effective January 1, 2018) except for some updates that reflect developments since the technical report was published. The report was prepared for us in accordance with NI 43-101, by or under the supervision of Darryl Clark, PhD, FAusIMM, Alain G. Mainville, P. Geo., Stuart B. Soliz, P. Geo., and Robert J. Sumner, PhD, P. Eng. The following description has been prepared under the supervision of Biman Bharadwaj, P. Eng., Scott Bishop, P. Eng., and Alain D. Renaud, P. Geo. They are all qualified persons within the meaning of NI 43-101, but are not independent of us.

For information about environmental matters, see *Our approach to ESG matters* and *The regulatory environment* starting on pages 80 and 88.

For a description of royalties payable to the government of Kazakhstan on the sale of uranium extracted from orebodies within the country and taxes, see page 95.

For a description of risks that might affect access, title or the right or ability to perform work on the property, see *Political risks* starting at page 107, *Regulatory risks* starting at page 110, *Environmental risks* starting at page 110, and *Legal and other risks* starting at page 112.

The conclusions, projections and estimates included in this description are subject to the qualifications, assumptions and exclusions set out in the technical report except as such qualifications, assumptions and exclusions may be modified in this AIF. We recommend you read the technical report in its entirety to fully understand the project. You can download a copy from SEDAR (sedar.com) or from EDGAR (sec.gov).

About the Inkai property

Location

Inkai is located in the Suzak District of Turkestan Oblast, Kazakhstan near the town of Taikonur, 350 kilometres northwest of the city of Shymkent and 155 kilometres east of the city of Kyzyl-Orda. JV Inkai's corporate office is located in Shymkent.

Access

The road to Taikonur is the primary road for transporting people, supplies and uranium product to and from the mine. It is a paved road that crosses the Karatau Mountains. Rail transportation is available from Almaty to Shymkent, then northwest to Shieli, Kyzyl-Orda and beyond. A rail line also runs from the town of Dzhambul to a KAP facility to the south of Taikonur. From Almaty and Astana, commercial airline services are available to Shymkent and Kyzyl-Orda.

Property tenure – MA area and mining allotment

The resource use contract between the Republic of Kazakhstan and JV Inkai (the resource use contract) grants JV Inkai the rights to explore for and to extract uranium from the subsoil contained in the Mining Allotment Area (the MA Area). The MA Area is the 139 square kilometres area in which JV Inkai currently has the right to mine, as covered by the Mining Allotment, which includes block 1 and portions of blocks 2 and 3. The Mining Allotment was the document issued by the Geology Committee of the Republic of Kazakhstan to JV Inkai in July 2017, which graphically and descriptively defines the area in which JV Inkai has the right to mine. As provided for in Amendment No. 6, it is part of the resource use contract. JV Inkai owns uranium extracted from the subsoil contained in the MA Area and has the right to use the surface of the MA Area. JV Inkai has obligations under the resource use contract which it must comply with in order to maintain these rights.

In addition to complying with its obligations under the resource use contract, JV Inkai, like all subsoil users, is required to abide by the work program appended to its resource use contract, which relates to its mining operations.

Under Kazakhstan law, subsoil and mineral resources belong to the state. Currently, the state provides access to subsoil and mineral resources under a resource use contract (hydrocarbons and uranium only) and a licence (the rest of mineral resources). Minerals extracted from subsoil by a subsoil user under a resource use contract are the property of the subsoil user unless the subsoil code (as defined below) or a resource use contract provides otherwise.

A resource use contract gives the contractor a right to use the surface of the property while exploring, mining and reclaiming the land. However, this right must be set forth in a land lease agreement with the applicable local administrative authorities.

On a regular basis, JV Inkai obtains from local authorities the necessary land lease agreements for new buildings and infrastructure. JV Inkai does not hold land leases for the entire MA Area. JV Inkai obtains land leases gradually only for surface area required for exploration, mining or construction of new infrastructure.

Environment, social and community factors

Inkai lies in the Betpak Dala Desert, which has a semi-arid climate, minimal precipitation and relatively high evaporation. The average precipitation varies from 130 to 140 millimetres per year, and 22 to 40% of this is snow. The surface elevation within the MA Area ranges from 140 to 300 metres above mean sea level.

The area also has strong winds. The prevailing winds are northeast. Dust storms are common. The major water systems in the area include the Shu, Sarysu and Boktykaryn rivers.

The resource use contract prescribes that a certain level of employees be from Kazakhstan. See *Resource use contract* on page 58 for more information.

JV Inkai must give preference to local businesses. See *Kazakhstan government and legislation – local content* – on page 61 for more information.

In accordance with JV Inkai's corporate responsibility strategy and to comply with its obligations under the resource use contract, JV Inkai finances projects and provides goods and services to support the district's social infrastructure.

Geological setting

South-central Kazakhstan geology is comprised of a large relatively flat basin of Cretaceous to Quaternary age continental clastic sedimentary rocks. The Chu-Sarysu basin extends for more than 1,000 kilometres from the foothills of the Tien Shan Mountains located on the south and southeast sides of the basin, and merges into the flats of the Aral Sea depression to the northwest. The basin is up to 250 kilometres wide, bordered by the Karatau Mountains on the southwest and the Kazakh Uplands on the northeast. The basin is composed of gently dipping to nearly flat-lying fluvial-derived unconsolidated sediments composed of inter-bedded sand, silt and local clay horizons.

The Cretaceous and Paleogene sediments contain several stacked and relatively continuous, sinuous "roll-fronts" or oxidation reduction (redox) fronts hosted in the more porous and permeable sand and silt units. Several uranium deposits and active uranium ISR mines are located at these regional oxidation roll-fronts, developed along a regional system of superimposed mineralization fronts. The overall stratigraphic horizon of interest in the basin is approximately 200 to 250 metres in vertical section.

The Inkai deposit is one of these roll-front deposits. It is hosted within the Lower and Middle Inkuduk horizons and Mynkuduk horizon which comprise fine, medium and coarse-grained sands, gravels and clays. The redox boundary can be readily recognised in core by a distinct colour change from grey and greenish-grey on the reduced side to light-grey with yellowish stains on the oxidized side, stemming from the oxidation of pyrite to limonite.

The sands have high horizontal hydraulic conductivities. Hydrogeological parameters of the deposit play a key role in ISR mining. Studies and mining results indicate Inkai has favourable hydrogeological conditions for ISR mining.

Mineralization

Mineralization in the Middle Inkuduk horizon occurs in the central, western and northern parts of the MA Area. The overall strike length is approximately 35 kilometres. Width in plan view ranges from 40 to 1,600 metres and averages 350 metres. The depth ranges from 262 to 380 metres, averaging 314 metres.

Mineralization in the Lower Inkuduk horizon occurs in the southern, eastern and northern parts of the MA Area. The overall strike length is approximately 40 kilometres. Width in plan view ranges from 40 to 600 metres and averages 250 metres. The depth ranges from 317 to 447 metres, averaging 382 metres.

Mineralization in the Mynkuduk horizon stretches from south to north in the eastern part of the MA Area. The overall strike length is approximately 40 kilometres. Width in plan view ranges from 40 to 350 metres and averages 200 metres. The depth ranges from 350 to 528 metres, averaging 390 metres.

Mineralization comprises sooty pitchblende (85%) and coffinite (15%). The pitchblende occurs as micron-sized globules and spherical aggregates, while the coffinite forms tiny crystals. Both uranium minerals occur in pores on interstitial materials such as clay minerals, as films around and in cracks within sand grains, and as replacements of rare organic matter, and are commonly associated with pyrite.

Deposit type

The Inkai uranium deposit is a roll-front type deposit. Roll-front deposits are a common example of stratiform deposits that form within permeable sandstones in localized reduced environments. The Cretaceous and Paleogene sediments contain several stacked and relatively continuous, sinuous “roll-fronts”, or redox fronts hosted in the more porous and permeable sand and silt units. Microcrystalline uraninite and coffinite are deposited during diagenesis by ground water, in a crescent-shaped lens that cuts across bedding and forms at the interface between oxidized and reduced ground. Sandstone host rocks are medium to coarse grained were highly permeable at the time of mineralization. There are several uranium deposits and active ISR uranium mines at these regional oxidation roll-fronts, developed along a regional system of superimposed mineralization fronts.

About the Inkai operation

Inkai is a developed producing property with sufficient surface rights to meet future mining operation needs for the current mineral reserves. It has site facilities and infrastructure. Plans are progressing to expand the operation to give it the capability to produce up to 10.4 million pounds per year.

Licences

The resource use contract grants JV Inkai the rights to explore for and to extract uranium from the subsoil contained in the MA Area until July 13, 2045. Other material licences JV Inkai currently holds relating to its mining activities are:

- “Licence for radioactive substances handling” valid until December 31, 2024
- “Licence for operation of mining production and mineral raw material processing” with an indefinite term
- “Licence for transportation of radioactive substances within the territory of the Republic of Kazakhstan” valid until December 30, 2024
- “Licence for radioactive waste handling” valid until December 30, 2024

JV Inkai’s material environmental permits are described on page 59.

Infrastructure

There are three processing facilities on the MA Area: the Main Processing Plant (MPP) and two satellite plants, Sat1 and Sat2. The existing MPP, Sat1 and Sat2 circuit capacities were estimated using Inkai daily process summaries, which were subsequently demonstrated in 2019 by actual annual production. The MPP has an ion exchange (IX) capacity of 2.7 million pounds U_3O_8 per year and a product drying and packaging capacity of 8.3 million pounds U_3O_8 per year. Sat1 and Sat2 have respective IX capacities of 6.0 and 2.3 million pounds U_3O_8 per year.

The following infrastructure currently exists on the MA Area: administrative, engineering and construction offices, a laboratory, shops, garages, holding ponds and reagent storage tanks, enclosures for low-level radioactive waste and domestic waste, an emergency response building, food services facilities, roads and power lines, wellfield pipelines and header houses.

As part of the expansion, the following upgrades are planned:

- expansion of the processing facilities to add processing capacity
- addition of calcining capability at the MPP

- addition of new pumping stations and sand ponds
- expansion of office buildings and the laboratory

At Taikonur, JV Inkai has an employee residence camp with catering and leisure facilities. As part of the expansion, the following upgrades are planned:

- expansion of the camp in a phased approach with construction of two residential blocks for 165 people each and addition of a dining room for 150 people
- construction of a 24 kilometre asphalt paved road connecting the camp to the three processing facilities

Water, power and heat

Groundwater wells provide sufficient water for all planned industrial activities. Potable water for use at the camp and at site facilities is supplied from shallow wells on the site. The site is connected to the national power grid. In case of power outages, there are standby generators. Operations continue throughout the year despite cold winters (lows of -35°C) and hot summers (highs of +40°C).

Employees

Taikonur has a population of about 680 who are mainly employed in uranium development and exploration. Whenever possible, JV Inkai hires personnel from Taikonur and surrounding villages.

Mining

Mining at Inkai is based upon a conventional and well-established ISR process. ISR mining of uranium is defined by the IAEA as:

“The extraction of ore from a host sandstone by chemical solutions and the recovery of uranium at the surface. ISR extraction is conducted by injecting a suitable leach solution into the ore zone below the water table; oxidizing, complexing and mobilizing the uranium; recovering the pregnant solutions through production wells; and finally, pumping the uranium bearing solution to the surface for further processing.”

ISR mining at Inkai is comprised of the following components to produce a uranium-bearing lixiviant (an aqueous solution which includes sulphuric acid), which goes to settling ponds and then to the processing plants for production as yellowcake:

- **Determination of the GT (grade x thickness) cut-off** for the initial design and the operating period. The design sets a lower limit to the pounds per pattern required to warrant installation of a pattern before funds are committed, and the operating cut-off applies to individual producer wells and dictates the lower limit of operation once a well has entered production.
- **Preparation of a production sequence**, which will deliver the uranium-bearing lixiviant to meet production requirements, considering the rate of uranium recovery, lixiviant uranium head grades, and wellfield flow rates.
- **Wellfield development practices**, using an optimal pattern design, distribute barren lixiviant to the wellfield injectors, and then collect lixiviant, which carries the dissolved uranium, back to the MPP, Sat1 or Sat2, as the case may be.

The above factors are used to estimate the number of operating wellfields, wellfield patterns and wellfield houses over the production life. They also determine the unit cost of each of the mining components required to achieve the production schedule, including drilling, wellfield installation and wellfield operation.

There is ongoing wellfield development to support the current production plan. The mining plan is scheduled to be updated following the planned 2021 completion of the resource estimate report incorporating the infill delineation drilling program carried out in 2018-2019 as described in *Exploration* on page 64 below.

Processing

As a result of extensive test work and operational experience, a very efficient process of uranium recovery has been established. The process consists of the following major steps:

- uranium in-situ leaching with a lixiviant
- uranium adsorption from solution with IX resin
- elution of uranium from resin with ammonium nitrate

- precipitation of uranium as yellowcake with hydrogen peroxide and ammonia
- yellowcake thickening, dewatering, and drying
- packaging of dry yellowcake product in containers

All plants load and elute uranium from resin while the resulting eluate is converted to yellowcake at the MPP. Inkai is designed to produce a dry uranium product that meets the quality specifications of uranium refining and conversion facilities. Overall recovery in 2020 slightly exceeded our target of 85%.

Production

Total production

Based on current mineral reserves, we expect Inkai to produce a total of 207 million pounds U_3O_8 (100% basis, recovered after processing) over the life of the mine from January 2021 to June 2045 inclusive.

Average annual production

Collectively the MPP, Sat1 and Sat2 have the capacity to produce about 8.3 million pounds U_3O_8 per year (100% basis) depending on the grade of the production solution. Construction work for a process expansion of the Inkai circuit to 10.4 million pounds U_3O_8 per year is in progress. The expansion project includes an upgrade to the yellowcake filtration and packaging units and the addition of a pre-dryer and calciner.

Production increase and restructuring – Implementation Agreement

In 2016, we signed an agreement with KAP and JV Inkai to restructure and enhance JV Inkai (the implementation agreement). The restructuring closed in December 2017 and took effect January 1, 2018. This restructuring was subject to obtaining all required government approvals, including an amendment to the resource use contract, which were obtained. The restructuring consisted of the following:

- JV Inkai has the right to produce 10.4 million pounds of U_3O_8 per year, an increase from the prior licensed annual production of 5.2 million pounds
- JV Inkai has the right to produce until 2045 (previously, the licence terms, based on the boundaries prior to the restructuring, were to 2024 and 2030)
- our ownership interest in JV Inkai is 40% and KAP's ownership interest is 60%. However, during production ramp up to the licensed limit of 10.4 million pounds, we are entitled to purchase 57.5% of the first 5.2 million pounds, and, as annual production increases above 5.2 million pounds, we are entitled to purchase 22.5% of any incremental production, to the maximum annual share of 4.2 million pounds. Once the ramp up to 10.4 million pounds annually is complete, we will be entitled to purchase 40% of such annual production, matching our ownership interest
- a governance framework that provides protection for us as a minority owner
- the boundaries of the MA Area match the agreed production profile for JV Inkai to 2045
- priority payment of the loan that our subsidiary made to JV Inkai to fund exploration and evaluation of the historically defined block 3 area (in 2019, the loan was repaid)

With KAP, we completed and reviewed a feasibility study for the purpose of evaluating the design, construction and operation of a uranium refinery in Kazakhstan. In accordance with the agreement, a decision was made not to proceed with construction of the uranium refinery as contemplated in the feasibility study. We subsequently signed an agreement to licence our proprietary UF_6 conversion technology to KAP, which will allow KAP to examine the feasibility of constructing and operating its own UF_6 conversion facility in Kazakhstan.

The subsoil code allows producers to deviate within 20% (above or below) from the production parameters (including annual production levels) set out in the state approved project documentation, without triggering a mandatory amendment process.

With the change in ownership interests, we account for JV Inkai on an equity basis.

2020 Production

Total 2020 production from Inkai was 7.0 million pounds (100% basis), a decrease of 16% from 2019. The decrease in production is due to the impact of the reduction in operational activities introduced to manage the risks posed by the COVID-19 pandemic.

On April 7, 2020, KAP announced a reduction to operational activities across all uranium mines in Kazakhstan for an expected period of three months due to the risks posed by the COVID-19 pandemic. It indicated that its decision would result in a lower level of wellfield development activity and, as a result, an estimated reduction of up to 17.5% in total planned uranium production in Kazakhstan in 2020. On July 6, 2020, KAP announced a one-month extension of the period of reduced operational activities with the impact on its revised production plan for 2020 expected to be immaterial. In August 2020, the previously reduced operational activities, including wellfield development resumed at JV Inkai.

2021 Production

Based on an adjustment to the production purchase entitlement under the implementation agreement described above, we are entitled to purchase 4.9 million pounds, or 59.4% of JV Inkai's planned 2021 production of 8.3 million pounds. Our share of the profits earned by JV Inkai on the sale of its production will be included in "income from equity-accounted investees" on our consolidated statement of earnings.

Our share of production is purchased at a discount to the spot price and included at this value in inventory. In addition, JV Inkai capital is not included in our outlook for capital expenditures.

Achievement of JV Inkai's 2021 production forecast requires it to successfully manage its operating and other risks including the current uncertain environment resulting from the COVID-19 pandemic and its related operational risks, including the risk of significant disruption to JV Inkai's operations, workforce, required supplies or services, and its ability to produce uranium.

Sales

There are annual uranium sales contracts entered into between JV Inkai and a Cameco subsidiary to purchase Cameco's share of Inkai production for each year, as well as similar contracts between JV Inkai and KAP. JV Inkai currently has no other forward-sales commitments for its uranium production.

In accordance with the Kazakhstan government's resolution on uranium concentrate pricing regulations, product is currently purchased from JV Inkai at a price equal to the uranium spot price, less a 5% discount.

Project funding and cash distribution

We had an outstanding loan for Inkai's work on block 3 prior to the restructuring. Under the implementation agreement, the partners agreed that JV Inkai would distribute excess cash, after working capital requirements, as priority repayment of this loan. In 2019, the loan was repaid. As a result, excess cash, net of working capital requirements, will be distributed to the partners as dividends. In 2020, we received dividend payments from JV Inkai totaling $40.6 million (US). Our share of dividends follows our production purchase entitlements as described above.

Resource use contract

The resource use contract was signed by the Republic of Kazakhstan and JV Inkai and then registered on July 13, 2000 based on the licence granted on April 20, 1999. The resource use contract provides for JV Inkai's mining rights to the MA Area, as well as containing obligations with which JV Inkai must comply in order to maintain such rights. There have been six amendments to the resource use contract, the most recent in November 2017, being Amendment No. 6 to:

- define the boundaries of the MA Area to match the agreed production profile for JV Inkai to 2045
- increase the annual production rate from the MA Area to 10.4 million pounds U_3O_8
- extend the extraction term from the MA Area until July 13, 2045.

The other prior significant amendments to the resource use contract are as follows:

- In 2007, Amendment No. 1 to the resource use contract was signed, extending the exploration period of blocks 2 and 3 for two years.
- In 2009, Amendment No. 2 to the resource use contract was signed, adopting the 2009 Tax Code, implementing local content and employment requirements, and extending the exploration period at block 3.
- In 2011, Amendment No 3 to the resource use contract was signed, increasing production and giving JV Inkai government approval to carry out a five-year assessment program on block 3 that included delineation drilling, uranium resource estimation, construction and operation of a processing plant at block 3, and completion of a feasibility study.

- In 2013, Amendment No. 4 to the resource use contract was signed to increase annual production from blocks 1 and 2 to 5.2 million pounds U_3O_8.
- In 2016, Amendment No. 5 to the resource use contract was signed, extending the exploration period at block 3 to July 13, 2018.

In addition to complying with its obligations under the resource use contract, JV Inkai, like all subsoil users, is required to abide by the work program appended to the resource use contract, which relates to its mining operations. The current work program, to increase the annual production rate to 10.4 million pounds U_3O_8, is attached to Amendment No. 6.

Environment

JV Inkai has to comply with environmental requirements during all stages of the operation, and develop an environmental impact assessment for examination by a state environmental expert before making any legal, organizational or economic decisions that could have an effect on the environment and public health.

As required under Kazakhstan law, JV Inkai has a permit for environmental emissions and discharges for the operation that is valid until December 31, 2022. JV Inkai also holds certain water use permits which have various expiry dates.

JV Inkai carries environmental insurance, as required by the resource use contract and environmental law.

Decommissioning

JV Inkai's decommissioning obligations are defined by the resource use contract and the subsoil code. JV Inkai is required to maintain a fund, which is capped at $500,000 (US), as security for meeting its decommissioning obligations. Under the resource use contract, JV Inkai must submit a plan for decommissioning the property to the government six months before mining activities are complete.

JV Inkai has developed a preliminary decommissioning plan to estimate total decommissioning costs, and updates the plan when there is a significant change at the operation that could affect decommissioning estimates. The preliminary decommissioning estimate is $11 million (US) and is subject to ongoing review.

Groundwater is not actively restored post-mining in Kazakhstan. See page 92 for additional details.

Kazakhstan government and legislation

Subsoil law

The principal legislation governing subsoil exploration and mining activity in Kazakhstan is the *Code of the Republic of Kazakhstan on Subsoil and Subsoil Use No. 125-VI dated December 27, 2017* (which became effective on June 28, 2018), as amended (the subsoil code). It replaced *the Law on the Subsoil and Subsoil Use dated June 24, 2010*, as amended.

In general, the rights held by JV Inkai are governed by the old subsoil law that was in effect at the time of the resource use contract registration in July 2000. The subsoil use rights held by JV Inkai came into effect upon the initial issuance of these licences (April 1999) and the execution and the state registration of the resource use contract (July 2000).

The subsoil code defines the framework and procedures connected with the granting, transfer and termination of subsoil rights, and the regulation of the activities of subsoil users. The subsoil, including mineral resources in their underground state, are Kazakhstan state property. Resources brought to the surface belong to the subsoil user, unless otherwise provided by contract or law. The state has priority and approval rights with regards to strategic deposits with some exceptions (for example, for inter-group transfers in certain circumstances), if a subsoil user transfers its subsoil rights or if there is a transfer (direct or indirect) of an ownership interest in a subsoil user.

Subsoil rights go into effect when a contract with the competent authority is finalized and registered. Pursuant to the subsoil code, the subsoil user is given, among other things, the exclusive right to conduct mining operations, to build production facilities, to freely dispose of its share of production and to negotiate extensions of the contract, subject to restrictions and requirements set out in the subsoil code.

Currently, the Ministry of Energy of the Republic of Kazakhstan is the competent authority on hydrocarbons and uranium under the subsoil code.

Stabilization

The subsoil code provides, subject to a number of exceptions, that any licences issued and contracts executed before the enactment of the subsoil code remain valid. Therefore, the resource use contract remains valid. Most of the general provisions of the subsoil code apply to subsoil contracts concluded and licences issued before the subsoil code enactment. At the same time, the subsoil code's special provisions on uranium do not have retrospective effect except for the obligations in the spheres of education, science and social, and regional economic development during production.

Given that some subsoil use contracts (including the resource use contract) contain the legislation stability guarantee and the latter is also provided for by both the stabilized law and the subsoil code, any retrospective provisions of the subsoil code do not override such stability guarantee.

Overall, the Republic of Kazakhstan has gradually weakened the stabilization guarantee, particularly in relation to the new projects, and the national security exception in the subsoil code is applied broadly to encompass security over strategic national resources.

Amendment No. 2 to the resource use contract eliminated the tax stabilization provision that applied to JV Inkai.

Transfer of subsoil rights and priority rights

The subsoil code liberates to some extent the regime of regulatory approvals by requiring the consent for the transfer of an object connected with the subsoil use right only in relation to hydrocarbons, uranium and deposits under a solid minerals licence. In addition, it abolished the requirement to obtain consent in case of a charter capital increase without change in shareholding and a transaction with government, state body, national management holding or national company. As previously, failing to obtain the consent of the competent authority makes the transaction void.

Similar to the old subsoil law, the subsoil code provides the state with the priority right only with respect to a subsoil use right related to a strategic subsoil area and an object connected with the subsoil use right related to the strategic subsoil area. The exemptions from the requirement to obtain the consent of the competent authority discussed above also exempts a transaction from the requirement to obtain a waiver of the priority right of the state.

The subsoil code has introduced a new requirement, which is a change of control notification to be made within 30 calendar days from such change. The subsoil code provides that control means inter alia holding more than 25% shares (participatory interests or securities convertible in shares), having voting rights for more than 25% of all votes in the highest management body.

Dispute resolution

The subsoil code contains provisions on resolution of disputes by a court order (meaning state courts) on a number of specific issues such as disputes regarding revocation of licences or termination of resource use contracts. The provisions on termination of resource use contracts for uranium are not retroactive.

At the same time, the subsoil code is silent on the status of arbitration clauses contained in resource use contracts currently in effect. Therefore, strictly speaking, the subsoil code does not disallow international arbitration.

The resource use contract contains a dispute resolution clause referring contractual disputes to international arbitration. We believe the subsoil code does not affect this right.

Contract termination

The subsoil code introduces specific grounds for unilateral termination of subsoil use contracts (hydrocarbons and uranium).

For unilateral termination of subsoil use contracts on uranium, they do not have retrospective effect pursuant to the subsoil code. Therefore, those specific grounds should not apply to the resource use contract.

The subsoil code applies some general grounds for unilateral repudiation retrospectively. Those are (i) a breach of the requirement to obtain the competent authority's consent for transfer of a subsoil use right or an object connected with subsoil use right for hard minerals containing a major or strategic deposit which lead to a threat to national security; and (ii) actions of subsoil user during subsoil use operations at major deposits of hard minerals leading to a change in the economic interest of the Republic of Kazakhstan which creates a threat to national security.

Local content

The subsoil code imposes local content requirements for works, services and employees.

The resource use contract imposes local content requirements on JV Inkai with respect to employees, goods, works and services. As such, at least 40% of the costs of the acquired goods and equipment, 90% of contract works and 100%, 70% and 60% of employees, depending on their qualifications (workers, engineers and management, respectively), must be of local origin. Effective January 1, 2021, under Kazakhstan law this local content requirement ceased to apply to goods procured by JV Inkai.

Strategic deposits

The subsoil code provides that all uranium deposits are strategic deposits. According to a governmental resolution On Determination of the Strategic Subsoil Areas Importance dated June 28, 2018 No. 389, 137 areas are strategic deposits, including Inkai's blocks.

Transfer of subsoil use rights on strategic areas is subject to the priority right and the competent authority's consent, as described above.

Reintroduction of the licensing regime

The subsoil code reintroduces the licensing regime for widespread and solid minerals except uranium. The regime of the resource use contracts only applies to exploration and production rights for hydrocarbons and uranium. As such, the rights to explore and produce uranium will continue to be provided on the basis of a resource use contract.

Decommissioning

The subsoil code modified the general provisions related to decommissioning. Some of them are applied retroactively. One such modification introduces a new requirement to provide financial security for a subsoil user's decommissioning obligations in the form of a guarantee, insurance and/or bank deposit.

