

# Global Reporting Initiative Index

Please note that due to the Company not significantly changing its form, governance or approach to material topics, many of the Disclosures in the Index below contain repetitive text from Avalon's 2017 Sustainability Report, or link back to previous reports.

## GRI 102: General Disclosures 2016

### Organizational Profile

Name of organization	<b>102-01</b>	Avalon Advanced Materials Inc. (Avalon or the Company)
Activities, brands, products, and services	<b>102-02</b>	Avalon is a mineral resource exploration and development company that owns five projects across Canada, all potential sources of critical materials for sustainable technologies.
Location of headquarters	<b>102-03</b>	Toronto, Ontario, Canada.
Location of Operations	<b>102-04</b>	Canada.
Ownership and legal form	<b>102-05</b>	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 OTCQX Best Market (OTCQB subsequent to the reporting period) in New York and on the Frankfurt Stock Exchange in Germany. Avalon has three wholly-owned subsidiaries: Nolava Minerals Inc., 8110131 Canada Inc. and Avalon Rare Metals Ltd.

Markets Served	<b>102-06</b>	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 cleantech sector, where new demand is being created for elements such as lithium.
Scale of the Organization	<b>102-07</b>	See Avalon's 2018 Year End Financial Statements available publicly on <a href="#">SEDAR</a> and <a href="#">EDGAR</a> .
Information on employees and other workers	<b>102-08</b>	At August 31, 2018, Avalon had 10 permanent, full time employees (three female, seven male) and two permanent, part time employees (two female). 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	<b>102-09</b>	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	<b>102-10</b>	<p>No significant changes during FY2018 in Avalon's ownership, scale or supply chain. All claims in New Brunswick were dropped during the year.</p> <p>Avalon's Lilypad Cesium Project is mentioned more frequently in this year's report due to increased investor interest in the property leading to plans to re-activate the project on global demand for cesium.</p>
Precautionary Principle or approach	<b>102-11</b>	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 serious 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 environmental degradation.
External Initiatives	<b>102-12</b>	Avalon has publicly subscribed to the principles and practices of the Prospectors and Developers Association of Canada (PDAC)'s <a href="#">e3 Plus: A Framework for Responsible Exploration</a> and the Mining Association of Canada (MAC)'s <a href="#">Towards Sustainable Mining (TSM) framework</a> .

Association	Involvement/Membership Level
Association for Mineral Exploration British Columbia	Member Health and Safety Committee Member
Association of Professional Geoscientists of Nova Scotia	Member
Association of Professional Geoscientists of Ontario	Member
Canadian Rare Earth Elements Network	Founding Member Executive Committee Member
Canadian Rare Earth R&D Initiative	Environmental Committee Member Physical Separation Committee Member Leaching and Separation Committee Member Research & Development Initiative Steering Committee
Canadian Urban Transit Research & Innovation Consortium	Member
International Standards Organization TC298 Rare Earths Canadian Mirror Committee	Committee Member
International Tin Association	Member - Explorers and Developers Group
Metallurgical Society of Canada Extraction 2018 Symposium	Organizing Committee Member
Mining Association of Canada	Member of the Board Environmental Committee Member Science Committee Member Community of Interest Panel
NATO Advanced Vehicle Technology Panel-188 to organize Rare Earth Supply Chain Development Options	Member
Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists	Member
NWT & Nunavut Chamber of Mines	Member of the Board
Ontario Cleantech Materials Group	Lead and founding Member
Prospectors and Developers Association of Canada	Health and Safety Committee Chair Aboriginal Affairs Committee Member Convention Planning Member Sustainability Committee Member Geoscience Committee Member Awards Committee Member
Resources for Future Generations 2018 Critical Materials Symposium Organizing Committee	Member

Note this information refers to memberships maintained at the organizational level. In addition, Avalon supports Mr. Bubar's participation in the Advisory Board to the Faculty of Science of McGill University and as a Director of Mining Matters.

