



2020 Sustainability Report



AVALON
ADVANCED MATERIALS INC.

Avalon's Lilypad Cesium-Tantalum property, northern Ontario

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Forward-Looking Statements

This Report contains “forward-looking statements” within the meaning of the United States Private Securities Litigation Reform Act of 1995 and applicable Canadian securities legislation. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as “potential”, “scheduled”, “anticipates”, “continues”, “expects”, “is expected”, “targeted”, “planned”, “believes”, “will”, “intends” or variations of such words and phrases or the negative thereof. Statements that are not based on historical fact contained in this Report, including through documents incorporated by reference herein, 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 Advanced Materials Inc. (the Company) to be materially different from those expressed or implied by such forward-looking statements. Forward-looking statements reflect the Company’s current views with respect to future events and include among other things, statements with respect to the company’s sustainability initiatives making its projects more cost effective, lower risk, increasing shareholder value and generating benefits for stakeholders, that Company will recover critical minerals from historical mine wastes and economically remediate long term environmental wastes at low cost with no new environmental impacts, that Company will become carbon neutral by target date, the anticipation that it would proceed with certain plans, activities or achieve certain goals or efficiencies, assumptions related to future economic, market or other conditions that while considered reasonable by the Company, are inherently subject to risks and uncertainties, including significant business, economic, competitive, political and social uncertainties and contingencies. 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, the possibility of cost overruns or unanticipated costs and expenses, the impact of proposed optimizations at the Company’s projects, actual results of exploration activities, mineral reserves and mineral resources and metallurgical recoveries, discrepancies between actual and estimated production rate, mining operational and development risks and delays, regulatory restrictions (including environmental), activities by governmental authorities, financing delays, joint venture or strategic alliances risks, or other risks in the mining industry; 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 filed with the securities regulatory authorities in all provinces and territories of Canada, other than Québec, and available at www.sedar.com. Most of the foregoing factors are beyond Avalon’s ability to control or predict. There can be no assurance that the plans, intentions or expectations upon which these forward-looking statements are based will occur. The forward-looking statements contained herein are qualified in their entirety by this cautionary statement. Readers should not place undue reliance on the forward-looking statements, which reflect management’s plans, estimates, projections and views only as of the date hereof. The forward-looking statements contained herein are presented for the purpose of assisting readers in understanding the Company’s expected sustainability performance, the Company’s plans and objectives, and may not be appropriate for other purposes. Avalon does not undertake to update any forward-looking statements that are contained herein, except in accordance with applicable securities law. All currency in this Report is in Canadian dollars, unless otherwise noted.

Message from the President & CEO

On behalf of the Avalon team, I am pleased to present our 9th annual report on sustainability for our 2020 fiscal year (September 1, 2019 – August 31, 2020, or FY2020). Avalon is very much on the forefront of sustainable best practices in mineral development, with a strong track record and a forward-thinking management team that makes sustainability a priority. For some time, Avalon has envisioned the opportunities that sustainable development of critical minerals supply chains offer Canada, but getting these types of projects started has been very challenging. However, our time has now come, with the recent recognition that the transition to a low carbon future cannot happen without adequate supply chains of the many critical minerals needed in clean technologies.

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 are now listening as they try to incentivize creation of these new supply chains. Public support is there as well. The Mining Association of Canada released a national poll which showed that 90% of those

surveyed like the idea of Canada being a preferred source for critical minerals and would like to see government take action to help make it happen.

Energizing Ontario's Economy Through Critical Minerals Supply Chains

Northern Ontario has the immediate opportunity to become a major producer of lithium battery materials. Ontario has abundant resources of all the minerals needed for the cathode and anode chemistries, including lithium, cobalt, graphite, nickel and manganese. There are over 100 known pegmatite (lithium mineral-bearing rock)

occurrences in northern Ontario alone!

There are currently several advanced projects in northwestern Ontario, including Avalon's Separation Rapids Lithium Project and Lilypad Cesium-Tantalum Project, with significant resources of critical minerals ready for development by companies and First Nation communities with aspirations to serve the battery materials markets. Once there is local demand for the lithium mineral concentrates, these deposits can be readily developed at a modest scale, creating new economic development opportunities for Indigenous businesses in the north.



Critical minerals like lithium and rare earths are growing in demand and recent tensions between the United States and China have reminded government of the need for establishing domestic supply chains of these important materials.

Global lithium production is presently largely concentrated in Chile, Australia, Argentina and Africa. However, potential for lithium production exists in most parts of the world from both hard rock and brine resources. China has been most aggressive in adopting electric vehicle technology and currently dominates the downstream lithium battery materials supply chain. In 2019, China mined less than 10% of the world's lithium, but produced 59% of its lithium chemicals and 73% of its lithium battery cells.

Recent lithium forecasts all show rapid growth in demand for lithium battery materials as the trend toward full adoption of electric vehicle technology accelerates. Lithium battery materials supply chains need to be established outside China to ensure future security of supply.

These projects could be the catalyst for the creation of a lithium battery manufacturing business in the province: an important new economic development opportunity. This could also attract electric vehicle manufacturers to Ontario, with significant additional economic and environmental benefits, as well as providing a secure supply source for Canada and its European and international allies.

I continue to advocate for making the necessary regulatory changes to enable critical minerals resources to be developed. It is a very different business compared to traditional mining of exchange-traded bulk commodities and regulatory policy needs to recognize these differences. Importantly, many of these critical mineral resources, of which lithium is a notable example, can be developed with minimal adverse environmental impacts.

Avalon's Separation Rapids Lithium and Lilypad Cesium-Tantalum Projects are positioned to be suppliers of domestic, sustainably-produced critical minerals - it simply involves cutting the regulatory red tape frustrating entrepreneurs in the mineral development sector!

Critical Minerals Recovery from Mine Wastes

Another exciting sustainable initiative Avalon advanced in FY2020 is a business model 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. There are many examples of closed mine sites that were developed decades ago to produce one

traditional commodity. The ore may have contained many other elements that had no value then, but do today. The waste piles and tailings at these sites may now represent significant resources of critical minerals that can be re-developed at a low cost and minimal new environmental impacts.

For example, in the United States, there are hundreds of closed coal mining operations that have legacy environmental issues with acid mine drainage and which contain rare earths and other elements of interest. The potential for economic recovery of rare earths from such sites is now receiving significant attention, as new technologies offer efficient ways to extract them. This includes a new nano-filtration technology developed by [Precision Periodic](#) that Avalon is looking to demonstrate at one or more closed sites.

Sourcing a new, low-cost rare earths supply relatively quickly would reduce North America's reliance on China as a source of these critical minerals. A number of potential sites offering this potential have now been identified by Avalon. Stay tuned for more details on this in 2021!

Sustainalytics' ESG Risk Rating License

In October 2020, Avalon engaged Sustainalytics, a Morningstar company, to conduct an independent audit of our business practices and policies towards obtaining an Environmental, Social and Corporate Governance (ESG) Risk Rating License. Sustainalytics is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. They work with hundreds of the world's leading asset managers and pension funds who incorporate assessments into their investment processes.

Avalon first engaged Sustainalytics (then known as Jantzi-Sustainalytics) in May 2010 to assess Avalon's sustainability performance on its Nechalacho Rare Earth Elements Project at Thor Lake, Northwest Territories. Our sustainability performance was assessed against a number of benchmarks, including stakeholders' expectations, competitors' performance, industry average performance levels, and socially-responsible investor expectations.



We are excited to work with Avalon Advanced Materials. Critical minerals are essential for the advancement of clean technology and for enabling the transition of our economies towards a more sustainable future. Avalon has been a strong advocate of sustainable mineral extraction and for meaningful inclusion of First Nations in the global supply chain of clean technology.

- Tom Eveson, Sustainalytics' Director, Sustainable Finance Solutions

Subsequent to receiving that report, Avalon was inspired to begin producing its first annual sustainability report.

Sustainalytics' ESG Risk Rating will provide investors with third-party validation of Avalon's sustainability performance, along with insights into why certain ESG issues are considered material and how well Avalon is managing its risks and assist Avalon in setting new targets to improve our performance. An ESG Risk Rating can provide better access to ESG investment capital, and commercial benefit externally with creditors, suppliers and other stakeholders. The six-week audit and review process is expected to be completed by mid-December of this year. Results will be discussed in subsequent corporate materials, including next year's sustainability report.

Board of Directors

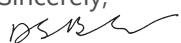
Finally, I would like to welcome two Directors who joined Avalon's Board during the year. Marilyn Spink, P.Eng. is a materials and metallurgical engineer with multi-discipline project execution experience from Feasibility Studies through to basic and detailed engineering, construction and commissioning. Having access to the kind of expertise that Marilyn Spink brings to our Board will be important support for Avalon's ambitions to transition to a profitable producer of lithium and other critical minerals products.

Avalon also welcomed John Fisher, a geologist who most recently served as President and CEO of Niagara-based Walker Industries, a large private company involved in aggregates production, construction, waste disposal and recycling and chemical manufacturing. Walker Industries has 1,100 employees and is recognized for its progressive approach to health and safety, environmental performance and community engagement.

I would also like to thank Brian MacEachen and Jane Pagel for their many years of service to the Company and its shareholders. Both retired from Avalon's Board in FY2020 and we wish them well.

Thank you!

As always, Avalon remains committed to establishing a diversified clean technology materials business, built on strong environmental and social performance. I am so proud to be a part of creating a more sustainable future for the global mineral industry and our shareholders.

Sincerely,

 Donald S. Bubar



Congratulations to Avalon Board member Marilyn Spink, who has been named a 'Global Inspirational Women in Mining' for 2020! The biennial *100 Global Inspirational Women*

in Mining publication is a living history of women who work in mining and highlights the wealth of female talent within the global mining industry, celebrates their "above & beyond" contributions to the industry and identifies role models for future generations.

"It still fascinates me what most people see as simply "rock" can be mined and processed to produce materials that benefit humanity. I have stayed in mining as there is a need to build a "Minerals Literate Society". For example, we need to collectively build an understanding that all the technological devices we depend on, from healthcare to cell phones, would not be possible without mining. Potash helps feed the world. Critical minerals are allowing the shift to a lower carbon economy" – Marilyn Spink

Over more than 25 years managing the technical delivery of complex mine development projects around the world, award-winning engineer Marilyn Spink has seen and done it all, from mechanical design to steel-making processes to managing multi-discipline engineering teams on projects on four continents.

But if you ask Marilyn, her career has been spent "championing the underrepresented" – serving as an advocate and mentor, challenging employers to attract and retain women and increase equity in engineering and mining. Marilyn's take on the drive to push girls into STEM subjects is worth noting: "Do we really need to get more girls excited about science? Children are naturally curious, so maybe we need to deeply look at what society is doing that kills their natural love of science. What messages are we sending?"

Marilyn also serves as Chair of the Advisory Board for the Artemis Project, a start-up that envisions the mining industry as a world-class contributor to the United Nations Sustainable Development Goals, particularly those around environmental, social and corporate governance.

Academic Outreach

Avalon contributes to university education in mineral development through involvement with graduate student research. These research projects directly contribute to resolving technical challenges at Avalon's projects. In FY2020, Avalon continued to support the graduate student work of Garnet Ching and Sarah Bodeving.

Garnet Ching (P.Geo.: Engineers Geoscientists Manitoba) is investigating the "Age relations

and intrusion dynamics of the Separation Rapids pegmatites in Northwestern Ontario." The MSc study is supervised by Professor A. Camacho at the University of Manitoba and aims to refine the lithium pegmatite exploration model through understanding the timing of lithium-bearing intrusions and the interactions with the host rock during emplacement and deformation.

Sarah Bodeving continues her Ph.D. in geology at McGill

University under the supervision of Professor A. E. Williams-Jones. Her doctoral studies are focused on the origin and formation of the lithium pegmatite dykes at the Separation Rapids lithium deposit and their relationship to the Separation Rapids granite pluton. This detailed understanding of the distribution of elements and minerals – which geologists refer to as zonation – will assist in future lithium pegmatite exploration.



