

Message from the President & CEO

Once again, on behalf of the Avalon team, I am pleased to present our annual report on sustainability to our Communities of Interest (COI). This year's theme is *Refocus, Revive and Restore* to reflect the repositioning of the Company and our accomplishments over the past year. An evolving business environment (both in terms of capital markets and market opportunities for our cleantech materials products) has forced us to update our growth strategy.

We continue to see benefit in providing leadership and promoting excellence in sustainable business practices.

Avalon's Communities of Interest

- ◆ academia & industry associations
- ◆ employees & contractors
- ◆ end use customers & potential partners
- ◆ government
- ◆ Indigenous governments & organizations
- ◆ investors
- ◆ financial institutions
- ◆ local communities
- ◆ non-profit organizations
- ◆ regulators



I believe this is critical to our project development success, despite many still asserting such initiatives are “wasted time and resources” – quite the opposite. Acting sustainably gives Avalon a strategic advantage, aligning the Company with its stakeholders' values, including cleantech companies who audit their supply chains to ensure that their raw materials are sourced from environmentally and socially responsible operators.

Family-controlled investment groups and small-cap growth funds (which typically look for above-average economic returns) are now making social responsibility a significant investment criterion – even though their charters sometimes do not require this strong adherence to social responsibility. Consequently, Avalon's historic emphasis on social responsibility has become even more important, given the weight that many emerging investment groups and cleantech companies have placed on these values. A key component of Avalon's social responsibility mandate is its commitment to involving local Indigenous communities in the project development process at an early stage, assisting in building capacity and facilitating long term economic empowerment through equity partnerships.

On all three of our advanced projects, we have created new development models designed to initiate production at modest scales utilizing simplified process technology. This approach has economic benefits in terms of lower capital requirements and reduced investment risk, but also environmental benefits through a much smaller operational footprint that also facilitates progressive site remediation through the life of the operation. In addition, the lower initial capital requirements create real opportunities for local Indigenous COI to become significant equity partners in the projects, leading to development in the community.

Critical materials must be sourced environmentally and using socially responsible methods

Avalon holds a unique, critical materials portfolio. Longtime followers of the Company are aware that many of these materials, such as rare earths and lithium, are not exchange-traded



commodities nor do they have well-established, reliable supply chains to serve the new technologies critical to clean energy, transport, defense and communications.

A 'critical mineral' is identified by the U.S. Department of the Interior to be a non-fuel mineral or mineral material essential for national security, the supply chain of which is vulnerable to disruption. Critical materials serve an essential function in the manufacturing of a product – the absence of which would have significant consequences for the economy and/or national security.

There are some 35 critical materials that are all in short supply, as recently identified by the U.S. Department of the Interior from a list prepared by the U.S. Geological Survey agency. These materials' sources have been limited to specific countries such as China and/or limited to a few individual producers. Limited availability of larger quantities at reasonable

prices has created uncertainty for developers of new technologies relying on these critical materials.

The risk of relying on supply from a single jurisdiction was first realized in 2010, when China halted rare earth exports to Japan as a result of a territorial dispute in the South China Sea. This brought immediate media, government and investor attention to the supply imbalance in a vital but under-appreciated market. At the time, it was estimated that over 90% of the world's rare earths were produced in China – often using an environmentally damaging methodology.

U.S. reliance on foreign sources of strategic raw materials has once again become a major topic of national concern. In December of last year, U.S. President Trump signed an executive order to reduce the country's dependence on foreign sources of critical minerals – notably rare earths, implicitly encouraging the creation of new domestic supply chains.

Many of these critical materials are enablers of clean technologies, such as electric vehicles and renewable energy. Rare earths are critical ingredients in high-strength permanent magnets (made with neodymium, praseodymium and dysprosium) that enable more efficient electric motor

technologies for electric vehicles. At Avalon, we are developing critical materials' supply chains to benefit end-users as well as local communities – offering a domestic solution to this global problem.

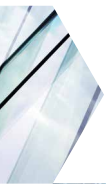
Avalon continues to develop key relationships within growth industry sectors, such as specialty glass, which require strategic materials inputs in their production process.



