



**AVALON**  
ADVANCED MATERIALS INC.

# 2020 President's Message

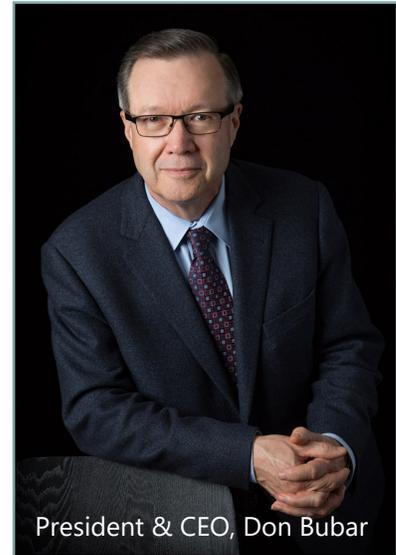
While 2020 was a slow year in terms of project activities due to the COVID-19 pandemic, the exponential growth in interest in critical minerals kept the Avalon Advanced Materials Inc. team busy throughout the year, even while working from home. It has only been 24 years since we acquired our Separation Rapids Lithium Project and maybe I was a bit early in seeing the potential for growth in lithium demand then, but it is certainly here now. It looks like our time has come and 2021 will be a very busy year, with the recognition that the transition to a low carbon future cannot happen without adequate supply chains of critical minerals like lithium.

According to the 2020 World Bank Group report, *Minerals for Climate Action*, **production of battery materials (most notably lithium) will have to increase by nearly 500% by 2050 to meet the growing demand for clean energy technologies.** Fortunately, policymakers in government here are now listening as they try to incentivize creation of these new supply chains. Public support is there as well.

In 2020, Avalon participated in many conversations with federal and provincial government officials in an

attempt to create better awareness of how different the critical minerals business is compared to traditional mining of exchange-traded commodities, like gold. We point out that producing a commodity like lithium is more like a manufacturing business, where designing a suitable process to make a product that will meet the needs of the market is where the challenge is, not so much in defining the resource. It should be seen as a growth business, where once the new primary supply is created, it can attract downstream users of the product to establish manufacturing facilities in Canada.

With Ontario now committing to establishing more electric vehicle and battery manufacturing capacity in the Province, there is an obvious opportunity to take advantage of the mineral resource wealth in northern Ontario to build out the entire supply chain. **Ontario has abundant resources of all the minerals needed for lithium battery materials, including lithium, cobalt, graphite, nickel and manganese.** Many of these critical mineral resources can be developed with minimal adverse environmental



President & CEO, Don Bubar

impacts and a low carbon footprint. There are over 100 known pegmatite (lithium mineral-bearing rock) occurrences in northern Ontario alone!

Avalon is very well positioned to become a major new supplier of domestic, sustainably-produced critical minerals starting with our **Separation Rapids Lithium Project**. It simply involves cutting the regulatory red tape that has been frustrating entrepreneurs like us in this new sector of the economy!

While lithium battery materials continue to be the lithium application getting all the publicity, the application of lithium in glass-ceramic

applications is also a growing market. Innovations in glass technology are resulting in many new products, such as high strength flexible glass - where lithium is an important ingredient. The high purity mineral form (petalite) found at Separation Rapids is still the preferred form of lithium for many glass-ceramic applications and continues to be in high demand. The key is being able to provide potential customers that have expressed interest with trial quantities of the product that meets their required specifications. Avalon is working on this and plans to process a larger bulk sample for this purpose in 2021.

Separation Rapids can be developed with the flexibility to produce several lithium products which can simultaneously and sustainably serve both the battery and glass-ceramic markets. Our model continues to be to get started with sales of petalite concentrates for glass-ceramic markets while preparing to serve the battery market, after a processing facility can be established to produce a refined lithium battery material, such as lithium hydroxide.

This plan has now been accelerated with all the new interest in establishing battery materials supply chains in Ontario and led to our **announcement in November 2020 to collaborate with Rock Tech Lithium Inc. on the development of a lithium battery materials process facility in Thunder Bay.**

This facility will be designed to accept lithium mineral concentrates from Separation Rapids and Rock Tech's Georgia Lake Project, as well



as potentially other emerging sources in northern Ontario, to produce a derivative product for lithium batteries. 2021 looks like the year when we finally get Separation Rapids started down the path to becoming a significant new lithium producer, along with multiple by-products.

Another similar rare element pegmatite project is Avalon's 100%-owned **Lilypad Cesium-Tantalum Project** near Fort Hope, Ontario, in the traditional territory of the Eabametoong First Nation. The project had been inactive for nearly 20 years, but was re-activated in 2020 in response to the need to establish new cesium supply chains, due to news of a global shortage of supply of cesium. The property was originally explored for tantalum, but Avalon's work program in 2001-2002 ended up discovering more cesium than tantalum, and a significant preliminary cesium resource was delineated in one of the many cesium-tantalum-lithium mineralized pegmatites on the property.