Canada's national Health and Fitness Day this year was on June 6th. To help Canadians embrace physical activity during the COVID-19 pandemic, the 2020 message was simply to get up and moving, no matter where you chose to exercise! Avalon staff participated across Ontario and Manitoba over the weekend with strengthening exercises, walking, jogging, canoe paddling, swimming, hiking, gardening, biking and sports.



Morning bike ride of 64 km, just over three hours, with a friend (who just turned 77)!

I made a point of going for a 10 km run after doing yard work for most of the day

Been using my normal morning commute time to run outside for about an hour each day. Did the same on Saturday and went for a bike ride on Sunday along the waterfront trail from Port Credit to Etobicoke, but there were way too many people!

10 km bike ride and three hours of cutting trees

Made it through a 12 km hike at the Sleeping Giant Provincial Park

Rode our stationary bike twice this weekend (a record). Then the kids and I played backyard volleyball and indoor basketball.

Four hours of working on preparing for and mudding my garage in preparation for painting, much of it adding the mud over my head. Preparation meant moving material away from the walls or out of the garage, removing and scraping off old joint material and then adding the mud.



Industry Outreach

Avalon is a proud founding and continuing member of the Canadian Rare Earth Elements Network (CREEN), which is now in the process of transitioning into the industry association Canadian Critical Minerals and Materials Alliance (C2M2A). CREEN was an informal network of prospective Canadian-based rare earths project developers, commercial and national laboratories, academia and independent experts established in 2013. C2M2A will be a more broadly-based industry association to include both upstream critical minerals producers and downstream processors and end-users.

As a member of CREEN, Avalon has been actively involved in facilitating this transition as well as having been directly and indirectly engaged in the following initiatives:

International Standards Organization (ISO TC298 Rare Earths)

At the invitation of the Standards Council of Canada, CREEN heads Canada's Participating Member seat, established to develop standards covering a spectrum of technical, sustainability, environmental and transparency matters. Avalon has provided its expertise in reviewing the International Standards Organization's draft standards under development.

Canadian Rare Earths R&D Initiative

Avalon participates on the industry-led Steering Committee overseeing the six-year, \$16.7 million research and development program which is focused on advancing the science and process technologies aimed at reducing CAPEX and OPEX in mineral and material processing and the development of highly-qualified persons in support of the emerging clean technology sectors.

Canada's Post-COVID-19 Economic Revitalization and Growth Strategy

Avalon participates on the CREEN-led effort to inform policymakers and downstream industrial manufacturers, at their invitation, of strategic and operational opportunities in securing competitive critical minerals supply chains for Canada's economic future. These strategic options focus on national security, industry, strengthening Canadian-based talent pools and global partnering.

Conference of Metallurgists - Critical Material Symposia

Initiated and championed by Avalon in 2012 at the Rare Earth Symposium, under the guidance of the Metallurgical Society of Canada, Avalon continues to serve on the Organizing Committee of this internationally respected bi-annual symposium.

Message from the Vice President, Sustainability

Welcome to Avalon's 2020 Sustainability Report, where we once again review our sustainability progress and goals. These initiatives make our projects more cost effective and decrease risk - adding to shareholder value while protecting the environment and generating benefits for our Communities of Interest. I am pleased to provide an update on project activities throughout the reporting period (September 1, 2019 – August 31, 2020, or FY2020) below.

Separation Rapids Lithium Project

70 km north of Kenora, Ontario

Updated Preliminary Economic Assessment (2018)

Avalon's update to the quarry site plan for the bulk sample crushing and quarry amendment to permit aggregate production (formerly dimension stone only) was approved in March 2020 with no new conditions and no annual limit on aggregate production. We also received approval through a Mining Act Section 91 Exemption to export bulk samples for process testwork at appropriately equipped facilities outside the country.

In June 2020, we received the necessary approvals to proceed with the 2,500 tonne bulk sample extraction program that was originally planned for 2019. This included acceptance for filing by the Ministry of Energy, Mines and Northern Development of Avalon's revised Closure Plan for Advanced Exploration dated January 22, 2020. We connected 64 times throughout FY2020 with Indigenous Communities of Interest local to the Project; and 285 times with non-Indigenous Communities of Interest. There were no objections or concerns submitted from those with whom Avalon is in communication.

The bulk sample extraction will allow Avalon to deliver larger product samples to the customers

Track Record and Awards



No non-compliances with air or water effluent regulations

Helped federal regulators establish new effluent criteria for rare earth elements that previously did not exist

Annual sustainability reporting includes performance against goals



Awarded *Corporate Knights* Future 40 Responsible Corporate Leaders in Canada award 2015, 2016 & 2018

Recipient of Prospectors and Developers Association of Canada Environment and Social Responsibility Award in 2010

President & CEO recipient of PDAC Distinguished Service Award in 2019 for his leadership in building positive industry relationships with Indigenous communities for mineral exploration companies



Numerous contributions/presentations to the industry through PDAC and Mining Association of Canada, as well as students, schools, universities, communities and conferences regarding sustainability issues

that have expressed interest. With customer acceptance of these samples, we can then continue to move forward in 2021 with our plans for initial small-scale production.

We are now in preparation to improve the access road to the main site for shipment of the bulk sample and improve the access trails to the northwest part of the property. In addition to the bulk sampling program, other planned field work includes follow-up exploration work on the Snowbank petalite pegmatite, which was discovered in 2018 on the Paterson Lake claims acquired in 2017.

Laboratory testwork has been ongoing as well throughout the reporting period. This work has been focused on flowsheet optimization to enable more efficient production of the specific types of petalite products that have been requested by various glass and ceramic manufacturers. The original flowsheet employed a flotation process designed to treat both the coarse grained and fine grained petalite ore types. However, the coarse grained petalite ore is also amenable to lower cost processing using ore-sorting and dense media separation to produce a clean concentrate that has not been exposed to flotation reagents (chemicals). This process is more sustainable as it lowers reagent, energy and water requirements and reduces the quantity of tailings produced.

The fine-grained ore would be processed using a flotation process to make lithium mineral concentrates suitable for further hydrometallurgical treatment to produce a high purity lithium hydroxide battery material product. Separation Rapids can be developed with the flexibility to produce several lithium products which will simultaneously and sustainably serve a number of existing and newly emerging market opportunities.

Nechalacho Rare Earth Elements Project

*Thor Lake, Northwest Territories
Feasibility Study (2013)*

In 2020, Avalon completed its purchase and sale agreement for the near-surface resources located on the Nechalacho property. Under the agreement, Cheetah Resources acquired ownership of the near-surface resources on the property (the Upper Zone) for \$5 million while Avalon retained 100% ownership of our heavy rare earth-rich Basal Zone, which was the subject of our 2013 Feasibility Study.

Separation Rapids: Climate Change & GHG Management



Positioned to produce a secure and responsibly-produced North American source of lithium

Investigating elimination of diesel use with electric mining equipment

Ongoing investigation of hybrid clean energy supplies (wind, solar) and storage including partnerships with Indigenous communities



Developed new lithium mineral processing technology to significantly reduce energy use and waste generation, compared with traditional process for making lithium hydroxide for batteries:

- Significantly lower reagent requirement
- Significant reduction in process waste generation
- Optical ore sorting (also reduces water use)
- Electro-dialysis and crystallization

Only about 10% of the Separation Rapids lithium ore is likely to be waste. The host pegmatite rock contains no sulphides or toxic metals - Wabaseemoong Independent Nations' Traditional Knowledge recognized the site as the "Healing Rock."

Water will be suitable for discharge without any treatment, reducing risk and runoff from waste



Will not impact any rare or endangered species. Avalon has included animal corridors through property to protect biodiversity.

Tailings areas can be re-purposed for wild rice production and the pit allowed to fill with river water for fish farming post closure

Cheetah assumed management of its planned work program to develop the T-Zone resource in 2020, where they intend to utilize sensor-based ore-sorting technology (that does not use water or chemicals) to produce rare earths mineral concentrate, as originally contemplated by Avalon. We will continue to provide support services as needed by Cheetah going forward.

Lilypad Cesium-Tantalum Project

150 km north of Pickle Lake, Ontario
Exploration and Development

In addition to the global need for establishing new cesium supply chains, there is also renewed interest in tantalum, another technology metal with very limited supplies. Avalon has now re-activated its 100%-owned Lilypad Cesium-Tantalum Project. Subsequent to the FY2020 year end, we proceeded with a very brief field program at Lilypad to collect rock samples for laboratory testwork. Engagement with the local Eabametoong First Nation was initiated. We also made a donation of \$10,000 (which was matched by Manulife Financial) to the Eabametoong First Nation in order to provide funding for much needed COVID-19 protective equipment for their community. Avalon avoided contact with community members during the field program in order to minimize the risk due to the COVID-19 pandemic.

East Kempville Tin-Indium Project

Yarmouth County, Nova Scotia
Preliminary Economic Assessment (2018)

Negotiation of the agreement with the Acadia First Nation, plant growth experiments on tailings material and the external work required for permitting and full rehabilitation of the site (as opposed to the present perpetual treatment scenario being utilized) remain on hold pending the completion of the purchase agreement with the surface rights holder. However, preparations for required permitting were completed in FY2020 and both the Province and the local community remain very supportive of Avalon's proposed economic, environmental rehabilitation program at the Project.

Carbon Neutral

Lastly, we are proud to announce Avalon initiated strategy development and an assessment of the feasibility for the Company to commit to becoming carbon neutral by 2050. In addition to our work during exploration and development, we developed operational

Avalon is Committed to Achieving Carbon Neutrality by 2050



The only exploration company to transparently report GHG production for past nine years

First to utilize solar power and battery bank at Nechalacho exploration site in the Northwest Territories

Uniquely positioned to cost-effectively engineer clean energy into all projects (multiple studies/options/early stage projects)

Project engineering includes emphasis on minimizing environmental impacts



Future sustainability operational targets being set for priority projects based on engineering studies.

Small scale, scalable projects with small carbon and environmental footprint

Investigating clean energy options and partnerships with Indigenous communities

Looking at recovering critical minerals from historic mine wastes while remediating the long term environmental liabilities

Currently conducting sustainability risk assessment related to climate change



sustainability targets in order to allow customers and investors to compare and validate the sustainability of our processes. To this end, we have advanced the energy design requirements in order to do so well in advance of the standard 2050 targets of other industries and governments.

COVID-19 Pandemic Risk Management

Avalon's office in Toronto has remained largely closed since March 2020 due to the COVID-19 pandemic. Staff continue to work from home with no illnesses reported. In response to the risk of COVID-19, Avalon completed a COVID-19 risk assessment, developed an office protocol and prepared and trained employees on this office protocol for when the office reopens. The protocol identifies the PPE requirements, cleaning needs, monitoring protocols and other precautions for employees traveling to and from and working in the office. A similar protocol was prepared for a three-day sample collection at the Lilypad site as well as Separation Rapids fieldwork.

In the meantime, office equipment has been shut down to minimize power use and reduce fire risk. We continue to monitor the COVID-19 situation to determine the appropriate safety and health precautions, and potential associated training and prevention needs, once a full return to the office is initiated.

I hope everyone out there is staying safe and well! In the meantime, Avalon continues to promote the importance of sustainability in mineral development.

Thank you

As always, thank you to our audience for continuing to support Avalon as we strive to lead the mineral exploration and development industry to higher standards of health and safety, sustainability and environmental stewardship. I would also like to recognize and thank every employee in the Company for their contributions to sustainability and to this report. I also want to thank the Board of Directors and the independent Sustainability Advisory Committee for their reviews of this report.