The subsoil code also contains special provisions on decommissioning of uranium wellfields. They do not have retroactive effect.

Uranium special regulations

The subsoil code differentiates uranium from the rest of solid minerals and provides an additional and distinct set of rules to govern uranium mining specifically.

The subsoil code provides that a uranium deposit is granted for mining only to a uranium national company (a joint stock company created by a decree of the government of Kazakhstan with the controlling stock belonging to the state or the national management fund on the basis of direct negotiations).

The subsoil code further stipulates that a subsoil use right for uranium mining (or a share in such subsoil use right) granted to a uranium national company on the basis of direct negotiations may only be further transferred to its subsidiary entities where the uranium national company holds more than 50% of the shares (participating interests) directly or indirectly. Such a transferee, in turn, may only transfer the subsoil use right (or share in the subsoil use right) to the uranium national company's subsidiary entities where the uranium national company holds more than 50% of the shares (participating interests) directly or indirectly.

The uranium special rules also regulate issues such as termination of the uranium subsoil use right, provision of a uranium deposit and its extension/reduction, conditions, and periods of mining and project and design documents. The subsoil code does not make these special uranium rules retroactive, subject to a few exceptions.

Currency control regulations

Under *the Law of the Republic of Kazakhstan on Currency Regulation and Currency Control No. 167-VI* dated July 2, 2018 (effective from July 1, 2019) (the Currency Law), in the event of an emergency situation presenting a threat to economic security and stability of the financial system of Kazakhstan, the Kazakhstan government based on a joint recommendation from the National Bank of Kazakhstan (the NBK) and other relevant state authorities is entitled to introduce a special currency

regime for a period of up to one year. The following terms and requirements may potentially be imposed under such special currency regime:

- the requirement to deposit money on an interest free basis with a Kazakhstan bank or the NBK for a set period
- the requirement to obtain a special permit from the NBK to carry out certain foreign exchange transactions
- the requirement to sell foreign currency received by Kazakhstan residents
- the restriction on use of overseas bank accounts
- the establishment of a term for the return of foreign currency earnings and limits on volumes, amount and currency of settlement under foreign exchange transactions; and
- other temporary currency restrictions

Under the Currency Law, the requirements of the special currency regime may not restrict:

- the performance of obligations by Kazakhstan residents towards non-residents of Kazakhstan arising as a result of such non-residents of Kazakhstan performing their obligations under currency contracts entered into before the introduction of the special currency regime; and
- the transfer by non-residents of Kazakhstan of dividends, interest and other proceeds under deposit, and securities

Since the Currency Law has become effective, the following substantial changes envisaged by the Currency Law are noteworthy:

- amendment to the definition of Kazakhstan residents
- introduction of a requirement for Kazakhstan legal entities to confirm the purpose of the purchase and use of foreign currency in the Kazakhstan market
- cancellation of the current currency operations registration and notification regimes and introduction of one regime for currency operations monitoring; and
- new requirements applicable to export/import operations with customs clearance in the territory of Kazakhstan

The resource use contract grants JV Inkai a measure of protection from currency control regulations, granting it the right to freely transfer funds, in state and other currencies, inside and outside of Kazakhstan with the exception that financial transactions within Kazakhstan must be concluded in the national currency.

Operating, capital costs and economic analysis

The following is a summary of the operating and capital cost estimates for the remaining life of mine, stated in constant 2020 dollars and reflecting a forecast life-of-mine production of 207 million pounds U_3O_8 and a 342 Kazakhstan Tenge to 1 Cdn dollar exchange rate assumption.

Operating Costs ($Cdn million)	**Total (2021 – 2045)**
Site administration	$381.3
Processing costs	191.3
Mining costs	459.1
Corporate overhead	382.2
Total operating costs	**$1,413.9**
Average cost per pound U_3O_8	**$6.82**

Note: presented as total cost to JV Inkai (100% basis).

Estimated operating costs consist of annual expenditures to mine and process the mineral reserves into U_3O_8 as well as site administration and corporate overhead costs.

Capital Costs ($Cdn million)	Total (2021 – 2045)
Total wellfield development	$395.6
Construction and maintenance capital	81.5
Sustaining capital	49.3
Total capital costs	**$526.4**

Note: presented as total cost to JV Inkai (100% basis).

The economic analysis, effective as of January 1, 2018 being the effective date of the technical report for Inkai, undertaken from the perspective of JV Inkai, based on JV Inkai's share (100%) of Inkai mineral reserves, results in an after tax NPV of $2.2 billion (at a discount rate of 12%), for the net annual cash flows from January 1, 2018 to mid-2045 totalling $8.9 billion. Using the total capital invested, along with the operating and capital cost estimates for the remainder of mineral reserves, the after tax IRR is estimated to be 27.1%. Payback for JV Inkai, including all actual costs was achieved in 2015, on an undiscounted, after tax basis. All future capital expenditures are forecasted to be covered by operating cash flow.

Annual Cash Flows – 100% JV Inkai basis

Annual cash flows ($Cdn M)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Production volume (000's lbs U_3O_8)	6,896	8,351	10,406[1]	10,399[1]	10,399[1]	10,293	9,305	9,445	8,526	7,979	7,417	5,776	6,134
Sales Revenue	$229.3	$337.2	$531.4	$642.1	$679.2	$696.7	$629.8	$639.3	$577.1	$540.1	$502.0	$391.0	$415.2
Operating Costs	67.0	77.5	89.8	86.0	86.6	87.8	82.0	82.3	79.1	77.2	76.2	69.0	70.0
Capital Costs	59.4	81.1	75.3	45.0	49.9	37.6	36.9	37.9	43.0	34.5	32.7	25.2	28.0
Mineral Extraction Tax	14.2	18.3	20.5	19.2	19.6	19.0	16.1	16.4	14.4	14.0	13.3	9.8	10.4
Corporate Income Tax	23.7	39.7	74.9	96.9	103.8	107.9	97.6	99.3	89.0	82.2	75.5	57.1	61.2
Net cash flow	**$65.1**	**$120.6**	**$271.0**	**$395.1**	**$419.3**	**$444.5**	**$397.2**	**$403.4**	**$351.5**	**$332.2**	**$304.5**	**$230.0**	**$245.7**

2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	Total
6,986	7,908	9,650	8,389	7,522	6,186	6,917	7,321	9,115	9,412	8,876	8,762	8,892	8,421	3,475	229,159
$472.9	$535.3	$653.2	$567.8	$509.1	$418.7	$468.2	$495.5	$617.0	$637.1	$600.8	$593.1	$601.8	$570.0	$235.2	$14,786.1
73.8	75.3	80.7	78.5	74.3	71.8	73.9	75.2	81.3	83.3	81.2	80.0	81.3	82.3	65.3	2,188.5
27.6	30.3	37.7	34.8	29.9	26.0	31.2	29.9	39.5	38.4	36.0	34.9	35.2	34.3	11.5	1,063.5
11.5	12.5	15.3	12.7	10.7	9.4	10.4	10.7	13.4	14.2	13.1	13.0	13.1	13.0	5.5	383.5
71.3	82.5	102.8	88.6	79.0	62.6	71.3	76.3	97.4	100.6	94.5	93.0	96.0	90.2	30.8	2,245.5
$288.7	**$334.7**	**$416.7**	**$353.2**	**$315.2**	**$248.9**	**$281.5**	**$303.5**	**$385.4**	**$400.6**	**$376.1**	**$372.1**	**$376.2**	**$350.2**	**$122.1**	**$8,905.1**

Note: Effective January 1, 2018 and presented from the perspective of JV Inkai and based on JV Inkai's share (100%) of the mineral reserves at an 85% recovery.

[1] Due to KAP's announced plans to maintain its aggregate production reduction of 20% through 2022, we expect total production from JV Inkai to be 8.3 million pounds in 2021 and 2022. The production reduction of 20% also applied to the 2020 production plan for an annual target of 8.3 million pounds; however, due to the impact of COVID-19, actual 2020 production was 7.0 million pounds.

Estimated capital costs include wellfield development to mine the mineral reserves as well as construction and maintenance capital along with sustaining capital. Construction capital was heavily weighted to 2019 to 2020 due to the capital required for the production ramp up to 10.4 million pounds annually as well as upgrades to existing facilities. The spending during those years was somewhat lower than projected and now is heavily weighted to 2021 to 2022.

Our expectations and plans regarding Inkai, including forecasts of operating and capital costs, net annual cash flow, production and mine life are forward-looking information, and are based specifically on the risks and assumptions discussed on pages 2, 3 and 4. Operating or capital spending plans may change in 2021, depending on the impact of COVID-19, uranium markets and other factors. Estimates of expected future production, net annual cash flows, and capital and operating costs are inherently uncertain, particularly beyond one year, and may change materially over time.

Exploration, drilling, sampling, data quality and estimates

Exploration at Inkai began in the 1970s and progressed until 1996. Since 2006, exploration and delineation drilling is conducted by JV Inkai, with the main focus on block 3. From 2013 to 2016, delineation drilling was conducted at block 1 and block 2 to better establish the mineralization distribution and to support further development and wellfield design.

We have relied on historical data to estimate mineral reserves and resources for portions of the MA Area that came from blocks 1 and 2. Extensive exploration and delineation work was completed in the portion of the MA Area that came from block 3. It was used to estimate mineral reserves and resources. There are no historical mineral resources and reserves estimates within the meaning of NI 43-101 to report.

Exploration

Exploration drilling

JV Inkai's uranium exploration and delineation drilling programs were conducted by drilling vertical holes from surface. Delineation of the deposit on the MA Area and its geological structural features was carried out by drilling on a grid at prescribed density of 3.2 to 1.6-kilometre line spacing and 200 to 50-metre hole spacing with coring. Increasing level of geological knowledge and confidence is obtained by further drilling at grids of 800 to 400 x 200 to 50 metre with coring and 200 to 100 x 50 to 25 metre grid, usually without core.

Vertical holes are drilled with a triangular drill bit for use in unconsolidated formations down to a certain depth and the rest of the hole is cored. At the Inkai deposit, approximately 50% of all exploration holes are cored through the entire mineralized interval, and 70% core recovery is required for assay sampling. Radiometric probing, hole deviation, geophysical and hole diameter surveys are done by site crews and experienced contractors.

As the mineralized horizons lie practically horizontal and the drill holes are nearly vertical, the mineralized intercepts represent the true thickness of the mineralization.

The total number of exploration holes drilled before 2018 on the MA Area was approximately 4,500.

The drilling results were used for the identification of the horizons and mineralization encountered and served for the geological modelling, the estimation of uranium distribution and content, and the understanding of hydrogeological and metallurgical characteristics.

In 2019, JV Inkai continued the infill drilling program started in 2018 in the central and western parts of the MA Area aimed at upgrading the inferred and indicated resources and probable reserves to higher categories. From the beginning of the drilling program, a total of 1,208 drillholes (487,638 metres) were drilled, including 482 core holes (196,727 metres) and 716 non-core holes (290,910 metres). Drilling was carried out by progressively tightening from 400 by 100 metres to 200 by 50 metres grids. The infill drilling program was completed in September 2019. The preparation of a resource estimate report was initiated in October 2019 and is planned to be completed in 2021, incorporating the infill drilling results from 2018 and 2019. These results are being assessed and must go through the local governmental approval process. Once completed, the report will be used to update the mine plan.

Sampling analysis and data verification

The sampling, sample preparation, analyses, and geophysical downhole logging during the exploration and delineation programs follow the procedures and manuals which adhere to the requirements set out in the State Reserves Commission guidelines.

Sampling

- Detailed sampling procedures guide the sampling interval within the mineralization. Holes are drilled on progressively tightening grids: 3.2 to 1.6 kilometre x 200-50 metre, 800-400 metre x 200-50 metre and 200-100 metre x 50-25 metre. When core recoveries are higher than 70% and radioactivity greater than a certain threshold, core samples are taken at intervals of 0.2 to 1.2 metres. Sample intervals are also differentiated by barren or low permeability material.
- The drillholes are nearly vertical and the mineralized horizons are almost horizontal, so the mineralized intercepts represent the true thickness of the mineralization.
- JV Inkai surveys the drillholes, logging radiometric, electrical (spontaneous potential and resistivity), caliper and deviation data.
- Sampling is done on half of the core. The average core sample length is 0.4 metre.
- The split core is tested for grainsize and carbonate content.
- Core recovery is considered acceptable given the unconsolidated state of the mineralized material.

Sample security

JV Inkai's current sampling process follows the strict regulations imposed by the Kazakhstan government, and includes the highest level of security measures, quality assurance and quality control. We have not been able to locate the documents describing sample security for historical Kazakhstan exploration on the MA Area, but we believe the security measures taken to store and ship samples were of the same high quality.

Analysis

- The core samples for uranium and radium determination are ground down to 1.0 mm grain size and are further subdivided by one or three times quartering until the final representative weight of samples and duplicates is reached (0.2 kg).
- The laboratory tests for uranium and radium were performed by the Central Analytical Laboratory of JSC Volkovgeology, a company related to KAP, the other owner of JV Inkai. The laboratory is certified and licensed by the National Centre for Accreditation of the Republic of Kazakhstan.
- The uranium content was determined by using the X-ray fluorescence spectrum analysis. The radium content was determined from the gamma-X-ray spectrum analysis.

Quality control and data verification

- The sampling reproducibility for the uranium and radium assays was determined by two methods: (1) having the remaining half of the core sampled by another sampler and by (2) by compositing samples consisting of the original sample rejects and samples of the remaining half of the core. The standard deviation for (1) did not exceed 6.4% and the standard deviation for (2) did not exceed 5.6%.
- Internal laboratory control of the uranium and the radium grade determination is performed by comparing the results of the sample and its blind duplicate. The mean square error between sample and duplicate was calculated by measuring the deviation to ensure it stayed within the prescribed limits. The number of control samples was approximately 9% of all samples for uranium and approximately 6% of all samples for radium.
- External (inter-laboratory) controls for the uranium and radium assays were carried out at the VIMS laboratory in Moscow, Russia, Nevskoe PGO laboratory in Saint-Petersburg, Russia and Kyzyltepageologiya Laboratory in Navoi, Uzbekistan. The number of control samples was approximately 2% of all samples for uranium and approximately 1% of all samples for radium.
- All of the drillhole information in use at Inkai is regularly provided to Cameco. The current database has been validated a number of times by geologists with JV Inkai, JSC Volkovgeology, the State Reserve Commission, Two Key LLP and Cameco and is considered relevant and reliable.
- Our geoscientists, including a qualified person as such term is defined in NI 43-101, have witnessed or reviewed drilling, core handling, radiometric probing, logging and sampling facilities used at the Inkai mine and consider the methodologies to be satisfactory and the results representative and reliable.

- We confirmed the correlation between radioactive readings and calculated radium grades.
- We carried out a data verification process that validated the historic Kazakh mineral resource and reserve estimate.
- All drilling, logging, core drilling, and subsequent core splitting and assaying, were completed under the direction of various geological expeditions of the USSR Ministry of Geology and later under the supervision of JSC Volkovgeology.
- Based on numerous quality assurance and quality controls applied by JSC Volkovgeology, including internal checks and inter-laboratory checks, the repeatability of the results for uranium and radium confirmed the accuracy required and no significant systematic deviations were found.
- Sampling and analysis procedures have been examined by an independent consultant and found to be detailed and thorough.
- The findings are supported by results of the leach tests and wellfield drilling results on the MA Area.

Accuracy

We are satisfied with the quality of data and consider it valid for use in the estimation of mineral resources and reserves for the MA Area. Comparison of the actual mine production with the expected production supports this opinion.

Mineral reserve and resource estimates

Please see page 74 for our mineral reserve and resource estimates for Inkai.

Uranium – Tier-two operations

Rabbit Lake

Located in Saskatchewan, Canada, our 100% owned Rabbit Lake operation opened in 1975. Due to market conditions, we suspended production at Rabbit Lake during the second quarter of 2016.

Location	Saskatchewan, Canada
Ownership	100%
End product	Uranium concentrates
ISO certification	ISO 14001 certified
Mine type	Underground
Estimated reserves	-
Estimated resources	38.6 million pounds (indicated), average grade U_3O_8: 0.95% 33.7 million pounds (inferred), average grade U_3O_8: 0.62%
Mining methods	Vertical blasthole stoping
Licensed capacity	Mill: maximum 16.9 million pounds per year; currently 11 million
Licence term	Through October, 2023
Total production: 1975 to 2020	202.2 million pounds
2020 production	0 million pounds
2021 production outlook	0 million pounds
Estimated decommissioning cost	$213 million

Production suspension

The facilities remained in a state of safe and sustainable care and maintenance throughout 2020.

While in standby, we continue to evaluate our options in order to minimize care and maintenance costs. We expect care and maintenance costs to range between $27 million and $32 million annually.

US ISR Operations

Located in Nebraska and Wyoming in the US, the Crow Butte and Smith Ranch-Highland (including the North Butte satellite) operations began production in 1991 and 1975. Each operation has its own processing facility. Due to market conditions, we curtailed production and deferred all wellfield development at these operations during the second quarter of 2016.

Ownership		100%
End product		Uranium concentrates
ISO certification		ISO 14001 certified
Estimated reserves	*Smith Ranch-Highland:*	-
	North Butte-Brown Ranch:	-
	Crow Butte:	-
Estimated resources	*Smith Ranch-Highland:*	24.9 million pounds (measured and indicated), average grade U_3O_8: 0.06% 7.7 million pounds (inferred), average grade U_3O_8: 0.05%
	North Butte-Brown Ranch:	9.5 million pounds (measured and indicated), average grade U_3O_8: 0.07% 0.4 million pounds (inferred), average grade U_3O_8: 0.07%
	Crow Butte:	13.9 million pounds (measured and indicated), average grade U_3O_8: 0.25% 1.8 million pounds (inferred), average grade U_3O_8: 0.16%
Mining methods		In situ recovery (ISR)
Licensed capacity	[1]*Smith Ranch-Highland:*	Wellfields: 3 million pounds per year; processing plants: 5.5 million pounds per year
	Crow Butte:	Processing plants and wellfields: 2 million pounds per year
Licence term	*Smith Ranch-Highland:*	Through September, 2028
	Crow Butte:	Through October, 2024
Total production: 2002 to 2020		33.0 million pounds
2020 production		0 million pounds
2021 production outlook		0 million pounds
Estimated decommissioning cost		Smith Ranch-Highland: $219 million (US), including North Butte
		Crow Butte: $52 million (US)

[1] Including Highland mill.

Production and curtailment

As a result of our 2016 decision, production at the US operations ceased in 2018.

We expect ongoing cash and non-cash care and maintenance costs to range between $17 million (US) and $19 million (US) for 2021.

Future production

We do not expect any production in 2021.

Uranium – Advanced projects

Work on our advanced projects has been scaled back and will continue at a pace aligned with market signals.

Millennium

Location	Saskatchewan, Canada
Ownership	69.9%
End product	Uranium concentrates
Potential mine type	Underground
Estimated resources (our share)	53.0 million pounds (indicated), average grade U_3O_8: 2.39% 20.2 million pounds (inferred), average grade U_3O_8: 3.19%

Background

The Millennium deposit was discovered in 2000 and was delineated by surface drilling work between 2000 and 2013.

Yeelirrie

Location	Western Australia
Ownership	100%
End product	Uranium concentrates
Potential mine type	Open pit
Estimated resources	128.1 million pounds (measured and indicated), average grade U_3O_8: 0.15%

Background

The Yeelirrie deposit was discovered in 1972 and is a near-surface calcrete-style deposit that is amenable to open pit mining techniques. It is one of Australia's largest undeveloped uranium deposits.

Kintyre

Location	Western Australia
Ownership	100%
End product	Uranium concentrates
Potential mine type	Open pit
Estimated resources (our share)	53.5 million pounds (indicated), average grade U_3O_8: 0.62% 6.0 million pounds (inferred), average grade U_3O_8: 0.53%

Background

The Kintyre deposit was discovered in 1985 and is amenable to open pit mining techniques.

2020 project updates

We believe that we have some of the best undeveloped uranium projects in the world. However, in the current market environment our primary focus is on preserving the value of our tier-one uranium assets. We continue to await a signal from the market that additional production is needed prior to making any new development decisions.

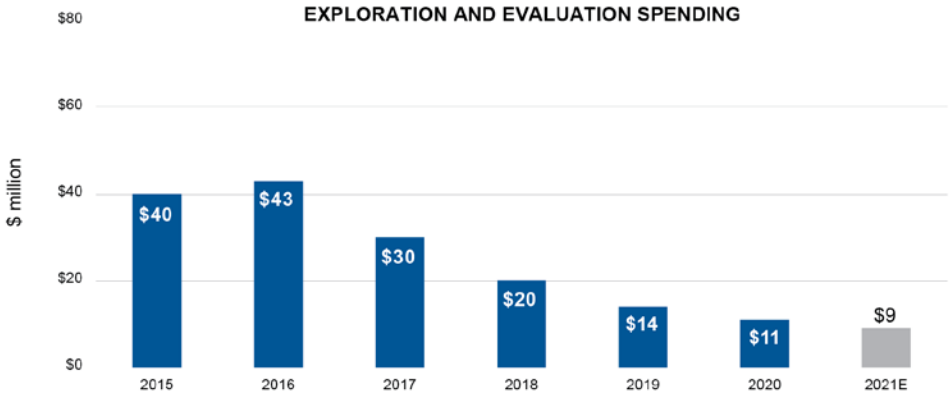
Planning for the future

2021 Planned activity

No work is planned at Millennium, Yeelirrie or Kintyre. Further progress towards a development decision is not expected until market conditions improve.

Uranium – Exploration and corporate development

Our exploration program is directed at replacing mineral reserves as they are depleted by our production and is key to sustaining our business. However, during this period of weak uranium prices, and as we have ample idled production capacity, we have reduced our spending to focus only on exploration near our existing operations where we have established infrastructure and capacity to expand. Globally, we have land with exploration and development prospects that are among the best in the world, mainly in Canada, Australia and the US. Our land holdings total about 0.8 million hectares (2.0 million acres). In northern Saskatchewan alone, we have direct interests in about 0.7 million hectares (1.8 million acres) of land covering many of the most prospective exploration areas of the Athabasca Basin.



2020 UPDATE

Brownfield exploration

Brownfield exploration is uranium exploration near our existing operations and includes expenses for advanced exploration on the evaluation of projects where uranium mineralization is being defined.

In 2020, we spent about $4 million on brownfields and advanced uranium projects in Saskatchewan and Australia. At the US operations we spent $1 million.

Regional exploration

We spent about $8 million on regional exploration programs (including support costs), primarily in Saskatchewan's Athabasca Basin.

PLANNING FOR THE FUTURE

We will continue to focus on our core projects in Saskatchewan under our long-term exploration strategy. Long-term, we look for properties that meet our investment criteria. We may partner with other companies through strategic alliances, equity holdings and traditional joint venture arrangements. Our leadership position and industry expertise in both exploration and corporate social responsibility make us a partner of choice.

INVESTMENT PROGRAM

Currently, given the conditions in the uranium market, our extensive portfolio of reserves and resources and our belief that we have ample idle production capacity, our focus is on navigating by our investment-grade rating and preserving the value of our tier-one assets. We expect that these assets will allow us to meet rising uranium demand with increased production from our best margin operations and will help to mitigate risk in the event of prolonged uncertainty.

However, we continually evaluate investment opportunities within the nuclear fuel cycle that could add to our future supply options, support our sales activities, and complement and enhance our business in the nuclear industry. We will make an investment decision when an opportunity is available at the right time and the right price. We strive to pursue corporate development initiatives that will leave us and our shareholders in a fundamentally stronger position. As such, an investment

opportunity is never assessed in isolation. Investments must compete for investment capital with our own internal growth opportunities. They are subject to our capital allocation process.

Fuel services

Refining, conversion and fuel manufacturing

We have about 24% of world UF_6 primary conversion capacity and are a supplier of natural UO_2. Our focus is on maintaining and optimizing the profitability of this segment of our business by securing new long-term contracts that reflect today's prices and that will allow us to continue to consistently support the long-term needs of our customers.

In addition, we are pursuing non-traditional markets for our UO_2 and fuel fabrication business and have been actively securing new contracts for reactor components to support refurbishment of Canadian reactors.

Our fuel services segment is strategically important because it helps support the growth of the uranium segment. Offering a range of products and services to customers helps us broaden our business relationships and expand our uranium market share.

In 2020, fuel services produced 11.7 million kgU, 12% lower than 2019. This was a result of the temporary suspension of production in April resulting from the precautionary measures taken for the COVID-19 pandemic.

We plan to produce between 12.5 million and 13.5 million kgU in 2021. Achievement of our 2021 forecast for fuel services production requires us to successfully manage our operating and other risks, including the current uncertain environment resulting from the COVID-19 pandemic and its related operational risks, including the risk of significant disruption to our fuel services operations, workforce, required supplies or services, and our ability to produce product.

In conjunction with our initiative intended to provide a greater focus on technology and its applications to improve efficiency and reduce costs across the organization, we will continue to look for opportunities to improve operational effectiveness, including the use of digital and automation technologies.

Blind River refinery

Blind River is the world's largest commercial uranium refinery, refining uranium concentrates from mines around the world into UO_3.

Location	Ontario, Canada
Ownership	100%
End product	UO_3
ISO certification	ISO 14001 certified
Licensed capacity	18 million kgU as UO_3 per year, approved to 24 million subject to the completion of certain equipment upgrades (advancement depends upon market conditions)
Estimated decommissioning cost	$58 million

Markets

UO_3 is shipped to Port Hope for conversion into either UF_6 or UO_2.

Capacity

In 2012, the CNSC granted an increase to our annual licensed production capacity from 18 million kgU per year as UO_3 to 24 million kgU as UO_3, subject to the completion of certain equipment upgrades. These upgrades will be advanced based on market conditions.

Licensing

In February 2012, the CNSC granted our Blind River refinery a 10-year operating licence, which will expire in February 2022. The relicensing process is underway and will continue throughout 2021. We do not expect any interruption or significant risks from this process.

Port Hope conversion services

Port Hope is the only uranium conversion facility in Canada and a supplier of UO_2 for Canadian-made CANDU reactors.

Location	Ontario, Canada
Ownership	100%
End product	UF_6, UO_2
ISO certification	ISO 14001 certified
Licensed capacity	12.5 million kgU as UF_6 per year 2.8 million kgU as UO_2 per year
Estimated decommissioning cost	$129 million

Conversion services

At its UO_2 plant, we convert UO_3 to UO_2 powder, used to make pellets for Canadian CANDU reactors and CANDU reactors in other countries and blanket fuel for light water nuclear reactors.

At its UF_6 plant, we convert UO_3 to UF_6, and then ships it to enrichment plants primarily in the US and Europe. There, it is processed to become low enriched UF_6, which is subsequently converted to enriched UO_2 and used as reactor fuel for light water nuclear reactors.