## Strategy

Statement from senior decision-maker	102-14	See Message from the President and CEO on <a href="#">page 1</a> .
Key impacts, risks and opportunities	102-15	See the Message from the VP, Sustainability on <a href="#">page 7</a> , FY2018 Goals on <a href="#">page 11</a> and Disclosures on Management Approach on page 46 of Avalon's <a href="#">2017 Sustainability Report</a> .

## Ethics and Integrity

Values, principles, standards and norms of behavior	102-16	See Avalon's website at <a href="#">About – Overview</a> and <a href="#">About – Governance</a> for more information.
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. The Whistleblower Protection Policy is found on Avalon's website at <a href="#">About – Governance</a> . When an operating mine is in place, Avalon will look at employing appropriate external mechanisms for reporting concerns.

## 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 <a href="#">About – Directors and Committees</a> .
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 FY2018) or at such times as are necessary depending on the urgency of the concern. When required, the Directors take action on this input by providing direction to senior management or through amendments, if necessary, to the Company's policies. Current policies are found on Avalon's website at <a href="#">About – Governance</a> .

Executive-level responsibility for economic, environmental and social topics	<b>102-20</b>	The 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; Dave Marsh, Senior VP, Metallurgy and Technology Development; 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. Bill Mercer, VP, Exploration, also periodically reports to the President and Board of Directors on field project environment, health and safety, environmental geological operations and community relations matters raised during the course of field activities.
Consulting stakeholders on economic, environmental and social topics	<b>102-21</b>	Avalon's Board of Directors is updated by the management team on relevant developments. Avalon management regularly engages with its Communities of Interest (COI) in order to provide project updates and obtain feedback. As well, COI may contact the appropriate manager for consultation, most frequently through the VP, Exploration, VP, Sustainability, President or Manager, Investor Relations. The Chair of the Board is accessible to COI outreach on concerns.
Composition of the highest governance body and its committees	<b>102-22</b>	See Avalon's website at <a href="#">About – Directors and Committees</a> .
Chair of the highest governance body	<b>102-23</b>	Mr. Brian MacEachen is non-executive Chair of Avalon's Board of Directors.
Nominating and selecting the highest governance body	<b>102-24</b>	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 reviews recommendations from the President.
Conflicts of interest	<b>102-25</b>	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.
Role of highest governance body in setting purpose, values and strategy	<b>102-26</b>	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	<b>102-27</b>	See GRI Disclosure 102-19 on <a href="#">page 28</a> .
Evaluating the highest governance body's performance	<b>102-28</b>	The Board of Directors conducted a self-assessment, including sustainability, 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 that will include performance in respect to governance of economic, environmental and social topics are planned to be conducted in the future.
Identifying and managing economic, environmental and social impacts	<b>102-29</b>	<p>Avalon continuously works at embedding risk management practices throughout the organization, from periodic reporting of high level risks to the Board of Directors through to 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.</p> <p>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 into 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.</p>
Effectiveness of risk management processes	<b>102-30</b>	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	<b>102-31</b>	See GRI Disclosure 102-19 on <a href="#">page 28</a> .
Highest governance body's role in sustainability reporting	<b>102-32</b>	The VP, Sustainability, and members of the Sustainability Advisory Committee (which includes a member of the Board of Directors) review the annual Sustainability Report.
Communicating critical concerns	<b>102-33</b>	See GRI Disclosure 102-19 on <a href="#">page 28</a> .

Nature and total number of critical concerns	<b>102-34</b>	Avalon did not experience any health and safety, environmental, community or financial critical concerns over the course of FY2018. Mechanism for addressing critical concerns is as described in Avalon's Whistleblower Protection Policy found on Avalon's website at <a href="#">About – Governance</a> .
Remuneration policies	<b>102-35</b>	Avalon's CGN Committee aims to evaluate and maintain fair and reasonable levels of compensation that are competitive to attract and retain experienced and talented management. Compensation to Avalon's executive officers, including the President and CEO, has three components: base salary, cash bonuses and long term incentive in the form of stock options. Bonus compensation is a 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 long term incentive plan uses stock options to align employees' performance with 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 to reflect prevailing market conditions. The Board and affiliated Board committee members receive remuneration for acting as Directors and/or fees for attending meetings. See also Avalon's 2018 Year End Financial Statements with Management Discussion and Analysis publicly available on <a href="#">SEDAR</a> and <a href="#">EDGAR</a> , or Avalon's annual Information Circular available on Avalon's website at <a href="#">Investors – Regulatory Filings</a> .
Process for determining remuneration	<b>102-36</b>	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	<b>102-37</b>	Remuneration at Avalon follows the prevailing conditions of the market. The issue of remuneration was not raised at the Company's Annual General Meeting in February 2018.