Sincerely,



Mark Wiseman

People & Community



Employees are encouraged to innovate and grow within the organization over the long term and receive comprehensive medical benefits

Gender diversity with two female members of Board of Directors and 44% of employees women

Avalon is a leader in progressive Indigenous community engagement and in encouraging direct participation of Indigenous Business in project development

Most sites allow daily road access, reducing impacts on families (vs. fly in-fly out), permitting easier employment for caregivers, and reducing risk and energy use



Donation to Eabametoong First Nation to assist with COVID-19 protection, matched by Manulife (2020)

Committed to offering opportunities for active participation by Indigenous business in project development (including clean energy) and employment opportunities for local community members



Signed Accommodation agreement with Deninu K'ue Dene First Nation in 2012 related to the Nechalacho Rare Earths Project, creating business and employment opportunities for the community

FY2020 Goal Performance

The following table summarizes Avalon's performance in reaching its FY2020 sustainability goals, as set in Avalon's FY2019 report. Status of goals is designated as either:

Achieved  Partially Achieved  Not Achieved  Non-Applicable **N/A**

FY2020 Goal	Status	Comments
Health and Safety		
Zero fatalities		There were no accidents in FY2020. Fatality, accident and injury rates for the year were 0.0.
Zero harm		
Zero lost time accidents		In addition, Avalon directed a drill program for Cheetah Resources at the Nechalacho property in early FY2020, which was completed incident-free.
Zero medical aid accidents		
Continue to develop sustainability awareness and improve sustainability performance of those working in the field (employees and contractors)		In September 2019, Avalon achieved the safety objectives set through the updated Health, Safety and Environmental (HSE) program for Cheetah Resources' Nechalacho drilling program. Cheetah has since taken over management of site work, with support from Avalon when requested.
		Avalon participated in Mining Association of Canada (MAC)'s committees to review the wide range of COVID-19 risk reduction options available, and develop industry best practices for the pandemic. The objective is to identify options that have the greatest opportunity to reduce exposure to the pandemic as employees begin to return to work.
Evaluate the transportation requirements of xenotime and prepare a Material Safety Data Sheet		The only known material xenotime mineralization at the Nechalacho Project is located in the T-Zone, now 100% owned and managed by Cheetah Resources. Avalon assisted Cheetah with a Material Safety Data Sheet for the ore in FY2020.

Environment and Permitting

Zero reportable environmental incidents in field work



Avalon did not conduct field activity which would have had the potential to create environmental issues in FY2020, with the exception of managing the drill program for Cheetah Resources without environmental incident.

Monitor proposed and actual regulatory changes in all jurisdictions in which Avalon operates and respond to changes material to Avalon (either independently or through industry associations), and adapt applicable environmental strategies as appropriate



Avalon continued to monitor and respond to federal and provincial regulations throughout FY2020, including:

- Assisting MAC and the Prospectors and Developers Association of Canada (PDAC) in the development of educational materials for a wide range of stakeholders, related to many aspects of the exploration and development industry
- Commenting on the new Fisheries Act and Impact Assessment Act (which replaces the Canadian Environmental Assessment Act)
- Participating in the review of the proposed update to the Migratory Birds Act
- Updating MAC regarding recent studies on rare earths' toxicity (which have little basis in reality). Avalon demonstrated that untreated Nechalacho Project tailing effluent concentrations were naturally lower than the simulated studies MAC referenced. In part due to Avalon's information, some rare earths have been screened out of the Chemical Management Plan process as non-toxic, though they can still be regulated under other mechanisms.
- Participating in the MAC Community of Interest Panel meeting to provide input into Toward Sustainable Mining protocols
- In addition to supporting the submission of the Ontario Stone, Sand and Gravel Association on the Aggregate Resources Act Regulations, Avalon made recommendations for alignment, reduced redundancies and streamlining between the Mining Act and Forestry Management Act. Given the significant differences between traditional large-scale southern Ontario quarries and the small scale, remote quarries needed for mining access road construction or maintenance, this letter recommended several opportunities to align mining and forestry quarries.
- Supporting the MAC/PDAC initiative to document the relatively small amount of land disturbed by mining compared with other land use activities and to educate people that exploration work is a temporary land use activity that has no lasting impacts on the land. New national parks and protected areas have resulted in a loss of land access for exploration in areas that have never been assessed for their potential to host resources of critical minerals for clean technology. Avalon is supporting PDAC to be more active on this file.

Complete alternate preliminary route assessment, design and costing to decide on most effective hydro line route to the Separation Rapids site and installation method; complete Species at Risk study on preferred route, including access roads (pending financing)

N/A

Financing was not available for this assessment in FY2020.

Conduct studies to complete fishery compensation plan at Separation Rapids Project in respect of full time mine development (pending financing)

N/A

Financing was not available for this assessment in FY2020. In August 2020, Avalon submitted two notifications for stream-crossings to the Department of Fisheries and Oceans to allow access with small ATVs for exploration activities, while avoiding any impacts on the stream waters.

Complete closure plan and associated engagement to receive all permits required for Separation Rapids bulk sample program from the Ontario Ministry of Energy, Northern Development and Mines



See Message from the VP, Sustainability on [page 6](#).

Determine if additional work is required in consultation with regulators and other Communities of Interest regarding Separation Rapids Project Environmental and Social Impact Assessment (pending financing)

N/A

Financing was not available for this assessment during FY2020; however, consultation continued periodically with Communities of Interest during the year on the Separation Rapids' bulk sample program and closure plan. Avalon connected 64 times throughout FY2020 with Indigenous Communities of Interest local to the Project; and 285 times with non-Indigenous Communities of Interest. There were no objections or concerns regarding the final design submitted from those with whom Avalon is in communication.

Complete drill program and environmental program on potential wastes and products from Separation Rapids site; collect additional baseline water samples without incident (pending financing)

N/A

Financing was not available for this assessment during FY2020.

Complete additional leachate studies and humidity cell studies for clean tailings cover material at East Kemptville Project; advance or modify disposal strategies based on these results (pending financing and transfer of surface rights)

N/A

All site work at the East Kemptville Project is currently on hold until site access issues resolved with present surface rights holder.

Complete application for acquisition of East Kemptville Mineral Lease; support regulators to facilitate timely approvals (pending financing and transfer of surface rights)

N/A

Avalon's Mineral Lease application has been withdrawn while a new site access request is submitted to the Nova Scotia government.

Complete application for East Kemptville closure plan; support regulators to facilitate timely approvals (pending financing and transfer of surface rights)

N/A

Delayed until site access issues resolved.

Complete East Kemptville Crown Land Transfer Application; support regulators to facilitate timely approvals (pending financing)

N/A

Delayed until site access issues resolved.

Initiate Industrial Approval application at East Kemptville Project (pending financing and approval of Environmental and Social Impact Assessment, closure plan, and Mineral Lease acquisition)

N/A

Delayed until site access issues resolved.

People and Community

Maximize utilization of existing Avalon workforce and talent pool to minimize external costs



Work continues to be accomplished as much as possible in-house to minimize external costs, such as design work and DataShed software training. Eventually, the latter should lead to in-house mineralogy able to be included in resource estimation.

Ensure Avalon's sustainability questionnaire is an effective tool in determining suitability of contractors for applicable site work



Avalon includes its sustainability questionnaire on Requests for Proposals. The contractors' health, safety and environmental record, including sustainability questionnaire responses, are factored into Avalon's ultimate choice of contractor.

Engage with and advance the development of a Memorandum of Understanding (MOU) with the Métis Nation of Ontario (MNO) at the Separation Rapids Project



Avalon held several discussions with the MNO and received a draft MOU in September 2019; however, the document contained significant costs and efforts not appropriate at this stage of project development. Avalon wishes to continue to develop an MOU appropriate for the project stage that includes objectives, identification of mutual benefits, engagement processes and triggers and a commitment to a full Impact Benefit Agreement-type agreement for operations. MNO agreed with Avalon that the MOU as presented was unnecessary at this stage. The MNO did not have any concerns with the bulk sample closure plan in their response to the Ministry of Energy, Northern Development and Mines.

Continue to work with the Wabaseemoong Independent Nations (WIN) to encourage more formal economic development initiatives by the Chief and Council (pending availability and priorities of WIN)

N/A

No economic development initiatives were established with the WIN in FY2020. Avalon continued to periodically inform the WIN of Separation Rapids Project development plans and opportunities.

Encourage and help facilitate collaboration by the WIN with universities and other institutions with regard to issues affecting the community and initiatives in which WIN has interest (pending availability and priorities of WIN)

N/A

In August 2020, Avalon assessed the Separation Rapids Project operations energy profile to initiate analysis of clean energy options to reduce costs and achieve carbon neutrality. Once this design has progressed, WIN will be approached to potentially partner in clean energy initiatives with access to government funding.

Continue to regularly engage with WIN, Niisaachewan Anishinaabe Nation (formerly Ochiichagwe' Babigo' Ining Ojibway Nation), Grassy Narrows First Nation and MNO regarding the Separation Rapids Project



In June 2020, Avalon provided a project update to Indigenous Communities of Interest in the vicinity of the Separation Rapids Project on the bulk sample closure plan. Informal meetings and calls were also completed by Avalon's local Kenora representative.

Establish a community engagement committee with local Communities of Interest, including regulators and Indigenous groups, at the Separation Rapids Project (pending financing)

N/A

Project development and financing were not advanced enough in FY2020 to warrant establishing a community engagement committee at the Separation Rapids Project.

Complete an MOU with the Acadia First Nation in Nova Scotia, with the goal of signing a subsequent Agreement focused on economic partnership regarding the East Kemptville Project (pending financing)

N/A

Avalon held a meeting with the Acadia First Nation band manager to provide an overview of the environmental aspects of the proposed project in September 2019. Regular teleconferences with the Acadia band manager continued until early 2020, and thereafter continued on a less frequent basis when the East Kemptville Project was put on hold, due to access issues from the surface rights holder.

Establish a community engagement committee with local Communities of Interest, including regulators and Indigenous groups, at the East Kemptville Project (pending financing)

N/A

Delayed until site access issues resolved and financing available.

Initiate engagement with the Eabametoong First Nation at Fort Hope, Ontario in order to discuss their support of and participation in potential field work and rehabilitation program at the Lilypad Cesium-Tantalum Project



Avalon management met with Eabametoong First Nation Chief at the PDAC Convention in March 2020. Avalon's President and CEO maintains regular contact with Chief Harvey Yesno.

See Message from the VP, Sustainability on [page 6](#).

Outreach

Facilitate communication between MAC and PDAC; specifically, to provide updates to PDAC on applicable MAC and regulatory initiatives as they develop



An Avalon representative continues to sit on MAC Environment and Science Committees and PDAC CSR and Lands Committees. Through this participation, Avalon helps facilitate communication and action associated with a wide range of ongoing federal regulatory initiatives and participates in submissions from both organizations.

Complete "Exploration 101" one day course program, including background, financing, biodiversity, best practice and land access; present to MAC Communities of Interest Panel and obtain input for exploration activities



In September 2019, the Exploration 101 course was completed with PDAC and MAC assistance and was presented to the MAC Community of Interest Panel in early October. The course was well received and PDAC is considering utilizing it for generating materials for public, school and regulator education purposes.

Continue to successfully run the "Environmental Management in Exploration Safety" course (held every second year) at PDAC Convention 2020



The Environment in Exploration short course was updated, presented and well received at PDAC.

Continue to successfully run the “Exploration Health and Safety” course at PDAC Convention 2020



The Health and Safety short course was updated, presented and well received at PDAC. This was the eighth year the course has been offered, and has now reached over 300 people.

Governance and Economics

100% compliance with all applicable legal and regulatory requirements



No known instances of non-compliance with regulatory requirements. See Avalon’s FY2020 Financial Statements and Management Discussion and Analysis, available publicly on [SEDAR](#) and [EDGAR](#), for more information

Initiate external whistleblower/complaint management system for local Communities of Interest to utilize in case of concerns



Avalon finalized a Community Response Procedure in FY2020.

Avalon will implement the actions to initiate the Community Response Procedure, when the Toronto office reopens, including updates to the Avalon webpage and creating a dedicated telephone line for complaints followed by training for Communities of Interest as projects proceed.

Update Avalon corporate policies for Board of Directors review and approval



A review and update of Avalon’s corporate policies was initiated at the Board level in FY2020 and will be finalized in the next fiscal year. The sustainability section of the Code of Business Conduct and Ethics was updated in August 2020.

Update Avalon’s Sustainability Policy to incorporate project construction and production phases (pending project advancement to construction)

N/A

Construction was not initiated at a project in FY2020.

Based on the Separation Rapids’ updated Preliminary Economic Assessment (2018), operational sustainability targets (e.g., water and energy/tonne of product) were estimated for the Project.