Anhydrous hydrofluoric acid (AHF) is a primary feed material for the production of UF_6. We have agreements with more than one supplier of AHF to provide us with diversity of supply.

Port Hope conversion facility clean-up and modernization (Vision in Motion)

Vision in Motion is a unique opportunity that demonstrates our continued commitment to a clean environment. It has been made possible by the opening of a long-term waste management facility by the government of Canada's Port Hope Area Initiative project. There is a limited opportunity during the life of this project to engage in clean-up and renewal activities that address legacy waste at the Port Hope Conversion facility inherited from historic operations. While there was progress earlier in the year, work on the Vision in Motion project in 2020 was suspended due to actions taken by the Ontario government to limit all non-essential construction activity.

Licensing

In February 2017, the CNSC approved a ten-year operating licence for the Port Hope conversion facility.

Labour relations

A collective agreement with unionized employees at our conversion facility in Port Hope was reached in 2019. The agreement is for three years and expires on July 1, 2022.

Cameco Fuel Manufacturing Inc. (CFM)

CFM produces fuel bundles and reactor components for CANDU reactors.

Location	Ontario, Canada
Ownership	100%
End product	CANDU fuel bundles and components
ISO certification	ISO 14001 certified
Licensed capacity	1.2 million kgU as UO_2 fuel pellets for finished bundles
Estimated decommissioning cost	$21 million

Fuel manufacturing

CFM's main business is making fuel bundles for CANDU reactors. CFM presses UO_2 powder into pellets that are loaded into tubes, manufactured by CFM, and then assembled into fuel bundles. These bundles are ready to insert into a CANDU reactor core. CFM also produces many different zirconium-based reactor components for CANDU reactors.

Manufacturing services agreements

A substantial portion of CFM's business is the supply of fuel bundles to the Bruce Power A and B nuclear units in Ontario. We supply the UO_2 for these fuel bundles.

Licensing

In February 2012, the CNSC approved a ten-year licence for CFM, which will expire in February 2022. The relicensing process is underway and will continue throughout 2021. We do not expect any interruption or significant risks from this process.

Labour relations

The current collective bargaining agreement with the unionized employees at CFM expires on June 1, 2021. There is a risk to our production if we are unable to reach an agreement and there is a labour disruption.

Mineral reserves and resources

Our mineral reserves and resources are the foundation of our company and fundamental to our success.

We have interests in a number of uranium properties. The tables in this section show the estimates of the proven and probable mineral reserves, and measured, indicated, and inferred mineral resources at those properties. However, only three of the properties listed in those tables are material uranium properties for us: McArthur River/Key Lake, Cigar Lake and Inkai. Mineral reserves and resources are all reported as of December 31, 2020.

We estimate and disclose mineral reserves and resources in five categories, using the definition standards adopted by the Canadian Institute of Mining, Metallurgy and Petroleum Council, and in accordance with NI 43-101. You can find out more about these categories at www.cim.org.

About mineral resources

Mineral resources do not have to demonstrate economic viability but have reasonable prospects for eventual economic extraction. They fall into three categories: measured, indicated and inferred. Our reported mineral resources are exclusive of mineral reserves.

- *Measured and indicated mineral resources* can be estimated with sufficient confidence to allow the appropriate application of technical, economic, marketing, legal, environmental, social and governmental factors to support evaluation of the economic viability of the deposit.
  - *measured resources*: we can confirm both geological and grade continuity to support detailed mine planning
  - *indicated resources*: we can reasonably assume geological and grade continuity to support mine planning
- *Inferred mineral resources* are estimated using limited geological evidence and sampling information. We do not have enough confidence to evaluate their economic viability in a meaningful way. You should not assume that all or any part of an inferred mineral resource will be upgraded to an indicated or measured mineral resource, but it is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration.

Our share of uranium in the following mineral resource tables is based on our respective ownership interests. Mineral resources that are not mineral reserves have no demonstrated economic viability.

About mineral reserves

Mineral reserves are the economically mineable part of measured and/or indicated mineral resources demonstrated by at least a preliminary feasibility study. The reference point at which mineral reserves are defined is the point where the ore is delivered to the processing plant, except for ISR operations where the reference point is where the mineralization occurs under the existing or planned wellfield patterns. Mineral reserves fall into two categories:

- *proven reserves*: the economically mineable part of a measured resource for which at least a preliminary feasibility study demonstrates that, at the time of reporting, economic extraction could be reasonably justified with a high degree of confidence
- *probable reserves*: the economically mineable part of a measured and/or indicated resource for which at least a preliminary feasibility study demonstrates that, at the time of reporting, economic extraction could be reasonably justified with a degree of confidence lower than that applying to proven reserves

We use current geological models, an average uranium price of $45 (US) per pound U_3O_8, and current or projected operating costs and mine plans to estimate our mineral reserves, allowing for dilution and mining losses. We apply our standard data verification process for every estimate.

Our share of uranium in the mineral reserves table below is based on our respective ownership interests.

Qualified persons

The technical and scientific information discussed in this AIF, including mineral reserve and resource estimates, for our material properties (McArthur River/Key Lake, Cigar Lake and Inkai) was approved by the following individuals who are qualified persons for the purposes of NI 43-101:

McArthur River/Key Lake

- Biman Bharadwaj, principal metallurgist, technical services, Cameco
- Greg Murdock, general manager, McArthur River/Key Lake, Cameco
- Alain D. Renaud, chief geologist, technical services, Cameco

Cigar Lake

- Biman Bharadwaj, principal metallurgist, technical services, Cameco
- Scott Bishop, director, development, technical services, Cameco
- Alain D. Renaud, chief geologist, technical services, Cameco
- Lloyd Rowson, general manager, Cigar Lake, Cameco

Inkai

- Biman Bharadwaj, principal metallurgist, technical services, Cameco
- Scott Bishop, director, development, technical services, Cameco
- Alain D. Renaud, chief geologist, technical services, Cameco

Important information about mineral reserve and resource estimates

Although we have carefully prepared and verified the mineral reserve and resource figures in this document, the figures are estimates, based in part on forward-looking information.

Estimates are based on our knowledge, mining experience, analysis of drilling results, the quality of available data and management's best judgment. They are, however, imprecise by nature, may change over time, and include many variables and assumptions including:

- geological interpretation
- extraction plans
- commodity prices and currency exchange rates
- recovery rates
- operating and capital costs

There is no assurance that the indicated levels of uranium will be produced, and we may have to re-estimate our mineral reserves based on actual production experience. Changes in the price of uranium, production costs or recovery rates could make it unprofitable for us to operate or develop a particular site or sites for a period of time. See page 1 for information about forward-looking information, and page 95 for a discussion of the risks that can affect our business.

Please see pages 78 to 80 for the specific assumptions, parameters and methods used for the McArthur River, Cigar Lake and Inkai mineral reserve and resource estimates.

Our estimate of mineral resources and mineral reserves may be materially affected by the occurrence of one or more of the risks described under the heading *Reserve and resource estimates are not precise* on page 103. In addition to those risks, our estimates of mineral resources and mineral reserves for certain properties may be materially affected by the occurrence of one or more of the following risks or factors:

McArthur River and Cigar Lake mineral resource and reserve estimates

- Water inflows – see *Flooding at McArthur River and Cigar Lake* at page 97
- Technical challenges – see *Technical challenges at Cigar Lake and McArthur River* at page 97

Inkai mineral resource and reserve estimates

- *Political risks* – see page 107

The extent to which our estimates of mineral resources and mineral reserves may be affected by the foregoing issues could vary from material gains to material losses.

Important information for US investors

We present information about mineralization, mineral reserves and resources as required by NI 43-101 of the Canadian Securities Administrators, in accordance with applicable Canadian securities laws. As a foreign private issuer filing reports with the US Securities and Exchange Commission (SEC) under the Multijurisdictional Disclosure System, we are not required to comply with the SEC's disclosure requirements relating to mining properties. Investors in the US should be aware that the disclosure requirements of NI 43-101 are different from those under applicable SEC rules, and the information that we present concerning mineralization, mineral reserves and resources may not be comparable to information made public by companies that comply with the SEC's reporting and disclosure requirements for mining companies.

Mineral reserves

As of December 31, 2020 (100% – only the shaded column shows our share)

Proven and probable

(tonnes in thousands; pounds in millions)

		PROVEN			PROBABLE			TOTAL MINERAL RESERVES			OUR SHARE RESERVES	
PROPERTY	MINING METHOD	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	CONTENT (LBS U_3O_8)	METALLURGICAL RECOVERY (%)
Cigar Lake	UG	268.7	17.53	103.8	203.2	13.78	61.7	471.9	15.92	165.6	**82.8**	98.5
Key Lake	OP	61.1	0.52	0.7	-	-	-	61.1	0.52	0.7	**0.6**	99
McArthur River	UG	2,041.0	7.12	320.2	540.0	6.02	71.7	2,581.0	6.89	391.9	**273.6**	99
Inkai	ISR	202,780.4	0.03	156.0	149,442.2	0.03	87.8	352,222.7	0.03	243.8	**97.5**	85
Total		**205,151.3**	**-**	**580.7**	**150,185.4**	**-**	**221.2**	**355,336.7**	**-**	**802.0**	**454.5**	**-**

(UG – underground, OP – open pit, ISR – in situ recovery)

Note that the estimates in the above table:

- use a constant dollar average uranium price of approximately $45 (US) per pound U_3O_8
- are based on exchange rates of $1.00 US=$1.26 Cdn and 460 Kazakhstan Tenge to $1.00 Cdn

Metallurgical recovery

We report mineral reserves as the quantity of contained ore supporting our mining plans and provide an estimate of the metallurgical recovery for each uranium property. The estimate of the amount of valuable product that can be physically recovered by the metallurgical extraction process is obtained by multiplying the quantity of contained metal (content) by the planned metallurgical recovery percentage. The content and our share of uranium in the table above are before accounting for estimated metallurgical recovery.

Changes this year

Our share of proven and probable mineral reserves decreased from 461 million pounds U_3O_8 at the end of 2019, to 455 million pounds at the end of 2020. The change was primarily the result of:

- production at Cigar Lake and Inkai, which removed 8.3 million pounds from our mineral inventory
- application of a revised mining recovery factor at Cigar Lake from 90% to 86% which removed 3.8 million pounds of proven and probable reserves

partially offset by:

- a mineral resource and reserve estimate update at Cigar Lake, which added 7.4 million pounds of proven and probable reserves

Mineral resources

As of December 31, 2020 (100% – only the shaded columns show our share)

Measured, indicated and inferred

(tonnes in thousands; pounds in millions)

	MEASURED RESOURCES (M)			INDICATED RESOURCES (I)				OUR SHARE	INFERRED RESOURCES			OUR SHARE
PROPERTY	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	TOTAL M+I CONTENT (LBS U_3O_8)	TOTAL M+I CONTENT (LBS U_3O_8)	TONNES	GRADE % U_3O_8	CONTENT (LBS U_3O_8)	INFERRED CONTENT (LBS U_3O_8)
Cigar Lake	32.9	7.61	5.5	309.4	14.55	99.3	104.8	52.4	186.3	5.55	22.8	11.4
Fox Lake	-	-	-	-	-	-	-	-	386.7	7.99	68.1	53.3
Kintyre	-	-	-	3,897.7	0.62	53.5	53.5	53.5	517.1	0.53	6.0	6.0
McArthur River	97.8	2.57	5.5	92.4	2.32	4.7	10.3	7.2	41.0	2.85	2.6	1.8
Millennium	-	-	-	1,442.6	2.39	75.9	75.9	53.0	412.4	3.19	29.0	20.2
Rabbit Lake	-	-	-	1,836.5	0.95	38.6	38.6	38.6	2,460.9	0.62	33.7	33.7
Tamarack	-	-	-	183.8	4.42	17.9	17.9	10.3	45.6	1.02	1.0	0.6
Yeelirrie	27,172.9	0.16	95.9	12,178.3	0.12	32.2	128.1	128.1	-	-	-	-
Crow Butte	1,558.1	0.19	6.7	939.3	0.35	7.3	13.9	13.9	531.4	0.16	1.8	1.8
Gas Hills - Peach	687.2	0.11	1.7	3,626.1	0.15	11.6	13.3	13.3	3,307.5	0.08	6.0	6.0
Inkai	36,680.9	0.03	21.3	21,132.2	0.02	10.7	32.0	12.8	116,394.6	0.03	75.0	30.0
North Butte - Brown Ranch	621.3	0.08	1.1	5,530.3	0.07	8.4	9.5	9.5	294.5	0.07	0.4	0.4
Ruby Ranch	-	-	-	2,215.3	0.08	4.1	4.1	4.1	56.2	0.14	0.2	0.2
Shirley Basin	89.2	0.16	0.3	1,638.2	0.11	4.1	4.4	4.4	508.0	0.10	1.1	1.1
Smith Ranch - Highland	3,710.6	0.10	7.9	14,372.3	0.05	17.0	24.9	24.9	6,861.0	0.05	7.7	7.7
Total	**70,650.9**	**-**	**146.0**	**69,394.6**	**-**	**385.2**	**531.2**	**426.1**	**132,003.2**	**-**	**255.4**	**174.3**

Note that mineral resources:

- do not include amounts that have been identified as mineral reserves
- do not have demonstrated economic viability
- totals may not add due to rounding

Changes this year

Our share of measured and indicated mineral resources slightly increased from 424 million pounds U_3O_8 at the end of 2019, to 426 million pounds at the end of 2020. Our share of inferred mineral resources is 174 million pounds U_3O_8, a slight decrease of 1 million pounds from the end of 2019. The variance in mineral resources was primarily the result of the Cigar Lake mineral resource estimate update and minor mineral resource estimation work at McArthur River.

Key assumptions, parameters and methods

McArthur River

Key assumptions

- Mineral reserves assume a 99.4% planned mine recovery and have allowances for expected waste (42% average) and backfill (6.8% average) dilution as part of the normal mining extraction process. Mineral resources do not include such allowances.
- An average uranium price of $45 (US) per pound U_3O_8 with a $1.00 (US) = $1.26 (Cdn) fixed exchange rate was used to estimate the mineral reserves, taking into account the annual forecast realized prices
- Mining rates assume annual packaged production of 18 million pounds

Key parameters

- Grades of U_3O_8 were obtained from chemical assaying of drill core or from equivalent % U_3O_8 grades obtained from radiometric probing results. In areas of poor core recovery (usually < 75%) or missing samples, the grade was determined from probing.
- When not measured, densities are determined using formulas based on the relation between density measurements of drill core and chemical assay grades
- Mineral resources are estimated at a minimum mineralized thickness of 1.0 metre and at a minimum grade of 0.50% U_3O_8. Reported mineral reserves are based on pounds U_3O_8 recovered per excavation, translating into an average cut-off grade of 0.80% U_3O_8.
- Mineral reserves are estimated based on the use of raisebore and blasthole stope mining methods in conjunction with freeze curtains
- Reasonable expectation for eventual economic extraction of the mineral resources is based on the long-term forecast uranium price, anticipated production costs and the tonnage and grade of the mineralized areas

Key methods

- The models were created from the geological interpretation in section and plan views and in 3-dimensions from surface and underground drillhole information
- Mineral resources and mineral reserves were estimated using 3-dimensional block models. Ordinary kriging and inverse distance squared methods were used to estimate the grade and density.
- Maptek Vulcan and Leapfrog Geo software were used to generate the mineral resource and reserve estimates

Cigar Lake

Key assumptions

- Mineral reserves have been estimated with an average allowance of 37% dilution at 0% U_3O_8.
- Mineral reserves have been estimated based on 86% mining recovery. Mineral resources do not include dilution and mining recovery.
- The mining rate is assumed to vary between 100 and 200 tonnes per day and a full mill production rate of approximately 18 million pounds U_3O_8 per year
- Areas being mined must meet specific ground freezing requirements before jet boring begins
- An average uranium price of $45 (US) per pound U_3O_8 with a $1.00 (US) = $1.26 (Cdn) fixed exchange rate was used to estimate the mineral reserves, taking into account the annual forecast realized prices

Key parameters

- Grades of U_3O_8 were obtained from chemical assaying of drill core or from equivalent % U_3O_8 grades obtained from radiometric probing results. In areas of poor core recovery (usually < 75%) or missing samples, the grade was determined from probing.
- When not measured, densities are determined using formulas based on the relation between density measurements of drill core and chemical assay grades
- Mineral resources have been estimated using a minimum mineralization thickness of 1.0 metre and a minimum grade of 1.0% U_3O_8
- Mineral reserves have been estimated on the basis of designed JBS cavities with positive economics from the estimated recovered uranium
- Reasonable expectation for eventual economic extraction of the mineral resources is based on the long-term forecast uranium price, anticipated production costs and the tonnage and grade of the mineralized areas

Key methods

- The geological interpretation of the orebody was done in section and plan views and in 3-dimensions from surface drillhole information

- Mineral resources and mineral reserves were estimated using 3-dimensional block models. Geostatistical conditional simulation (with sequential Gaussian simulation) and inverse distance squared methods were used to estimate the grade and density.
- Maptek Vulcan and Leapfrog Geo software were used to generate the mineral resource and reserve estimates

Inkai

Key assumptions

- Mineral resources have been estimated based on the use of the ISR extraction method
- Average metallurgical recovery of 85%
- Mineral reserves have been reported based on average uranium price of $45 (US) per pound U_3O_8, derived from the production schedule and annual forecast prices, with exchange rates of $1.00 US = $1.26 Cdn and 460 Kazakhstan Tenge to $1.00 Cdn

Key parameters

- Grades (%U_3O_8) were obtained from gamma radiometric probing of drillholes, checked against assay results and prompt fission neutron logging results to account for disequilibrium
- Average density of 1.70 tonnes per cubic metre was used, based on historical and current sample measurements
- The production rate is based upon mineral reserves
- Mineral resources are estimated using a minimum grade of 0.012% U_3O_8 per drillhole interval and minimum Grade x Thickness (GT) of 0.071 m% U_3O_8 for Block 1 and 0.047 m% U_3O_8 for Blocks 2 MA and 3 MA per hole
- Mineral reserves represent the in-situ ore available for production within the term of the resource use contract
- A cut-off for the mineral reserves of 0.13 m% U_3O_8 is applied on the estimated GT value for each block of the model
- Reasonable expectation for eventual economic extraction of the mineral resources is based on the long-term forecast uranium price, anticipated production costs and the tonnage and grade or quality of the mineralized areas

Key methods

- The geological interpretation of the orebody was done in section and plan views derived from surface drillhole information
- Mineral resources were estimated with the GT method, where the estimated variable is the uranium grade multiplied by the thickness of the interval, and using two-dimensional block models
- A resource block must be confined to one aquifer taking into consideration the distribution of local aquitards
- Considerations of the rate of in-situ uranium recovery, lixiviant uranium head grades, wellfield flow rates and production requirements to define the production sequence
- Geological modelling and mining software used were AtomGeo and Maptek Vulcan

Our approach to ESG matters

Our vision

Our vision – “Energizing a clean-air world” – recognizes that we have an important role to play in enabling the vast reductions in global greenhouse gas (GHG) emissions required to achieve a resilient net-zero carbon economy. The uranium we produce is used around the world in the generation of safe, carbon-free, affordable, base-load nuclear power. As we seek to achieve our vision, we will do so in a manner that reflects our values. We believe we have the right strategy to achieve our vision and are committed to identifying and addressing the environmental, social and governance (ESG) risks and opportunities that we believe may have a significant impact on our ability to add long-term value for our stakeholders.

Committed to our values

Our values are at the core of everything we do and define who we are as a company.

Safety and environment

The safety of people and protection of the environment are the foundations of our work. All of us share in the responsibility of continually improving the safety of our workplace and the quality of our environment.

We are committed to keeping people safe and conducting our business with respect and care for both the local and global environment.

People

We value the contribution of every employee and we treat people fairly by demonstrating our respect for individual dignity, creativity and cultural diversity. By being open and honest, we achieve the strong relationships we seek.

We are committed to developing and supporting a flexible, skilled, stable and diverse workforce, in an environment that:

- attracts and retains talented people and inspires them to be fully productive and engaged
- encourages relationships that build the trust, credibility and support we need to grow our business

Integrity

Through personal and professional integrity, we lead by example, earn trust, honour our commitments and conduct our business ethically.

We are committed to acting with integrity in every area of our business, wherever we operate.

Excellence

We pursue excellence in all that we do. Through leadership, collaboration and innovation, we strive to achieve our full potential and inspire others to reach theirs.

Sustainability: A key part of our strategy, reflecting our values

We are committed to delivering our products responsibly. This is why we integrate sustainability principles and practices into all stages of our activities, from exploration to decommissioning. We factor them into every aspect of our business, from our objectives and approach to compensation, to our overall corporate strategy and day-to-day operations. We adopt established and recognized management system frameworks to guide our integrated approach, which is embedded within ethical business practices and our robust and transparent governance framework. We seek to be transparent with our stakeholders, keeping them updated on the risks and opportunities that we believe may have a significant impact on our ability to add long-term value.

We have a sustainability policy that describes our commitments in this regard. We encourage you to review our sustainability policy at cameco.com/about/governance/policies-programs.

Environment

We employ an integrated management system that applies to all phases and aspects of our business. The system is governed by one integrated Safety, Health, Environment and Quality (SHEQ) policy, which recognizes that the safety and health of our workers and the public, protection of the environment, and quality of our processes are the highest priority during all stages of our operations. The policy is supported by multiple corporate SHEQ management programs. We maintain ISO 14001 certification of our environmental management program at a corporate level. We encourage you to review our SHEQ policy at cameco.com/about/governance/policies-programs.

Climate change: Nuclear power is part of the solution

We believe the reduction of carbon and GHG emissions is important and necessary in Canada and around the world, and that nuclear power must be a central part of the solution to the world's shift to a low-carbon, climate-resilient economy. As one of the world's largest producers of the uranium needed to fuel nuclear reactors, we believe there is a significant opportunity for us to be part of the solution to combat climate change and that we are well positioned to deliver significant long-term business value, while actively working to reduce our emission profile.

There is growing recognition of the role nuclear power must play in ensuring safe, reliable and affordable carbon-free electricity generation. This recognition from key global agencies, such as the United Nations Economic Commission for Europe, the United Nations Intergovernmental Panel on Climate Change, and the Union of Concerned Scientists is important because it acknowledges that nuclear power is needed to credibly achieve commitments under the Paris Agreement or transition to a net-zero carbon future. Indeed, in 2019, for the first time in nearly two decades, the International Energy Agency

released a report on nuclear energy in the hopes of bringing it back into the global energy debate. The report highlighted 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.

The nuclear industry recognizes the scale and immediacy of the challenge outlined in the Paris Agreement, and the important role that all low-carbon and carbon-free energy sources have to play. Led by the World Nuclear Association, the nuclear industry has a program and vision for the future of electricity supply called “Harmony”. The Harmony program sets a target for nuclear power to provide 25% of electricity by 2050 to help avoid the worst consequences of climate change. As members of the World Nuclear Association, and through participation in other industry organizations, we fully support and are advocates of this initiative.

Uranium is, in our view, the world’s most significant zero emission fuel. Uranium’s heat value is thousands to tens of thousands of times greater than any other available fuel meaning that a tiny amount of uranium can generate a huge amount of emission-free electricity as nuclear power. The uranium we supply plays a significant role in contributing to GHG mitigation efforts in Canada and abroad. Within Canada, this uranium fuel provides greater than 30% of the province of Ontario’s power every year, avoiding more than 5,000,000 tonnes of carbon dioxide from being emitted into the atmosphere. It enables the province of Ontario to maintain the massive carbon reduction that was fully realized in 2014 when the proportion of electricity produced by nuclear power was increased in that province. Considering only the domestic emissions avoided resulting from the use of nuclear power in Ontario, we could claim to be one of Canada’s first net-zero carbon companies.

We have tracked and reported GHG emissions for more than two decades before it was a regulatory requirement to do so. In the past few years, the emissions of our Canadian operations have become regulated through Canadian output-based performance standard programs. These programs are intended to ensure business competitiveness and prevent carbon leakage. As an organization, we continue to be focused on improving energy management and the visibility of energy consumption within our organization, with the overall goal of improving the energy intensity of our operations to create business value.

We are proud that the high-grade uranium ores in Saskatchewan’s Athabasca Basin result in Canadian uranium having among the lowest life cycle GHG emission intensity internationally, despite the constraints related to our geographic location. In fact, the production of Saskatchewan uranium requires at least one hundred times less GHG emissions than production of the cleanest Canadian natural gas to produce the same amount of electricity and, all of the nuclear power produced is GHG emission free.

The table below shows our most recent data on our GHG emissions. We follow the general guidelines outlined by the Intergovernmental Panel on Climate Change to quantify GHG emissions.

	2020	2019	2018
Greenhouse gas emissions[1] of kilotonnes of CO_2 equivalent (CO_2e)	274	277	295

[1] Greenhouse gas emissions include carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) expressed as a carbon equivalent (CO_2e).

Corporate GHG emissions have declined significantly since 2016 as a result of suspension of production at Rabbit Lake in 2016, curtailment of production at Cameco Resources in 2016, suspension of production at McArthur River and Key Lake in 2018 as well as Cigar Lake in 2020, and change in ownership of JV Inkai in 2018. Emissions associated with JV Inkai were not included in our corporate emissions in 2019 and 2020 as we no longer have operational control over JV Inkai.

Social

Our response to the COVID-19 pandemic

We continue to closely monitor and adapt to the developments related to the outbreak of COVID-19. Throughout the pandemic our priority has been to protect the health and well-being of our workers, including employees and contractors, their families, and their communities. Early in 2020, we activated our Corporate Crisis Management Plan, which includes our Pandemic Plan, and our various Local and Corporate Business Continuity Plans. Our Pandemic Plan and Local and Corporate Business Continuity Plans continue to be in effect across our global operations.

Following the precautions and restrictions enacted by all levels of government where we operate, and, considering the unique circumstances at each of our operating sites, we proactively implemented a number of measures and made a number of decisions to ensure a safe working environment for all our workers. We:

- asked employees at corporate office to work remotely from home
- asked that all meetings be conducted by phone or videoconference where possible
- suspended all business travel
- restricted non-essential contractors, visitors and deliveries at all locations
- put in place screening protocols for access to our facilities that align with the guidance of government and public health authorities
- implemented a number of additional protective measures in the workplace, including increased sanitization, physical barriers and physical distancing as well as enhancing use of personal protective equipment
- suspended work on the VIM project in Port Hope
- suspended production at Cigar Lake in late March through August – production was suspended again in December and currently remains suspended
- suspended production, at the Port Hope UF_6 conversion facility and at the Blind River refinery in April for about four weeks
- set up and awarded COVID-19 Relief Funds totaling $1.25 million to support our northern Saskatchewan and Ontario communities impacted by the virus
- donated significant volumes of personal protective equipment, including masks, gloves, hand sanitizer, respirators and cartridges, respirator wipes, and safety eyewear

The proactive decisions we have made, and continue to make, to protect our workers and to help slow down the spread of the COVID-19 virus are necessary decisions that are consistent with our values. We continue to actively monitor the pandemic, and our screening and safety measures will remain in place for the foreseeable future. We will continue to work closely with the relevant health authorities to ensure our protocols align with their guidance.