## Stakeholder Engagement

List of stakeholder groups	<b>102-40</b>	See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's <a href="#">2016 Sustainability Report</a> .
Collective bargaining agreements	<b>102-41</b>	None.
Identifying and selecting stakeholders	<b>102-42</b>	See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's <a href="#">2016 Sustainability Report</a> .

Approach to stakeholder engagement

**102-43** As reflected in the table below, Avalon regularly conducts COI 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.

	Separation Rapids			East Kemptville			Nechalacho			Lilypad	Multiple Project		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2018	2017	2016
<b>Total Non-Indigenous</b>	126	196	361	119	55	105	47	51	78	1	20	53	55
<b>Contacts</b>	98	138	259	48	46	88	28	39	62	1	4	29	46
<b>Engagements</b>	28	58	102	71	9	17	19	12	16	0	16	24	9
<b>Government/Regulators</b>	125	194	356	43	27	64	36	38	36	1	5	5	9
<b>Other</b>	1	1	1	21	27	35	11	13	34	0	15	42	44
<b>NGOs</b>	0	1	4	55	1	6	0	0	8	0	0	6	2
<b>Total Indigenous</b>	111	213	261	30	2	7	17	4	3	3	2	2	21
<b>Contacts</b>	105	192	193	4	1	6	16	4	3	3	2	2	20
<b>Engagements</b>	6	21	68	26	1	1	1	0	0	0	0	0	1
<b>Indigenous Governments and Organizations</b>	79	159	187	30	2	0	14	0	1	3	0	1	5
<b>Indigenous Business</b>	28	52	74	0	0	7	3	3	2	0	1	0	16
<b>Indigenous Other</b>	4	2	NA	0	0	NA	0	1	NA	0	1	1	NA
<b>Indigenous Rights Violations</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

Key topics and concerns raised

**102-44** Avalon formalized its procedure for identifying impacted COI in FY2018, and engagement continued at all active projects, as described below.

**Separation Rapids Lithium Project (Ontario)**

Due to the rapid pace of development and the active participation of Avalon's Manager, Investor Relations, Ron Malashewski (who is local to the project), the largest proportion of engagement and communication activity during the reporting period was at the Separation Rapids Project.

Avalon initiated discussions with Lakehead University (Thunder Bay, Ontario) regarding research on utilizing wild rice for Separation Rapids' site rehabilitation, in partnership with the Wabaseemoong Independent Nations (WIN) and offered to support the WIN to become self-sufficient in mercury monitoring. While mercury is not found at the project, Avalon understands that the WIN has serious concerns about mercury exposures from their food supply from the English River and area. To date, they have not accepted this offer. Avalon has designed the Separation Rapids site infrastructure to allow wildlife corridors through the site, in response to concerns regarding moose harvesting in the area.

Avalon attended a one day Métis Collaborative Forum and offered to present an overview on the Separation Rapids Project at next year's forum. Avalon also participated in general discussions with the Ochiichagwe' Babigo' Ining Ojibway Nation (OBION) to introduce the project to the Chief and Council and held discussions with the Grassy Narrows First Nation (GNFN). Jobs and training from the project remain important issues for all Indigenous groups, as is the protection of water. Avalon reviewed previous water quality information and initiated humidity cell test work during the year in an effort to predict any potential impacts of the site to water quality. Future discussions will also revolve around options for the tailings management area and preferred location for the effluent discharge.

Finally, Avalon initiated investigations for both natural gas and hydro power line installation for Separation Rapids, including engagement with local COI.