US Geological Survey compiled 35 mineral

commodities critical to existing and emerging technologies, renewable energy and national security. Avalon's diverse project portfolio contains properties enriched with 13 of the 35 minerals identified, including:

- ◆ beryllium
- ◆ cesium
- ◆ gallium
- ◆ germanium
- ◆ hafnium
- ◆ indium
- ◆ lithium
- ◆ niobium
- ◆ rare earth elements
- ◆ rubidium
- ◆ tantalum
- ◆ tin
- ◆ zirconium

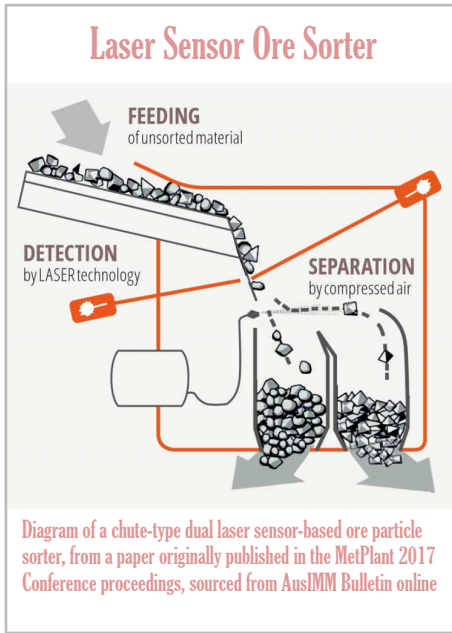


East Kemptville Tin-Indium Project: Reviving and restoring the land

Avalon's East Kemptville Project in Yarmouth County, Nova Scotia, is a closed mine site with a perpetual environmental liability associated with acid mine drainage. Such sites can now be viewed as opportunities for entrepreneurial companies like Avalon to apply innovative models and new process technology to extract value out of waste materials and create an economic solution to fully remediate the site's long term environmental liability.

Avalon has conceived an environmental rehabilitation solution that will be financed through the sale of tin concentrates (and potentially other critical materials such as indium), recovered in large part from previously-mined material on the site. This will also incorporate new ore-sorting technology that will reduce the amount of new tailings material generated and creates a waste that will remain benign while used to fill in old pits.

From the first day of operations, Avalon's model provides for a reduction in the long term environmental liability and eventual full rehabilitation of this brownfields mine site. Due to the planned small scale of the operation, and the



fact that it will result in a net benefit to the environment, it is anticipated that the permitting and approvals process can be shorter than for a greenfields mine development. There is strong community support for the project, including First Nations and environmental NGOs. We are also in discussions with a number of local businesses regarding future land use opportunities, such as agriculture and solar power generation.

At East Kemptville, environmental responsibility can become a driver for innovation and value creation, while establishing a new critical materials supply chain – a precedent that can potentially be applied to many such closed and abandoned mine sites.

As someone who grew up in Nova Scotia, I am delighted to have the opportunity to realize Avalon's progressive vision for re-starting operations at East Kemptville, bringing new

jobs to the southwestern part of the province. I know Avalon's many loyal Nova Scotia shareholders are also excited to see this project finally realized in the next few years.

Separation Rapids Lithium Project: Focus on innovation & collaboration

Avalon's Separation Rapids Lithium Project, located in northwestern Ontario, contains a rare lithium mineral called petalite that closely matches the technical requirements of specialty glass-ceramic manufacturers, while also meeting their criteria around sourcing critical raw materials from environmentally and socially responsible producers.

The global glass industry is valued at over \$100 billion, and continues to grow through the innovation of new products – many of which take advantage of the unique properties of lithium to create high strength, light weight glass. The glass industry represents 25-30% of global demand for lithium, as lithium additions can reduce GHG emissions by lowering batch melting temperatures (which reduces the energy consumed in the furnace).