Formalize procedure to onboard site workers to include better communication of Avalon policy information, while maintaining legal requirements (i.e., plain language explanation)



Preliminary plain language versions of Avalon’s Whistleblower Policy and Sustainability Policy were drafted.

Promote Avalon's sustainability leadership and associated advantages in ongoing efforts to acquire strategic partners, investment or other support for Avalon's projects



The focus on sustainability continues to be a positively received story in discussions with governments whom have major policy focuses on clean technology supply chain development and resource efficiency in the production processes.

Avalon continues to promote the opportunity to utilize new technologies to recover critical minerals from historic mine wastes while remediating the long-term environmental liabilities.

In FY2020, a technical sustainability pamphlet was prepared for use by sustainability experts to review Avalon's activities.

Sustainability Performance and Reporting

Conduct a company-wide assessment based on the Climate Change Audit currently being generated by MAC regarding the risks and opportunities posed by climate change that have the potential to generate substantive changes in future operations on all advancing projects



Avalon initiated strategy development and an assessment of the Company's feasibility to commit to becoming carbon neutral by 2050.

A specific climate change risk assessment based on the MAC Guide to Assessing and Incorporating Climate Change into Decision Making for the Mining Sector (that Avalon contributed to developing) is on hold due to the COVID-19 pandemic. In the meantime, many aspects of the potential effects of climate change are already considered in project design (i.e., water management activities and structures).

In FY2020, Avalon developed preliminary sustainability targets for the future mine and concentrator operations at the Separation Rapids Project. Detailed technical information related to Separation Rapids wind, solar, topographic and other information required to select and design an appropriate hybrid energy supply was provided to an expert in this area. Avalon is proposing to offset the Project's future diesel consumption and the 7% of Ontario's energy supply not considered carbon neutral. Similarly, Avalon initiated an investigation into electrical mining equipment in an effort to reduce the need for diesel and gasoline.

Include preferred communication methods and priorities regarding sustainability activities, including Sustainability Report content, in MOU discussions with Communities of Interest local to Avalon's projects (pending advancement of MOU and Agreement discussions)

N/A

MOU and Agreement discussions, financing and project planning were not advanced enough in FY2020 to warrant communication specifically regarding the Sustainability Report preparation process with local Communities of Interest.

Map MAC's Towards Sustainable Mining performance protocols to corresponding United Nations Sustainable Development Goals for Avalon's FY2020 Sustainability Report



See [page 23](#).

If construction initiated on a project, conduct sustainability reporting protocol review to identify and initiate implementation of required management of systems that will permit TSM reporting on specific projects

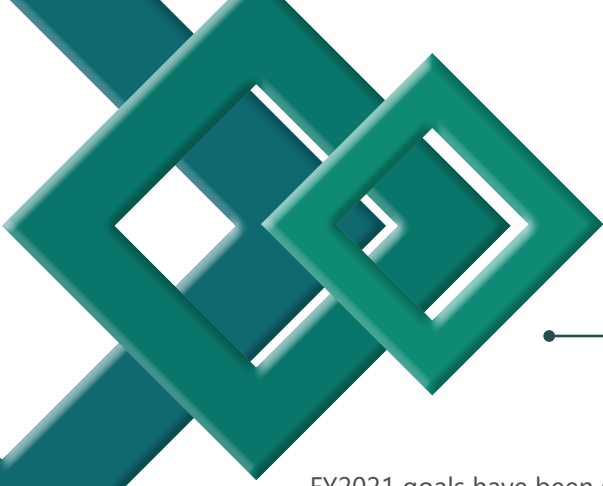
N/A

Construction was not initiated at a project in FY2020.

Produce FY2020 Sustainability Report



Completed.



Short & Long-Term Goals

FY2021 goals have been set by Avalon's management team for the Company's fiscal year 2021 (September 1, 2020 - August 31, 2021). Progress towards these goals will be reported in Avalon's FY2021 Sustainability Report.

Avalon has also set pre-operational or operational goals, to be accomplished as projects with funding advance to production. Finally, long-term goals illustrate the high-level, long-term objectives of Avalon.

FY2021 Goals

Pre-Operational/Operational

Long-Term

Health and Safety

- Zero fatalities
- Zero lost time accidents
- Zero medical aid accidents
- Create additional metrics to compare Avalon's health and safety performance against peers
- Support the Prospectors and Developers Association of Canada (PDAC) efforts to improve exploration industry safety performance through active membership on the PDAC Health and Safety Committee
- Successfully run the "Exploration Health and Safety" course at 2021 PDAC Convention

- Complete the procedures and systems to support the Avalon Health, Safety and Environmental (HSE) construction management plan to achieve the applicable Mining Association of Canada (MAC)'s Towards Sustainable Mining (TSM) AAA ratings prior to the start of construction, and update it prior to the start of operations
- Extract, crush and ship a bulk sample from Separation Rapids deposit without environmental, health or safety incident

- To never cause harm to people in the pursuit of production and profits
- Create an injury free workplace and enhance the well-being of employees, contractors and the communities in which we operate
- Demonstrate through metrics that Avalon is among the leaders of exploration and mineral developers in health and safety standards
- Consistently improve health and safety performance and awareness of employees and contractors working in the field
- Contribute to improved health and safety performance of global mineral industry

Environment and Permitting

- Zero reportable environmental incidents in field work
- Inventory and proactively handle all rock and rock-derived materials in storage, whether geological or metallurgical, and either disposing of appropriately or ensuring appropriate storage conditions, thus reducing corporate environmental risks
- Monitor and respond to proposed and actual regulatory changes in all jurisdictions in which Avalon operates (independently or through industry associations)
- Engage with government and regulators to provide industry advice and perspective on more effective, practical and achievable governance in cleantech materials development
- Create and evaluate additional metrics to compare Avalon's environmental performance against peers
- Conduct prioritized project-specific financial and other risk assessments regarding the risks and opportunities posed by climate change that have the potential to generate substantive changes in future operations.
- Update and expand alternative energy source options at Separation Rapids
- Facilitate communication between MAC and PDAC; specifically, to provide updates to PDAC on applicable MAC and regulatory initiatives as they develop
- Complete the procedures and systems to support the Avalon HSE management plan for construction to achieve applicable TSM AA rating for all environmental indicators prior to the start of construction, and update it prior to the start of operations
- Carbon net neutrality designed in all project models to the extent practical
- Determine if additional work is required in consultation with regulators and other Communities of Interest regarding Separation Rapids Project Environmental and Social Impact Assessment
- Complete alternate preliminary route assessment, design and costing to decide on most effective hydro line route to the Separation Rapids site and installation method; complete any required environmental studies on preferred route, including access roads
- Conduct review of options and initiate the approval process for the fishery compensation plan at Separation Rapids Project in respect of full time mine development
- Preserve and protect the long-term health, function and viability of the natural environment and Species at Risk
- Develop and utilize innovative technologies in support of finding better ways to create value while protecting the environment
- Operate in jurisdictions with effective, practical and achievable regulations through constructively engaging with government and regulators (independently or through industry associations)
- Demonstrate through metrics that Avalon is among the leaders among exploration and mineral developers in environmental standards and carbon net neutrality
- Contribute to improved environmental performance of global mineral industry

Community, People and Outreach

- Implement the external whistleblower/complaint management system for local Communities of Interest to utilize in case of concerns, including website and dedicated telephone number; implement a prioritized communications plan
- Continued engagement with Indigenous governments and organizations at projects, including helping facilitate collaborations with other institutions
- Advocate for better industry sustainability practices and increase public awareness about the minerals/metals sector through industry associations
- Include preferred communication methods and priorities regarding sustainability activities, including Sustainability Report content, in discussions with Communities of Interest local to Avalon's projects
- Establish collaborative economic partnerships and Agreements with Communities of Interest local to project sites before operations
- Establish community engagement committee with local Communities of Interest, including regulators and Indigenous groups early in project advancement
- Conduct a stakeholder mapping exercise to update Communities of Interest and assess material topics
- Be a responsible corporate citizen and contribute to the social and economic well-being of the communities associated with our activities
- Establish and support authentic partnerships to create shared success and prosperity
- Create a workplace based on mutual respect, fairness and integrity where employees are encouraged to innovate and grow within the organization over the long-term
- Increase public awareness about the minerals/metals sector through industry associations
- Support Canada's global leadership by advancing materials research through collaboration with universities, government and industry

Governance and Economics

- Update Avalon corporate policies for Board of Directors review and approval
- Promote Avalon's sustainability focus and associated advantages in ongoing efforts to acquire strategic partners, investment or other support for Avalon's projects
- Update Sustainability Policy to incorporate project construction and production phases
- Establish management bonus system that includes sustainability performance
- Formalize procedure to onboard site workers to include better communication of Avalon policy information, while maintaining legal requirements (plain language explanation)
- Acquire strategic partners, investment or other support for Avalon's projects due, in part, to Avalon's sustainability leadership and associated advantages
- Conduct our business openly, honestly and ethically to keep our promises and commitments
- Create shareholder value through the development and operation of one or more projects in a sustainable and profitable manner

Sustainability Performance and Reporting

- Complete external sustainability audit and prioritize any gaps identified in the audit and prepare and implement a schedule and plan to address the gaps
- Produce FY2021 Sustainability Report
- Develop, formalize and externally-audit HSE management systems appropriate to the project phase
- Conduct sustainability reporting protocol review to identify and initiate implementation of required management of systems that will permit TSM reporting, including input from Communities of Interest.
- Investigate and implement options for electronically-tracking and management of sustainability performance
- Integrate financial and sustainability reporting, once audits demonstrate compatibility with financial systems
- Consistently improve sustainability performance and awareness through annual benchmarking
- Demonstrate through metrics that Avalon is among the leaders in exploration and mineral developers in reporting standards and recommended frameworks

Towards Sustainable Mining Self-Assessment

Avalon annually reports on the Mining Association of Canada (MAC)'s *Towards Sustainable Mining* (TSM) protocols. The guidance that is provided assists all mining companies in measuring and improving their performance in eight areas of operational performance. Information on the protocols, frameworks and grade can be found on [Mining.ca/towards-sustainable-mining](https://www.mining.ca/towards-sustainable-mining).

Avalon reports on six of the eight performance protocols, excluding Tailings Management and Preventing Child and Forced Labour. As a non-operating company, Avalon has been welcomed by MAC to provide non-verified self-assessments. The following is a summary of Avalon's FY2020 performance in reaching its TSM performance indicators, as well as FY2021 targets and action plans.

As discussed on page 25 of Avalon's [2019 Sustainability Report](#), the table below contains icons to indicate which United Nations Sustainable Development Goal(s) the TSM protocol corresponds with.