#### East Kemptville Tin-Indium Project (Nova Scotia)

Avalon maintained positive engagement with regulators and NGOs regarding the East Kemptville Project; see the Message from the VP, Sustainability on [page 7](#) for more information.

Extensive work was ongoing at yearend to prepare applications for the Mineral Lease and Crown Land Lease. Discussions with local COI are planned in FY2019 to provide support to facilitate a more streamlined permitting process.

Significant engagement with the Acadia First Nation (AFN) continued throughout FY2018, including initiation of an MOU that is expected to be finalized and signed in FY2019. Concerns ranged from jobs and training to post closure productive reuse of the site. There were concerns about the protection of air, water and local species, but the AFN were generally pleased with the rehabilitation focus of the project.

At a presentation to the Tusket River Environmental Protection Association (TREPA), there was significant discussion on the rehabilitation components of the project. A particular concern regarding local bird migratory corridor led to the participation of their ornithologist in the design of the bird component of the Species at Risk Act (SARA) survey on the site.

#### Nechalacho Rare Earth Elements Project (Northwest Territories)

Avalon initiated a Corridor Study in conjunction with the NWT government regarding the potential installation of a power and road corridor that would have significant benefits for reducing GHG emissions at the Nechalacho Project. See the Message from the VP, Sustainability on [page 9](#) for more information.

Avalon engaged with the Lutsel K'e Dene First Nation, Yellowknives Dene First Nation, Deninu K'ue First Nation, North Slave Métis Alliance, Fort Resolution Métis Council, Tlicho Government and K'at'l'odeeche First Nation, government and community organizations with respect to the renewal of the exploration permit. No environmental concerns for this renewal were identified.

#### Lilypad Cesium Project (Ontario)

Avalon initiated communications with the Eabametoong First Nation at the Lilypad Cesium Project during the summer of 2018; however, other than some informal discussions and the provision of a multi-year exploration plan that included environmental protection measures, Avalon was unable to engage with local COI before year end.

### Engagement with Industry Associations and Regulators

Avalon conducted significant engagement with federal and provincial governments on a range of regulatory initiatives with the potential to impact Avalon projects. This included submissions directly from the Company or included with MAC responses.

See the VP, Sustainability's message on [page 7](#) and 2018 Goal Performance Summary on [page 11](#) for examples of engagement.

## Reporting Practice

Entities included in the consolidated financial statements	<b>102-45</b>	See Avalon's 2018 Year End Financial Statements available publicly on <a href="#">SEDAR</a> and <a href="#">EDGAR</a> . 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	<b>102-46</b>	See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's <a href="#">2016 Sustainability Report</a> .
List of material topics	<b>102-47</b>	See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's <a href="#">2016 Sustainability Report</a> .
Restatements of information	<b>102-48</b>	There have been no restatements of Avalon's previous Sustainability Reports.
Changes in reporting	<b>102-49</b>	See 'Defining Report Content, Materiality, and Boundaries' on page 49 of Avalon's <a href="#">2016 Sustainability Report</a> .
Reporting period	<b>102-50</b>	September 1, 2017 to August 31, 2018 (Avalon's 2018 fiscal year).
Date of most recent report	<b>102-51</b>	November 29, 2017.
Reporting cycle	<b>102-52</b>	Annual.
Contact point for questions regarding the report	<b>102-53</b>	Avalon's VP, Sustainability, Mark Wiseman, can be reached at <a href="mailto:sustainability@AvalonAM.com">sustainability@AvalonAM.com</a> 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 <a href="#">page 25</a> .
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; evaluation of the management approach	103-01	See Disclosures on Management Approach starting on page 46 of Avalon's <a href="#">2017 Sustainability Report</a> .
	103-02	
	103-03	

## GRI 201: Economic Performance 2016

Direct economic value generated and distributed	201-01		FY2018	FY2017	FY2016	FY2015
		Revenue	-	-	-	-
		Interest	\$61,777	\$28,211	\$35,160	\$66,014
		Expenses	\$3,520,753	\$3,703,000	\$3,990,945	\$3,589,977
		Loss from Operations	-\$3,458,976	-\$3,674,789	-\$3,955,785	-\$3,523,963
		Deferred Income Tax Recoveries	\$218,232	\$317,468	\$416,140	\$347,589
		Net Loss for the Year	-\$3,240,744	-\$3,357,321	-\$3,539,645	-\$3,176,374

Defined benefit plan obligations and other retirement plans	201-03	Avalon has no defined benefits plan.
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Financial assistance received from government

**201-04** Avalon received two government grants in FY2018: \$45,069 from the Government of the NWT for an exploration program at Avalon's Nechalacho Project and \$7,123 from the Northern Ontario Heritage Fund to advance the Separation Rapids Project.

