

Written Submission for the Pre-Budget Consultations in Advance of the Upcoming 2022 Federal Budget



Submission of the Canadian Space Mining Corporation

Canadian Space Mining Corporation

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Recommendations

- Recommendation 1: That the government amend the Income Tax Act to include outer space (including the Moon, Asteroids, and celestial bodies) as a Foreign Jurisdiction for the purposes of FRE and FEDE.
- Recommendation 2: That the government amend the Income Tax Act to extend Flow Through Shares to Canadian companies engaging space resources (including the Moon, asteroids and celestial bodies).
- Recommendation 3: That the government amend the Income Tax Act to extend Mineral Exploration Tax Credit to Canadian corporations engaging in space resource exploration with specific intent to mine in outer space.
- Recommendation 4: That the government allocate a sufficient amount of capital in the budget for space resources companies, technologies, R&D and projects.



Body of Submission

Executive Summary

The Canadian Space Mining Corporation (“CSMC”) encourages the Canadian government, as a global leader in sustainable mining practices, to embrace this generational opportunity to assume a leadership role in the establishment of sustainable space mining practices, thereby facilitating the growth and development of a burgeoning industry. By combining Canada’s expertise in mining-specific finance, construction, operations, and technology, with its world-class excellence in space technology; a formal space mining policy could drive job creation and retention, clean technologies, and renewed national engagement in space, all while inspiring the next generation to reach for the stars.

A 2017 consultation on Canada’s Future in Space reflected the need for the Canadian government to “[r]ecognize the New Space environment as critical to future growth and adopt policies (regulatory, procurement, legal, financial) that support and encourage New Space entrepreneurship.”ⁱ

CSMC supports the Canadian government’s plan to anchor a “vibrant and sustainable space sector” through a whole-of-government approach to space policy and finance.ⁱⁱ The approach should align key ministries and departments to ensure the provision of clear regulatory guidance and support that will facilitate the advancement of novel technologies and uses of space, as well as the growth of new space entrepreneurship in Canada.

Many countries around the world have already taken clear steps to not only create regulatory clarity for space resources, but have also put in place economic incentive programs to foster and attract this new industry. Canada is on the cusp of being left behind on this new industry globally, and could cede its global leadership position in mining and resources in the process.

Canada has the world’s most robust and well developed capital markets for mineral exploration and development. However in discussions with venture investors, banks, and resource investors it is clear that the lack of regulation is hindering capital flows into this sector. Despite that, if Canada were to adapt its current tax structures for mineral exploration and development to encompass space resources, it could foster an environment where Canada becomes the most attractive jurisdiction for space resources on a global basis, inducing investment, economic development, and robust job creation.

ⁱ See, e.g., Space Advisory Board, *Consultation on Canada’s Future in Space: What We Heard* (Aug. 2017), [https://www.ic.gc.ca/eic/site/082.nsf/vwapj/SAB_Report_EN.pdf/\\$file/SAB_Report_EN.pdf](https://www.ic.gc.ca/eic/site/082.nsf/vwapj/SAB_Report_EN.pdf/$file/SAB_Report_EN.pdf) (“2017 Consultation Report”).

ⁱⁱ Innovation, Science and Economic Development Canada, *Exploration, Imagination, Innovation: A New Space Strategy for Canada* (2019), <https://www.asc-csa.gc.ca/pdf/eng/publications/space-strategy-for-canada.pdf> (“2019 Space Strategy”).



Who are we?

The CSMC is a Lunar regolith (Lunar dust) mining company which aims to process water and oxygen for both fuel and life support in-situ. These operations will support the development of the infrastructure and technology necessary to support a robust ex-terranⁱⁱⁱ economy, benefiting Canadians for generations to come.

In true Canadian spirit, CSMC intends to achieve its Lunar objectives through the establishment of a robust and cooperative consortium of value-based organizations, spanning industry, academia, and government, both domestically and abroad. This ex-terran project will seek to extend Canadian leadership in sustainable mining practices beyond Earth, into the next frontier of resource development.

CSMC is going to the moon. We believe that doing so is in the national interest, ensuring Canada's continued competitiveness going forward, especially in the resource sector. The CSMC is Canadian at our core, galactic in our vision, and international in our approach.