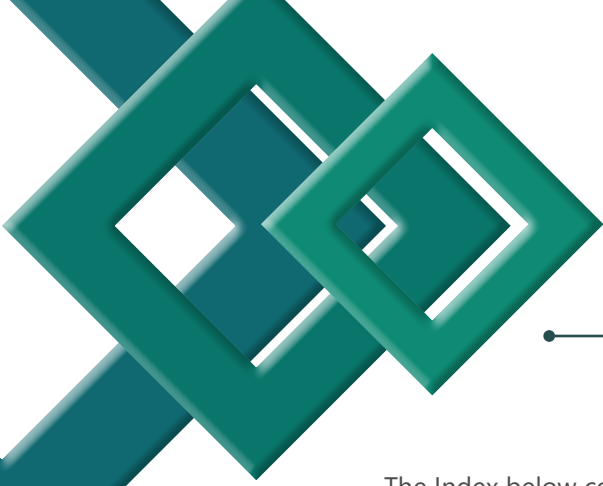
TSM Performance Indicator	FY2021 Target	FY2021 Action Plan	FY2020 Actual	FY2020 Action Taken	FY2020 Target	
Indigenous and Community Relationships						
Communities of Interest Identification	AA	Continue to advance Memorandum of Understandings or Impact Benefit Agreements at all projects that receive funding to advance to the next phase of development; continue with periodic updates and engagement as projects develop.	AA	See FY2020 Goals starting on page 10 .	AA	 
Effective Communities of Interest Engagement and Dialogue	AAA	Meaningfully engage with all Indigenous Communities of Interest on all projects that advance to the next stage of development.	AAA	See FY2020 Goals starting on page 10 .	AA	
Effective Indigenous Engagement and Dialogue	A		A	See Disclosure 411-01 on page 44 .	Introduced in 2020	
Community Impact and Benefit Management	AA		AA	See Disclosure 203-01 on page 35 .		
Communities of Interest Response Mechanism	AAA	Fully implement the corporate external whistleblower/complaint management system for local Communities of Interest to utilize in case of concerns, including website and dedicated telephone number for advancing projects.	AAA	See FY2020 Goals on page 10 and Disclosure 411-01 on page 44 .	AAA	
Energy and Greenhouse Gas Emissions						
Energy use and greenhouse gas emissions management systems	A	Continue to develop sensor-based ore-sorting or other energy saving technologies. Continue to investigate and analyze the potential to become carbon neutral. Monitor technology development in the mining industry through industry associations and conferences.	A	Avalon further investigated sensor-based ore-sorting at Separation Rapids and East Kemptville. Avalon began investigating opportunities to utilize energy efficient nano-bead treatment and process technology to recover metals at abandoned mine sites to support reclamation activities.	A	  

TSM Performance Indicator	FY2021 Target	FY2021 Action Plan	FY2020 Actual	FY2020 Action Taken	FY2020 Target
Energy use and greenhouse gas emissions reporting systems	A	Expand energy reporting to additional projects (pending financing); continue to participate in industry associations with respect to climate change initiatives.	A	Avalon participated in industry association efforts to lobby for practical and achievable regulation and mitigate cost risks. See Disclosures 302-01, 302-02 and 302-04 on page 36 .	A
Energy and greenhouse gas emissions performance targets	A	Continue to assess impact and cost of regulation on greenhouse gas and energy reporting; utilize efficiency targets when in production. Assess the potential to be carbon neutral at Separation Rapids based on 2020 project model and 2018 updated Preliminary Economic Assessment.	A	Avalon developed energy targets for Separation Rapids operations based on 2018 updated Preliminary Economic Assessment.	A
Biodiversity Conservation					
Corporate biodiversity conservation commitment, accountability and communications	A	Continue to advance environmental baseline studies for financed projects as necessary; develop biodiversity management plans for species of importance as required for advancing projects.	A	A Biodiversity Policy was developed for application at advanced projects.	A
Facility-level biodiversity conservation planning and implementation	A	Continue to advance biodiversity management plans for financed projects in consultation with regulators, Indigenous and other Communities of Interest.	A	The Nechalacho Project has comprehensive biodiversity management plan equivalents in place. Environmental baseline studies have been completed for Nechalacho, Separation Rapids and East Kemptville projects. No additional projects advanced to the stage that biodiversity management plans were required in FY2020.	A
Biodiversity conservation reporting	A	In addition to annual Sustainability Report, engage on biodiversity management with Communities of Interest for projects that move to next phase.	A	Assisted Cheetah Resources to update biodiversity protection planning at the Nechalacho property. There were no known impacts on biodiversity values as a result of activities in the reporting period.	A
Safety and Health					
Commitments and accountability	A	Continue to review and assign operational health, safety and environment responsibilities at active project sites. Advance safety programs for projects that advance to next stage of development.	A	In September 2019, Avalon achieved the safety objectives set through the updated Health, Safety and Environmental (HSE) program for Cheetah Resources' Nechalacho drilling program. Cheetah has since taken over management of site work, with support from Avalon when requested.	A
Planning and implementation	A	Conduct risk assessments and prepare safety management plans for new projects and update old assessments as appropriate. Continue to monitor the COVID-19 pandemic, update procedures as required and train all employees and contractors as required.	A	See VP, Sustainability message on page 6 . The emergency response plans at Nechalacho and Separation Rapids were updated, and plans for Lilypad and Warren Township prepared for survey work. Risk assessment and extensive work on COVID-19 procedures and office re-opening plan prepared.	A



TSM Performance Indicator	FY2021 Target	FY2021 Action Plan	FY2020 Actual	FY2020 Action Taken	FY2020 Target
Training, behaviour and culture	AA	Train all personnel as appropriate for site work and COVID-19 procedures.	AA	See VP, Sustainability message on page 6 . All applicable employees trained on new or updated emergency response plans as required.	AA
Monitoring and reporting	A	Continue to report leading and lagging indicators at material projects.	A	See Message from the VP, Sustainability on page 6 .	A
Performance	AA	Set and work toward safety targets appropriate for the work. Target recordable injuries for drilling programs.	AA	See Message from the VP, Sustainability on page 6 .	AA
Crisis Management and Communications					
Crisis management and communications preparedness	Comp.	Review and amend emergency response plans, including incorporating COVID-19 procedures, as required for potential new project areas; update existing emergency response plans as necessary and train appropriate employees.	Comp.	See Message from the VP, Sustainability on page 6 .	Comp.
Review	Comp.	Install new computers and assess need to replace servers. Update emergency response plans at active sites.	Comp.	See Message from the VP, Sustainability on page 6 .	Comp.
Training	Comp.	Complete a desktop crisis simulation, pending financing for an advancing project.	N/A	No simulations were carried out due to lack of financing and project advancement to required stage.	Comp.
Water Stewardship					
Water governance	A	Drillers and employees to be made aware of responsibilities for water management at all drill programs. Spill and emergency response plans will be in place, equipped and trained at all active sites.	A	Responsibility for water management established and communicated for active sites. Avalon's Sustainability Policy also addresses water use. Only intermittent, small quantities of water were used in short-term drilling programs in FY2020. Spill emergency response programs were in place at all active sites.	A
Operational water management	A	Complete a study to evaluate options to compensate for potential loss of fisheries habitat at the Separation Rapids Project. Update the water balance if applicable.	A	Water recycling built into Separation Rapids, Nechalacho and East Kemptville Project designs. Groundwater testing and impact on open pit design initiated. Plans in place for groundwater and surface water monitoring.	A
Watershed-scale planning	A	Evaluate the need for broader watershed-scale planning at sites that are funded and advancing.	A	Site water balances are in place, including recycling at all advanced projects. Dry stack tailings design at the Separation Rapids Project and nearby English River water flow and elevation managed at up and downstream hydro dams. Discussions related to water quality issues and potential for joint study in English River held with the Wabaseemoong Independent Nations.	A
Water performance and reporting	A	Evaluate need for or opportunities to augment site water quality and quantity monitoring at sites with active water discharges. Report performance in annual Sustainability Reports where collected.	A	Limited water use in FY2020.	A





Global Reporting Initiative Index

The Index below contains a column with icons to indicate which United Nations Sustainable Development Goal(s) the GRI Disclosure corresponds with. For more information on the Sustainable Development Goals and Avalon's integration into its reporting, see page 25 of Avalon's [2019 Sustainability Report](#).

Please note that, due to Avalon not significantly changing its form, governance or approach to material topics during the fiscal year, many of the Disclosures in the Index below contain repetitive text from Avalon's previous reports.

Organizational Profile

Name of organization 102-01

Avalon Advanced Materials Inc. (Avalon or the Company)

Activities, brands, products, and services 102-02

Avalon is a mineral resource exploration and development company that owns five projects across Canada, all potential sources of critical minerals for clean technologies. Avalon is also evaluating opportunities to apply new extraction technologies to recover rare earths and other metals from historic mine wastes, including acid mine drainage, at closed mine sites across North America, while remediating the long-term environmental liability.

Location of headquarters 102-03

Toronto, Ontario, Canada.

Location of operations 102-04

Canada. See Avalon's website at [Projects](#) for specific project locations.

Ownership and legal form 102-05

Avalon is a Canadian corporation continued under the Canadian Business Corporations Act. It is a publicly-traded company with common shares listed on the Toronto Stock Exchange, on the OTCQB in New York and on the Frankfurt Stock Exchange in Germany.

Markets Served 102-06

As none of Avalon's projects are currently in production, the Company does not yet serve any market with a product or service. Avalon is primarily targeting the clean technology sector, where new demand is being created for elements such as lithium, tantalum, cesium and the rare earths.

Scale of the Organization 102-07

See Avalon's 2020 Year End Financial Statements available publicly on [SEDAR](#) and [EDGAR](#).

Information on employees and other workers
102-08

As of August 31, 2020, Avalon had seven permanent, full time employees (three female, four male) and two permanent, part time employees (one female, one male). The permanent workforce is based in Toronto, Ontario, Canada. Avalon employs contracted individuals in some corporate roles, as well as project site roles as needed.

Supply Chain
102-09

Avalon purchases goods and services to develop the properties it owns. It does not currently sell any products or services.

Significant changes to the organization and its supply chain
102-10

No significant changes during FY2020 in Avalon's ownership, scale or supply chain.

In FY2019, Avalon and Cheetah Resources signed a purchase and sale agreement under which Cheetah acquired ownership of the near-surface T-Zone and Tardiff Zone rare earth resources at the Nechalacho property for C\$5 million. In October 2019, Avalon received the final installment payment and the agreement closed effective December 31, 2019. Avalon retains its ownership of the mineral resources below a depth of 150 metres above sea level (including the Basal Zone deposit) and will continue to have access to the property for exploration, development and mining purposes.

Avalon has included the September 2019 drill program it managed for Cheetah within its health and safety statistics. However, greenhouse gas emissions, wastes and water usage from Cheetah's work programs are not calculated as part of Avalon's overall data.

Precautionary Principle or approach
102-11

Avalon applies the precautionary approach in its management of environmental risk. This approach reflects the need to take prudent action in the face of potentially significant risk without having to await the completion of further scientific research for confirmation. The precautionary approach incorporates a cost benefit analysis to ensure that the lack of full scientific certainty is not used as a reason for postponing cost-effective measures to prevent unnecessary environmental degradation.

External Initiatives
102-12

Avalon has [publicly subscribed](#) to the principles and practices of the Prospectors and Developers Association of Canada (PDAC)'s *e3 Plus: A Framework for Responsible Exploration* and the Mining Association of Canada (MAC)'s *Towards Sustainable Mining* (TSM) framework.

Membership of associations
102-13

Association & Membership Level

Association for Mineral Exploration British Columbia

- Member
- Health and Safety Committee Member

Canadian Rare Earth Elements Network

- Founding Member
- Executive Committee Member

International Standards Organization TC298 Rare Earths Canadian Mirror Committee

- Committee Member

Mining Association of Canada

- Member of the Board
- Environmental Committee Member
- Science Committee Member
- Community of Interest Panel

NWT & Nunavut Chamber of Mines

- Member

Prospectors and Developers Association of Canada

- Lands Committee Member
- Health and Safety Committee Chair
- Indigenous Affairs Committee Member
- Convention Planning Member
- Corporate Social Responsibility Committee Member
- Geoscience Committee Member
- Awards Committee Member

This information refers to memberships maintained at the organizational level. In addition, Avalon supports its President and CEO, Don Bubar's participation on the Advisory Board to the Faculty of Science of McGill University, as a Director of PDAC's Mining Matters earth science education program and as a Board member of the Nature Foundation supporting the Canadian Museum of Nature in Ottawa.

Strategy

Statement from senior decision-maker
102-14

See Message from the President and CEO on [page 1](#).

Key impacts, risks and opportunities
102-15

See Message from the VP, Sustainability on [page 6](#), FY2020 Goals on [page 10](#) and Disclosures on Management Approach on page 46 of Avalon's [2017 Sustainability Report](#).

Ethics and Integrity

Values, principles, standards and norms of behavior
102-16

See Avalon's website at [About - Governance](#).

Mechanisms for advice and concerns about ethics
102-17

The Whistleblower Protection Policy establishes procedures for managing complaints received regarding accounting, internal accounting controls, auditing matters or violations of the Company's Code of Business Conduct and Ethics. All good faith reports of suspected violations will be treated fairly and without reprisals. Investigations will be conducted into all allegations of inappropriate behaviour. The Whistleblower Protection Policy provides contact persons independent of management for those who wish to file a report and is found on Avalon's website at [About - Governance](#). When an operation is in place, Avalon will look at employing appropriate external mechanisms for reporting concerns, including a community grievance mechanism.



Governance

Governance structure 102-18

Avalon is a widely held public company that is overseen by its Board of Directors and managed by its senior management team. For further information, see Avalon's website at [About - Directors and Committees](#).