## GRI 203: Indirect Economic Impacts 2016

Infrastructure investments and services supported

**203-01** Other than educational institutional supports, there were no infrastructure developments, services or investments supported by Avalon during FY2018.

## GRI 204: Procurement Practices 2016

Proportion of spending on local suppliers

**204-01** Separation Rapids Expenditures by Vendor Group

	FY2018		FY2017		FY2016		FY2015	
<b>Indigenous Vendors</b>	1%	\$7,944	1%	\$18,710	0%	\$2,289	3%	\$12,277
<b>Local Vendors</b>	22%	\$258,679	24%	\$355,030	22%	\$296,919	43%	\$154,759
<b>Other Vendors</b>	77%	\$903,882	75%	\$1,106,089	78%	\$1,048,489	54%	\$193,096
<b>TOTAL</b>		\$1,170,505		\$1,479,829		\$1,347,697		\$360,132

East Kemptville Expenditures by Vendor Group

	FY2018		FY2017		FY2016		FY2015	
<b>Indigenous Vendors</b>	0%	\$0	0%	\$0	0%	\$0	2%	\$18,000
<b>Local Vendors</b>	13%	\$30,230	41%	\$35,966	22%	\$273,059	34%	\$321,700
<b>Other Vendors</b>	87%	\$206,689	59%	\$51,923	78%	\$995,275	64%	\$611,102
<b>TOTAL</b>		\$236,919		\$87,889		\$1,268,334		\$950,802

Nechalacho Expenditures by Vendor Group

	FY2018		FY2017		FY2016		FY2015	
<b>Indigenous Vendors</b>	23%	\$42,113	11%	\$14,413	0%	\$245	3%	\$36,628
<b>Local Vendors</b>	62%	\$114,556	41%	\$51,187	30%	\$58,883	20%	\$232,115
<b>Other Vendors</b>	15%	\$28,668	48%	\$60,086	70%	\$140,122	76%	\$868,488
<b>TOTAL</b>		\$185,337		\$125,686		\$199,250		\$1,137,231

# GRI 302: Energy 2016

Energy consumption within the organization

**302-01** Avalon consumed 715.94 gigajoules (GJ) internally over FY2018. See table below for year-over-year comparison.

Energy consumption outside of the organization

**302-02** Avalon consumed 359.86 GJ externally over FY2018. See table below for year-over-year comparison.

Energy Use (GJ)

	2018	2017	2016	2015	2014
<b>Internal</b>	1206.64	1368.77	788.10	730.00	4125.80
<b>External</b>	359.86	455.29	535.20	1248.30	1994.40

Reduction of energy consumption

**302-04** Avalon's energy consumption varies mainly due to the equipment used, length of and conditions during drill campaigns and changes in the frequency and destination of executive travel.

# GRI 303: Water and Effluents 2018

Interactions with water as a shared resource

**303-01** 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 COIs.

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 1:100 year storm and Probably 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. Performance against identified metrics is reported and where necessary, additional actions are taken. 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 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. 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. These plans will require ongoing monitoring, reporting and continuous improvement.

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 materials 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 Project in the NWT, Avalon worked with academia and regulators to develop effluent guidelines for the rare earth elements using Canadian Council of Minister of Environment protocols to the extent practical to establish these guidelines which have subsequently been proposed as regulatory limits in Avalon's water permit.

Avalon has worked extensively with MAC and 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 regulation. The Company is also actively 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 peoples 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. Site specific criteria have been developed at two sites where Avalon proposes to operate, both of which consider the background water quality. In some cases, the effluent water quality has improved on natural background conditions.