Opportunity

As the Canadian government has recognized, “the space sector is a strategic national asset” that can be leveraged to improve the quality of life for all Canadians.^{iv} Space-for-space services, such as ISRU, will help expand the potential benefits to Canadians by enabling longer-distance exploration and supporting on-going operations on other celestial bodies.

The need for space resources is imminent. The lunar gateway space station is currently being built with NASA to be the portal for future space exploration missions, and is set to open in 2025. Canada has already committed up to \$2B to this project already including a new Canadarm and other contributions. To be able to fuel rockets from the gateway is key to future space exploration. Bringing oxidizer fuel (oxygen) from the moon is a much more affordable and sustainable alternative than bringing it from earth, so NASA and others are enlisting the support of their countries support in doing so. China and Russia have also committed to opening a lunar base in 2025, accelerating global timelines.

As a result of the extraction process, there are a number of useful derived products such as water, rare metals, and critical minerals which are also in demand and of strategic national importance. In addition, 3D printed parts for the space infrastructure can be manufactured as the lunar regolith has been shown to have high utility as a source material.

By making larger-scale operations in space more sustainable and affordable, ISRU will facilitate research, development, and advancement of technologies that are equally critical on Earth, including water processing, hydrogen storage, energy generation, robotics, 3D

ⁱⁱⁱ Off-earth

^{iv} 2019 Space Strategy at 16.



printing, machine learning, efficient materials usage, small scale processing, and manufacturing.^v Investment in ISRU can drive a “galactic supercluster effect” (see Figure 1 below), with diverse economic impact in many of the key areas of the global macroeconomy going forward.

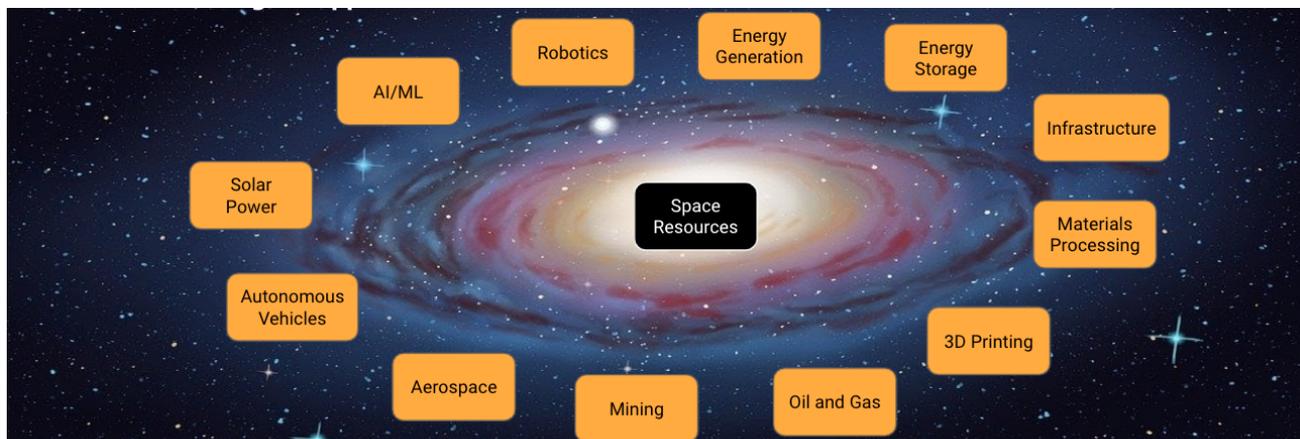


Figure 1: “Galactic Supercluster Effect”

Key Recommendations

Recommendation 1: That the government amend the Income Tax Act to include outer space (including the Moon, Asteroids, and other celestial bodies) as a Foreign Jurisdiction for the purposes of FRE and FEDE

All space mining activities and sale of products will occur outside the jurisdictional boundaries of Canada, therefore taxation would be considered extraterritorial and so mining operations in outer space could be considered as “Foreign Operations”. In order to ensure economic benefits flow to Canada along with potential tax revenue, careful crafting of the definition of what constitutes eligible exploration expenses is required.