Safety

The safety and health of our workers and the public is the highest priority during all stages of our activities.

We employ an integrated management system that applies to all phases and aspects of our business. The system is governed by our integrated SHEQ policy and is supported by multiple corporate SHEQ management programs.

Our operations have a strong safety record. We employ systematic programs to identify, evaluate and mitigate risks and engage all workers and managers in development of a strong safety culture. These programs follow the international OHSAS 18001 model and have delivered increasingly noteworthy and recognized safety performance.

Inclusion and Diversity

We have made a formal commitment to inclusion and diversity that is communicated company-wide through our value statements. We understand the value of a diverse workforce and we embrace, encourage and support workplace inclusion and diversity. Members of a diverse workplace bring new ideas, perspective, experiences and expertise to the company. Our diversity vision is to create a work environment where inclusion is the goal, and a diverse and representative workforce is our measure of success. We have a people policy that 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 resource programs, standards and practices, including providing preference to Residents of Saskatchewan's North (RSN) for employment opportunities in our northern Saskatchewan operations. We encourage you to review this policy at cameco.com/about/governance/policies-programs.

We want a culture where each of our workers feel welcome, valued and an integral part of the team and we recognize that in order to successfully progress towards this culture, we must engage members of the workforce throughout the journey. In 2021, this work will be championed through the establishment of an Inclusion and Diversity committee. Members of the committee will be drawn from across the organization and will help us engage the workforce through open and respectful communication, will advocate, lead and support change and provide awareness and understanding of the benefits of inclusion and diversity. The committee will report to the President and CEO, and the Senior Vice-President and Chief Corporate Officer.

Diversity is an important element of executive and board leadership. We have commitments in our diversity and inclusion plan to ensure leadership is at the forefront of our diversity agenda. We strive for a complement of female officers that, at a minimum, reflect the proportion of women in our workforce. We expect that our long-term diversity and inclusion plan will result in more women being identified and prepared for senior level positions within the company. Our board has a diversity policy that was put in place to ensure that the members of the board have the necessary range of perspectives, experience and expertise required to achieve our objectives. The board has also set specific diversity objectives (which they currently meet or exceed) for gender diversity as well as the inclusion of Indigenous directors on the board.

For more information about diversity and inclusion at Cameco, see our most recent management proxy circular.

Stakeholder relations

The long-term sustainability of our business is dependent upon our ability to effectively build relationships with, work with, and add value for our stakeholders.

From community liaison groups and industry associations, to registered charities, regulators, customers, suppliers, contractors, the investment community and our employees, we recognize the value of maintaining many long-term relationships that help us succeed together. All are important but none more so than the relationships we hold with our workers and Indigenous people working and living near our operations.

Informed by best practices, we set standards for the ways we meaningfully engage with and are involved with our stakeholders to ensure we fulfil our obligations to them.

We strive to earn the support of the communities in which we operate, which is one of our key measures of success. We identify opportunities and initiatives that support and respect these communities and their cultures.

We recognize the substantial value in developing and maintaining long-term mutually beneficial relationships with Indigenous communities located within or near our operations and other activities.

Over more than 30 years of operation in Saskatchewan and Ontario and partnerships in northern Saskatchewan and northern Ontario, we have developed a comprehensive strategy that applies to all our operations globally, and is aimed at ensuring the support of the communities with whom we work. We achieve success at our sites when we involve, train, and engage local people. This global strategy is flexible and is implemented locally to reflect the needs of the Indigenous and other local communities. The bulk of the strategy has evolved from the commercial benefits we see from building and maintaining strong support among local communities wherever we operate and focuses on five key areas:

- *Workforce development*: designed to deliver programming that aims to build educational and skills capacity in local communities.
- *Business development*: designed to promote involvement of locally-owned businesses in contracting opportunities at our operations, to provide additional jobs, revenue streams and to build capacity at the local community level.
- *Community engagement*: designed with the objective to ensure that we secure support for our operations from local communities and satisfy the obligations placed on us by regulators and laws.
- *Community investment*: designed to help local communities with much-needed funding for community programming and infrastructure for initiatives focused on youth, education and literacy, health and wellness, and community development.
- *Environmental stewardship*: designed to support our overall environmental programming and give communities a voice in both the formal environmental assessment regulatory process, as well as ongoing monitoring activities.

Wherever we operate, it is our goal to ensure local people are aware of and understand our activities and have opportunities to provide input. Engaging communities and keeping them informed throughout all phases of our operations is a priority for us. We set standards for the measures that we will conform to in maintaining ongoing and meaningful engagement with the communities where we operate.

Ethics and Business Integrity

We have a reputation for maintaining the highest standards of ethical behaviour, which has helped us to grow into the global business we are today. Our Code of Conduct and Ethics guides us in ethical conduct as we fulfil our roles, and our Supplier Code of Conduct and Ethics sets out our expectations for suppliers to ensure a sustainable and ethical supply chain. Our Global Anti-Corruption Program also guides employees to ensure that the integrity of our relationships is maintained. You can

access our Code of Conduct and Ethics and Supplier Code of Conduct and Ethics at cameco.com/about/sustainability/our-approach-to-esg-reporting/governance.

Governance: Sound governance is the foundation for strong performance

We believe that sound governance is the foundation for strong corporate performance. Our board of directors is responsible for overseeing management, and our strategy and business affairs, including the integration of ESG principles throughout the company. The board's goal is to ensure we operate as a sustainable business, optimizing financial returns while effectively managing risk.

The board has formal governance guidelines that set out our approach to governance and the board's governance role and practices. The guidelines ensure we comply with all of the governance rules and legislation in Canada and the US that are applicable, conduct ourselves in the best interests of our stakeholders, and meet industry best practices. The guidelines are reviewed and updated regularly.

Risk and risk management

We have a mature enterprise risk management (ERM) framework that consists of processes and controls to ensure risks are being appropriately managed and mitigated.

Decisions to accept, mitigate, or transfer identified risks guide management's plans in our strategic planning and budgeting process. Employees throughout the company take ownership of the risks specific to their area, and are responsible for developing and implementing the controls to manage and reassess risk, including ESG risks.

Our risk policy sets out a broad, systematic approach to identifying, assessing, reporting and managing the significant risks, including ESG risks, we face in our business and operations. The policy is reviewed annually to ensure that it continues to meet our needs.

See *Managing the risks* starting on page 63 of our 2020 MD&A, for a discussion of the risks, including ESG risks, that generally apply to all of our operations and advanced uranium projects, and that could have a material impact on business in the near term. We also recommend you review *Risks that can affect our business* starting at page 95 of this AIF, which includes a discussion of other material risks that could have an impact on our business.

The board is responsible for overseeing management's implementation of appropriate risk management processes and controls. Time is dedicated at board and committee meetings to risk identification, management, and reporting. In consultation with the board, management works on enhancing its enterprise risk oversight practices, processes and controls. While the board oversees the company's strategic risks, including ESG/climate-related risks, it also allocates oversight of other top-tier risks to specific board committees. Set out below is an overview of the responsibilities allocated to specific board committees.

Audit and finance – supports the board in fulfilling its oversight responsibilities regarding the integrity of our accounting and financial reporting, the adequacy and effectiveness of our internal controls and disclosure controls, legal, regulatory (excluding safety, health and the environment) and ethical compliance, the independence and performance of our external and internal auditors, oversight of specific material risks, and prevention and detection of fraudulent activities and financial oversight.

Human resources and compensation – supports the board in fulfilling its oversight responsibilities regarding human resource policies, employee and labour relations matters, executive compensation, executive succession and development, pension plan governance, and oversight of cyber-security risk.

Nominating, corporate governance and risk – supports the board in fulfilling its oversight responsibilities by developing and recommending a set of corporate governance principles, identifying and recommending qualified individuals as members of the board and its committees, assessing the effectiveness of the board and committees, and overseeing the risk program.

Reserves oversight – supports the board in fulfilling its oversight responsibilities regarding estimating and disclosing mineral reserves and resources.

Safety, health and environment – supports the board in fulfilling its oversight responsibilities regarding safety, health, environmental and climate-related matters, and supportive communities.

More information about our shareholder commitment, our governance principles, how our board operates, its responsibilities, and the profiles of each of our directors can be found in our most recent management proxy circular and on our website at cameco.com/about/board-of-directors.

How we are doing

Given the evolving nature of the ESG landscape, we have established a multi-disciplinary working group to review our current approach to sustainability and ESG governance and reporting. We are planning to issue an ESG report later in 2021 that reflects Sustainability Accounting Standards Board (SASB) and Task Force on Climate-Related Financial Disclosures (TCFD) principles. The working group is chaired by our Senior Vice-President and Chief Corporate Officer and has been reporting to our board and its committees.

Since 2012, we have reported on globally-recognized key indicators that measure our environmental, social, governance and financial impacts in the areas that we believe may have a significant impact on our ability to add long-term value for our stakeholders. We use the Global Reporting Initiative's Sustainability Framework (GRI), in addition to some corporate indicators that are unique to the company to measure and report our performance. This is our report card to our stakeholders. You can find our most recent performance results at cameco.com/about/sustainability.

Targets and metrics: The link between ESG factors and executive pay

We recognize the importance of integrating certain ESG factors, such as safety performance, a clean environment and supportive communities, into our executive compensation strategy as we see success in these areas as critical to the long-term success of the company. For more information on our compensable targets and our reported performance against those targets see the *Measuring our results* section in our 2020 MD&A and our most recent management proxy circular.

Nuclear waste management and decommissioning

Once we have permanently stopped mining and processing activities, we are required to decommission the operating sites. This includes reclaiming all waste rock, TMF and other areas of the site affected by our activities to the satisfaction of regulatory authorities.

Estimating decommissioning and reclamation costs

We develop conceptual decommissioning plans for our operating sites and use them to estimate our decommissioning costs. We also submit them to regulators to determine the amount of financial assurance we must provide to secure our decommissioning obligations. Our plans include reclamation techniques that we believe generate reasonable environmental and radiological performance. Regulators give "conceptual approval" to a decommissioning plan if they believe the concept is reasonable.

We started conducting reviews of our conceptual decommissioning plans for all Canadian sites in 1996. We typically review them every five years, or when we amend or renew an operating licence. We review our cost estimates for both accounting purposes and licence applications. For our US sites, they are reviewed annually. A preliminary decommissioning plan has been established for Inkai. The plan is updated every five years or as significant changes take place, which would affect the decommissioning estimate.

As properties approach or go into decommissioning, regulators review the detailed decommissioning plans. This can result in additional regulatory process, requirements, costs and financial assurances.

At the end of 2020, our estimate of total decommissioning and reclamation costs was $1.14 billion. This is the undiscounted value of the obligation and is based on our current operations. We had accounting provisions of $1.20 billion at the end of 2020 (the present value of the $1.14 billion). Regulatory approval is required prior to beginning decommissioning. Since we expect to incur most of these expenditures at the end of the useful lives of the operations they relate to, and none of our assets have approval for decommissioning, our expected costs for decommissioning and reclamation for the next five years are not material.

We provide financial assurances for decommissioning and reclamation such as letters of credit or surety bonds to regulatory authorities, as required. We had a total of about $1.02 billion in financial assurances supporting our reclamation liabilities at

the end of 2020. All of our North American operations have financial assurance in place in connection with our preliminary plans for decommissioning of the sites.

Please also see note 15 to our 2020 financial statements for our estimate of decommissioning and reclamation costs and related financial assurances.

Canada

Decommissioning estimates

(100% basis)	
McArthur River	$42 million
Rabbit Lake	$213 million
Key Lake	$223 million
Cigar Lake	$62 million

The most recent preliminary decommissioning plans for all Saskatchewan mining operations were submitted in 2017 and 2018 as part of the regular five-year update schedule. Prior to revising the letters of credit, approval of the updated plans is required from the province and CNSC staff as well as formal approval from the CNSC through a Commission proceeding. All Saskatchewan mining operations have received the necessary approvals.

The reclamation and remediation activities associated with waste rock and tailings from processing Cigar Lake ore and uranium solution are covered in the plans and cost estimates for the facility that will be processing it.

Decommissioning estimates

(100% basis)	
Port Hope	$129 million
Blind River	$58 million
CFM	$21 million

We renewed our licence for Port Hope in 2017. As part of that process, an update to the Port Hope Conversion Facility preliminary decommissioning plan was finalized and accepted in February 2017. The letter of credit was updated in March 2017 and reflects the current decommissioning estimate. As part of relicensing for the facilities, as of November 2020, the Blind River preliminary decommissioning plan had been submitted and was under review by CNSC staff and Cameco plans to submit the CFM preliminary decommissioning plan in 2021.

Recycling uranium byproducts

We have arrangements with two facilities for processing certain uranium-bearing byproducts from Blind River and Port Hope. An agreement has been in place with the White Mesa mill in Blanding, Utah for a number of years. Recycled byproduct material was being processed at Key Lake until the decision was made in 2018 to suspend production and place the mill and the McArthur River mine in care and maintenance, which will continue for an indeterminate duration.

United States

After mining has been completed, an ISR wellfield has to be restored according to regulatory requirements. This generally involves restoring the groundwater to its pre-mining state or equivalent class of water standard.

For wellfield restoration to be complete, regulatory approval is required. It is difficult for us to estimate the timing for wellfield restoration due to the uncertainty in timing for receiving final regulatory approval.

Crow Butte

Restoration of Crow Butte wellfields is regulated by the Nebraska Department of Environmental Quality and the Nuclear Regulatory Commission (NRC). There are five wellfields being restored at Crow Butte. The groundwater at mine unit #1 has been restored to pre mining quality standards, all wells are plugged and the piping removed.

Our estimated cost of decommissioning the property is $52 million (US). We have provided the state of Nebraska with $51 million (US) in financial assurances as security for decommissioning the property.

Smith Ranch-Highland

Restoration of Smith Ranch-Highland wellfields is regulated by the Wyoming Department of Environmental Quality (WDEQ). In 2018, the NRC transferred to the state of Wyoming its authority to regulate uranium ISR mining in the state. There are nine wellfields being restored at Smith Ranch-Highland, one wellfield in stability, and two wellfields (mine unit A and mine unit B) that have been fully restored.

Restoration of mine unit B was approved by the WDEQ in 2008, while NRC approval has not yet been attained. An Alternate Concentration Limit (ACL) request was submitted to the NRC in May 2013. The NRC subsequently requested additional information, and that additional sampling be conducted.

Our estimated cost of decommissioning the property is $219 million (US), including North Butte. We have provided the state of Wyoming with $220 million (US) in financial assurances as security for decommissioning the property.

Kazakhstan

JV Inkai's decommissioning obligations are defined by the resource use contract and the subsoil code. JV Inkai is required to maintain a fund, which is capped at $500,000 (US), as security for meeting its decommissioning obligations. Under the resource use contract, JV Inkai must submit a plan for decommissioning the property to the government six months before mining activities are complete.

JV Inkai has developed a preliminary decommissioning plan to estimate total decommissioning costs, and updates the plan when there is a significant change at the operation that could affect decommissioning estimates. The preliminary decommissioning estimate is $11 million (US) and is subject to ongoing review.

Groundwater is not actively restored post-mining in Kazakhstan. See page 93 for additional details.

The regulatory environment

This section discusses some of the more significant government controls and regulations that have a material effect on our business. A significant part of our economic value depends on our ability to comply with the extensive and complex laws and regulations that govern our activities. We are not aware of any proposed legislation or changes to existing legislation that could have a material effect on our business.

International treaty on the non-proliferation of nuclear weapons

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is an international treaty that was established in 1970. It has three objectives:

- to prevent the spread of nuclear weapons and weapons technology
- to foster the peaceful uses of nuclear energy
- to further the goal of achieving general and complete disarmament

The NPT establishes a safeguards system under the responsibility of the IAEA. Almost all countries are signatories to the NPT, including Canada, the US, the United Kingdom and France. We are therefore subject to the NPT and comply with the IAEAs requirements.

Industry regulation and permits

Canada

Our Canadian operations have regulatory obligations to both the federal and provincial governments. There are four main regulatory agencies that issue licences and approvals:

- CNSC (federal)
- Fisheries and Oceans Canada (federal)

- SMOE
- Ontario Ministry of Environment

Environment and Climate Change Canada (federal) is also a main regulatory agency, but does not issue licences and approvals.

Uranium industry regulation

The government of Canada recognizes the special importance of the uranium industry to Canada's national interest, and regulates the industry through legislation and regulations, and exerts additional control through government policy.

Federal legislation applies to any work or undertaking in Canada for the development, production or use of nuclear energy or for the mining, production, refinement, conversion, enrichment, processing, reprocessing, possession or use of a nuclear substance. Federal policy requires that any property or plant used for any of these purposes must be legally and beneficially owned by a company incorporated in Canada.

Mine ownership restrictions

The federal government has instituted a policy that restricts ownership of Canadian uranium mining properties to:

- a minimum of 51% ownership by residents
- a basic maximum limit of 49% ownership by non-residents of uranium properties at the first stage of production

The government may grant exceptions. For example, resident ownership may be less than 51% if the property is Canadian controlled. Exceptions will only be granted in cases where it is demonstrated that Canadian partners cannot be found, and it must receive Cabinet approval.

The government issued a letter to the Canadian uranium industry on December 23, 1987, outlining the details of this ownership policy. On March 3, 2010, the government announced its intention to liberalize the foreign investment restrictions on Canada's uranium mining sector to "ensure that unnecessary regulation does not inhibit the growth of Canada's uranium mining industry by unduly restricting foreign investment". After striking an expert panel to study the issue and soliciting feedback from various stakeholders, the federal government stated in October 2011 that it would not be changing the policy.

The Canada-EU Trade Agreement (CETA) was provisionally implemented in September 2017. The Non-resident Ownership Policy provisions for CETA countries are now in effect, which removes the requirement to seek a Canadian partner to hold the majority interest in a Canadian uranium mining property before applying for an exemption. An EU company is still required to apply for an exemption to hold a majority interest in a Canadian uranium mining property and the proposal will be evaluated by the government on its merits.

Cameco ownership restriction

We are subject to ownership restrictions under *the Eldorado Nuclear Limited Reorganization and Divestiture Act*, which restricts the issue, transfer and ownership, including joint ownership, of Cameco shares to prevent both residents and non-residents of Canada from owning or controlling more than a certain percentage of shares. See pages 117 and 118 for more information.

Industry governance

The *Nuclear Safety and Control Act* (NSCA) is the primary federal legislation governing the control of the mining, extraction, processing, use and export of uranium in Canada. It authorizes the CNSC to make regulations governing all aspects of the development and application of nuclear energy, including uranium mining, milling, conversion, fuel fabrication and transportation. It grants the CNSC licensing authority. A person may only possess or dispose of nuclear substances and build, operate and decommission its nuclear facilities according to the terms and conditions of a CNSC licence. Licensees must satisfy specific conditions of the licence in order to maintain the right to operate their nuclear facilities.

The NSCA emphasizes the importance of environmental as well as health and safety matters, and requires licence applicants and licensees to have adequate provisions for protection.

Regulations made under the NSCA include those dealing with the specific licence requirements of facilities, radiation protection, physical security for all nuclear facilities and the transport of radioactive materials. The CNSC has also issued

regulatory documents to assist licensees in complying with regulatory requirements, such as decommissioning, emergency planning, and optimizing radiation protection measures.

All of our Canadian operations are governed primarily by licences granted by the CNSC and are subject to all federal statutes and regulations that apply to us, and all the laws that generally apply in the province where the operation is located, unless there is a conflict with the terms and conditions of the licence or the federal laws that apply to us.

Uranium export

We must secure export licences and export permits from the CNSC and Global Affairs Canada in order to export our uranium. These arrangements are governed by the bi-lateral and multi-lateral agreements that are in place between governments.

Land tenure

Most of our uranium reserves and resources are located in the province of Saskatchewan:

- a *mineral claim* from the province gives us the right to explore for minerals (other government approvals are required to carry out surface exploration)
- a *crown lease* with the province gives us the right to mine the minerals on the property
- a *surface lease* with the province gives us the right to use the land for surface facilities and mine shafts while mining and reclaiming the land

A mineral claim has a term of two years, with the right to renew for successive one-year periods. Generally, the holder has to spend a certain amount on exploration to keep the mineral claim in good standing. If we spend more than the amount required, the extra amount can be applied to future years.

A holder of a mineral claim in good standing has the right to convert it into a crown lease. A crown lease is for 10 years, with a right to renew for additional 10-year terms. The lessee must spend a certain amount on work during each year of the crown lease. The lease cannot be terminated unless the lessee defaults on any terms of the lease, or under any provisions of *The Crown Minerals Act* (Saskatchewan) or regulations under it, including any prescribed environmental concerns. Crown leases can be amended unilaterally by the lessor by an amendment to *The Crown Minerals Act (Saskatchewan)* or *The Mineral Disposition Regulations,* 1986 *(Saskatchewan)*.

A surface lease can be for up to 33 years, as necessary for operating the mine and reclaiming the land. The province also uses surface leases to specify other requirements relating to environmental and radiation protection as well as socioeconomic objectives.

United States

Uranium industry regulation

In the US, uranium recovery is regulated primarily by the NRC according to the *Atomic Energy Act of 1954*, as amended. Its primary function is to:

- ensure employees, the public and the environment are protected from radioactive materials
- regulate most aspects of the uranium recovery process

The NRC's regulations for uranium recovery facilities are codified in *Title 10 of the Code of Federal Regulations* (10 CFR). It issues Domestic Source Material Licences under 10 CFR, Part 40. *The National Environmental Policy Act* governs the review of licence applications, which is implemented through 10 CFR, Part 51.

At Smith Ranch-Highland and Crow Butte, safety is regulated by the federal Occupational Safety and Health Administration.

Other governmental agencies are also involved in the regulation of the uranium recovery industry.

The NRC also regulates the export of uranium from the US and the transport of nuclear materials within the US. It does not review or approve specific sales contracts. It also grants export licences to ship uranium outside the US.

Wyoming

The uranium recovery industry is also regulated by the WDEQ, the Land Quality Division (LQD) according to the *Wyoming Environmental Quality Act* (WEQA) and the *Land Quality Division Non Coal Rules and Regulations* under the WEQA. According to the state act, the WDEQ issues a permit to mine. The LQD administers the permit. As of September 30, 2018, the NRC has entered into an agreement with the state of Wyoming, transferring regulatory authority for licensing, rulemaking, inspection, and enforcement activities necessary to regulate uranium ISR mining. The WDEQ LQD Uranium Recovery Program (URP) has assumed this regulatory authority.

The state also administers a number of EPA programs under the *Clean Air Act* and the *Clean Water Act*. Some of the programs, like the *Underground Injection Control Regulations*, are incorporated in the *Land Quality Division Non-Coal Rules and Regulations*. Wyoming currently requires wellfield decommissioning to the standard of pre-mining use.

Nebraska

The uranium recovery industry is regulated by the NRC, and the Nebraska Department of Environmental Quality according to the *Nebraska Environmental Protection Act*. The Nebraska Department of Environmental Quality issues a permit to mine. The state requires wellfield groundwater be restored to the class of use water standard.

Land tenure

Our uranium resources in the US are held by subsidiaries that are located in Wyoming and Nebraska. The right to mine or develop minerals is acquired either by leases from the owners (private parties or the state) or mining claims located on property owned by the US federal government. Our subsidiaries acquire surface leases that allow them to conduct operations.

Kazakhstan

See *Kazakhstan government and legislation* starting on page 59.

Complying with environmental regulations

Our business is required to comply with laws and regulations that are designed to protect the environment and control the management of hazardous wastes and materials. Some laws and regulations focus on environmental issues in general, and others are specifically related to mining and the nuclear sector. They change often, with requirements increasing, and existing standards being applied more stringently. While this dynamic promotes continuous improvement, it can increase expenses and capital expenditures, or limit or delay our activities.

Government legislation and regulation in various jurisdictions establish standards for system performance, standards, objectives and guidelines for air and water quality emissions, and other design or operational requirements for the various SHEQ components of our operations and the mines that we plan to develop. In addition, we must complete an environmental assessment before we begin developing a new mine or start processing activities, or make any significant change to our operations. Once we have permanently stopped mining and processing activities, we are required to decommission and reclaim the operating site to the satisfaction of the regulators, and we may be required to actively manage former mining properties for many years.

Canada

Not only is there ongoing regulatory oversight by the CNSC, the SMOE, the Ontario Ministry of the Environment, and Environment and Climate Change Canada, but there is also public scrutiny of the impact our operations have on the environment.

The CNSC, an independent regulatory authority established by the federal government under the NSCA, is our main federal regulator in Canada. Late in 2019, the federal government introduced the *Impact Assessment Act* along with changes to the *Fisheries Act* and introduced the *Canadian Navigable Waters Act.* The new assessment legislation broadens the scope of a federal assessment beyond strictly environment and the *Fisheries Act* introduces changes to the language that will take some time to fully understand and for the government to implement.

Plans to build new mines in Saskatchewan are subject to the provincial environmental assessment process. In certain cases, a review panel may be appointed and public hearings held.

Over the past few years, CNSC audits of our operations have focused on the following SHEQ programs:

- radiation protection
- environmental monitoring
- fire protection
- operational quality assurance
- organization and management systems effectiveness
- transportation systems
- geotechnical monitoring
- training
- ventilation systems

Improving our environmental performance is challenging and we have focused on maintaining our excellent water quality while maintaining production at our facilities.

Efforts like these often require additional environmental studies near the operations, and we will continue to undertake these as required.

It can take a significant amount of time for regulators to make requested changes to a licence or grant a requested approval because the activity may require an environmental assessment or an extensive review of supporting technical data, management programs and procedures. We are improving the quality of our proposals and submissions and have introduced a number of programs to ensure we continue to comply with regulatory requirements, but this has also increased our capital expenditures and our operating costs.

As our SHEQ management system matures, regulators continue to review our programs and recommend ways to improve our SHEQ performance. These recommendations are generally procedural and do not involve large capital costs, although systems applications can be significant and result in higher operating costs.

We believe that regulatory expectations of the CNSC and other federal and provincial regulators will continue to evolve, and lead to changes to both requirements and the regulatory framework. This will likely increase our costs.

United States

Our ISR operations in the US have to meet federal, state and local regulations governing air emissions, water discharges, handling and disposal of hazardous materials and site reclamation, among other things.

Mining activities have to meet comprehensive environmental regulations from the NRC, Bureau of Land Management, Environmental Protection Agency (EPA) and state environmental agencies. The process of obtaining mine permits and licences generally takes several years, and involves environmental assessment reports, public hearings and comments. We have the permits and licences required for our US ISR Operations for 2021.