Water  
withdrawal

**303-03**

Avalon withdrew 0.31 megalitres at the Separation Rapids property during the course of the winter 2018 drill campaign. All water removed was from surface bodies, such as local streams and rivers. Environment Canada's Water Availability Indicator considers the area that encompasses the Separation Rapids site as having a low threat to water availability (less than 10% water withdrawn).

The figures for modeling water-withdrawn are on water consumption per drill operating hour basis, and were provided by Avalon's drilling contractor.

Water discharge

**303-04**

Avalon estimates that more than 80% (0.248 megalitres) of water withdrawn during the Separation Rapids Project drilling program returned to its source. The remaining < 20% (0.062 megalitres) is due to normal water loss during the drilling process. Net of evaporation, this water returns to the local ground water system via rock fractures.

Avalon's drilling contractor provided these estimates.

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 adjacent to the Tobeatic Wilderness Area in Nova Scotia, on the northern boundary 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. The East Kemptville Project is separated from the Tobeatic Wilderness Area by the provincial Highway 203 and the Tusket River. No impacts have been identified due to historic or existing operations.

Habitats protected or restored

**304-03** See Disclosure G4-MM01 on [page 47](#).

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

**304-04** At the Nechalacho Project, in addition to the potential for several rare plant species, the following International Union for Conservation of Nature (IUCN) Red List or simply "listed" animal species have been 'rarely' identified near the mine site: Rusty Blackbird, Horned Grebe (both Vulnerable); Olive-sided Flycatcher (Near Threatened); and Wolverine, Common Nighthawk, Short-Eared Owl and Peregrine Falcon (all Least Concern). Given the mobility of these species, the small project footprint and planned monitoring and mitigation measures, impact is assessed as "highly unlikely." Effort and participation is ongoing with respect to the Bathurst Caribou herd and associated Range Plan development.

There have been no IUCN Red List species identified at Avalon's Separation Rapids Project.

No federally or provincially designated vascular plant species at risk were encountered at the East Kemptville Project, though four species of conservation interest were identified:

- A barn swallow nesting in the eave of the present office building that will not be disturbed (provincially considered as "threatened")
- Pairs of the Common Nighthawk may be nesting in the disturbed areas of the site (also considered as "threatened")
- Snapping turtles in areas that will not be disturbed by the project (a species of special concern under SARA and vulnerable under provincial regulation)
- One mainland moose was observed passing through the area in 2015 (considered endangered)

# GRI 305: Emissions 2016

**Direct (Scope 1) GHG emissions** **305-01** Avalon generated total Scope 1 Emissions of 52.36 tonnes of CO<sub>2</sub>e. See table below for year-over-year comparisons.

**Energy indirect (Scope 2) emissions** **305-02** Avalon generated total Scope 2 Emissions of 23.78 tonnes of CO<sub>2</sub>e. See table below for year-over-year comparisons. Scope 2 Emissions increased dramatically due to a change in the formula utilized by the Avalon office building's management group to calculate office steam power use.

**Other indirect (Scope 3) emissions** **305-03** Avalon generated total Scope 3 Emissions of 27.25 tonnes of CO<sub>2</sub>e. See table below for year-over-year comparisons.

## GHG Emissions (Tonnes CO<sub>2</sub>e)

	2018	2017	2016	2015	2014
<b>Scope 1</b>	52.36	64.58	46.54	38.94	284.10
<b>Scope 2</b>	23.78	7.19	7.65	9.08	9.33
<b>Scope 3</b>	27.25	33.43	39.55	86.11	138.85

**Nitrogen oxides (NOX), sulfur oxides (SOX) and other significant air emissions** **305-07** NOX are included in the CO<sub>2</sub>e totals for Scope 1, 2 and 3 emissions. Due to the factors used to convert units of energy/distance to CO<sub>2</sub>e, only for some types of emissions are the NOX tonnes calculated separately, and then converted to CO<sub>2</sub>e. SOX is not a material component of the Company's emissions at this time.