Super Petalite

Avalon has developed its own proprietary process technology to achieve exceptional purities in its petalite products. Avalon's Standard Petalite product (4.0-4.2% Li_2O) is notable for its very low iron content and consistent $\text{SiO}_2/\text{Al}_2\text{O}_3$ ratio. Avalon's Super Petalite product (>4.5% Li_2O), in addition to a very low iron content, also achieves exceptionally low levels of sodium and potassium, as well as a higher lithium content.

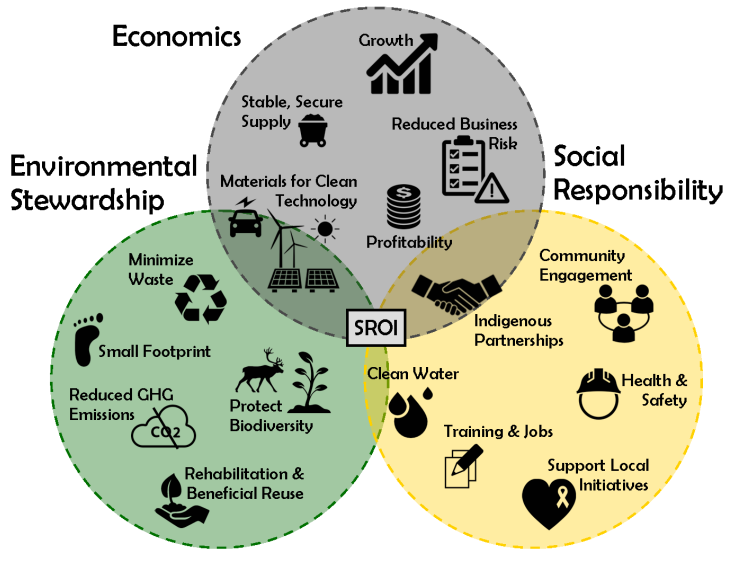
Vision & Mission

Establish a diversified clean technology metals business, built on strong environmental and social performance

Create shareholder value and long term growth through sustainable development of our lithium, tin and REE assets



Avalon's Socially Responsible Values



The challenge for Avalon is to prove its ability to reliably produce a high-quality product before achieving initial production – a challenge that we have met through extensive process development work to prove the product and provide test samples. Avalon works hand in hand with end users to customize the material processing steps in order to meet the specifications of various industrial consumers.

Once a long term off-take agreement is in place with the end-user, the business case will be confirmed to provide access to capital to build the operation. Discussions with several major end-users continue, and I am optimistic that we will soon have news on how project development will proceed.

While the initial focus is on the opportunity to serve the glass industry with Avalon's unique high purity Super Petalite product, we are not forgetting about the growing demand for lithium in rechargeable batteries. In future stages, Avalon is planning to scale up the operation over time to produce a battery material product, once an appropriate lithium product is defined for the rapidly-evolving lithium ion battery technology.

Active Indigenous participation is the future of mineral development in Canada

Through the Prospectors and Developers Association of Canada (PDAC), as well as other industry and political organizations, I have championed active Indigenous participation in mineral development in their traditional territories. We are now seeing more and more successful

examples of this in natural resource development across Canada. I firmly believe that equity participation by Indigenous business is the key to economic reconciliation with northern First Nations communities. I further believe that Indigenous entrepreneurs will be the future leaders of the mineral exploration and development industry in Canada.

The leadership of the Acadia First Nation, whose traditional territory covers the East Kemptonville Tin-Indium Project site, provides an inspirational example of Indigenous economic empowerment through direct participation in the local economy. We look forward to signing an MOU with the Acadia First Nation soon, and maximizing the local business opportunities for their community members.

Thank you

Sustainability reports such as this one provide tangible evidence that the mineral development industry is evolving rapidly as it transitions to cleantech

materials production; embraces new, more efficient process technology; and reduces the scale of its initial operations – all resulting in a greatly reduced environmental footprint compared to that traditionally associated with the mining industry. This evolution can also facilitate the development of new materials through science and technology development leading to new downstream business opportunities and deriving more value from Canada's natural resource wealth than historically seen.

As always, Avalon remains committed to its leadership role within the junior resource sector in creating a more sustainable future for the Canadian mineral industry and our shareholders.

Sincerely,

Donald S. Bubar