The ISR mining method at our US ISR Operations involves extracting uranium from underground non-potable aquifers by dissolving the uranium with a carbonate-based water solution and pumping it to a processing facility on the surface. After mining is complete, ISR wellfields have to be restored according to regulatory requirements. This generally involves restoring the groundwater to its pre-mining state or equivalent class of use water standard. Restoration of Crow Butte wellfields is regulated by the Nebraska Department of Environmental Quality and the NRC. Restoration of Smith Ranch-Highland wellfields is regulated by the Wyoming Department of Environmental Quality.

See pages 87 and 88 for the status of wellfield restoration and regulatory approvals.

Kazakhstan

In its resource use contract with the Kazakhstan government, JV Inkai committed to conducting its operations according to good international mining practices. It must comply with the environmental requirements of Kazakhstan legislation and regulations, and, as an industrial company, it must also reduce, control or eliminate various kinds of pollution and protect natural resources. JV Inkai is required to submit annual reports on pollution levels to the Kazakhstan environmental, tax and statistics authorities. The authorities conduct tests to validate JV Inkai's results.

Environmental protection legislation in Kazakhstan has evolved rapidly, especially in recent years. As the subsoil use sector has evolved, there has been a trend towards greater regulation, heightened enforcement and greater liability for non-compliance. The most significant development was the adoption of *the Ecological Code* in 2007. This code replaced the three main laws related to environmental protection. On January 2, 2021, Kazakhstan enacted a new ecological code, which will become effective July 1, 2021.

JV Inkai is required to comply with environmental requirements during all stages of the project, and must develop an environmental impact assessment for examination by a state environmental expert before making any legal, organizational or economic decisions that could have an effect on the environment and public health.

Under the current *Ecological Code*, JV Inkai needs an environmental permit to operate. The permit certifies the holder's right to discharge emissions into the environment, provided that it complies with the requirements of the permit and *the Ecological Code*. JV Inkai has a permit for environmental emissions and discharges for the operation that is valid until December 31, 2022. JV Inkai also holds the required permits under *the Water Code*.

Government authorities and the courts enforce compliance with these permits, and violations can result in the imposition of administrative, civil or criminal penalties, the suspension or stopping of operations, orders to pay compensation, orders to remedy the effects of violations and orders to take preventive steps against possible future violations. In certain situations, the issuing authority may suspend or revoke the permits.

The ISR mining method at Inkai uses an acid in the mining solution to extract uranium from underground non potable aquifers. The injection and recovery system is engineered to prevent the mining solution from migrating to the aquifer above the orebody, which has water with higher purity.

Kazakhstan does not require active restoration of post-mining groundwater. After a number of decommissioning steps are taken, natural attenuation of the residual acid in the mined out horizon, as a passive form of groundwater restoration, has been accepted. Attenuation is a combination of neutralization of the groundwater residual acid content by interaction with the host rock minerals and other chemical reactions which immobilize residual groundwater contaminants in the mined-out subsoil horizon. This approach is considered acceptable because it results in water quality similar to the pre-mining baseline status.

JV Inkai has environmental insurance, as required by *the Ecological Code* and the resource use contract.

Taxes and Royalties

Transfer pricing dispute

Court decisions

On February 18, 2021, the Supreme Court of Canada dismissed CRA's request for leave to appeal the decision of the Federal Court of Appeal (Court of Appeal) for the tax years 2003, 2005 and 2006. The dismissal means the dispute for 2003, 2005 and 2006 tax years is fully and finally resolved in Cameco's favour.

On June 26, 2020, the Court of Appeal decided unanimously in our favour in our dispute with CRA. The decision upheld the September 26, 2018 decision of the Tax Court of Canada, which was unequivocally in our favour for the 2003, 2005 and 2006 tax years and it sustains the corresponding decision on the cost award.

The court decisions are confirmation that our marketing and trading structure involving foreign subsidiaries and the related transfer pricing methodology used for certain intercompany uranium purchase and sale agreements were in full compliance with Canadian laws for the three years in question.

Cameco expects to receive a refund of $5.5 million plus interest for amounts paid on previous reassessments issued by CRA for 2003, 2005 and 2006, as well as the $10.25 million in legal fees and up to $17.9 million in disbursements for costs awarded to us by the courts. The matter is with the Minister of National Revenue to issue new reassessments for the 2003, 2005 and 2006 tax years in accordance with the decision.

The timing of receipt of these payments is uncertain.

Reassessments and remittances

While the court rulings pertain to the 2003, 2005 and 2006 tax years, given the strength of the decisions handed down, Cameco is confident the courts would reject any attempt by CRA to utilize the same or similar positions and arguments for the other tax years currently in dispute (2007 through 2014). For 2014, CRA has also proposed an alternative reassessing position that, if applied, would result in a less adverse, albeit still material, adjustment to our income taxable in Canada. This proposed new basis of reassessment is inconsistent with the methodology CRA has pursued for prior years and is being assessed. Our initial view is that this alternative methodology will not result in a materially different outcome for 2014.

CRA continues to hold approximately $785 million in cash and letters of credit that Cameco has been required to pay or otherwise secure for the 2007 through 2014 reassessments issued, tying up a significant portion of the company's financial capacity. Cameco believes CRA should return the full amount of this cash and security, given the overwhelming clarity of the court decisions received to date.

We will not be in a position to determine the definitive outcome of this dispute for any tax year other than 2003, 2005 and 2006 until such time as all reassessments have been issued advancing CRA's arguments and a final resolution is reached for that tax year. See our most recent annual MD&A for background about this dispute.

Caution about forward-looking information relating to our CRA tax dispute

This discussion of our expectations relating to our tax dispute with CRA and future tax reassessments by CRA is forward-looking information that is based upon the assumptions and subject to the material risks discussed under the heading Caution about forward-looking information beginning on page 1 and also on the more specific assumptions and risks listed below. Actual outcomes may vary significantly.

Assumptions

- about our entitlement and ability to receive the expected refunds and payments from CRA
- that courts will reach consistent decisions for subsequent tax years that are based upon similar positions and arguments
- that CRA will not successfully advance different positions and arguments that may lead to a different outcome for other tax years

Material risks that could cause actual results to differ materially

- that we will not receive the expected refunds and payments from CRA
- that courts may accept the same, similar or different positions and arguments for subsequent tax years to reach decisions that are adverse to us for other tax years
- that CRA will not accept that the court decisions for the years have been resolved in Cameco's favour and agree that they should apply to subsequent tax years
- that CRA will not return all or substantially all of the cash or security that has been paid or otherwise provided in a timely manner, or at
- an unfavorable determination of the officer of the Tax Court of the amount of our disbursements award

Canadian royalties

We pay royalties on the sale of all uranium extracted at our mines in the province of Saskatchewan.

Two types of royalties are paid:

- *Basic royalty*: This royalty is calculated as 5% of gross sales of uranium, less the Saskatchewan resource credit of 0.75%.
- *Profit royalty*: A 10% royalty is charged on profit up to and including $23.76/kg U_3O_8 ($10.78/lb) and a 15% royalty is charged on profit in excess of $23.76/kg U_3O_8. Profit is determined as revenue less certain operating, exploration, reclamation and capital costs. Both exploration and capital costs are deductible at the discretion of the producer.

As a resource corporation in Saskatchewan, we also pay a corporate resource surcharge of 3% of the value of resource sales.

Canadian income taxes

We are subject to federal income tax and provincial taxes in Saskatchewan and Ontario. Current income tax expense for 2020 was $7.97 million.

Our Ontario fuel services operations are eligible for a manufacturing and processing tax credit.

US taxes

Our subsidiaries in Wyoming and Nebraska pay severance taxes, property taxes and Ad Valorem taxes in those states. They incurred $1.12 million (US) in taxes in 2020.

Our US subsidiaries are subject to US federal and state income tax.

Kazakhstan taxes

Stability of the tax regime envisaged by a number of resource use contracts, including the resource use contract, was abolished with the entry into legal force of *the 2009 Tax Code* in 2009. Amendment No. 2 to the resource use contract, signed in 2009, by making applicable *the 2009 Tax Code*, eliminated the tax stabilization provision of the resource use contract.

A new tax code, effective as of January 1, 2018 (the 2018 Tax Code), provides that subsoil users pay all taxes and payments provided in the tax legislation effective as of the date of occurrence of tax obligations. Although under *the 2018 Tax Code* the main principles of subsoil users' taxation remain the same (for example, the rate of corporate income tax, 20%, and the rate of mineral extraction tax on uranium, 18.5%, have not changed), there were several important changes relevant to special taxes and payments of subsoil users as briefly described below:

- *The 2018 Tax Code* provides for the exemption of dividends payable by a subsoil user to a foreign shareholder from income tax withholding at the source of payment. This exemption was first introduced in 2016 and is maintained in the 2018 Tax Code. To obtain this exemption, a subsoil user must comply with a number of conditions. We believe the dividends that will be paid to us by JV Inkai will qualify for this exemption.
- *The Excess Profits Tax* has been abolished with respect to several categories of subsoil use contracts, including, "contracts for *exploration* and (or) production of solid minerals, subsoil water and (or) therapeutic muds provided that such contracts do not envisage extraction of other categories of minerals." Based on the subsoil code, we believe that for the purposes of the 2018 Tax Code, the term solid minerals includes uranium. However, there is a risk that the tax authorities may hold the opposite view.
- The commercial discovery bonus has been abolished.
- The rates of payment for the use of land by subsoil users is now expressly provided for in *the 2018 Tax Code*.

Risks that can affect our business

There are risks in every business.

The nature of our business means we face many kinds of risks and hazards – some that relate to the nuclear energy industry in general, and others that apply to specific properties, operations or planned operations. These risks could have a significant impact on our business, earnings, cash flows, financial condition, results of operations or prospects.

The following section describes the risks that are most material to our business. This is not, however, a complete list of the potential risks we face – there may be others we are not aware of, or risks we feel are not material today that could become material in the future. Our risk policy and process involves a broad, systematic approach to identifying, assessing, reporting and managing the significant risks we face in our business and operations. However, there is no assurance that we will be successful in preventing the harm that any of these risks could cause.

Please also see the risk discussion in our 2020 MD&A.

Types of risk

- Operational
- Financial
- Political

- Regulatory
- Environmental
- Legal and other
- Industry

1 – Operational risks

General operating risks and hazards

We are subject to a number of operational risks and hazards, many of which are beyond our control.

These risks and hazards include:

- environmental damage (including hazardous emissions from our refinery and conversion facilities, such as a release of UF_6 or a leak of anhydrous hydrogen fluoride used in the UF_6 conversion process)
- industrial and transportation accidents, which may involve radioactive or other hazardous materials
- labour shortages, disputes or strikes
- cost increases for labour, contracted or purchased materials, supplies and services
- shortages of, or interruptions in the supply of, required equipment, materials and supplies (including anhydrous hydrofluoric acid at our conversion facilities)
- transportation disruptions
- interruptions in the supply of electricity, water, and other utilities
- equipment failures
- catastrophic accident
- outbreak of illness (such as a pandemic like COVID-19)
- fires
- blockades or other acts of social or political activism
- regulatory constraints and non-compliance with laws and licences
- natural phenomena, such as inclement weather conditions, floods and earthquakes
- unusual or unexpected geological or hydrological conditions
- underground floods
- ground movement or cave-ins
- tailings pipeline or dam failures
- adverse mining conditions
- technological failure of mining methods.
- unanticipated consequences of our cost reduction strategies

The operational changes we have made at our uranium properties carry with them an increase in our operational risk.

There is no assurance that any of the above risks will not result in:

- damage to or destruction of our properties and facilities located on these properties
- personal injury or death
- environmental damage
- delays in, or interruptions of, our exploration or development activities or transportation and delivery of our products
- delays in, interruptions of, or decrease in production at our operations
- costs, expenses or monetary losses
- legal liability
- adverse government action

Any of these events could result in one or more of our operations becoming unprofitable, cause us not to receive an adequate return on invested capital, or have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Insurance coverage

We buy insurance to cover losses or liabilities arising from some of the operating risks and hazards listed above, as well as other business risks. We do not buy property insurance for our Rabbit Lake operation.

We believe we have a reasonable amount of coverage for the risks we choose to insure against. There is no assurance, however, that this coverage will be adequate, that it will continue to be available, that premiums will be economically feasible, or that we will maintain this coverage. Like other nuclear energy and mining companies, we do not have insurance coverage for certain environmental losses or liabilities and other risks, either because it is not available, or because it cannot be

purchased at a reasonable cost. We may also be required to increase the amount of our insurance coverage due to changes in the regulation of the nuclear industry.

We may suffer material losses from uninsurable or uninsured risks or insufficient insurance coverage, which could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Flooding at McArthur River and Cigar Lake

McArthur River and Cigar Lake have had water inflows.

McArthur River

The sandstone that overlays the deposit and metasedimentary basement rock is water-bearing and permeable, which results in significant water pressure at mining depths. Ground freezing at McArthur River generally prevents water from flowing into the area being mined and reduces, but does not fully eliminate, the risk of water inflows. There are technical challenges with the groundwater and rock properties.

We temporarily suspended production at our McArthur River mine in 2003 because increased water inflow from an area of collapsed rock in a new development area began to flood portions of the mine. This caused a major setback in the development of new mining zones. We also had a small water inflow in 2008 that did not impact production but did cause significant development delays.

Cigar Lake

The Cigar Lake deposit has hydro-geological characteristics and technical challenges that are similar to those at McArthur River. We have had three water inflows at Cigar Lake since 2006 (please see page 45 for details).

These water inflows have caused:

- a significant delay in development and production at the property
- a significant increase in capital costs
- the need to notify many of our customers of the interruption in planned uranium supply

There is no guarantee that there will not be water inflows at McArthur River or Cigar Lake in the future.

A water inflow could have a material and adverse effect on us, including:

- significant delays or interruptions in production or lower production
- significant delays or interruptions in mine development
- loss of mineral reserves
- a material increase in capital or operating costs

It could also have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects. The degree of impact depends on the magnitude, location and timing of the flood or water inflow. Floods and water inflows are generally not insurable.

Technical challenges at Cigar Lake and McArthur River

The unique nature of the deposits at Cigar Lake and McArthur River pose many technical challenges, including groundwater management, unstable rock properties, mine area transitioning, radiation protection, ore-handling and transport, and other mining-related challenges.

At Cigar Lake there may be some technical challenges which could affect our production plans, including, but not limited to, variable or unanticipated ground conditions, ground movement and cave-ins, water inflows, variable dilution and recovery values, chemical ore characteristics, performance of the water treatment system, mining productivity, and equipment reliability.

The areas being mined at Cigar Lake must meet specific ground freezing requirements before we begin jet boring. We have identified greater variation of the freeze rates of different geological formations encountered in the mine, based on information obtained through surface freeze drilling.

The Cigar Lake orebody contains elements of concern with respect to the water quality and the receiving environment. The distribution of elements such as arsenic, molybdenum, selenium and others is non-uniform throughout the orebody, and this can present challenges in attaining and maintaining the required effluent concentrations. There have been ongoing efforts to optimize the current water treatment process and water handling systems to ensure acceptable environmental performance, which is expected to avoid the need for additional capital upgrades and potential deferral of production.

Metallurgical test work has been used to design the McClean Lake mill circuits and associated modifications relevant to Cigar Lake ore. Samples used for metallurgical test work may not be representative of the deposit as a whole. There is a risk that elevated arsenic concentration in the mill feed may result in increased leaching circuit solution temperatures, potentially causing an increase in costs and reducing production.

If any of these technical challenges are not resolved, it could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Mine concentration risk

In 2020, production was suspended twice due to precautionary measures taken with the increasing risk posed by the COVID-19 pandemic.. As a result, Cigar Lake produced 10.1 million pounds (100% basis). Production resumed in September after the first suspension, however, in December, a second temporary suspension was announced. At the start of 2021, production remains temporarily suspended and as result, we have not forecast 2021 production. When Cigar Lake restarts, it will be our only mine in production that we control. Cigar Lake production is milled at the McClean Lake mill operated by Orano. There is a risk to our Cigar Lake production plan if McClean Lake is unable to mill Cigar Lake production.

We own a 40% interest in JV Inkai and have the right to purchase production from its Inkai mine (in 2021 purchases are expected to be 4.9 million pounds per year due to an adjustment to our purchase entitlement under the implementation agreement (see *2021 Production* on page 58).

Any disruption in or reduction in production from one or more of these mines could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Since 2018 this risk has increased, with the suspension of uranium production at McArthur River for an indeterminate duration.

McArthur River mine and Key Lake mill restart

The operational changes we have made, including the suspension of production in 2018 for an indeterminate duration and the accompanying workforce reduction, carry with them the risks of a delay in restarting operations and subsequent production disruption.

There is increased uncertainty regarding the timing of a successful restart of the operations and the associated costs the longer the mine and mill are on care and maintenance.

Information technology systems

We have become increasingly dependent on the availability and integrity of our electronic information and the reliability of our information technology systems and infrastructure. We rely on our information technology to process, transmit and store electronic information, including information we use to safely operate our assets.

Cyber attackers may use a range of techniques, from manipulating people to using sophisticated malicious software and hardware on a single or distributed basis. Often, advanced cyber attackers use a combination of techniques in their attempt to evade safeguards and delay discovery of a cyber-attack. We take measures to secure our infrastructure against potential cyber-attacks that may damage our infrastructure, systems and data. We have implemented a defense in depth security program to secure and protect our information and business operations including formalizing and implementing an information security policy, user awareness training, and introducing system security configuration standards and access control measures.

To reduce the risk of successful cyber-attacks and to reduce the impact of any successful cyber-attacks, we have implemented several layers of perimeter and endpoint security defense and response mechanisms, security event logging and monitoring of network activities, and developed a cyber incident response process.

Despite the measures put in place to protect our systems and data, there can be no assurance that these measures will be sufficient and that such security breaches will not occur or, if they do occur, that they will be adequately addressed in a timely manner.

Such a breach could result in unauthorized access to proprietary or sensitive information, destruction or corruption of data, disruption or delay in our business activities, and a negative effect on our reputation. Disruption of critical information technology services or breaches of information security could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Replacement of depleted reserves

Cigar Lake and Inkai mines are currently our main sources of mined uranium concentrates. Prior to the 2018 production suspension at McArthur River, this mine was also one of our main sources of mined uranium concentrates. We must replace mineral reserves depleted by production at these mines to maintain or increase our annual production levels over the long term. Reserves can be replaced by expanding known orebodies, locating new deposits or making acquisitions. Substantial expenditures are required to establish new mineral reserves. We may not be able to sustain or increase production if:

- we do not identify, discover or acquire other deposits
- we do not find extensions to existing ore bodies
- we do not convert resources to reserves at our mines or other projects

This could have a material and adverse effect on our ability to maintain production to or beyond currently contemplated mine lives, as well it could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Although we have successfully replenished reserves in the past through ongoing exploration, development and acquisition programs, there is no assurance that we will be successful in our current or future exploration, development or acquisition efforts.

Tailings management

Our Key Lake mill produces tailings. Managing these tailings is integral to uranium production.

If sloughing, regulatory, or other issues prevent us from maintaining or increasing the existing tailings management capacity at our Key Lake mill, or if these issues prevent Orano from maintaining or increasing tailing capacity at the McClean Lake mill, uranium production could be constrained and this could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Reliance on development and expansion projects to sustain production and fuel growth

Our ability to sustain and increase our uranium production depends in part on successfully developing new mines and/or expanding existing operations.

Several factors affect the economics and success of these projects:

- the attributes of the deposit, including its size and grade
- capital and operating costs
- metallurgical recoveries
- the accuracy of reserve estimates
- government regulations
- availability of appropriate infrastructure, particularly power and water
- future uranium prices
- the accuracy of feasibility studies
- acquiring surface or other land rights
- receiving necessary government permits

The effect of these factors, either alone or in combination, cannot be accurately predicted and their impact may result in our inability to extract uranium economically from any identified mineral resource.

Generally development projects have no operating history that can be used to estimate future cash flows. We have to invest a substantial amount of capital and time to develop a project and achieve commercial production. A change in costs or construction schedule can affect the economics of a project. Actual costs could increase significantly and economic returns

could be materially different from our estimates. We could fail to obtain the necessary governmental approvals for construction or operation. In any of these situations, a project might not proceed according to its original timing, or at all.

It is not unusual in the nuclear energy or mining industries for new or expanded operations to experience unexpected problems during start-up or ramp-up, resulting in delays, higher capital expenditures than anticipated and reductions in planned production. Production may be insufficient to recover exploration, development, and production costs. Delays, additional costs or reduced or insufficient production could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

There is no assurance we will be able to complete the development of new mines, or expand existing operations, economically or on a timely basis.

Aging facilities

Our Port Hope fuel services facilities, as well as our milling facilities in northern Saskatchewan are aging. This exposes us to a number of risks, including the potential for higher maintenance and operating costs, the need for significant capital expenditures to upgrade and refurbish these facilities, the potential for decreases or delays in, or interruption of, production, and the potential for environmental damage.

These risks could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Labour and employment

People are core to our business. We compete with other nuclear energy and mining companies for talented, quality people, and we may not always be able to fill positions on a timely basis. There is a limited pool of skilled people and competition is intense. We also experience employee turnover because of an aging workforce.

If we cannot attract and train qualified successors for our senior and operating positions, it could reduce the efficiency of our operations and have an adverse effect on our earnings, cash flows, financial condition or results of operations.

We have unionized employees and face the risk of strikes. At December 31, 2020, we had 1,931 employees (including employees of our subsidiaries). This includes 449 unionized employees at McArthur River, Key Lake, Port Hope and at CFM's facilities, who are members of four different locals of the United Steelworkers trade union.

Collective agreements

- A new collective agreement with the bargaining unit employees at our conversion facilities at Port Hope was reached in 2019. The new agreement expires on July 1, 2022.
- A new collective agreement with the bargaining unit employees at the McArthur River and Key Lake operations was reached in 2019. The new agreement expires on December 31, 2022.
- The collective agreement with the bargaining unit employees at CFM expires on June 1, 2021.

We cannot predict whether we will reach new collective agreements with these and other employees without a work stoppage or work interruptions while negotiations are underway.

From time to time, the mining or nuclear energy industry experiences a shortage of tradespeople and other skilled or experienced personnel globally, regionally or locally. We have a comprehensive strategy to attract and retain high caliber people, but there is no assurance this strategy will protect us from the effects of a labour shortage.

A lengthy work interruption or labour shortage could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Joint ventures

We participate in McArthur River, Key Lake, Cigar Lake, Inkai, Millennium, and GLE through joint ventures with third parties. Some of these joint ventures are unincorporated and some are incorporated (like JV Inkai and GLE). We have other joint ventures and may enter into more in the future.

There are risks associated with joint ventures, including:

- disagreement with a joint venture participant about how to develop, operate or finance a project

- a joint venture participant not complying with a joint venture agreement
- possible litigation between joint venture participants about joint venture matters
- the inability to exert control over decisions related to a joint venture we do not have a controlling interest in

The other owner of JV Inkai in Kazakhstan is majority owned by the state, so its actions and priorities could be dictated by government policies instead of commercial considerations.

These risks could result in legal liability, affect our ability to develop or operate a project under a joint venture, or have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Supplies and contractors

Supplies

We buy reagents and other production inputs and supplies from suppliers around the world. If there is a shortage of any of these supplies, including parts and equipment, or their costs rise significantly, it could limit or interrupt production or increase production costs. It could also have an adverse effect on our ability to carry out operations or have a material and adverse effect on our earnings, cash flows, financial condition or results of operations. We examine our entire supply chain as necessary to identify areas to diversify or add inventory where we may be vulnerable, but there is no assurance that we will be able to mitigate the risk.

Contractors

In some cases, we rely on a single contractor to provide us with reagents or other production inputs and supplies. Relying on a single contractor is a security of supply risk because we may not receive quality service, timely service, or service that otherwise meets our needs. These risks could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Uranium exploration is highly speculative

Uranium exploration is highly speculative and involves many risks, and few properties that are explored are ultimately developed into producing mines.

Even if mineralization is discovered, it can take several years in the initial phases of drilling until a production decision is possible, and the economic feasibility of developing an exploration property may change over time. We are required to make a substantial investment to establish proven and probable mineral reserves, to determine the optimal metallurgical process to extract minerals from the ore, to construct mining and processing facilities (in the case of new properties) and to extract and process the ore. We might abandon an exploration project because of poor results or because we feel that we cannot economically mine the mineralization.

Given these uncertainties, there is no assurance that our exploration activities will be successful and result in new reserves to expand or replace our current mineral reserves to maintain or increase our production.

Infrastructure

Mining, processing, development and exploration can only be successful with adequate infrastructure. Reliable roads, bridges, power sources and water supply are important factors that affect capital and operating costs and the ability to deliver products on a timely basis.

Our activities could be negatively affected if unusual weather, interference from communities, government or others, aging, sabotage or other causes affect the quality or reliability of the infrastructure.

A lack of adequate infrastructure could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

2 – Financial risks

Volatility and sensitivity to prices

We are concentrated in the nuclear fuel business, with our primary focus on uranium mining. As such, our earnings and cash flow are closely related to, and sensitive to, fluctuations in the long- and short-term market prices of U_3O_8 and uranium conversion services.

Many factors beyond our control affect these prices, including the following, among others:

- demand for nuclear power and the rate of construction of nuclear power plants
- forward contracts of U_3O_8 supplies for nuclear power plants
- accidents in any part of the world affecting the nuclear industry in a specific region or in general, such as the March 11, 2011 accident at Fukushima Dai-ichi Nuclear Power Plant in Japan
- terrorist attacks on uranium mining, transport or production or on nuclear power plants
- political and economic conditions in countries producing and buying uranium
- government laws, policies and decisions, including trade restrictions
- reprocessing of used reactor fuel and the re-enrichment of depleted uranium tails
- uranium from underfeeding generated using excess enrichment capacity
- sales of excess civilian and military inventories of uranium by governments and industry participants
- levels of uranium production and production costs
- significant production interruptions or delays in expansion plans or new mines going into production
- actions of investment and hedge funds in the uranium market
- transactions by speculators and producers
- prices of alternate sources to nuclear power, including oil, natural gas, coal, hydroelectric, solar and wind

We cannot predict the effect that any one or all of these factors will have on the prices of U_3O_8 and uranium conversion services.

Prices have fluctuated widely in the last several years, and there have been significant declines in U_3O_8 prices since 2011. We continue to experience difficult uranium markets, with prices being depressed, adversely impacting our financial condition and future prospects.

The table below shows the range in spot prices over the last five years.

Range of spot uranium prices
$US/lb of U_3O_8

	2016	2017	2018	2019	2020
High	$34.70	$24.50	$29.10	$28.90	$33.93
Low	18.00	19.62	21.00	24.05	24.63

Spot UF_6 conversion values
$US/kg U

High	$6.88	$5.93	$13.50	$22.13	$22.50
Low	5.93	4.50	6.13	13.75	21.50

The next table shows the range in term prices over the last five years.