# GRI 306: Effluents and Waste 2016

**Water discharge by quality and destination** **306-01** All water discharged during the course of FY2018 drilling (0.31 megalitres) was naturally filtered using sumps and returned to its source or lost without treatment in fractures in the host rock.

**Waste by type and disposal method** **306-02**

	2018	2017	2016	2015	2014
<b>Compost</b>	0.01	0.01	0.46	0.01	0.01
<b>Reuse</b>	0.00	0.00	0.00	14.03	0.55
<b>Incinerated</b>	0.00	0.00	0.00	3.00	1.50
<b>Landfill</b>	0.44	1.42	26.97	15.94	4.76
<b>Recycle</b>	0.03	1.17	2.89	30.71	4.28
<b>On-Site Storage</b>	0.00	11.40	0.00	0.00	0.0
<b>Total</b>	0.48	14.00	30.32	63.69	11.10

Significant spills **306-03** Avalon had no significant spills during the course of FY2018.

Water bodies affected by water discharges and/or runoff **306-05** None, as Avalon has no operations at this time.

## GRI 307: Environmental Compliance 2016

Non-compliance with environmental laws and regulations **307-01** There have been no instances of any non-compliance with laws and regulations in FY2018.

## GRI 308: Supplier Environmental Assessment 2016

New suppliers that were screened using environmental criteria **308-01** In FY2017, Avalon modified its sustainability questionnaire used to evaluate contractors to make it less time consuming for contractors to complete while maintaining its comprehensiveness.  
Over the course of FY2018, the sustainability questionnaire was used for all major project work bids.

## GRI 401: Employment 2016

New employee hires and employee turnover **401-01** No full time employees were hired during the reporting period. Overall employee turnover rate was 8%.

Benefits provided to full-time employees that are 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, where the workforce resides. In FY2018, one female employee took parental leave and is expected to return in FY2019.

# 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 NWT 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 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. To date, Avalon has utilized the contractor health and safety procedures to enforce the management system requirements, but will be developing its own procedures to support the health, safety and environment management plan prior to the start of construction activities. Avalon is responsible for all employees and contractors working at its sites and the health and safety management system applies to all.

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. In this fiscal year, risk assessments were completed for site exploration or drilling and environmental activities at all projects and the emergency response plans were updated for each site prior to this work. Risk assessments are completed daily by all field workers.

In addition to the strong focus on health and safety at project sites, an office health and safety committee performs inspections to meet safety requirements at Avalon's head office in Toronto.

Hazard identification, risk assessment and incident investigation

**403-02** Avalon recognizes the importance of strong leadership in health and safety; Avalon management provides the resources necessary to develop and implement its health and safety policies, programs and safe work procedures in the workplace. Regular occupational health, safety and environment meetings, inspections and risk assessments are completed at all 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 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. Risk assessments are completed from the workplace to the management team level as required.

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. Retraining is provided as necessary.

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.

In FY2018, Avalon's temporary workforce on site did not exceed five people; all personnel were involved daily with risk assessments and health and safety programs. All workers have the right to refuse unsafe work or work that they have not been adequately trained for.

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 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
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 FY2018. During the last fiscal year, the serious hazards to overall health were related to field risks including climate (freezing or heat stroke), animal (ticks and related disease, bears, etc.), vehicle accidents, aviation accidents and heavy equipment accidents (drill, bulldozer). 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** 42.42 hours of training or professional development were recorded an average for each of Avalon's twelve employees in FY2018, or 509 hours company-wide.

- Five female employees completed a total of 50 hours, or an average of 10 hours per female employee.
- Seven male employees completed a total of 459 hours, or an average of 66 hours per male employee.
- Five professional level employees completed a total of 82 hours, or an average of 16 hours per professional level employee.
- Seven executive level employees completed 427 hours, or an average of 61 hours per executive level employee.

One male, executive level employee completed 220 hours in FY2018, skewing the numbers seen above.