Delegating authority 102-19

During Board meetings, the Board of Directors receives regular input from Avalon's management team with regard to economic, environmental, community and risk management concerns, both internal and external. These are held at least four times a year (five meetings in FY2020) or as necessary to address other matters that may arise between quarterly meetings. When required, the Directors take action on this input by providing direction to senior management or through amendments, to the Company's policies. Current policies are found on Avalon's website at [About – Governance](#).

Executive-level responsibility for economic, environmental and social topics 102-20

Avalon's President and CEO, Don Bubar, is the primary contact for informing the Board of Directors of any concerns. Reporting to the President, Avalon has also appointed Jim Andersen, VP, Finance and CFO; Bill Mercer, VP, Exploration; and Mark Wiseman, VP, Sustainability, to be responsible for the day to day management of economic, environmental, safety, process development, risk management programs and social topics, and provide a quarterly update to the Board of Directors on these matters.

Consulting stakeholders on economic, environmental and social topics 102-21

Avalon's Board of Directors is updated by the CEO on relevant developments. Avalon management regularly engages with its Communities of Interest in order to provide project updates and obtain feedback. As well, Communities of Interest may contact the appropriate manager for consultation, most frequently through the VP, Exploration; VP, Sustainability; President and CEO; or Manager, Investor Relations. The Chair of the Board of Directors is accessible to Communities of Interest for outreach on unanswered concerns.

Composition of the highest governance body and its committees 102-22

See Avalon's website at [About - Directors and Committees](#).

Chair of the highest governance body 102-23

Alan Ferry is non-executive Chair of Avalon's Board of Directors.



**Nominating
and selecting
the highest
governance
body
102-24**

The responsibility of nominating an individual as a Director of the Company falls under the Compensation, Governance and Nominating (CGN) Committee. In making its recommendations, the CGN Committee will consider the candidates': competencies and skills (including experience in economic, environmental or social topics); ability to devote sufficient time and resources; diversity; and compliance with the requirements of the applicable securities regulatory authorities. The CGN Committee periodically reviews the size and composition of the Board and Board Committees and accepts recommendations from the President and CEO. As a publicly-traded company, all members of Avalon's Board of Directors are re-elected by shareholders' votes at the Company's Annual General Meeting.



**Conflicts of
interest
102-25**

The Board of Directors conducts periodic reviews of the Company's Code of Business Conduct and Ethics, which all Directors and employees are subject. Additionally, Directors are bound by the rules of the Canada Business Corporations Act. The Act obliges Directors to disclose material interest in any transaction or arrangement that the Board is contemplating. Directors who have divulged such an interest are prohibited from participating in the analysis or voting on the disclosed transaction. The Company's Code of Business Conduct and Ethics was updated subsequent to the reporting period. Avalon is currently reviewing all its corporate policies, and expects many documents to be updated in early 2021.



**Role of highest
governance
body in setting
purpose, values
and strategy
102-26**

Avalon's Vision, Mission and Values statement received Board Approval in 2013. Material revisions to this and other corporate policies require Board approval. Each year, senior management and the Board review the Company's sustainability goals in the annual Sustainability Report.

**Collective
knowledge
of highest
governance
body
102-27**

See GRI Disclosure 102-19 on [page 29](#).



**Evaluating
the highest
governance
body's
performance
102-28**

The Board of Directors conducted a self-assessment during FY2015 with respect to overall effectiveness and performance. The evaluation was conducted and reviewed internally. There were no specific actions that came or were identified from the self-assessment. Similar assessments are planned to be conducted in the future.

Identifying and managing economic, environmental and social impacts 102-29

Avalon continuously works at embedding risk management practices throughout the organization, from periodic reporting of high level risks to the Board of Directors through daily risk assessments with front line employees. Avalon's risk management practices include a formal process to identify, evaluate, rank, mitigate, monitor and assign responsibility for all types of risks facing the Company. High level and moderate risks must be regularly monitored and mitigated to within acceptable levels.

Emergency preparedness is a component of risk management. Avalon has developed site-specific emergency response plans to deal with emergencies that could impact its business, including a response and notification procedure to ensure action plans are put in place and information is disseminated in an efficient and reliable manner. These plans are updated at a minimum of every three years, or whenever there is a significant change in scope of work at an active project.

Effectiveness of risk management processes 102-30

Avalon's VP, Sustainability and VP, Finance have day to day responsibility for management of economic, health and safety, environmental and social risks. Health and safety responsibility is assigned at all levels within the Company as part of the health, safety and environment management plan. Material, high level risks are periodically reported to the Board of Directors at their request, or on the recommendation of management to ensure that risk management systems are in place and operating to manage these risks to acceptable levels. Increased scrutiny occurs when there is a significant change in a project's status or phase.

Review of economic, environmental and social topics 102-31

See GRI Disclosure 102-19 on [page 29](#).

Highest governance body's role in sustainability reporting 102-32

The VP, Sustainability is responsible for all aspects of sustainability reporting. The annual Sustainability Report is reviewed by members of senior management, the Board of Directors and the Sustainability Advisory Committee.

Communicating critical concerns 102-33

See GRI Disclosure 102-19 on [page 29](#).

Nature and total number of critical concerns 102-34

Avalon did not experience any health and safety, environmental, or financial critical concerns over the course of FY2020. Mechanisms for addressing critical concerns is as described in Avalon's Whistleblower Protection Policy found on Avalon's website at [About - Governance](#).

**Remuneration
policies
102-35**

Avalon's CGN Committee aims to evaluate and maintain fair and reasonable levels of compensation. Compensation to Avalon's executive officers, including the President and CEO, has three components: base salary, cash bonuses and incentive stock options. Bonus compensation is an occasional cash component of management compensation in order to permit the recognition of outstanding individual efforts, performance (including health, safety, environmental and community), achievements and/or accomplishments by members of the Company's management team. The stock option plan and other stock based compensation is intended to align employees' performance with the interests of the shareholders in the continued growth of the Company. Employee options, in general, are vested at 25% per year over four years starting on their first anniversary date. Options are granted annually and priced to reflect prevailing market conditions. The Board receives remuneration for acting as Directors.

See Avalon's 2020 Year End Financial Statements with Management Discussion and Analysis publicly available on [SEDAR](#) and [EDGAR](#), or Avalon's annual Information Circular available on its website at [Investors - Regulatory Filings](#).

**Process for
determining
remuneration
102-36**

Senior executive compensation is governed through the approval of the CGN Committee. Compensation of non-executive employees is determined by management and is based on market conditions, values and individual performance. Avalon currently does not rely on remuneration consultants to establish compensation levels, but has utilized external salary surveys to determine market values.

**Stakeholders'
involvement in
remuneration
102-37**

The Company's methodology and practices with respect to remuneration are described in detail in the Company's 2020 [Information Circular](#). No issues were raised by the shareholders with respect to remuneration at the Company's Annual General Meeting in February 2020.



Stakeholder Engagement

**List of
stakeholder
groups
102-40**

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's [2016 Sustainability Report](#).

**Collective
bargaining
agreements
102-41**

None.



**Identifying
and selecting
stakeholders
102-42**

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's [2016 Sustainability Report](#).

Approach to stakeholder engagement
102-43

As reflected in the table below, Avalon regularly conducts Communities of Interest engagement at a level commensurate with project activity. Avalon welcomes comments and questions regarding its annual Sustainability Reports, and all sustainable initiatives undertaken by the Company throughout the year. Engagement is part of the way Avalon conducts business and is not undertaken specifically as part of the report preparation process. In FY2020, engagement lessened at some projects due to the COVID-19 pandemic and project activity.

	Separation Rapids			East Kemptville			Nechalacho			Lilypad			Multiple Project		
	2020	2019	2018	2020	2019	2018	2020	2019	2018	2020	2019	2018	2020	2019	2018
Total Non-Indigenous	285	124	126	142	54	119	136	58	47	0	0	1	981	40	20
(Contacts)	57	108	98	88	42	48	52	42	28	0	0	1	175	21	4
(Engagements)	228	16	28	54	12	71	84	16	19	0	0	0	806	19	16
Government/Regulators	252	245	125	49	66	43	76	122	36	0	0	1	253	31	5
Other	11	0	1	31	0	21	11	5	11	0	0	0	728	481	15
NGOs	0	0	0	6	0	55	0	48	0	0	0	0	0	0	0
Surface Rights Holder	0	0	0	55	43	0	0	0	0	0	0	0	0	0	0
Total Indigenous	64	162	111	31	19	30	44	58	17	9	1	3	2	1	2
(Contacts)	64	159	105	7	14	4	40	47	16	9	1	3	2	1	2
(Engagements)	0	3	6	24	5	26	4	11	1	0	0	0	0	0	0
Indigenous Governments & Org.	58	159	79	32	62	30	58	106	14	9	5	3	0	0	0
Indigenous Business	26	68	28	0	0	0	26	21	3	0	0	0	0	2	1
Indigenous Other	2	12	4	0	43	0	2	2	0	0	0	0	2	0	1
Indigenous Rights Violations	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Key topics and concerns raised
102-44

Engagement continued at all active projects in FY2020. The Company also engaged with industry associations, regulators and federal and provincial governments throughout FY2020, on a range of regulatory initiatives with the potential to impact Avalon's projects. Much of this engagement was to provide advice on needed policy and regulatory changes to help enable the creation of critical minerals supply chains in Canada. This included submissions directly from the Company or included with MAC responses. See the Message from the VP, Sustainability on [page 6](#).

Reporting Practice

Entities included in the consolidated financial statements
102-45

See Avalon's 2020 Year End Financial Statements available publicly on [SEDAR](#) and [EDGAR](#). This Sustainability Report does not cover inactive or non-material entities that may be mentioned within the Company's Financial Statements.

Defining report content and topic Boundaries
102-46

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's [2016 Sustainability Report](#).

List of material topics
102-47

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's [2016 Sustainability Report](#).

**Restatements
of information
102-48**

There have been no restatements of Avalon's previous Sustainability Reports.

**Changes in
reporting
102-49**

See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's [2016 Sustainability Report](#).

**Reporting
period
102-50**

September 1, 2019 to August 31, 2020 (Avalon's 2020 fiscal year, or FY2020).

**Date of most
recent report
102-51**

November 29, 2019.

**Reporting cycle
102-52**

Annual.

**Contact point
for questions
regarding the
report
102-53**

Avalon's VP, Sustainability, Mark Wiseman, can be reached at sustainability@AvalonAM.com or +1-416-364-4938.

**Claims of
reporting in
accordance
with the GRI
Standards
102-54**

This Sustainability Report has been prepared in accordance with the GRI Standards: Core option.

**GRI content
index
102-55**

This complete GRI Content Index begins on [page 26](#).

**External
assurance
102-56**

This Sustainability Report has not been externally assured. At this time, there is a low level of risk in the information presented herein and the fundamental systems used to gather data. As Avalon's projects progress and the Company grows in size and resources, the formal reporting systems will be externally assured.

GRI 103: Management Approach 2016

**Explanation of
the material
topic and its
Boundary;
management
approach and
its components
103-01/02/03**

See Disclosures on Management Approach starting on page 46 of Avalon's [2017 Sustainability Report](#).



Direct economic value generated and distributed 201-01

Direct economic value generated and distributed

	FY2020	FY2019	FY2018	FY2017	FY2016
Revenue	\$0	\$0	\$0	\$0	\$0
Interest	\$24,787	\$42,819	\$61,777	\$28,211	\$35,160
Management fees	\$109,351	\$10,204	\$0	\$0	\$0
Expenses	\$7,922,144	\$3,594,034	\$3,520,753	\$3,703,000	\$3,990,945
Loss from Operations	-\$7,788,006	-\$3,541,011	-\$3,458,976	-\$3,674,789	-\$3,955,785
Gain on sale of property, plant and equipment	\$2,373,261	\$0	\$0	\$0	\$0
Net Loss before income taxes	(\$5,414,745)	(\$3,541,011)	(\$3,458,976)	(\$3,674,789)	(\$3,955,785)
Deferred Income Tax Recoveries	-\$47,481	\$154,676	\$218,232	\$317,468	\$416,140
Net Loss for the Year	-\$5,367,264	-\$3,386,335	-\$3,240,744	-\$3,357,321	-\$3,539,645



Defined benefit plan obligations and other retirement plans 201-03

Avalon currently has no defined benefits plan but plans to establish them in the future when a long-term revenue generating, producing operation has been established.