Range of term uranium prices $US/lb of U_3O_8					
	2016	**2017**	**2018**	**2019**	**2020**
High	$44.00	$33.00	$32.00	$32.50	$36.00
Low	30.00	30.00	29.00	31.00	32.50
Term UF_6 conversion values $US/kg U					
High	$12.75	$14.50	$16.00	$18.13	$19.00
Low	12.25	13.00	12.25	15.50	18.00

Notes:

- Spot and term uranium prices are the average of prices published monthly by UxC, LLC (UxC) and from The Nuexco Exchange Value, published by TradeTech.
- Spot and term UF_6 conversion values are the average of the North American prices published monthly by UxC and from The Nuexco Conversion Value, published by TradeTech.

If prices for U_3O_8 or uranium conversion services fall below our own production costs for a sustained period, continued production or conversion at our sites may cease to be profitable. This would have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects. In 2016, we suspended production at Rabbit Lake and curtailed production at our US mines and in 2018 we suspended production for an indeterminate duration at our McArthur River and Key Lake operations.

Future declines in U_3O_8 prices could also delay or deter a decision to build a new mine or begin commercial production once constructed, or adversely affect our ability to finance our operations, as well necessitate a decision to cut production volumes further for an extended period of time. Any of these events could have an adverse effect on our future earnings, cash flows, financial condition, results of operations or prospects.

A sustained decline in U_3O_8 prices may require us to write down our mineral reserves and mineral resources, and any significant write downs may lead to material write downs of our investment in the mining properties affected, and an increase in charges for amortization, reclamation and closures.

In our uranium segment, we use a uranium contracting strategy as a way to reduce volatility in our future earnings and cash flow from exposure to fluctuations in uranium prices. It involves building a portfolio that consists of fixed-price contracts and market-related contracts with terms of 5 to 10 years (on average). This strategy can create opportunity losses because we may not benefit fully if there is a significant increase in U_3O_8 prices. This strategy also creates currency risk since we receive payment under the majority of our sales contracts in US dollars. In addition, this strategy has provided us with a measure of protection for our business through low uranium prices experienced since 2011. The annual average sales commitments over the next five years in our uranium segment is 16 million pounds, with commitment levels in 2021 and 2022 higher than in 2023 through 2025. As a result, we may become more exposed to fluctuations in uranium prices and this could have an adverse effect on our future earnings, cash flows, financial condition, results of operations or prospects. There is no assurance that our contracting strategy will be successful.

We make purchases on the spot market and under long-term agreements so we can put material into higher priced contracts. There are, however, risks associated with these purchases, including the risk of losses, which could have an adverse effect on our earnings, cash flows, financial condition and results of operations.

Reserve, resource, production, capital and operating cost estimates

Reserve and resource estimates are not precise

Our mineral reserves and resources are the foundation of our uranium mining operations and are fundamental to our success. They dictate how much uranium concentrate we can produce, and for how many years.

The uranium mineral reserves and resources reported in this AIF are estimates and are therefore subjective and subject to numerous inherent uncertainties. There is no assurance that the indicated tonnages or grades of uranium will be mined or milled or that we will receive the uranium price we used in estimating these reserves.

While we believe that the mineral reserve and resource estimates included in this AIF are well established and reflect management's best estimates, reserve and resource estimates, by their nature, are imprecise, do not reflect exact quantities and depend to a certain extent on statistical inferences that may ultimately prove unreliable. The tonnage and grade of reserves we actually recover, and rates of production from our current mineral reserves, may be less than the estimate of the reserves. Fluctuations in the market price of uranium and changing exchange rates and operating and capital costs, can make reserves uneconomic to mine in the future and ultimately cause us to reduce our reserves.

Short-term operating factors relating to mineral reserves, like the need for orderly development of orebodies or the processing of different ore grades, can also prompt us to modify reserve estimates or make reserves uneconomic to mine in the future, and can ultimately cause us to reduce our reserves. Reserves also may have to be re-estimated based on actual production experience.

Mineral resources may be upgraded to proven or probable mineral reserves if they demonstrate profitable recovery. Estimating reserves or resources is always affected by economic and technological factors, which can change over time, and experience in using a particular mining method. There is no assurance that any resource estimate will ultimately be upgraded to proven or probable reserves. If we do not obtain or maintain the necessary permits or government approvals, or there are changes to applicable legislation, it could cause us to reduce our reserves.

Mineral resource and reserve estimates can be uncertain because they are based on data from limited sampling and drilling and not from the entire orebody. As we gain more knowledge and understanding of an orebody, the resource and reserve estimate may change significantly, either positively or negatively.

The validity of resource and reserve estimates is highly dependent upon the accuracy of the assumptions upon which they are based and the quality of information available. These assumptions may prove to be inaccurate.

If our mineral reserve or resource estimates for our uranium properties are inaccurate or are reduced in the future, it could:

- require us to write down the value of a property
- result in lower uranium concentrate production than previously estimated
- result in lower revenue than previously estimated
- require us to incur increased capital or operating costs, or
- require us to operate mines or facilities unprofitably

This could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations or prospects.

Production, capital and operating cost estimates may be inaccurate

We prepare estimates of future production, capital costs and operating costs for particular operations, but there is no assurance we will achieve these estimates. Estimates of expected future production, capital costs and operating costs are inherently uncertain, particularly beyond one year, and could change materially over time.

Production, capital cost and operating cost estimates for:

- McArthur River assume that development, mining and production plans proceed as expected when restarted
- Cigar Lake assume that development, mining and production plans proceed as expected when restarted
- Inkai assume that development, mining and production plans proceed as expected

Production estimates for uranium refining, conversion and fuel manufacturing assume there is no disruption or reduction in supply from us or third-party sources, and that estimated rates and costs of processing are accurate, among other things.

Our actual production and costs may vary from estimates for a variety of reasons, including, among others:

- actual ore mined varying from estimated grade, tonnage, dilution, metallurgical and other characteristics
- mining and milling losses greater than planned
- labour shortages or strikes
- development, mining or production plans for Cigar Lake are delayed or do not succeed for any reason
- difficulties in milling Cigar Lake ore at McClean Lake

- short-term operating factors relating to the ore, such as the need for sequential development of orebodies and the processing of new or different ore grades
- risk and hazards associated with mining, milling, uranium refining, conversion and fuel manufacturing
- failure of mining methods and plans
- failure to obtain and maintain the necessary regulatory and participant approvals
- natural phenomena, such as inclement weather conditions or floods
- development, mining or production plans for Inkai are delayed or do not succeed for any reason
- delays, interruption or reduction in production or construction activities due to fires, failure or unavailability of critical equipment, shortage of supplies, underground floods, earthquakes, tailings dam failures, lack of tailings capacity, ground movements and cave-ins, outbreak of illness (such as a pandemic like COVID-19), unanticipated consequences of our cost reduction strategies, or other difficulties

Operating costs may also be affected by a variety of factors including: changing waste to ore ratios, ore grade metallurgy, labour costs, costs of supplies and services (for example, fuel and power), general inflationary pressures and currency exchange rates.

Failure to achieve production or cost estimates or a material increase in costs could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Currency fluctuations

Our earnings and cash flow may also be affected by fluctuations in the exchange rate between the Canadian and US dollar. Our sales of uranium and conversion services are mostly denominated in US dollars, while the production costs of both are denominated primarily in Canadian dollars. In addition, our purchases of uranium are primarily denominated in US dollars. Our consolidated financial statements are expressed in Canadian dollars.

Any fluctuations in the exchange rate between the US dollar and Canadian dollar can result in favourable and unfavourable foreign currency exposure, which can have a material effect on our future earnings, cash flows, financial condition or results of operations, as has been the case in the past. While we use a hedging program to limit any adverse effects of fluctuations in foreign exchange rates, there is no assurance that these hedges will eliminate the potential material negative impact of fluctuating exchange rates.

Customers

Our main business relates to the production and sale of uranium concentrates (our uranium segment) and providing uranium conversion services (our fuel services segment). We rely heavily on a small number of customers to purchase a significant portion of our uranium concentrates and conversion services. From 2021 through 2023, we expect:

- in our uranium segment, our five largest customers account for 49% of our contracted supply of U_3O_8
- in our fuel services segment, our five largest UF_6 conversion customers to account for 59% of our contracted supply of UF_6 conversion services

We are a supplier of UO_2 used by Canadian CANDU heavy water reactors. Our sales to our largest customer accounted for 39% of our UO_2 sales in 2020. In addition, revenues in 2020 from two customers of our uranium and conversion segments represented $458 million (2019 - 423 million) approximately 25% (2019 - 24%) of our total revenues from those segments.

Sales for the Bruce A and B reactors represent a substantial portion of our fuel manufacturing business.

If we lose any of our largest customers or if any of them curtails their purchases, it could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Counterparty and credit risk

Our business operations expose us to the risk of counterparties not meeting their contractual obligations, including:

- customers
- suppliers
- financial institutions and other counterparties to our derivative financial instruments and hedging arrangements relating to foreign currency exchange rates and interest rates

- financial institutions which hold our cash on deposit and through which we make short-term investments
- insurance providers

Credit risk is the risk that counterparties will not be able to pay for services provided under the terms of the contract. If a counterparty to any of our significant contracts defaults on a payment or other obligation or becomes insolvent, it could have a material and adverse effect on our cash flows, earnings, financial condition or results of operations.

Uranium products, conversion and fuel services

In our uranium and fuel services segments, we manage the credit risk of our customers for uranium products, conversion and fuel services by:

- monitoring their creditworthiness
- asking for pre-payment or another form of security if they pose an unacceptable level of credit risk

As of December 31, 2020, 95% of our forecast revenue under contract for the period 2021 to 2023 is with customers whose creditworthiness meets our standards for unsecured payment terms.

Other

We manage the credit risk on our derivative and hedging arrangements, cash deposits and insurance policies by dealing with financial institutions and insurers that meet our credit rating standards and by limiting our exposure to individual counterparties.

We diversify or increase inventory in our supply chain to limit our reliance on a single contractor, or limited number of contractors. We also monitor the creditworthiness of our suppliers to manage the risk of suppliers defaulting on delivery commitments.

There is no assurance, however, that we will be successful in our efforts to manage the risk of default or credit risk.

Liquidity and financing

Liquidity, or access to funds, is essential to our business.

Nuclear energy and mining are extremely capital intensive businesses, and companies need significant ongoing capital to maintain and improve existing operations, invest in large scale capital projects with long lead times, and manage uncertain development and permitting timelines and the volatility associated with fluctuating uranium and input prices.

We believe our current financial resources are sufficient to support the projects we have planned for 2021. We have a number of alternatives to fund future capital requirements, including using our operating cash flow, drawing on our cash balances, existing credit facilities, entering new credit facilities, and raising additional capital through debt or equity financings.

There is no assurance that we will obtain the financing we need, when we need it. Volatile uranium markets, a claim against us, an adverse court or arbitration decision, a significant event disrupting our business or operations, or other factors, may make it difficult or impossible for us to obtain debt or equity financing on favourable terms, or at all.

A lack of liquidity could have a material and adverse effect on our cash flows, earnings, financial condition or results of operations or prospects.

Operating and capital plans

We establish our operating and capital plans based on the information we have at the time, including expert opinions. There is no assurance, however, that these plans will not change as new information becomes available or there is a change in expert opinion.

Studies we use may contain estimated capital and operating costs, production and economic returns and other estimates that may be significantly different than actual results.

Internal controls

We use internal controls over financial reporting to provide reasonable assurance that we authorize transactions, safeguard assets against improper or unauthorized use, and record and report transactions properly. This gives us reasonable assurance that our financial reporting is reliable and prepared in accordance with IFRS.

It is impossible for any system to provide absolute assurance or guarantee reliability, regardless of how well it is designed or operated. We continue to evaluate our internal controls to identify areas for improvement and provide as much assurance as reasonably possible. We conduct an annual assessment of our internal controls over financial reporting and produce an attestation report of their effectiveness by our independent auditors to meet the requirement of Section 404 of the *Sarbanes-Oxley Act* of 2002.

If we do not satisfy the requirements for internal controls on an ongoing, timely basis, it could negatively affect investor confidence in our financial reporting, which could have an impact on our business and the trading price of our common shares. If a deficiency is identified and we do not introduce new or better controls, or have difficulty implementing them, it could harm our financial results or our ability to meet reporting obligations.

Carrying values of assets

We evaluate the carrying value of our assets to decide whether current events and circumstances indicate whether or not we can recover the carrying amount. This involves comparing the estimated fair value of our reporting units to their carrying values.

We base our fair value estimates on various assumptions, however, the actual fair values can be significantly different than the estimates. If we do not have any mitigating valuation factors or experience a decline in the fair value of our reporting units, it could ultimately result in an impairment charge.

3 – Political risks

Foreign investments and operations

We do business in countries and jurisdictions outside of Canada and the US, including the developing world. Doing business in these countries poses risks because they have different economic, cultural, regulatory and political environments. Future economic and political conditions could also cause the governments of these countries to change their policies on foreign investments, development and ownership of resources, or impose other restrictions, limitations or requirements that we may not foresee today.

Risks related to doing business in a foreign country can include:

- uncertain legal, political and economic environments
- strong governmental control and regulation
- lack of an independent judiciary
- war, terrorism and civil disturbances
- crime, corruption, making improper payments or providing benefits that may violate Canadian or US law or laws relating to foreign corrupt practices
- unexpected changes in governments and regulatory officials
- uncertainty or disputes as to the authority of regulatory officials
- changes in a country's laws or policies, including those related to mineral tenure, mining, imports, exports, tax, duties and currency
- cancellation or renegotiation of permits or contracts
- exposure to global public health issues (for example, an outbreak of illness like COVID-19)
- disruption in transportation between jurisdictions
- royalty and tax increases or other claims by government entities, including retroactive claims
- expropriation and nationalization
- delays in obtaining the necessary permits or the inability to obtain or maintain them
- currency fluctuations
- high inflation
- joint venture participants falling out of political favour
- restrictions on local operating companies selling their production offshore
- exchange or capital controls, including restrictions on local operating companies holding US dollars or other foreign currencies in offshore bank accounts
- import and export regulations, including restrictions on the export of uranium
- limitations on the repatriation of earnings
- exposure to different employment practices and labour laws
- increased financing costs

If one or more of these risks occur, it could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

We also risk being at a competitive disadvantage to companies from countries that are not subject to Canadian or US law or laws relating to foreign corrupt practices.

We enter into joint venture arrangements with local participants from time to time to mitigate political risk. There is no assurance that these joint ventures will mitigate our political risk in a foreign jurisdiction.

We do not have political risk insurance for our foreign investments, including our investment in JV Inkai.

Kazakhstan

Kazakhstan declared itself independent in 1991 after the dissolution of the Soviet Union. Our investment in JV Inkai is subject to the greater risks associated with doing business in developing countries, which have significant potential for social, economic, political, legal and fiscal instability. Kazakhstan laws and regulations are complex and still developing and their application can be difficult to predict. The other owner of JV Inkai is KAP, an entity majority owned by the government of Kazakhstan. We have entered into agreements with JV Inkai and KAP intended to mitigate political risk. Among other things, this risk includes the imposition of governmental laws or policies that could restrict or hinder JV Inkai paying us dividends, or selling us our share of JV Inkai production, or that impose discriminatory taxes or currency controls on these transactions. The restructuring of JV Inkai, which took effect January 1, 2018, was undertaken with the objective to better align the interests of Cameco and KAP and includes a governance framework that provides for protection for us as a minority owner of JV Inkai. While we believe the political risk related to our investment in JV Inkai is manageable, there can be no assurance we will be successful in managing this risk.

Complex legal regime

JV Inkai has a contract with the Kazakhstan government and was granted licences to conduct mining and exploration activities there. The licensing regime has long been abolished but licences issued before such abolishment remain valid. JV Inkai's ability to conduct these activities, however, depends on the regulator's view on whether its licences are still valid and other government approvals being granted.

To maintain and increase production at Inkai, JV Inkai needs ongoing support, agreement and co-operation from Kazatomprom and from the Kazakhstan government. Kazakhstan foreign investment, environmental and mining laws and regulations are complex and still developing, so it can be difficult to predict how they will be applied. JV Inkai's best efforts may therefore not always reflect full compliance with the law, and non-compliance can lead to an outcome that is disproportionate to the nature of the breach.

Subsoil law

Amendments to the old subsoil law in 2007 allow the government to reopen resource use contracts in certain circumstances, and in 2009, the Kazakhstan government passed a resolution that classified 231 blocks, including Inkai's blocks, as strategic deposits. The Kazakhstan government re-approved this list in 2011 and in 2018 and Inkai's blocks remain on it. These actions may increase the government's ability to expropriate JV Inkai's properties in certain situations. In 2009, at the request of the Kazakhstan government, JV Inkai amended the resource use contract to adopt a new tax code, even though the government had agreed to tax stabilization provisions in the original contract.

The previous subsoil use law which went into effect in 2010 weakened the stabilization guarantee of the prior law and the current subsoil code contains a significant number of provisions which apply retrospectively. These developments reflect increased political risk in Kazakhstan.

Nationalization

Industries like mineral production are regarded as nationally or strategically important, but there is no assurance they will not be expropriated or nationalized. Government policy can change to discourage foreign investment and nationalize mineral production, or the government can implement new limitations, restrictions or requirements.

There is no assurance that our investment in Kazakhstan will not be nationalized, taken over or confiscated by any authority or body, whether the action is legitimate or not. While there are provisions for compensation and reimbursement of losses to

investors under these circumstances, there is no assurance that these provisions would restore the value of our original investment or fully compensate us for the investment loss. This could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Government regulations

Our investment in Kazakhstan may be affected in varying degrees by government regulations restricting production, price controls, export controls, currency controls, taxes and royalties, expropriation of property, environmental, mining and safety legislation, and annual fees to maintain mineral properties in good standing. Kazakhstan regulatory authorities exercise considerable discretion in the interpretation and enforcement of local laws and regulations. At times, authorities use this discretion to enforce rights in a manner that is inconsistent with relevant legislation, particularly with respect to licence issuance, renewal and compliance. Requirements imposed by regulatory authorities may be costly and time-consuming and may result in delays in the commencement, continuation or expansion of production operations. Regulatory authorities may impose more onerous requirements and obligations than those currently in effect.

There is no assurance that the laws in Kazakhstan which provide protection to investments, including foreign investments, will not be amended or abolished, or that these existing laws will be enforced or interpreted to provide adequate protection against any or all of the risks described above. There is also no assurance that the resource use contract can be enforced or will provide adequate protection against any or all of the risks described above.

See pages 59 to 62 for a more detailed discussion of the regulatory and political environment in Kazakhstan.

Presidential succession

The President of Kazakhstan, Nursultan Nazarbayev, was in office since Kazakhstan became an independent republic in 1991 until he resigned on March 20, 2019. He was succeeded by Kassym-Jomart Tokayev. As a consequence of this development, Kazakhstan's political situation and economy could become unstable and the investment climate deteriorate, which could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Australia

Western Australian Government's uranium policy

State governments in Australia have prohibited uranium mining or uranium exploration from time to time. From 2002 to 2008, uranium mining was banned in Western Australia, where our Kintyre and Yeelirrie projects are located. In 2017, the Western Australian state government announced a ban on the grant of future uranium mining leases and that it would not prevent the progress of four uranium projects that had received approval from the previous government, two of the approved projects being Kintyre and Yeelirrie.

The approval received for Kintyre from the prior state government required substantial commencement of the project by March 2020, being within five years of the grant of the approval, and this was not achieved. The current government declined to grant us an extension to achieve it. In the future, we can apply for an extension of time to achieve substantial commencement of the project. If granted by a future government we can commence the Kintyre project, provided we have all other required regulatory approvals.

The approval received for Yeelirrie from the prior state government requires substantial commencement of the project by January 2022 unless an extension is granted by the state government for us to satisfy this condition. In light of the 2017 uranium mining ban by the state government and its decision not to grant an extension for the Kintyre project approval, there is a risk that the current government could decline a request by us for an extension to satisfy this condition. If we make this request and it is declined, in the future we can again apply for an extension of time to achieve substantial commencement of the project. If granted by a future government we can commence the Yeelirrie project, provided we have all other required regulatory approvals.

A prohibition or restriction on uranium exploration or mining in the future that interferes with the development of Kintyre or Yeelirrie could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

4 – Regulatory risks

Government laws and regulation

Our business activities are subject to extensive and complex laws and regulations.

There are laws and regulations for uranium exploration, development, mining, milling, refining, conversion, fuel manufacturing, transport, exports, imports, taxes and royalties, labour standards, occupational health, waste disposal, protection and remediation of the environment, decommissioning and reclamation, safety, hazardous substances, emergency response, land use, water use and other matters.

Significant financial and management resources are required to comply with these laws and regulations, and this will likely continue as laws and government regulations become more and more strict. We are unable to predict the ultimate cost of compliance or its effect on our business because legal requirements change frequently, are subject to interpretation and may be enforced to varying degrees.

Some of our operations are regulated by government agencies that exercise discretionary powers conferred by statute. If these agencies do not apply their discretionary authority consistently, then we may not be able to predict the ultimate cost of complying with these requirements or their effect on operations.

Existing, new or changing laws, regulations and standards of regulatory enforcement could increase costs, lower, delay or interrupt production or affect decisions about whether to continue with existing operations or development projects. This could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

If we do not comply with the laws and regulations that apply to our business, or it is alleged we do not comply then regulatory or judicial authorities could take any number of enforcement actions, including:

- corrective measures that require us to increase capital or operating expenditures or install additional equipment
- remedial actions that result in temporary or permanent shut-down or reduction of our operations
- requirements that we compensate communities that suffer loss or damage because of our activities
- civil or criminal fines or penalties

Legal and political circumstances are different outside North America, which can change the nature of regulatory risks in foreign jurisdictions when compared with regulatory risks associated with operations in North America.

Permitting and licensing

All mining projects and processing facilities around the world require government approvals, licences or permits, and operations and development projects in Canada, the US, Kazakhstan, and Australia are no exception. Depending on the location of the project, this can be a complex and time-consuming process involving multiple government agencies.

Many approvals, licences and permits have to be obtained from the appropriate regulatory authorities and maintained, but there is no assurance that they will grant or renew them, approve any additional licences or permits for potential changes to operations in the future or in response to new legislation, or that they will process any of the applications on a timely basis. Stakeholders, like environmental groups, non-government organizations (NGOs) and Indigenous groups claiming rights to traditional lands, can raise legal challenges. A significant delay in obtaining or renewing the necessary approvals, licences or permits, or failure to receive the necessary approvals, licences or permits, could interrupt operations or prevent them from operating, which could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

5 – Environmental risks

Complex legislation and environmental, health and safety risk

Our activities have an impact on the environment, so our operations are subject to extensive and complex laws and regulations relating to the protection of the environment, employee health and safety and waste management. We also face risks that are unique to uranium mining, processing and fuel manufacturing. Laws to protect the environment as well as employee health and safety are becoming more stringent for members of the nuclear energy industry.

Our facilities operate under various operating and environmental approvals, licences and permits that have conditions that we must meet as part of our regular business activities. In a number of instances, our right to continue operating these facilities depends on our compliance with these conditions.

Our ability to obtain approvals, licences and permits, maintain them, and successfully develop and operate our facilities may be adversely affected by the real or perceived impact of our activities on the environment and human health and safety at our development projects and operations and in the surrounding communities. The real or perceived impact of activities of other nuclear energy or mining companies can also have an adverse effect on our ability to secure and maintain approvals, licences and permits.

Our compliance with laws and regulations relating to the protection of the environment, employee health and safety, and waste management requires significant expenditures and can cause delays in production or project development. This has been the case in the past and may be so in the future. Failing to comply can lead to fines and penalties, temporary or permanent suspension of development and operational activities, clean-up costs, damages and the loss of, or the inability to obtain, key approvals, permits and licences. We are exposed to these potential liabilities for our current development projects and operations as well as operations that have been closed. There is no assurance that we have been or will be in full compliance with all of these laws and regulations, or with all the necessary approvals, permits and licences.

Laws and regulations on the environment, employee health and safety, and waste management continue to evolve and this can create significant uncertainty around the environmental, employee health and safety, and waste management costs we incur. If new legislation and regulations are introduced in the future, they could lead to additional capital and operating costs, restrictions and delays at existing operations or development projects, and the extent of any of these possible changes cannot be predicted in a meaningful way.

Environmental and regulatory review is a long and complex process that can delay the opening, modification or expansion of a mine, conversion facility or refining facility, or extend decommissioning activities at a closed mine or other facility.

Our ability to foster and maintain the support of local communities and governments for our development projects and operations is critical to the conduct and growth of our business, and we do this by engaging in dialogue and consulting with them about our activities and the social and economic benefits they will generate. There is no assurance, however, that this support can be fostered or maintained. There is an increasing level of public concern relating to the perceived effect that nuclear energy and mining activities have on the environment and communities affected by the activities. Some NGOs are vocal critics of the nuclear energy and mining industries, and oppose globalization, nuclear energy and resource development. Adverse publicity generated by these NGOs or others, related to the nuclear energy industry or the extractive industry in general, or our operations in particular, could have an adverse effect on our reputation or financial condition and may affect our relationship with the communities we operate in. While we are committed to operating in a socially responsible way, there is no guarantee that our efforts will mitigate this risk.

These risks could delay or interrupt our operations or project development activities, delay, interrupt or lower our production and could have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Changes in climate conditions and regulatory regime could adversely affect our business and operations

A number of government or governmental bodies have introduced or are contemplating regulatory changes in response to the potential impacts of climate change. Where legislation already exists, regulations relating to emissions levels and energy efficiency is becoming more stringent. The changes in legislation and regulation will likely increase our compliance costs.

In addition, the physical risks of climate change may also have an adverse effect at some of our operations. These may include extreme weather events such as floods, droughts, forest and bush fires, and extreme storms. These physical impacts could require us to suspend or reduce production or close operations and could prevent us from pursuing expansion opportunities. These effects may adversely impact the cost, production and financial performance of our operations.

We can provide no assurance that efforts to mitigate the risks of climate change will be effective and that physical risks of climate change will not have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Decommissioning and reclamation obligations

Environmental regulators are demanding more and more financial assurances so that the parties involved, and not the government, bear the cost of decommissioning and reclaiming sites. All of our North American operations have financial assurances in place in connection with our preliminary plans for decommissioning of the sites.

We have filed conceptual decommissioning plans for some of our properties with the regulators. We review these plans for Canadian facilities every five years, or at the time of an amendment or renewal of an operating licence. Plans for our US sites are reviewed every year. Regulators review our conceptual plans on a regular basis. As the sites approach or go into decommissioning, regulators review the detailed decommissioning plans, and this can lead to additional requirements, costs and financial assurances. It is not possible to predict what level of decommissioning and reclamation and financial assurances regulators may require in the future.