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

Percentage of employees receiving regular performance and career development reviews

**404-03** 100% of 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	Age
Male - 4	66.7	>50
Female - 2	33.3	>50

Age and Gender of Avalon Employees

	< 30 Female	< 30 Male	30 - 50 Female	30 - 50 Male	> 50 Female	> 50 Male
Professional	1	0	2	1	1	0
Executive	0	0	1	1	0	5
<b>Total</b>	1	0	3	2	1	5

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 incidents of discrimination at any of its work sites over the course of FY2018.

## GRI 411: Rights of Indigenous Peoples 2016

Incidents of violations involving rights of Indigenous peoples

**411-01** Avalon had no incidents of violations involving the rights of Indigenous peoples at any of its work sites over the course of FY2018.

# GRI 412: Humans Rights Assessment 2016

Employee training on human rights policies or procedures

**412-02** Each year, every 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, and includes 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 COI is commensurate with project activity. Community engagement and information exchanges occurred throughout FY2018 in respect to the Separation Rapids and East Kemptville projects, though no formalized programs have yet been developed for these projects given Avalon's present low impact activities.

As discussed in previous years, Avalon has completed an impacts assessment for Nechalacho; developed draft community engagement plans for review and comment; and signed two formal Agreements. Read more at Avalon's website at [Projects - Nechalacho - Community Engagement](#).

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. To be approved, the assessment must determine that the project would result in no significant adverse effects. 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** In FY2017, Avalon modified its sustainability questionnaire used to evaluate contractors to make it less time consuming for contractors to complete while maintaining its comprehensiveness.

Over the course of FY2018, the sustainability questionnaire was used for all major project work bids.

# GRI 419: Socioeconomic Compliance 2016

Non-compliance with laws and regulations in the social and economic area **419-01** Avalon had no significant fines nor any non-monetary sanctions levied against the organization in FY2018.

# 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** Total land disturbed at all of Avalon's work sites is 33.951 ha, less than 0.25% of lands claimed and leased.

The Number And Percentage Of Sites Requiring Biodiversity Management Plans and Percentage Of Those Sites With Plans In Place **G4-MM02** All three 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 Project 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.

Total Amounts Of Overburden, Rock, Tailings, And Sludges And Their Associated Risks **G4-MM03** Avalon only produced a small amount of waste at its Separation Rapids site. Drill cuttings were free of environmental contaminants and were not collected. The drill pads were not located next to streams or lakes and the waste water with cuttings was pumped into natural depressions away from any natural watercourse.  
  
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 Cesium or Nechalacho. The Mount Douglas site has been returned to the original owner. Avalon does possess a dozen drums of flotation process water in Yellowknife awaiting disposal.

Number of Strikes and Lock-outs Exceeding One Week's Duration	<b>G4-MM04</b>	None.
Total Number Of Operations Taking Place In Or Adjacent To Indigenous Peoples' Territories, where there are formal Agreements	<b>G4-MM05</b>	<p>Avalon has no operations, but has three advanced projects near Indigenous communities. At the Nechalacho Project, 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 - <a href="#">Nechalacho - Community Engagement</a> for more information.</p> <p>Avalon has an MOU with the WIN and initiated discussions with the MNO and Ochiichagwe' Babigo' Ining Ojibway Nation at the Separation Rapids Project in Northwestern Ontario.</p> <p>Avalon is advancing with an MOU with the Acadia First Nation near the East Kemptville Project in Nova Scotia.</p>
Significant Disputes Relating To Land Use	<b>G4-MM06</b>	Avalon had no minor or significant disputes relating to land use, customary rights of local communities, or Indigenous people in FY2018.
Grievance Mechanisms To Resolve Land Use Disputes	<b>G4-MM07</b>	Avalon had no land use grievances reported in FY2018; therefore, grievance mechanisms were not used.
Number And Percentage Of Operations With Closure Plans	<b>G4-MM10</b>	<p>100% of Avalon's three advanced 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 sign off on all closure cost for projects. Avalon is currently developing a walk-away closure strategy for the existing and future East Kemptville Project to replace the perpetual water treatment strategy for existing tailings and waste rock liabilities.</p> <p>Please see Avalon's 2018 Year End Financial statements, available publicly on <a href="#">SEDAR</a> and <a href="#">EDGAR</a>, for details of the financial provisions.</p>