While it is relatively unusual for a Canadian mining corporation to conduct foreign activities directly, where this occurs the Canadian mining corporation computes its income (or loss) from those activities under essentially the same rules that apply to Canadian-source activities, with some exceptions:

- most expenditures related to the foreign mining activities are treated as “**foreign resource expenses**” (“**FRE**”), being the foreign equivalent of CEE and CDE under the Canadian income tax regime;
- foreign mining activities are located on the Moon, asteroids or other planetary bodies, but since there is no formal taxation treaty with these outer space bodies, Canada’s rights to tax are NOT limited by the terms of a tax treaty; and

^v See, e.g., NASA Technology Transfer Program, *Green NASA Technologies Businesses Can Use*, NASA (last visited Mar. 29, 2021), <https://technology.nasa.gov/page/green-nasa-technologies-businesses>.



- to the extent that income or profit taxes are levied in the foreign jurisdiction where such activities are carried on, the Canadian mining corporation would typically be entitled to a “**foreign tax credit**” (“**FTC**”) under Canadian tax rules, which reduces Canadian tax otherwise payable on the same income that the foreign jurisdiction is taxing. Because no tax is deducted at source, then all taxation flows to Canada.

Since much of this activity will be occurring within the jurisdiction of Canada, the economic benefits and tax revenues will be maximized within our borders. Space mining will be a boon to Canadian companies specializing in high tech industries with high knowledge requirements and high pay. In addition, this will likely benefit Canadian university programs that specialize in mechanical engineering, robotics and aerospace technologies.

Most established space mining firms and potential start-ups are primarily based in the U.S., Luxembourg and Japan, where clear regulatory frameworks have been put in place. The establishment of a legal regime for space mining or tax incentives, would not only give Canadian space resource companies the clarity they need to raise capital and compete at global scale, but could also entice these global firms to relocate or establish subsidiaries in Canada.

Recommendation 2: That the government amend the Income Tax Act to extend Flow Through Shares to Canadian companies engaging in mining in outer space (including the Moon, asteroids and other celestial bodies)

The Emerson report^{vi} called for extending the favourable tax treatment currently afforded to investors in flow-through shares of mineral exploration companies to investors in commercial activity in space, whether or not that activity is mining related. This measure has the potential to encourage private sector efforts over the long term. Given that Canada has a small number of commercial space firms, annual expenditures for this measure would be marginal.

Flow-through shares (“**FTS**”) can provide mining companies with a reduced cost of capital on a net basis, which would make Canada one of the most attractive global jurisdictions for space resources. It would also allow Canadian space resource companies an opportunity to catch up globally in terms of capital raising, where they lag peers in US, Japan, and Luxembourg.

Recommendation 3: That the government amend the Income Tax Act to extend Mineral Exploration Tax Credit to Canadian corporations engaging in space resource exploration with specific intent to mine in outer space

The Mineral Exploration Tax Credit (“**METC**”) is designed to help exploration companies raise equity funds and can be used in addition to the regular tax deductions associated with flow-through share investments. The METC is a 15% non-refundable tax credit on eligible exploration expenses including costs related to prospecting, geological, geophysical, or geochemical surveys to search for base and/or precious metal deposits. This program has

^{vi} [http://aerospacereview.ca/eic/site/060.nsf/vwapj/Space-e-online.pdf/\\$file/Space-e-online.pdf](http://aerospacereview.ca/eic/site/060.nsf/vwapj/Space-e-online.pdf/$file/Space-e-online.pdf) pg 54



been highly successful in stimulating private equity investment in Canadian Exploration and Mining companies and has contributed significantly to making Canada the world capital for mine finance, mining exploration, and development.

Recommendation 4: That the government allocate a sufficient amount of capital in the upcoming budget for space resources companies, technologies, research & development, and projects.

CSMC recommends the government to allocate sufficient capital to enable Canada to catch up to the rest of the world in space resources. In combination with the above recommendations designed to give Canada a leg up, a sufficient allocation in the budget would allow a Canadian industry that is at risk of being left behind, the ability to be on even footing with the rest of the world from a capital perspective. This is best done utilizing a whole-of-government approach, driven by NRCan, ISED, and the CSA, among others.

Conclusion

CSMC respectfully encourages the Canadian government to adapt our mining tax structures, that have helped Canada become the global leader in mining finance, exploration and development, to apply to space resources. Canada can and should carve out a role for itself as the global leader in space resources for decades to come. It is our national right to win. We have the skills, we have the human capital, and the technical knowhow. We just need certain amendments to our mining tax laws, and some funding to catch up to the rest of the world.

Respectfully submitted,

Canadian Space Mining Corporation

/s/ Daniel Sax

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