If we must comply with additional regulations, or the actual cost of decommissioning and reclamation in the future is significantly higher than our current estimates, this could have a material and adverse effect on our future earnings, cash flows, financial condition or results of operations.

6 – Legal and other risks

Litigation

We are currently subject to litigation or threats of litigation and may be involved in disputes with other parties in the future that result in litigation. This litigation may involve joint venture participants, suppliers, customers, governments, regulators, tax authorities or other persons.

We cannot accurately predict the outcome of any litigation. The costs of defending or settling such litigation can be significant. If a dispute cannot be resolved favourably, it may have a material and adverse effect on our earnings, cash flows, financial condition, results of operations or prospects. See *Legal proceedings* on page 116 for more information.

We are currently involved in a tax dispute with CRA and in 2017 settled a dispute with the IRS. See *Transfer pricing dispute* at pages 93 and 94. In addition, we are subject to the risk that CRA, the IRS or other tax authorities in other countries may seek to challenge or reassess our income tax returns on the same or a different basis for the same periods or other previously reported periods. Substantial success for CRA in the tax dispute would be material, and other unfavourable outcomes of challenges or reassessments initiated by the IRS or tax authorities in other countries could be material, to our cash flows, financial condition, results of operations or prospects.

Public health issues and disease outbreaks

Our business and results of operations are subject to uncertainties arising out of public health issues. A local, regional, national or international outbreak of an illness or contagious disease, such as a pandemic like COVID-19, could result in a general or acute decline in economic activity in the regions where our customers reside, where we operate in or hold assets in, production and transport delays and general business interruptions. In addition, these risks could result in an increase in the cost of supplies and equipment, delays from difficulties in obtaining export or import licenses, tariffs and other barriers and restrictions, a decrease in the willingness of the general population to travel, staff shortages, mobility restrictions and other quarantine measures, supply shortages, increased government regulation, and the quarantine or contamination of one or more of our operating sites or buildings. Any such events could have a material and adverse impact on our business, financial condition and results of operations.

In 2020, our operations were impacted as a result of precautionary production suspensions due to the COVID-19 pandemic. In March, we suspended production at Cigar Lake, and resumed production in September, and in December, we temporarily suspended production for a second time. Currently, the Cigar Lake mine remains in care and maintenance. In April, production was temporarily suspended at our Blind River refinery and our Port Hope UF_6 conversion plant for about four weeks.

We face a number of risks as a result of the temporary suspension of production at the Cigar Lake operation, and other potential implications of the COVID-19 pandemic, including: the possibility that the operation may need to remain in care and maintenance for an extended period for any reason, including regulatory compliance or delays in the resumption of Cigar Lake production, or milling at the McClean Lake mill; the possibility that we may not be able to continue operating Cameco's fuel

services division in Ontario due to safety, regulatory or other concerns arising as a result of COVID-19; the possibility that we may be unable to manage the current uncertain environment resulting from COVID-19 and its related operational, safety, marketing or financial risks successfully, including the risk of significant disruption to our workforce, required supplies or services, ability to produce, transport or deliver uranium; the risk of safety incidents; the risk that the impact of COVID-19, including without limitation the suspension of production at the Cigar Lake operation, or any required suspension of the operations at Cameco's fuel services division in Ontario, will have a materially adverse impact on our business and operations generally.

Legal rights

If a dispute arises at our foreign operations, it may be under the exclusive jurisdiction of foreign courts, or we may not be successful in subjecting foreign persons to the jurisdiction of courts in Canada. We could also be hindered or prevented from enforcing our rights relating to a government entity or instrumentality because of the doctrine of sovereign immunity.

The dispute resolution provision of JV Inkai's resource use contract stipulates that any dispute between the parties is to be submitted to international arbitration. There is no assurance, however, that a particular government entity or instrumentality will either comply with the provisions of this or any other agreements, or voluntarily submit a dispute to arbitration. If we are unable to enforce our rights under these agreements, this could have a material and adverse effect on our earnings, cash flows, financial condition or results of operations.

Defects in title

We have investigated our rights to explore and exploit all of our material properties, and those rights are in good standing to the best of our knowledge. There is no assurance, however, that these rights will not be revoked or significantly altered to our detriment, or that our rights will not be challenged by third parties, including local governments and by Indigenous groups, such as First Nations and Métis in Canada.

Indigenous rights, title claims and consultation

Managing Indigenous rights, title claims and consultation is an integral part of our exploration, development and mining activities, and we are committed to managing them effectively. We have signed agreements with the communities closest to our operations to help mitigate the risks associated with potential Indigenous land or consultation claims that could impact our operations. These agreements provide substantial socioeconomic opportunities to these communities and also provide us with support for our operations from those communities. There is no assurance, however, that we will not face material adverse consequences because of the legal and factual uncertainties inherent with Indigenous rights, title claims and consultation.

Saskatchewan

Exploration, development, mining, milling and decommissioning activities at our various properties in Saskatchewan may be affected by claims by Indigenous groups, and related consultation issues.

We also face similar issues with our activities in other provinces and countries.

It is generally acknowledged that under historical treaties, First Nations in northern Saskatchewan ceded title to most traditional lands in the region in exchange for treaty benefits and reserve lands. Some First Nations in Saskatchewan, however, assert that their treaties are not an accurate record of their agreement with the Canadian government and that they did not cede title to the minerals when they ceded title to their traditional lands.

Fuel fabrication defects and product liability

We fabricate nuclear fuel bundles, other reactor components and monitoring equipment. These products are complex and may have defects that can be detected at any point in their product life cycle. Flaws in the products could materially and adversely affect our reputation, which could result in a significant cost to us and have a negative effect on our ability to sell our products in the future. We could also incur substantial costs to correct any product errors, which could have an adverse effect on our operating margins. While we have introduced significant automation to limit the potential for quality issues, there is no guarantee that we will detect all defects or errors in our products.

It is possible that some customers may demand compensation if we deliver defective products. If there are a significant number of product defects, it could have a significant impact on our operating results.

Agreements with some customers may include specific terms limiting our liability to customers. Even if there are limited liability provisions in place, existing or future laws, or unfavourable judicial decisions may make them ineffective. We have not experienced any material product liability claims to date, however, they could occur in the future because of the nature of nuclear fuel products. A successful product liability claim could result in significant monetary liability and could seriously disrupt our fuel manufacturing business and the company overall.

7 – Industry risks

Major nuclear incident risk

Due to their inherent materiality, major accidents in the nuclear industry, and most notably at nuclear power plants, such as the Chernobyl Nuclear Power Plant accident of 1986 in the Soviet Union and the more recent accident in 2011 at the Fukushima-Daiichi nuclear power plant in Japan, garner significant worldwide attention and spawn global public sentiment favouring more significant regulation for nuclear power generation. For example, following the accident at Fukushima, certain countries, including Germany, Switzerland, and Belgium, have announced their intention to phase out nuclear power. As of December 31, 2020, Germany had shut down 11 of its 17 nuclear reactors, and is implementing measures to close the remaining reactors by 2022. Prior to the accident in 2011 at Fukushima, Japan had 54 nuclear reactors, which represented 12% of global nuclear generating capacity. As of December 31, 2020, Japan has restarted nine reactors. The effect of the 2011 accident at the Fukushima-Daiichi nuclear power plant on the uranium market has had a material and adverse effect on our earnings, cash flows, financial condition, results of operations and prospects.

Any new major accident at a nuclear power plant, or a similar disaster related to the nuclear industry could, at a minimum, lead to more countries adopting increasingly stringent safety regulations in the nuclear industry, strengthen the public sentiment for phasing-out nuclear power and reverse or halt the recent positive trend towards nuclear power. It may not be ruled out that the reaction to any such major accident would be significantly more severe, resulting in a rapid global abandonment of nuclear power generation as a whole restrained principally by the actual local ability to migrate to a non-nuclear power source. Any such event may result in, among other things, a significant reduction in the demand for uranium and the resulting decline in the price of uranium.

Any new major accident at a nuclear power plant, or a similar disaster related to the nuclear industry, would have a material and adverse effect on our earnings, cash flows, financial condition, results of operations and prospects.

Public acceptance of nuclear energy is uncertain

Maintaining the demand for uranium at current levels and achieving any growth in demand in the future will depend on society's acceptance of nuclear technology as a means of generating electricity. Because of unique political, technological, and environmental factors affecting the nuclear industry, including reinvigorated public attention following the 2011 accident at Fukushima in Japan, the industry is subject to public opinion risks that could have a material adverse impact on the demand for nuclear power and increase the regulation of the nuclear power industry.

A major shift in public opinion, whether due to an accident at a nuclear power plant anywhere in the world or otherwise, could impact the continuing acceptance of nuclear energy and the future prospects for nuclear power generation, which could have a material adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

In addition, we may be impacted by changes in regulation and public perception of the safety of nuclear power plants, which could adversely affect the construction of new plants, the re-licensing of existing plants, the demand for uranium and the future prospects for nuclear generation. These events could have a material adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Industry concentration risk

We are concentrated in the nuclear fuel business, with our primary focus on uranium mining. As such, we are sensitive to changes in, and our performance and future prospects, will depend to a greater extent on, the overall condition of the nuclear energy industry and the public acceptance of nuclear energy. We may be susceptible to increased risks, compared to diversified metals trading companies or diversified mining companies, as a result of the fact that our operations are concentrated in the nuclear fuel business.

Because we derive the majority of our revenues from sales of nuclear fuel, our results of operations and cash flows will fluctuate as the price of nuclear fuel increases or decreases. See "*Financial risks – Volatility and sensitivity to prices*." A sustained period of declining nuclear fuel prices would materially and adversely affect our results of operations and cash flows. Additionally, if the market price for nuclear fuel declines or remains at relatively low levels for a sustained period of time, we may have to revise our operating plans, including reducing operating costs and capital expenditures, terminating or suspending mining operations at one or more of our properties and discontinuing certain exploration and development plans. We have been impacted by the sustained period of low prices, implementing cost reduction measures, in 2016 suspending production at Rabbit Lake and curtailing production from our US ISR Operations, and in 2018 suspending production for an indeterminate duration from our McArthur River and Key Lake operations, and reducing our dividend. In a sustained period of low prices, we may be unable to decrease our costs in an amount sufficient to offset reductions in revenues and may incur losses.

Alternate sources of energy

Nuclear energy competes with other sources of energy like oil, natural gas, coal, hydroelectric, solar and wind. These sources are somewhat interchangeable with nuclear energy, particularly over the longer term and sustained lower prices for these energy sources may result in lower demand for nuclear energy and consequently reduction in demand for uranium and uranium prices.

A major shift in the power generation industry towards non-nuclear power or non-uranium based sources of nuclear energy, whether due to lower cost of power generation associated with such sources, government policy decisions, or otherwise, could have a material adverse effect on our earnings, cash flows, financial condition, results of operations or prospects.

Industry competition and international trade restrictions

The international uranium industry, which includes supplying uranium concentrates and providing uranium conversion services, is highly competitive. We directly compete with a relatively small number of uranium mining and enrichment companies in the world. Their supply may come from mining uranium, excess inventories, including inventories made available from decommissioning of nuclear weapons, reprocessed uranium and plutonium derived from used reactor fuel, and from using excess enrichment capacity to re-enrich depleted uranium tails and generate uranium from underfeeding. The number of potential end customers for our uranium products, being utility companies, is relatively scarce.

The supply of uranium is affected by a number of international trade agreements and government legislation and policies. These and any similar future agreements, governmental legislation, policies or trade restrictions are beyond our control and may affect the supply of uranium available in the US, Europe and Asia, the world's largest markets for uranium.

For conversion services, we compete with a small number of primary commercial suppliers. In addition, we compete with the availability of additional supplies from excess inventories, including those from decommissioning nuclear weapons and using excess enrichment capacity to re-enrich depleted uranium tails.

Any political decisions about the uranium market can affect our future prospects. There is no assurance that the US or other governments will not enact legislation or take other actions that restricts who can buy or supply uranium or facilitates a new supply of uranium.

Competition for sources of uranium

There is competition for mineral acquisition opportunities throughout the world, so we may not be able to acquire rights to explore additional attractive uranium mining properties on terms that we consider acceptable.

There is no assurance that we will acquire any interest in additional uranium properties, or buy additional uranium concentrates from the decommissioning of nuclear weapons or the release of excess government inventory, that will result in additional uranium concentrates we can sell. If we are not able to acquire these interests or rights, it could have a material and adverse effect on our future earnings, cash flows, financial condition or results of operations. Even if we do acquire these interests or rights, the resulting business arrangements may ultimately prove not to be beneficial.

Deregulation of the electrical utility industry

A significant part of our future prospects is directly linked to developments in the global electrical utility industry.

Deregulation of the utility industry, particularly in the US, Japan and Europe, could affect the market for nuclear and other fuels and could lead to the premature shutdown of some nuclear reactors.

Deregulation has resulted in utilities improving the performance of their reactors to record capacity, but there is no assurance this trend will continue.

Deregulation can have a material and adverse effect on our future earnings, cash flows, financial condition or results of operations.

Legal proceedings

We discuss any legal proceedings that we or our subsidiaries are a party, as at December 31, 2020, in note 21 to the 2020 financial statements.

We are currently involved in a dispute with CRA. See *Transfer pricing dispute* at page 93 for more details about this dispute.

Investor information

Share capital

Our authorized share capital consists of:

- first preferred shares
- second preferred shares
- common shares
- one class B share

Preferred shares

We do not currently have any preferred shares outstanding, but we can issue an unlimited number of first preferred or second preferred shares with no nominal or par value, in one or more series. The board must approve the number of shares, and the designation, rights, privileges, restrictions and conditions attached to each series of first or second preferred shares.

Preferred shares can carry voting rights, and they rank ahead of common shares and the class B share for receiving dividends and distributing assets if the company is liquidated, dissolved or wound up.

First preferred shares

Each series of first preferred shares ranks equally with the shares of other series of first preferred shares. First preferred shares rank ahead of second preferred shares, common shares and the class B share.

Second preferred shares

Each series of second preferred shares ranks equally with the shares of other series of second preferred shares. Second preferred shares rank after first preferred shares and ahead of common shares and the class B share.

Common shares

We can issue an unlimited number of common shares with no nominal or par value. Only holders of common shares have full voting rights in Cameco.

If you hold our common shares, you are entitled to vote on all matters that are to be voted on at any shareholder meeting, other than meetings that are only for holders of another class or series of shares. Each Cameco share you own represents one vote, except where noted below. As a holder of common shares, you are also entitled to receive any dividends that are declared by our board of directors.

Common shares rank after preferred shares with respect to the payment of dividends and the distribution of assets if the company is liquidated, dissolved or wound up, or any other distribution of our assets among our shareholders if we were to wind up our affairs.

Holders of our common shares have no pre-emptive, redemption, purchase or conversion rights for these shares. Except as described under *Ownership and voting restrictions*, non-residents of Canada who hold common shares have the same rights as shareholders who are residents of Canada.

As at December 31, 2020, we had 396,262,741 common shares outstanding. These were fully paid and non-assessable.

As of March 1, 2021, there were 4,448,740 stock options outstanding to acquire common shares of Cameco under the company's stock option plan with exercise prices ranging from $11.32 to $26.81.

In 2020 and 2021, no stock options were granted.

Our articles of incorporation have provisions that restrict the issue, transfer and ownership of voting securities of Cameco (see *Ownership and voting restrictions* below).

Class B shares

The province of Saskatchewan holds our one class B share outstanding. It is fully paid and non-assessable.

The one class B share entitles the province to receive notices of and attend all meetings of shareholders, for any class or series.

The class B shareholder can only vote at a meeting of class B shareholders, and only as a class if there is a proposal to:

- amend Part 1 of Schedule B of the articles, which states that:
  - Cameco's registered office and head office operations must be in Saskatchewan
  - the vice-chair of the board, chief executive officer (CEO), president, chief financial officer (CFO) and generally all of the senior officers (vice-presidents and above) must live in Saskatchewan
  - all annual meetings of shareholders must be held in Saskatchewan
  - amalgamation, if it would require an amendment to Part 1 of Schedule B of the articles, or
  - an amendment to the articles in a way that would change the rights of class B shareholders

The class B shareholder can request and receive information from us to determine whether or not we are complying with Part 1 of Schedule B of the articles.

The class B shareholder does not have the right to receive any dividends declared by Cameco. The class B share ranks after first and second preferred shares, but equally with common shareholders, with respect to the distribution of assets if the company is liquidated, dissolved or wound up. The class B shareholder has no pre-emptive, redemption, purchase or conversion rights with its class B share, and the share cannot be transferred.

Ownership and voting restrictions

The federal government established ownership restrictions when Cameco was formed so we would remain Canadian controlled. There are restrictions on issuing, transferring and owning Cameco common shares whether you own the shares as a registered shareholder, hold them beneficially or control your investment interest in Cameco directly or indirectly. These are described in the *Eldorado Nuclear Limited Reorganization and Divestiture Act (Canada*) (ENL Reorganization Act) and our company articles.

The following is a summary of the restrictions listed in our company articles.

Residents

A Canadian resident, either individually or together with associates, cannot hold, beneficially own or control shares or other Cameco securities, directly or indirectly, representing more than 25% of the votes that can be cast to elect directors.

Non-residents

A non-resident of Canada, either individually or together with associates, cannot hold, beneficially own or control shares or other Cameco securities, directly or indirectly, representing more than 15% of the total votes that can be cast to elect directors.

Voting restrictions

All votes cast at the meeting by non-residents, either beneficially or controlled directly or indirectly, will be counted and pro-rated collectively to limit the proportion of votes cast by non-residents to no more than 25% of the total shareholder votes cast at the meeting.

There have been instances in prior years when we have limited the counting of votes by non-residents of Canada at our annual meeting of shareholders to abide by this restriction. This has resulted in non-residents receiving less than one vote per share.

Enforcement

The company articles allow us to enforce the ownership and voting restrictions by:

- suspending voting rights
- forfeiting dividends and other distributions
- prohibiting the issue and transfer of Cameco shares
- requiring the sale or disposition of Cameco shares
- suspending all other shareholder rights.

To verify compliance with restrictions on ownership and voting of Cameco shares, we require existing shareholders, proposed transferees or other subscribers for voting shares to declare their residency, ownership of Cameco shares and other things relating to the restrictions. Nominees such as banks, trust companies, securities brokers or other financial institutions who hold the shares on behalf of beneficial shareholders need to make the declaration on their behalf.

We cannot issue or register a transfer of any voting shares if it would result in a contravention of the resident or non-resident ownership restrictions.

If we believe there is a contravention of our ownership restrictions based on any shareholder declarations filed with us, or our books and records or those of our registrar and transfer agent or otherwise, we can suspend all shareholder rights for the securities they hold, other than the right to transfer them. We can only do this after giving the shareholder 30 days' notice, unless he or she has disposed of the holdings and we have been advised of this.

Understanding the terms

Please see our articles for the exact definitions of associate, resident, non-resident, control, and beneficial ownership which are used for the restrictions described above.

Other restrictions

The *ENL Reorganization Act* imposes some additional restrictions on Cameco. We must maintain our registered office and our head office operations in Saskatchewan. We are also prohibited from:

- creating restricted shares (these are generally defined as a participating share with restrictive voting rights)
- applying for continuance in another jurisdiction
- enacting articles of incorporation or bylaws that have provisions that are inconsistent with the *ENL Reorganization Act*

We must maintain our registered office and head office operations in Saskatchewan under *the Saskatchewan Mining Development Corporation Reorganization Act*. This generally includes all executive, corporate planning, senior management, administrative and general management functions.

Credit ratings

Credit ratings provide an independent, professional assessment of a corporation's credit risk. They are not a comment on the market price of a security or suitability for an individual investor and are, therefore, not recommendations to buy, hold or sell our securities.

We provide rating agencies DBRS Limited (DBRS) and Standard & Poor's (S&P) with confidential information to support the credit rating process.

The credit ratings assigned to our securities by external ratings agencies are important to our ability to raise capital at competitive pricing to support our business operations and execute our strategy.

We have three series of senior unsecured debentures outstanding:

- $100 million of debentures issued on November 14, 2012 that have an interest rate of 5.09% per year and mature on November 14, 2042
- $500 million of debentures issued on June 24, 2014 that have an interest rate of 4.19% per year and mature on June 24, 2024
- $400 million of debentures issued on October 21, 2020 that have an interest rate of 2.95% per year and mature on October 21, 2027

We have a commercial paper program which is supported by a $1 billion unsecured revolving credit facility that matures November 1, 2023. As of December 31, 2020, there were no amounts outstanding under the commercial paper facility.

The table below shows the current DBRS and S&P ratings and the rating trends/outlooks of our commercial paper and senior unsecured debentures:

Rating Agency	Rating	Rating Trend/Outlook
Commercial paper		
DBRS	**R-2 (middle)**	**Stable**
S&P	**A-3**	**Negative**
Senior Unsecured Debentures		
DBRS	**BBB**	**Stable**
S&P	**BBB-**	**Negative**

The rating agencies may revise or withdraw these ratings at any time if they believe circumstances warrant. The rating trend/outlook represents the ratings agency's assessment of the likelihood and direction that the rating could change in the future.

A change in our credit ratings could affect our cost of funding and our access to capital through the capital markets.

On May 28, 2020, DBRS changed Cameco's rating outlook to stable from negative. The change was based on the improving outlook for the uranium industry, including the uranium price increases in 2020.

On March 11, 2020, S&P changed their outlook for Cameco to negative from stable. On March 12, 2021, S&P affirmed the rating and negative outlook. The outlook considers the potential for subdued contracting in 2021 and a potential delay in their assumption for a restart of McArthur River/Key Lake which would result in weaker-than-expected credit measures and business risk profile.

Commercial paper

Rating scales for commercial paper are meant to indicate the risk that a borrower will not fulfill its near-term debt obligations in a timely manner.

The table below explains the credit ratings of our commercial paper in more detail:

	Rating	Ranking
DBRS **rates commercial paper by categories ranging from a high of *R-1* to a low of *D***	**R-2 (Middle)**	• middle of the R-2 category • represents "adequate credit quality" • fifth highest of 10 available credit rating categories
S&P **rates commercial paper by categories ranging from a high of *A-1 (high)* to a low of *D***	**A-3**	• represents "adequate protection parameters" • third highest of six available credit rating categories

Senior unsecured debentures

Long-term debt rating scales are meant to indicate the risk that a borrower will not fulfill its full obligations, with respect to interest and principal, in a timely manner.

The table below explains the credit ratings of our senior unsecured debentures in more detail:

	Rating	Ranking
DBRS **rates senior unsecured debentures by categories ranging from a high of *AAA* to a low of *D***	**BBB**	• middle of the BBB category • represents "adequate credit quality" • fourth highest of eight available credit rating categories • capacity for the payment of financial obligations is considered acceptable • may be vulnerable to future events
S&P **rates senior unsecured debentures by categories ranging from a high of *AAA* to a low of *D***	**BBB-**	• the lower end of the BBB category • exhibits "adequate protection parameters" • fourth highest of 10 available credit rating categories • adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity to meet financial commitments • "negative" outlook means the rating may be lowered

Payments to credit rating agencies

Over the last two years, we paid $915,000 in connection with the credit ratings disclosed above.

Material contracts

Below is a list of material contracts entered into and still in effect, which have been filed on SEDAR in accordance with *National Instrument 51-102* Continuous Disclosure requirements:

Supplemental indentures

We entered into the *Sixth supplemental indenture* with CIBC Mellon on November 14, 2012, relating to the issue of $100 million in unsecured debentures at an interest rate of 5.09% per year and due in 2042.

We entered into the *Seventh supplemental indenture* with CIBC Mellon on June 24, 2014, relating to the issue of $500 million in unsecured debentures at an interest rate of 4.19% per year and due in 2024.

We entered into the *Eighth supplemental indenture* with CIBC Mellon on October 21, 2020, relating to the issue of $400 million in unsecured debentures at an interest rate of 2.95% per year and due in 2027.

We entered into the *Resignation and Appointment Agreement* with CIBC Mellon and BNY Trust Company of Canada on February 22, 2021, relating to resignation of CIBC Mellon as trustee and appointment of BNY as trustee under the above supplemental indentures.

See *Senior unsecured debentures*, above for more information about these debentures.

US trust indenture

We entered into an indenture with The Bank of New York Mellon on May 22, 2012 to set forth the general terms and provisions of debt securities. The terms of this indenture were fully described in our final short form base shelf prospectus dated December 9, 2014. We have not issued any debt securities under this indenture. The specific terms of any offering of debt securities under this indenture would be set forth in a shelf prospectus supplement.

Resource use contract

See page 58 at *Resource use contract* for information about this contract.

Market for our securities

Our common shares are listed and traded on the Toronto Stock Exchange (TSX) (under the symbol CCO) and the New York Stock Exchange (under the symbol CCJ).

We have a registrar and transfer agent in Canada and the US for our common shares:

Canada	AST Trust Company (Canada) P.O. Box 700, Station B Montreal, Quebec H3B 3K3	**US**	American Stock Transfer & Trust Company, LLC 6201 15th Avenue Brooklyn, New York United States of America 11219

Trading activity

The table below shows the high and low closing prices and trading volume for our common shares on the TSX in 2020.

2020	High ($)	Low ($)	Volume
January	12.12	10.65	13,679,156
February	12.70	10.60	17,379,515
March	11.88	7.69	38,844,898
April	14.55	10.47	31,355,872
May	15.77	13.51	24,523,450
June	15.06	13.11	25,956,995
July	16.71	13.52	22,007,195
August	15.47	13.49	15,955,421
September	15.24	13.28	19,703,442
October	13.49	12.20	18,093,512
November	13.48	11.84	18,522,228
December	18.38	12.66	34,706,026

Dividend

Starting in 2018, our board of directors reduced the planned dividend to $0.08 per common share to be paid annually. Our 2020 dividend was paid on December 15, 2020. The decision to declare an annual dividend by our board will be based on our cash flow, financial position, strategy and other relevant factors including appropriate alignment with the cyclical nature of our earnings.

The table below shows the dividends per common share for the last three fiscal years.