Financial assistance received from government 201-04

Avalon received \$206,327 through the Canada Emergency Wage Subsidy and \$49,998 through the Canada Emergency Commercial Rent Assistance.

GRI 203: Indirect Economic Impacts 2016

Infrastructure investments and services supported 203-01

In April 2020, Avalon made a \$10,000 donation to facilitate delivery of hand sanitizer to the Eabametoong First Nation community, local to the Lilypad Project. The donation was matched by Manulife Financial and organized by GlobalMedic.

Other than educational institutional supports, there were no infrastructure developments, services or investments supported by Avalon during FY2020.



GRI 204: Procurement Practices 2016

Proportion of spending on local suppliers 204-01

Separation Rapids Expenditures by Vendor Group

	FY2020		FY2019		FY2018		FY2017	
Indigenous Vendors	2%	\$6,977	1%	\$2,000	1%	\$7,944	1%	\$18,710
Local Vendors	24%	\$86,058	28%	\$100,864	22%	\$258,679	24%	\$355,030
Other Vendors	74%	\$269,512	71%	\$251,980	77%	\$903,882	75%	\$1,106,089
TOTAL		\$362,547		\$354,844		\$1,170,505		\$1,479,829

East Kemptville Expenditures by Vendor Group

	FY2020		FY2019		FY2018		FY2017	
Indigenous Vendors	0%	\$0	0%	\$0	0%	\$0	0%	\$0
Local Vendors	47%	\$6,024	48%	\$82,713	13%	\$30,230	41%	\$35,966
Other Vendors	53%	\$6,859	52%	\$90,252	87%	\$206,689	59%	\$51,923
TOTAL		\$12,883		\$172,965		\$236,919		\$87,889

Nechalacho Expenditures by Vendor Group

	FY2020		FY2019		FY2018		FY2017	
Indigenous Vendors	0%	\$0	13%	\$10,982	23%	\$42,113	11%	\$14,413
Local Vendors	65%	\$12,319	51%	\$43,787	62%	\$114,556	41%	\$51,187
Other Vendors	35%	\$6,599	36%	\$31,600	15%	\$28,668	48%	\$60,086
TOTAL		\$18,918		\$86,369		\$185,337		\$125,686

Other Projects (including Lilypad and Warren Township)

	FY2020	
Indigenous Vendors	0%	\$0
Local Vendors	10%	\$2,769
Other Vendors	90%	\$24,600
TOTAL		\$27,369



GRI 302: Energy 2016

Energy consumption within the organization 302-01

Avalon consumed 357.99 gigajoules (GJ) internally over FY2020. See table below for year-over-year comparison.

Energy consumption outside of the organization 302-02

Avalon consumed 139.89 GJ externally over FY2020. See table below for year-over-year comparison.

Energy Use (GJ)

	FY2020	FY2019	FY2018	FY2017	FY2016	FY2015
Internal	357.99	389.29	1206.64	1368.77	788.10	730.00
External	139.89	313.24	359.86	455.29	535.20	1248.30



Energy consumption decreased by 157.88 GJ from FY2019. This can largely be attributed to a decrease in executive travel due to the COVID-19 pandemic.

GRI 303: Water and Effluents 2018

Protecting the environment by monitoring and managing the environmental impacts of its activities and potential activities are central to Avalon's core values and those of many of the Company's Communities of Interest. The Company's [Sustainability Policy](#) outlines Avalon's environmental management approach. Potential risks to water are identified as part of a risk management program and appropriate management strategies identified. Avalon's VP, Sustainability has overall responsibility for managing Avalon's activities that may impact water.



Avalon conducts environmental impact assessments for its advanced projects, collecting and utilizing extensive baseline environmental data utilizing standard accepted methodologies, time lines and Quality Assurance/Quality Control protocols. Baseline water quality data normally spans in excess of two years. Avalon utilizes decades of locally-available climatic data for the design and management of water and wind and to design for critical storm events such as temperature extremes, the 1 in a 100 year storm and Probable Maximum Storm events. Aquatic, terrestrial species and Species at Risk Act-compliant studies detail species local to project sites and management plans are developed as necessary to protect them. This includes engagement with local Indigenous groups, regulators and communities regarding a wide variety of water uses, discharges, short and long-term water quality criteria and goals and including the cumulative impacts of other potential environmental impacts and climate change. Results of monitoring are regularly reported to government regulators, local communities and are also summarized in Avalon's annual Sustainability Report. Avalon also prepares rehabilitation plans for post closure land use that include the long-term protection of water quality post closure.

Avalon is engineering its processing facilities to minimize water use and maximize recycling. Water is planned to be withdrawn from large local sources in a manner that will not have any significant impact on water flow and water levels and thus have no measurable impact on the biota. Planned pilot scale testing of water treatment systems ensures that the minimal water quantities discharged and returned to the local sources meet or improve upon effluent criteria, and where those are not available, Avalon has historically established its own criteria for the protection of receivers. In keeping with best practices, site-specific and detailed management plans will be developed for each project location to monitor aquatic effects, site run off, spill contingency, waste management and other potential risks to water.

**Management
of water
discharge-
related impacts
303-02**

Avalon operations are all located in Canadian jurisdictions with well-developed water quality and biological performance criteria. However, occasionally there are data-poor minerals with lesser known impacts on the environment for which effluent criteria or guidelines have not yet been established. In such cases, Avalon attempts to develop its own guidelines. At the Nechalacho Property in the Northwest Territories, Avalon worked with academia and regulators to develop effluent guidelines for the rare earth elements using protocols similar to the Canadian Council of Minister of Environment protocols. These guidelines have subsequently been proposed as regulatory guidelines in Avalon's water permit.

Avalon has worked extensively with MAC and the Ministry of the Environment, Conservation and Parks to establish the water quality and biological criteria that were incorporated into the new Metal and Diamond Mines regulations. The Company is also engaged with regulators in the establishment of regulations and guidelines associated with new acts at the provincial, territorial and federal levels.

Avalon has selected non-fish habitat for siting of its tailings management facilities and discharge locations where possible. Where not possible, Avalon engages with Indigenous communities and regulators regarding their preferred water discharge location, which include considerations of the receiver water and biotic health, use(s) and how best to minimize potential for impacts.

**Water
withdrawal
303-03**

181.95 metres³ of water was drawn from the municipal system at Avalon's head office in FY2020.

**Water
discharge
303-04**

Virtually all of the 181.95 metres³ of water was returned to the municipal system for treatment and eventual release into the natural environment.

**Water
consumption
303-05**

Avalon considers its water consumption due to corporate activities to be nil, as all withdrawn water returns to the natural environment, if not to the same source.

GRI 304: Biodiversity 2016

**Operational
sites in, or
adjacent to,
protected
areas and
areas of high
biodiversity
value
304-01**

The East Kemptville Project is located near the Tobeatic Game Reserve in Nova Scotia, to the north of the property. Avalon's other project sites are not located in or near protected or high biodiversity value areas.



Significant impacts of activities, products, and services on biodiversity
304-02

At this time, Avalon has no material construction, manufacturing plants, mines or transportation infrastructure that have the potential to have significant impacts on biodiversity in protected areas or areas of high biodiversity outside protected areas.

Habitats protected or restored
304-03

See Disclosure G4-MM01 on [page 46](#).

IUCN Red List species and national conservation list species with habitats in areas affected by operations
304-04

See page 39 of Avalon's [2019 Sustainability Report](#).



GRI 305: Emissions 2016

Direct (Scope 1) GHG emissions
305-01

Avalon generated total Scope 1 Emissions of 2.3 tonnes of CO_{2e}. See table below for year-over-year comparisons.

Energy indirect (Scope 2) emissions
305-02

Avalon generated total Scope 2 Emissions of 15.09 tonnes of CO_{2e}. See table below for year-over-year comparisons. Scope 1 and 2 emissions primarily decreased due to lack of drill activity at the Company's sites, as well as a reduced footprint at the head office.

Other indirect (Scope 3) emissions
305-03

Avalon generated total Scope 3 Emissions of 11.13 tonnes of CO_{2e}. See table below for year-over-year comparisons. Scope 3 Emissions decreased primarily due to reduced executive travel.

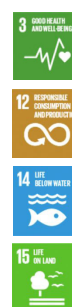


GHG Emissions (Tonnes CO_{2e})

	2020	2019	2018	2017	2016	2015
Scope 1	2.3	3.77	52.36	64.58	46.54	38.94
Scope 2	15.09	15.46	23.78	7.19	7.65	9.08
Scope 3	11.13	13.98	27.25	33.43	39.55	86.11

Nitrogen oxides (NOX), sulphur oxides (SOX) and other significant air emissions
305-07

NOX are included in the CO_{2e} totals for Scope 1, 2 and 3 emissions. Due to the factors used to convert units of energy/distance to CO_{2e}, only for some types of emissions are the NOX tonnes calculated separately, and then converted to CO_{2e}. SOX is not a material component of the Company's emissions at this time.



GRI 306: Effluents and Waste 2020

Waste generated 306-03

Breakdown of Waste Generated (metric tonnes)

Landfill	3.250
Old Corrugated Containers	0.090
Secure Shredding	0.002
Cans, Glass, Mixed Plastic	0.090
Organics	1.200
Grease	0.300
Bulbs and Ballast	0.050
Batteries	0.001
Total Diverted	1.760

5 tonnes of waste were generated in FY2020 at the Company's head office in Toronto. Totals in the table may not agree due to rounding.



Waste diverted from disposal 306-04

1.76 tonnes of waste were diverted from disposal during FY2020. All of this waste was non-hazardous and diverted off site. 0.09 tonnes of waste was sent to municipal recycling sites; the remainder was processed through other recovery operations.



Waste directed to disposal 306-05

3.25 tonnes of non-hazardous waste were directed to disposal in FY2020 at the Company's head office in Toronto, Ontario. This waste was directed to off-site landfill facilities.



GRI 307: Environmental Compliance 2016

Non-compliance with environmental laws and regulations 307-01

There have been no instances of non-compliance with laws and regulations in FY2020.



GRI 308: Supplier Environmental Assessment 2016

New suppliers that were screened using environmental criteria 308-01

Avalon includes its sustainability questionnaire on Requests for Proposals. The contractors' health and safety record, including sustainability questionnaire responses, are factored into Avalon's ultimate choice of contractor.

GRI 401: Employment 2016

New employee hires and employee turnover 401-01

Avalon did not hire any new employees during the reporting period. Overall turnover rate was 18%.



Benefits provided to full-time employees not provided to temporary or part-time employees 401-02

All full time and permanent, part time employees of Avalon receive full benefits from the Company. Fixed term, temporary employees do not.



Parental leave 401-03

All full time and permanent part time employees of Avalon are entitled to parental leave as lawful in the province in Ontario.



GRI 403: Occupational Health and Safety 2018

Occupational health and safety management system 403-01

Health and safety is a core Company value. While safety is the responsibility of all employees and contractors, Avalon's VP, Sustainability has overall responsibility for health and safety management systems.



Avalon's corporate values state that "We will never cause harm to people in the pursuit of production and profits or in the conduct of our business." Avalon ensures the workforce has the proper resources to work safely in full compliance with all health and safety regulations.

Avalon works in jurisdictions with well-developed health and safety regulations, including the Ontario Health and Safety Act and associated applicable regulations; the Nova Scotia Occupational Health and Safety Act and applicable regulations; the Northwest Territories Safety Act and applicable regulations; and the Mine Health and Safety Act and applicable regulations. All jurisdictions have Worker Safety and Compensation systems for the management of injured workers. There are also a variety of different acts and regulations that apply in the various jurisdictions that relate to explosives management, emergency response, the Transportation of Dangerous Goods Act, etc.

In support of Avalon's Sustainability Policy, a health, safety and environment management plan and emergency response plans have been developed that detail health and safety requirements for all of Avalon's active project sites as part of the Occupational Health and Safety Management System. Contractor health and safety systems and performance are assessed against Avalon's standards prior to engaging them.