At the time, the cesium market was well supplied, but we knew it would eventually see increased demand and accordingly, Avalon held on to this asset. While we didn't think it would take 18 years before we would see that new demand, it is here now and last autumn

we proceeded with a brief field program at Lilypad to collect rock samples of the cesium mineralization for laboratory testwork. This work is underway, with encouraging initial results that the cesium mineral pollucite can be efficiently concentrated using dry processing techniques such as sensor-based ore-sorting. We look forward to working with the Eabametoong First Nation to further advance this project in 2021.

On the rare earths front, we continue to support Cheetah Resources Pty Ltd. In their efforts to initiate small-scale rare earths production from the near surface T-Zone resource on the **Nechalacho Rare Earths Project**. This was part of the near-surface resources on the property that Avalon sold to Cheetah for \$5 million while retaining ownership of our heavy rare earth-rich Basal Zone resource, which was the subject of our 2013 Feasibility Study. Cheetah assumed management of the site in 2020 and began preparing for development of the T-Zone resource for 2021.

In December 2020, Cheetah's parent company (ASX-listed Vital Metals Limited) announced it had entered into an off-take agreement with a new Norwegian rare earths separation company, REEtec AS, to perform separation on

the mixed rare earths T-Zone product. We are pleased with the progress Cheetah has made to date and remain optimistic that once in production and the supply chain has been initiated in Canada, it will lead to further growth opportunities and ultimately, development of Avalon's Basal Zone resource.

In the meantime, we continue to look at other rare earth development opportunities, in particular the **potential to apply innovative, new extraction technologies to recover rare earths and other critical minerals from historic mine wastes at closed sites and economically remediate the long-term environmental liability**. We see lots of possibilities here, but the challenge is to secure access and/or ownership of such sites when they are encumbered by long term environmental liabilities perceived as major risk factors - rather than opportunities!

Avalon's **East Kemptville Tin-Indium Project** in Nova Scotia is an example of a past-producing mine site where we have identified considerable potential for recovery of critical minerals including indium, gallium, germanium and

lithium, as well as tin, from historic mine wastes. Unfortunately, this project remains on hold following a decision by the surface rights holder in 2020 to restrict our access to the site for re-development due to perceived risks. However, both the Province and the local community remain supportive of our plans for economic site rehabilitation and I remain optimistic that we will be able to resume work on the site in 2021.

Avalon remains **committed to establishing a diversified clean technology materials business, built on strong environmental, social and governance (ESG) performance** and I am looking forward to securing our ESG risk-rating in early 2021, once the audit by Sustainalytics is completed. As one of the leaders in this new sector of the clean economy, I look forward to receiving greater recognition of our strong ESG performance from the growing ESG investment community. As I write this, I am pleased to see our share price trending higher as the broader investment community begins to see the value creation, growth opportunity that a cleantech materials company like Avalon offers investors.

Lastly, I want to extend my sincere appreciation to Avalon's long-time loyal shareholders for your continued support and patience. I think you will see your patience rewarded in 2021!

Sincerely,



Donald S. Bubar  
President and Chief Executive Officer

January 12, 2021

## Corporate Information

Please refer to Avalon's website at [www.AvalonAM.com](http://www.AvalonAM.com) for further company information.

130 Adelaide St. W., Suite 1901  
Toronto, ON, Canada M5H 3P5

Telephone: +1 (416) 364-4938  
Email: [ir@AvalonAM.com](mailto:ir@AvalonAM.com)

TSX: AVL OTCQB: AVLNF FRANKFURT WKN: OU5

This document contains "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities legislation. Forward-looking statements include, but are not limited to, statements related to project development plans and timelines, and future opportunities for the Company. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "potential", "scheduled", "anticipates", "continues", "expects" or "does not expect", "is expected", "scheduled", "targeted", "planned", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be" or "will not be" taken, reached or result, "will occur" or "be achieved". Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of Avalon to be materially different from those expressed or implied by such forward-looking statements. Forward-looking statements are based on assumptions management believes to be reasonable at the time such statements are made. Although Avalon has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to market conditions, and the possibility of cost overruns or unanticipated costs and expenses as well as those risk factors set out in the Company's current Annual Information Form, Management's Discussion and Analysis and other disclosure documents available under the Company's profile at [www.SEDAR.com](http://www.SEDAR.com). There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Such forward-looking statements have been provided for the purpose of assisting investors in understanding the Company's plans and objectives and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking statements. Avalon does not undertake to update any forward-looking statements that are contained herein, except in accordance with applicable securities laws.