	2020	2019	2018
Cash dividends	$0.08	$0.08	$0.08
Total dividends paid (millions)	$32	$32	$71

Governance

Directors

Director	Board committees	Principal occupation or employment
Ian Bruce Calgary, Alberta, Canada Director since 2012	A member of all board committees	Corporate director as of 2010
Leontine Atkins Calgary, Alberta, Canada Director since 2020	Nominating, corporate governance and risk Reserves oversight	Corporate director as of 2019 2006 to early 2019 – Partner at KPMG Canada
Daniel Camus Westmount, Québec, Canada Director since 2011	Audit and finance (Chair) Human resources and compensation	Corporate director as of 2011

Director	Board committees	Principal occupation or employment
Donald Deranger Prince Albert, Saskatchewan, Canada Director since 2009	Nominating, corporate governance and risk Reserves oversight Safety, health and environment	May 2013 to present – non-executive chair of the board of Points Athabasca Contracting LP, a civil, earthworks and industrial contracting company 1997 to present – Advisor to First Nations Communities
Catherine Gignac Mississauga, Ontario, Canada Director since 2014	Reserves oversight (Chair) Audit and finance Nominating, corporate governance and risk	Corporate director as of 2011
Tim Gitzel Saskatoon, Saskatchewan, Canada Director since 2011	None	July 2011 to present – President and Chief Executive Officer
Jim Gowans Surrey, British Columbia, Canada Director since 2009	Safety, health and environment (Chair) Audit and finance Reserves oversight	Corporate director as of 2018 August 2019 to May 2020 – Interim president, CEO and a director of Trilogy Metals Inc. January 2016 to 2018 – President and CEO of Arizona Mining Inc., an exploration and development company
Kathryn Jackson Pittsburgh, Pennsylvania, USA Director since 2017	Human resources and compensation Nominating, corporate governance and risk Safety, health and environment	Corporate director as of 2008
Don Kayne Delta, British Columbia, Canada Director since 2016	Human resources and compensation (Chair) Safety, health and environment	September 2012 to present – Chief Executive Officer of Canfor Pulp Products Incorporated, an integrated forest products company May 2011 to present – President and CEO of Canfor Corporation
Anne McLellan Edmonton, Alberta, Canada Director since 2006	Nominating, corporate governance and risk (Chair) Human resources and compensation	July 2006 to present – Senior Advisor at Bennett Jones LLP, a law firm May 2015 to May 2020 – Chancellor of Dalhousie University

Each director is elected for a term of one year, and holds office until the next annual meeting unless he or she steps down, as required by corporate law.

Officers

Officer	Principal occupation or employment for past five years
Ian Bruce Chair of the Board Calgary, Alberta, Canada	Corporate director as of 2010
Tim Gitzel President and Chief Executive Officer Saskatoon, Saskatchewan, Canada	Assumed current position July 2011
Grant Isaac Senior Vice-President and Chief Financial Officer Saskatoon, Saskatchewan, Canada	Assumed current position July 2011

Officer	Principal occupation or employment for past five years
Sean Quinn Senior Vice-President, Chief Legal Officer and Corporate Secretary Saskatoon, Saskatchewan, Canada	Assumed current position April 2014
Brian Reilly Senior Vice-President and Chief Operating Officer Saskatoon, Saskatchewan, Canada	Assumed current position July 2017 March to June 2017 – Vice-President, Mining, Projects and Technology 2011 to February 2017 – Managing Director, Cameco Australia Pty. Ltd., a wholly-owned subsidiary
Alice Wong Senior Vice-President and Chief Corporate Officer Saskatoon, Saskatchewan, Canada	Assumed current position July 2011

To our knowledge, the total number of common shares that the directors and executive officers as a group either: (i) beneficially owned; or (ii) exercised direction or control over, directly or indirectly, was 715,850 as at March 15, 2021. This represents less than 1% of our outstanding common shares.

To the best of our knowledge, none of the directors, executive officers or shareholders that either: (i) beneficially owned; or (ii) exercised direction or control of, directly or indirectly, over 10% of any class of our outstanding securities, nor their associates or affiliates, have or have had within the three most recently completed financial years, any material interests in material transactions which have affected, or will materially affect, the company.

Other information about our directors and officers

None of our directors or officers, or a shareholder with significant holdings that could materially affect control of us, is or was a director or executive officer of another company in the past 10 years that:

- was the subject of a cease trade or similar order, or an order denying that company any exemption under securities legislation, for more than 30 consecutive days while the director or executive officer held that role with the company
- was involved in an event that resulted in the company being subject to one of the above orders after the director or executive officer no longer held that role with the company
- while acting in that capacity, or within a year of acting in that capacity, became bankrupt, made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold the assets of that company, except for:
  - Ian Bruce was a director of Laricina Energy Limited (Laricina), a junior oilsands private company, from 2013 to December 2017. Laricina was under a *Companies' Creditors Arrangement Act (Canada)* (CCAA) protection order from March 26, 2015 to February 1, 2016; and
  - Jim Gowans was a director of Gedex Technologies Inc. (Gedex), an Ontario-based developer of airborne geological imaging technology, from 2015 to November 2019. Gedex was under a CCAA protection from August 12 to December 5, 2019.

None of them in the past 10 years:

- became bankrupt
- made a proposal under any legislation relating to bankruptcy or insolvency
- has been subject to or launched any proceedings, arrangement or compromise with any creditors, or
- had a receiver, receiver manager or trustee appointed to hold any of their assets

None of them has ever been subject to:

- penalties or sanctions imposed by a court relating to securities legislation or by a securities regulatory authority or has entered into a settlement agreement with a securities regulatory authority, or
- any other penalties or sanctions imposed by a court or regulatory body that would likely be considered important to a reasonable investor in making an investment decision

About the audit and finance committee

Audit and finance committee charter

See appendix A for a copy of the audit and finance committee charter. You can also find a copy on our website (cameco.com/about/governance/board committees).

Composition of the audit and finance committee

The committee is made up of four members: Daniel Camus (chair), Ian Bruce, Catherine Gignac and Jim Gowans. Each member is independent and financially literate using criteria that meet the standards of the Canadian Securities Administrators as set out in *National Instrument 52-110*.

Relevant education and experience

Ian Bruce, a corporate director, is the former President and CEO of Peters & Co. Limited, an independent investment dealer. He was a past member of the Expert Panel on Securities Regulation for the Minister of Finance of Canada. Mr. Bruce was a board member and chair of the Investment Industry Association of Canada, and also served as a director of the public companies Cona Resources Ltd. from 2014 to 2018, Logan International Inc. from 2011 to 2016, Hardy Oil & Gas plc from 2008 to 2012 and Taylor Gas Liquids Ltd. from 1997 to 2008. He currently serves on the board of one other publicly-traded company and one private company. Mr. Bruce is a Fellow of the Chartered Professional Accountants (CPA) of Alberta, a recognized Specialist in Valuation under Canadian CPA rules and is a Chartered Business Valuator.

Daniel Camus is the former group chief financial officer and former head of strategy and international activities of Electricité de France SA (EDF), a France-based integrated energy operator active in the generation, distribution, transmission, supply and trading of electrical energy with international subsidiaries. He currently serves on the board of one other publicly-traded company, and serves as a member of its audit committee. He is the former Chief Financial Officer of the humanitarian finance organization, The Global Fund to Fight AIDS, Tuberculosis and Malaria. Mr. Camus received his PhD in Economics from Sorbonne University and an MBA in finance and economics from the Institute d'Études Politiques de Paris.

Catherine Gignac, a corporate director, is a former mining equity research analyst with leading global brokerage firms. She currently serves on the board of one other publicly-traded company and served on the board of the publicly-traded company, Corvus Gold Inc., for six years and as chair of its board for five years. She has more than 30 years' experience as a mining equity research analyst and geologist. She held senior positions with leading firms, including Merrill Lynch Canada, RBC Capital Markets, UBS Investment Bank and Dundee Capital Markets Inc. and Loewen Ondaatje McCutcheon Limited. Ms. Gignac was the principal of Catherine Gignac & Associates from 2011 to 2015.

Jim Gowans, a corporate director, is a former mining executive. He currently serves at interim President and CEO of Trilogy Metals Inc. and served as the president and CEO of Arizona Mining Inc. from 2016 to 2018, and at Barrick Gold Corporation in various senior executive positions throughout 2014 and 2015. He has over 20 years of experience as a senior mining executive and is the past chair of the Mining Association of Canada. Mr. Gowans is the newest member of the committee and currently serves on the board of three other publicly-traded companies. He received his applied science degree in mineral engineering from the University of British Columbia and attended the Banff School of Advanced Management.

Auditors' fees

The table below shows the fees billed by the external auditors for services in 2020 and 2019:

	2020 ($)	% of total fees	2019 ($)	% of total fees
Audit fees				
Cameco[1]	1,845,700	75.7	1,968,900	78.9
Subsidiaries[2]	335,300	13.8	221,800	8.9
Total audit fees	2,181,000	89.5	2,190,700	87.8
Audit-related fees				
Pensions	27,300	1.1	27,300	1.1
Total audit-related fees	27,300	1.1	27,300	1.1
Tax fees				
Compliance	32,400	1.3	37,900	1.5
Planning and advice[3]	157,400	6.5	200,800	8.1
Total tax fees	189,800	7.8	238,700	9.6
All other fees				
Other non-audit fees[4]	39,000	1.6	38,300	1.5
Total other non-audit fees	39,000	1.6	38,300	1.5
Total fees	2,437,100	100.0	2,495,000	100.0

[1] Includes amounts billed for the audit of Cameco's annual consolidated financial statements and the review of interim financial statements.
[2] Includes amounts billed for the audit of Cameco's subsidiary financial statements.
[3] Includes amounts billed for transfer pricing advisory.
[4] Includes amounts billed in 2020 and 2019 related to Cameco's I-4 Membership.

Approving services

The audit and finance committee must pre-approve all services the external auditors will provide to make sure they remain independent. This is according to our audit and finance committee charter and consistent with our corporate governance practices. The audit and finance committee pre-approves services up to a specific limit. If we expect the fees to exceed the limit, or the external auditors to provide new audit or non-audit services that have not been pre-approved in the past, then this must be pre-approved separately.

Any service that is not generally pre-approved must be approved by the audit and finance committee before the work is carried out, or by the committee chair, or board chair in his or her absence, as long as the proposed service is presented to the full audit and finance committee at its next meeting.

The committee has adopted a written policy that describes the procedures for implementing these principles.

Interest of experts

Our auditor is KPMG LLP, independent chartered accountants, who have audited our 2020 financial statements.

KPMG LLP are the auditors of Cameco and have confirmed with respect to Cameco that they are independent within the meaning of the relevant rules and related interpretations prescribed by the relevant professional bodies in Canada and any applicable legislation or regulations and also that they are independent accountants with respect to Cameco under all relevant US professional and regulatory standards.

The individuals who are qualified persons for the purposes of NI 43-101 are listed under *Mineral reserves and resources* on pages 75 and 76 and under *Technical report* on pages 23, 39 and 53. As a group, they beneficially own, directly or indirectly, less than 1% of any class of the outstanding securities of Cameco and our associates and affiliates.

Appendix A

Audit and finance committee of the Board of Directors

Mandate

Purpose

The primary purpose of the audit and finance committee (the "committee") is to assist the board of directors (the "board") in fulfilling its oversight responsibilities for (a) the accounting and financial reporting processes, (b) the internal controls, (c) the external auditors, including performance, qualifications, independence, and their audit of the corporation's financial statements, (d) the performance of the corporation's internal audit function, (e) financial matters and risk management of financial risks, (f) the corporation's process for monitoring compliance with laws and regulations (other than environmental and safety laws) and its code of conduct and ethics, and (g) prevention and detection of fraudulent activities. The committee shall also prepare such reports as required to be prepared by it by applicable securities laws.

In addition, the committee provides an avenue for communication between each of the internal auditor, the external auditors, management, and the board. The committee shall have a clear understanding with the external auditors that they must maintain an open and transparent relationship with the committee and that the ultimate accountability of the external auditors is to the board and the committee, as representatives of the shareholders. The committee, in its capacity as a committee of the board, subject to the requirements of applicable law, is directly responsible for the appointment, compensation, retention, and oversight of the external auditors.

The committee has the authority to communicate directly with the external auditors and internal auditor.

The committee shall make regular reports to the board concerning its activities and in particular shall review with the board any issues that arise with respect to the quality or integrity of the corporation's financial statements, the performance and independence of the external auditors, the performance of the corporation's internal audit function, or the corporation's process for monitoring compliance with laws and regulations other than environmental and safety laws.

Composition

The board shall appoint annually, from among its members, a committee and its chair. The committee shall consist of at least three members and shall not include any director employed by the corporation.

Each committee member will be independent pursuant to the standards for independence adopted by the board.

Each committee member shall be financially literate with at least one member having accounting or related financial expertise, using the terms defined as follows:

"Financially literate" means the ability to read and understand a set of financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the corporation's financial statements; and

"Accounting or related financial expertise" means the ability to analyse and interpret a full set of financial statements, including the notes attached thereto, in accordance with Canadian generally accepted accounting principles.

In addition, where possible, at least one member of the committee shall qualify as an "audit committee financial expert" within the meaning of applicable securities law.

Members of the committee may not serve on the audit and finance committees of more than three public companies (including Cameco's) without the approval of the board.

Meetings

The committee will meet at least four times annually and as many additional times as the committee considers necessary to carry out its duties effectively. The committee will hold separate closed sessions with the external auditors, the internal auditor, the chief financial officer and other members of management at each regularly scheduled meeting.

A majority of the members of the committee shall constitute a quorum. No business may be transacted by the committee except at a meeting of its members at which a quorum of the committee is present.

The committee may invite such officers, directors and employees of the corporation as it may see fit from time to time to attend at meetings of the committee and assist thereat in the discussion and consideration of any matter.

A meeting of the committee may be convened by the chair of the committee, a member of the committee, the external auditors, the internal auditor, the chief executive officer or the chief financial officer. The secretary, who shall be appointed by the committee, shall, upon direction of any of the foregoing, arrange a meeting of the committee. The committee shall report to the board in a timely manner with respect to each of its meetings.

Duties and responsibilities

To carry out its oversight responsibilities, the committee shall:

Financial reporting process

1. Review with management and the external auditors any items of concern, any proposed changes in the selection or application of major accounting policies and the reasons for the change, any identified risks and uncertainties, and any issues requiring management judgement, to the extent that the foregoing may be material to financial reporting.
2. Consider any matter required to be communicated to the committee by the external auditors under applicable generally accepted auditing standards, applicable law and listing standards, including the external auditors' report to the committee (and management's response thereto) on: (a) all critical accounting policies and practices used by the corporation; (b) all material alternative accounting treatments of financial information within generally accepted accounting principles that have been discussed with management, including the ramifications of the use of such alternative treatments and disclosures and the treatment preferred by the external auditors; and (c) any other material written communications between the external auditors and management.
3. Require the external auditors to present and discuss with the committee their views about the quality, not just the acceptability, of the implementation of generally accepted accounting principles with particular focus on accounting estimates and judgements made by management and their selection of accounting principles.
4. Discuss with management and the external auditors (a) any accounting adjustments that were noted or proposed (i.e. immaterial or otherwise) by the external auditors but were not reflected in the financial statements, (b) any material correcting adjustments that were identified by the external auditors in accordance with generally accepted accounting principles or applicable law, (c) any communication reflecting a difference of opinion between the audit team and the external auditors' national office on material auditing or accounting issues raised by the engagement, and (d) any "management" or "internal control" letter issued, or proposed to be issued, by the external auditors to the corporation.
5. Discuss with management and the external auditors any significant financial reporting issues considered during the fiscal period and the method of resolution. Resolve disagreements between management and the external auditors regarding financial reporting.
6. Review with management and the external auditors (a) any off-balance sheet financing mechanisms being used by the corporation and their effect on the corporation's financial statements and (b) the effect of regulatory and accounting initiatives on the corporation's financial statements, including the potential impact of proposed initiatives.
7. Review with management and the external auditors and legal counsel, if necessary, any litigation, claim or other contingency, including tax assessments, that could have a material effect on the financial position or operating results of the corporation, and the manner in which these matters have been disclosed or reflected in the financial statements.
8. Review with the external auditors any audit problems or difficulties experienced by the external auditors in performing the audit, including any restrictions or limitations imposed by management, and management's response. Resolve any disagreements between management and the external auditors regarding these matters.
9. Review the results of the external auditors' audit work including findings and recommendations, management's response, and any resulting changes in accounting practices or policies and the impact such changes may have on the financial statements.

10. Review and discuss with management and the external auditors the audited annual financial statements and related management discussion and analysis, make recommendations to the board with respect to approval thereof, before being released to the public, and obtain an explanation from management of all significant variances between comparable reporting periods.
11. Review and discuss with management and the external auditors all interim unaudited financial statements and related interim management discussion and analysis and make recommendations to the board with respect to the approval thereof, before being released to the public.
12. Obtain confirmation from the chief executive officer and the chief financial officer (and considering the external auditors' comments, if any, thereon) to their knowledge:
    (a) that the audited financial statements, together with any financial information included in the annual MD&A and annual information form, fairly present in all material respects the corporation's financial condition, cash flow and results of operation, as of the date and for the periods presented in such filings; and
    (b) that the interim financial statements, together with any financial information included in the interim MD&A, fairly present in all material respects the corporation's financial condition, cash flow and results of operation, as of the date and for the periods presented in such filings.
13. Review news releases to be issued in connection with the audited annual financial statements and related management discussion and analysis and the interim unaudited financial statements and related interim management discussion and analysis, before being released to the public. Discuss the type and presentation of information to be included in news releases (paying particular attention to any use of "pro-forma" or "adjusted" non-GAAP, information).
14. Review any news release, before being released to the public, containing earnings guidance or financial information based upon the corporation's financial statements prior to the release of such statements.
15. Review the appointment of the chief financial officer and have the chief financial officer report to the committee on the qualifications of new key financial executives involved in the financial reporting process.
16. Consult with the human resources and compensation committee on the succession plan for the chief financial officer and controller. Review the succession plans in respect of the chief financial officer and controller.

Internal controls

1. Receive from management a statement of the corporation's system of internal controls over accounting and financial reporting.
2. Consider and review with management, the internal auditor and the external auditors, the adequacy and effectiveness of internal controls over accounting and financial reporting within the corporation and any proposed significant changes in them.
3. Consider and discuss the scope of the internal auditors' and external auditors' review of the corporation's internal controls, and obtain reports on significant findings and recommendations, together with management responses.
4. Discuss, as appropriate, with management, the external auditors and the internal auditor, any major issues as to the adequacy of the corporation's internal controls and any special audit steps in light of material internal control deficiencies.
5. Review annually the disclosure controls and procedures, including (a) the certification timetable and related process and (b) the procedures that are in place for the review of the corporation's disclosure of financial information extracted from the corporation's financial statements and the adequacy of such procedures. Receive confirmation from the chief executive officer and the chief financial officer of the effectiveness of disclosure controls and procedures, and whether there are any significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the corporation's ability to record, process, summarize and report financial information or any fraud, whether or not material, that involves management or other employees who have a significant role in the corporation's internal control over financial reporting. In addition, receive confirmation from

the chief executive officer and the chief financial officer that they are prepared to sign the annual and quarterly certificates required by applicable securities law.

6. Review management's annual report and the external auditors' report on the assessment of the effectiveness of the corporation's internal control over financial reporting.

7. Receive a report, at least annually, from the reserves oversight committee of the board on the corporation's mineral reserves.

External auditors

(i) External Auditors' Qualifications and Selection

1. Subject to the requirements of applicable law, be solely responsible to select, retain, compensate, oversee, evaluate and, where appropriate, replace the external auditors, who must be registered with agencies mandated by applicable law. The committee shall be entitled to adequate funding from the corporation for the purpose of compensating the external auditors for completing an audit and audit report.

2. Instruct the external auditors that:

   (a) they are ultimately accountable to the board and the committee, as representatives of shareholders; and

   (b) they must report directly to the committee.

3. Ensure that the external auditors have direct and open communication with the committee and that the external auditors meet regularly with the committee without the presence of management to discuss any matters that the committee or the external auditors believe should be discussed privately.

4. Evaluate the external auditors' qualifications, performance, and independence. As part of that evaluation:

   (a) at least annually, request and review a formal report by the external auditors describing: the firm's internal quality-control procedures; any material issues raised by the most recent internal quality-control review, or peer review, of the firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with any such issues; and (to assess the auditors' independence) all relationships between the external auditors and the corporation, including the amount of fees received by the external auditors for the audit services and for various types of non-audit services for the periods prescribed by applicable law; and

   (b) annually review and confirm with management and the external auditors the independence of the external auditors, including the extent of non-audit services and fees, the extent to which the compensation of the audit partners of the external auditors is based upon selling non-audit services, the timing and process for implementing the rotation of the lead audit partner, reviewing partner and other partners providing audit services for the corporation, whether there should be a regular rotation of the audit firm itself, and whether there has been a "cooling off" period of one year for any former employees of the external auditors who are now employees with a financial oversight role, in order to assure compliance with applicable law on such matters; and

   (c) annually review and evaluate senior members of the external audit team, including their expertise and qualifications. In making this evaluation, the audit and finance committee should consider the opinions of management and the internal auditor.

Conclusions on the independence of the external auditors should be reported to the board.

5. Review and approve the corporation's policies for the corporation's hiring of employees and former employees of the external auditors. Such policies shall include, at minimum, a one-year hiring "cooling off" period.

(ii) Other Matters

6. Meet with the external auditors to review and approve the annual audit plan of the corporation's financial statements prior to the annual audit being undertaken by the external auditors, including reviewing the year-to-year co-ordination of the audit plan and the planning, staffing and extent of the scope of the annual audit. This review should include an explanation from the external auditors of the factors considered by the external auditors in determining their audit scope,

including major risk factors. The external auditors shall report to the committee all significant changes to the approved audit plan.

7. Review and approve the basis and amount of the external auditors' fees with respect to the annual audit in light of all relevant matters.

8. Review and pre-approve all audit and non-audit service engagement fees and terms in accordance with applicable law, including those provided to the subsidiaries of the corporation by the external auditors or any other person in its capacity as external auditors of such subsidiary. Between scheduled committee meetings, the chair of the committee, on behalf of the committee, is authorised to pre-approve any audit or non-audit service engagement fees and terms. At the next committee meeting, the chair shall report to the committee any such pre-approval given. Establish and adopt procedures for such matters.

Internal auditor

1. Review and approve the appointment or removal of the internal auditor.

2. Review and discuss with the external auditors, management, and internal auditor the responsibilities, budget and staffing of the corporation's internal audit function.

3. Review and approve the mandate for the internal auditor and the scope of annual work planned by the internal auditor, receive summary reports of internal audit findings, management's response thereto, and reports on any subsequent follow-up to any identified weakness.

4. Ensure that the internal auditor has direct and open communication with the committee and that the internal auditor meets regularly with the committee without the presence of management to discuss any matters that the committee or the internal auditor believe should be discussed privately, such as problems or difficulties which were encountered in the course of internal audit work, including restrictions on the scope of activities or access to required information, and any disagreements with management.

5. Review and discuss with the internal auditor and management the internal auditor's ongoing assessments of the corporation's business processes and system of internal controls.

6. Review the effectiveness of the internal audit function, including staffing, organizational structure and qualifications of the internal auditor and staff.

Compliance

1. Monitor compliance by the corporation with all payments and remittances required to be made in accordance with applicable law, where the failure to make such payments could render the directors of the corporation personally liable.

2. The receipt of regular updates from management regarding compliance with laws and regulations and the process in place to monitor such compliance, excluding, however, legal compliance matters subject to the oversight of the safety, health and environment committee of the board. Review the findings of any examination by regulatory authorities and any external auditors' observations relating to such matters.

3. Establish and oversee the procedures in the code of conduct and ethics policy to address:

   (a) the receipt, retention and treatment of complaints received by the corporation regarding accounting, internal accounting or auditing matters; and

   (b) confidential, anonymous submissions by employees of concerns regarding questionable accounting and auditing matters.

   Receive periodically a summary report from the senior vice-president, chief legal officer and corporate secretary on such matters as required by the code of conduct and ethics.

4. Review and recommend to the board for approval a code of conduct and ethics for employees, officers and directors of the corporation. Monitor management's implementation of the code of conduct and ethics and the global anti-corruption program and review compliance therewith by, among other things, obtaining an annual report summarizing statements of compliance by employees pursuant to such policies and reviewing the findings of any investigations of non-compliance.

Periodically review the adequacy and appropriateness of such policies and programs and make recommendations to the board thereon.

5. Monitor management's implementation of the anti-fraud policy; and review compliance therewith by, among other things, receiving reports from management on:

   (a) any investigations of fraudulent activity;

   (b) monitoring activities in relation to fraud risks and controls; and

   (c) assessments of fraud risk.

   Periodically review the adequacy and appropriateness of the anti-fraud policy and make recommendations to the board thereon.

6. Review all proposed related party transactions and situations involving a director's, senior officer's or an affiliate's potential or actual conflict of interest that are not required to be dealt with by an "independent committee" pursuant to securities law rules, other than routine transactions and situations arising in the ordinary course of business, consistent with past practice. Between scheduled committee meetings, the chair of the committee, on behalf of the committee, is authorized to review all such transactions and situations. At the next committee meeting, the chair shall report the results of such review.

7. Monitor management of hedging, debt and credit, make recommendations to the board respecting policies for management of such risks, and review the corporation's compliance therewith.

8. Approve the review and approval process for the expenses submitted for reimbursement by the chief executive officer.

9. Oversee management's mitigation of material risks within the committee's mandate and as otherwise assigned.

10. Undertake such other tasks as may be directed to it from time to time by the board.

Financial oversight

1. Assist the board in its consideration and ongoing oversight of matters pertaining to:

   (a) capital structure and funding including finance and cash flow planning;

   (b) capital management planning and initiatives;

   (c) property and corporate acquisitions and divestitures including proposals which may have a material impact on the corporation's capital position;

   (d) the corporation's annual budget and business plan;

   (e) the corporation's insurance program;

   (f) directors' and officers' liability insurance and indemnity agreements;

   (g) the annual approval to elect the end-user exception under Dodd Frank; and

   (h) matters the board may refer to the committee from time to time in connection with the corporation's capital position.

Organizational matters

1. The procedures governing the committee shall, except as otherwise provided for herein, be those applicable to the board committees as set forth in Part 7 of the General Bylaws of the corporation.

2. The members and the chair of the committee shall be entitled to receive remuneration for acting in such capacity as the board may from time to time determine.

3. The committee shall have the resources and authority appropriate to discharge its duties and responsibilities, including the authority to:

   (a) select, retain, terminate, set and approve the fees and other retention terms of special or independent counsel, accountants or other experts, as it considers appropriate; and

(b) obtain appropriate funding to pay, or approve the payment of, such approved fees;

without seeking approval of the board or management.

4. Any member of the committee may be removed or replaced at any time by the board and shall cease to be a member of the committee upon ceasing to be a director. The board may fill vacancies on the committee by appointment from among its members. If and whenever a vacancy shall exist on the committee, the remaining members may exercise all its powers so long as a quorum remains in office. Subject to the foregoing, each member of the committee shall remain as such until the next annual meeting of shareholders after that member's election.
5. The committee shall annually review and assess the adequacy of its mandate and recommend any proposed changes to the nominating, corporate governance and risk committee for recommendation to the board for approval.
6. The committee shall participate in an annual performance evaluation, the results of which will be reviewed by the board.
7. The committee shall perform any other activities consistent with this mandate, the corporation’s governing laws and the regulations of stock exchanges, as the committee or the board considers necessary or appropriate.
8. A standing invitation will be issued to all non-executive directors to attend the financial oversight portion of each committee meeting.