Avalon has a Risk Management Policy and Procedure that is utilized to identify and manage risk at all stages of its operations. Risk assessments are completed before all new site activities and management plans and procedures developed as required based on these assessments.

Hazard identification, risk assessment and incident investigation
403-02

Regular occupational health, safety and environment meetings, inspections and risk assessments are completed at all active sites and reported through the organization. While accident prevention is the priority, accident and incident management and emergency response are all components of the health and safety programs at all sites.

All site workers are required to participate in daily risk assessment prior to the start of work and prior to any significant change in work activity during the shift. This is supported by near miss and accident reporting and associated actions to reduce future risks related to them.

All accidents and incidents are investigated and actions to reduce or eliminate the associated risks and potential for a repeat incident are taken.



Occupational health services
403-03

Avalon's VP, Sustainability is responsible for the development of the health and safety and risk management system. All employees are responsible for their own safety and the safety of others around them in the workplace, and for the identification and management of risk. Avalon provides training for all employees in the identification and management of risk, with an emphasis on supervisory training and root cause analysis. Accident and incident reports are regularly reviewed by the VP, Sustainability and the VP, Exploration. Where reports are inadequate, they become involved in the ongoing investigation to ensure that the risks have been properly identified and addressed.



Worker participation, consultation and communication on occupational health and safety
403-04

Avalon is a small company with part time, occasional workers employed at sites. These workers have participated in site-specific training, and have contributed to these training programs and the development of emergency response plans. They are also involved in the training of site contractors. Both the VP, Exploration and VP, Sustainability participate in the development of the health and safety training programs, risk assessment training, risk assessment and the preparation of emergency response plans.

Avalon has a joint health and safety committee located in the Toronto office, and monthly walk-throughs are conducted to assess first aid supplies and protective equipment. An Avalon employee attends the office building's management group's health and safety committee meetings, as well as fire warden training. All Toronto-based employees participate in an emergency fire drill and evacuation a minimum of once a year.

When the workforce is of sufficient size, joint management-worker health and safety committees will be implemented.



Worker training on occupational health and safety
403-05

All employees received site-specific induction training prior to any work activities. This includes the identification and management of site-specific risks. All drillers also received specific training on drilling hazard management and safety requirements prior to arrival on site from their employer.

Promotion of worker health
403-06

All full-time, permanent employees at Avalon are covered under a benefits plan that includes health promotion and services. Employees are given multiple, confidential methods to receive medical and healthcare directly through the Company's insurance provider. The health issues and risks of each employee remain confidential from the Company.

Work-related injuries 403-09

	Lost Time Injury Frequency	Medical Aid Injury Frequency	Total Recordable Frequency	Severity Frequency	Lost Time Injuries	Medical Aid Injuries	Total Recordable Injuries	Total Hours	Lost or Light Duty Days
FY2020	0	0	0	0	0	0	0	24,492	0
FY2019	0	0	0	0	0	0	0	27,207	0
FY2018	0	0	0	0	0	0	0	32,462	0
FY2017	0	5	5	18	0	1	1	43,268	4
FY2016	0	0	0	0	0	0	0	39,473	0
FY2015	0	5	5	0	0	1	1	43,072	0
FY2014	0	0	0	0	0	0	0	58,593	0
FY2013	0	3	3	22	0	1	1	72,839	8
FY2012	13	2	15	519	6	1	7	91,291	237

Work-related ill health 403-10

There were no fatalities or reportable work-related health issues in FY2020. The work-related risks will be significantly greater in number when Avalon is in operations.

GRI 404: Training and Education 2016

Average hours of training per year per employee 404-01

Four female employees completed a total of 68 hours, or an average of 17 hours per employee. Six male employees completed a total of 254 hours, or an average of 42.33 hours per employee. (One male employee transferred to a consultancy role as of June 1, leading to a discrepancy between Disclosures 404-01 and 102-08).

Four professional level employees completed a total of 44 hours, or an average of 11 hours per employee. Six executive level employees completed 278 hours, or an average of 46.33 hours per executive level employee.

Executive employees are defined as the President, VPs and the Controller. All other employees are Professional level. One male, executive level employee completed 99 hours of professional development, which is evident in the numbers above skewing the results.



Percentage of employees receiving regular performance and career development reviews 404-03

Permanent employees take part in an annual performance review, conducted by their direct supervisor or Board of Directors as determined by the employment category.



GRI 405: Diversity and Equal Opportunity 2016

Diversity of governance bodies and employees 405-01

Age and Gender of Avalon Board of Directors

	% of Board	Over 50	% of Board	30-50	% of Board
Male - 3	60	3	60	0	0
Female - 2	40	1	20	1	20

Age and Gender of Avalon Employees

	<30 Female	<30 Male	30-50 Female	30-50 Male	>50 Female	>50 Male	Minority
Professional	0	0	2	1	1	0	1
Executive	0	0	0	0	1	4	1
Total	0	0	2	1	2	4	2

Executive employees are defined as the President, VPs and the Controller. All other employees are Professional level.



GRI 406: Non-Discrimination

Incidents of discrimination 406-01

Avalon had no reported incidents of discrimination at any of its work sites in FY2020.



GRI 411: Rights of Indigenous Peoples 2016

Incidents of violations involving rights of Indigenous peoples 411-01

The Deninu K'ue First Nation (DKFN)'s legal counsel sent a letter to the Company dated February 11, 2020, asserting that Avalon was in breach of its Accommodation Agreement with the DKFN, as the DKFN had not received advance notice regarding assignment and business opportunities related to the co-ownership agreement with Cheetah at the Nechalacho property.

The Company responded on February 20, 2020, explaining that the resources that were sold to Cheetah were not subject to the Agreement and accordingly Avalon was not in breach of the Accommodation Agreement.

There has been no subsequent communication from the DKFN's legal counsel with respect to this matter.



GRI 412: Humans Rights Assessment 2016

Employee training on human rights policies or procedures 412-02

Each year, every Avalon employee is required to sign a Policy Compliance Certificate. This states that the employee has read and agrees to abide by the Company's policies and procedures, including Avalon's Anti-Harassment, Bullying and Violence Policy.

GRI 413: Local Communities 2016

Operations with local community engagement, impact assessments, and development programs
413-01

Avalon's level of engagement with Communities of Interest is commensurate with project activity. No formalized programs have yet been developed for projects, given Avalon's present low impact activities.

Operations with significant actual and potential negative impacts on local communities
413-02

Given that only low impact exploration activities have taken place at Avalon's projects, there have been no known negative significant impacts to local communities from Avalon's activities. Prior to development proceeding, each project undergoes a rigorous environmental assessment process to evaluate the potential environmental and social impacts and to identify mitigation measures where necessary. Engagement on this is sought from impacted local communities, including Indigenous communities and governments. Avalon seeks out opportunities for both short and long-term benefits to the local communities commensurate to project activity.



GRI 414: Supplier Social Assessment 2016

New suppliers that were screened using social criteria
414-01

See 308-01 on [page 40](#).



GRI 419: Socioeconomic Compliance 2016

Non-compliance with laws and regulations in the social and economic area
419-01

Avalon had no fines nor any non-monetary sanctions levied against the organization in FY2020.

G4 Mining and Metals Sector Disclosures 2013

Amount Of Land (Owned Or Leased, And Managed For Production Activities Or Extractive Use) Disturbed Or Rehabilitated G4-MM01

Hectares of Land Owned, Leased or Managed: 11,821
Hectares of land disturbed: 32
Hectares of Land Rehabilitated/Transferred: 14

During FY2020, Cheetah Resources acquired the surface rights and disturbance areas of the T-Zone at the Nechalacho property, and filed financial assurance for its rehabilitation with the Government of the Northwest Territories, reducing Avalon liability by 10 hectares.

Four hectares of land are considered rehabilitate at Avalon's Nechalacho Project in FY2020.

There were no other changes to other project areas and all sites have financial assurance filed or identified as liabilities for rehabilitation for insurance purposes.



The Number And Percentage Of Sites Requiring Biodiversity Management Plans and Percentage Of Those Sites With Plans In Place G4-MM02

All of Avalon's project sites with significant past or ongoing activities have financially-assured rehabilitation plans in place to mitigate potential disturbance-related impacts to biodiversity. Given the low level of impact at all sites at their present stages of development, impacts to biodiversity are not significant.

The Nechalacho property is not adjacent to identified areas of high biodiversity value and does not have a formal biodiversity management plan in place. It does, however, have in place a number of lands, wildlife and aquatic and other management plans as required by regulation for future permits that effectively comprise a biodiversity management plan. These plans are available on the [Mackenzie Valley Land and Water Board](#) public registry.

The East Kemptville Project is located adjacent to the Tobeatic Wilderness Area in Nova Scotia, on the northern boundary of the property.



Total Amounts Of Overburden, Rock, Tailings, And Sludges Associated Risks G4-MM03

Should the East Kemptville Project move ahead, Avalon will inherit a 5.9 million tonne low grade ore stockpile, a tailings management area with 18.8 million tonnes of acid-generating tailings and additional waste dumps totaling another four million tonnes. The project design includes the full remediation of these historical liabilities.

There are no material rock or tailings piles at Separation Rapids, Lilypad or Nechalacho.

Avalon possesses 94 drums of flotation process water in Yellowknife, Northwest Territories awaiting disposal. An analysis conducted in 2017 confirmed that the average concentrations of elements are well within the Metal Mining Effluent Regulation limits and below to marginally above the Canadian Council of Ministers of the Environment guidelines.





Number of Strikes and Lock-outs Exceeding One Week's Duration
G4-MM04

None.

Total Number Of Operations Taking Place In Or Adjacent To Indigenous Peoples' Territories, where there are formal Agreements
G4-MM05

Avalon has no operations, but has advanced development projects near Indigenous communities. At the Nechalacho property, Avalon has signed formal Agreements with the Deninu K'ue First Nation, the Northwest Territory Métis Nation, and advanced Agreements with others. See Avalon's website at [Projects – Nechalacho – Community Engagement](#) for more information.

Avalon has a Memorandum of Understanding with the Wabaseemoong Independent Nations and initiated discussions with the Métis Nation of Ontario at the Separation Rapids Project in Northwestern Ontario.

Avalon is advancing with a Memorandum of Understanding with the Acadia First Nation near the East Kemptville Project in Nova Scotia.

Avalon has initiated discussions with the Fort Hope Eabametoong First Nation related to the Lilypad Project near Pickle Lake, Ontario.

Avalon signed a Memorandum of Understanding with the Chapleau Cree First Nation in 2009. Should the Warren Township Project advance, this MOU will be re-visited.



Significant Disputes Relating To Land Use
G4-MM06

Avalon had no minor or significant disputes relating to Avalon land use, customary rights of local communities, or Indigenous people in FY2020.



Grievance Mechanisms To Resolve Land Use Disputes
G4-MM07

The grievance mechanism in the Deninu K'ue First Nation (DKFN) Accommodation Agreement related to the Nechalacho property was utilized by the DKFN in FY2020. Since the initial letter and response by Avalon, there has been no response by the DKFN legal counsel.

A formal community concern procedure was developed and approved in 2020 subsequent to the reporting period, and will be promoted and implemented as engagement moves ahead on active projects.



Number And Percentage Of Operations With Closure Plans
G4-MM10

Avalon's Separation Rapids, Nechalacho and East Kemptville Projects have closure plans appropriate for the level of activity at those sites, including exploration activity clean-up and financial assurance. Avalon's VP, Exploration must approve all closure cost for projects. Please see Avalon's 2020 Year End Financial statements, available publicly on [SEDAR](#) and [EDGAR](#), for details.

During 2020, Avalon renewed its closure plan for the planned Separation Rapids Advanced Exploration Bulk Sample. The financial assurance cost was updated and the plan was filed by the Ontario Ministry of Energy and Mines. The updated rehabilitation cost is significantly lower than that filed under the previous Advanced Exploration Closure Plan. This was in part due to progressive rehabilitation and due to modifications to the rehabilitation plan to present standards.



AVALON
ADVANCED MATERIALS INC.