

TSM Performance by Company

Vale



Vale's Base Metals Business is headquartered in Toronto, Ontario. Much of Vale's nickel production is derived from its Canadian operations, as is the company's production of copper, cobalt, platinum group metals, gold and silver. In Sudbury, Ontario, and Thompson, Manitoba, Vale operates integrated mine, mill, smelter and refinery operations. In Port Colborne, Ontario, Vale operates a cobalt refinery and a precious metals upgrading facility. In Newfoundland and Labrador, Vale operates a mine and mill at Voisey's Bay and is ramping up a new, state-of-the-art processing facility in Long Harbour. Vale employs about 7,000 people in Canada.

Vale's vision is to become the number-one global natural resource company in creating long-term value through excellence and a passion for people and the planet. Vale believes in zero harm to its people, to its workplaces, to the communities in which it operates and to the natural environment. Vale demonstrates its commitment to zero harm by integrating sound risk management practices into all aspects of its business, by continually improving these practices, and by fully merging safety, health and environmental considerations into its economic and production goals. At all times, the company strives to leave a positive social, economic and environmental legacy in the areas where it operates. Vale is committed to meeting or exceeding MAC's TSM targets, and is always working to improve its sustainable performance. In 2015, Voisey's Bay was Vale's first site to be verified at a Level A or better across all indicators.

The following summarizes Vale's TSM performance in Canada in 2015:

ABORIGINAL AND COMMUNITY OUTREACH

Vale is proud that all of its Canadian facilities have developed Aboriginal and community outreach activities and management programs that meet the performance expectations of TSM. The company's management systems and activities are tailored to the site and requirements of neighbouring communities. Vale's Manitoba and Voisey's Bay operations achieved a Level AAA across all of the Aboriginal and community outreach indicators in 2015. A few examples of Vale's local outreach activities are highlighted below.



“ The company provides engagement and dialogue training to employees as required, including cultural training. ”

Across Canada, Vale is the leading corporate sponsor of the One Laptop per Child program, helping distribute more than 3,750 laptops to Aboriginal youth. The program promotes technology and math literacy in 40 northern communities across the country.

In Sudbury, Vale collaborated with local First Nations and Métis communities to identify the Aboriginal traditional lands and treaty rights potentially affected by its operations. The company provides engagement and dialogue training to employees as required, including cultural training. Vale seeks Traditional Knowledge, as appropriate, from local Aboriginal communities and organizations, and uses it to support decisions and inform practices such as environmental monitoring. Vale follows consultation protocols established by Aboriginal communities and organizations and integrates these into company consultation procedures as much as possible. To ensure continual improvement, the company invites Aboriginal communities to contribute to periodic reviews of engagement processes.

In May 2011, Vale funded the creation of the Thompson Economic Diversification Working Group (TEDWG). The group comprises stakeholders across northern Manitoba and has developed a series of plans to promote economic diversification in the City of Thompson and region. The plans include a proposed restorative justice facility, education and training (including an industrial skills and trades centre), housing, local and regional identity, economic development, regional infrastructure and a regulatory framework to modernize the city. The TEDWG project was awarded the 2015 TSM Community Engagement Excellence Award.

In Port Colborne, Vale partnered with a group called Port Cares (www.portcares.on.ca). The company allowed the group to use several of Vale’s vacant residential lots to create the With My Own Two Hands community garden. The program provides community members with the opportunity to learn how to become successful gardeners. Participants plant, maintain and grow a variety of fresh vegetables for community members to pick and take home. Port Cares has also expanded the program to help local residents plant and grow raised-bed gardens in their own backyards.

At Voisey’s Bay, Vale’s community of interest (COI) identification process involved extensive community consultations for the environmental assessment of the mine and concentrator project, and the negotiation of separate Innu and Inuit impact and benefit agreements (IBAs). As a result of this engagement, management practices and processes are in place to ensure that ongoing COI and stakeholder engagement occurs on a regular basis. Engagement and dialogue activities include IBA committees (Inuit and Innu), regular community visits by Vale’s employment coordinators, annual community barbecues hosted by Vale in each Aboriginal community, a toll-free information line and website to notify communities of Vale’s marine transportation activities, and a community concerns line.

In 2015, Vale continued the ramp-up of its new nickel processing plant and port facility in Newfoundland and Labrador. The facility is adjacent to the Town of Long Harbour-Mount Arlington Heights, which has a population of approximately 300 people. Engagement and dialogue activities at Long Harbour include a community liaison committee for quarterly communication between the company and local communities, and a fisheries and aquaculture liaison committee for regular communication with local fisheries and aquaculture stakeholders. The facility currently employs 371 people.



ENERGY USE AND GHG EMISSIONS MANAGEMENT

Overall, Vale's energy and GHG performance has improved since 2014. Globally, Vale is committed to reducing its projected 2020 GHG emissions by 5% (its carbon target). Vale continues to execute its Sustainability Action Plan at its Canadian sites to improve performance on several key environmental indicators, including the use of direct and indirect energy. Performance in achieving these targets is measured and contributes to a portion of the annual variable remuneration of facility staff. Building on Vale's 90% overall reduction of sulphur dioxide emissions over the past 40 years, the Atmospheric Emissions Reduction project, known as Clean AER, will reduce current emission levels by a further 85%. It will also reduce smelter greenhouse gases by 40% through a \$1 billion retrofit of the Copper Cliff smelter in Sudbury, Ontario. The project is on track for completion by 2017.

Vale's new emissions-free, state-of-the-art nickel processing facility in Long Harbour also continued to ramp-up in 2015.

TAILINGS MANAGEMENT

Vale maintained its performance across all indicators of the TSM Tailings Management Protocol in Ontario and Newfoundland and Labrador, averaging a Level A or higher. In Thompson, Vale achieved a Level AA for its performance for three of the five indicators, including improving from a Level B to a Level AA for the annual tailings management review indicator. The company has reviewed all tailings management policies with its COI, and senior management has endorsed and implemented the policies within budget allocations.

In Sudbury, tailings management performance improved, achieving a Level AAA as a result of work completed by the third-party expert Tailings Review Board that oversees the Central Tailings Area (CTA) operation.

CRISIS MANAGEMENT PLANNING

Crisis management planning and preparedness is a critical component of Vale's risk management activities. Crisis management teams are well trained, and are willing to respond to internal emergencies and help the community when possible. Testing of the crisis management systems were conducted at all sites. In Sudbury, testing included an integrated exercise with the corporate team.

SAFETY AND HEALTH

At Vale, life matters most. The company maintains a Level AAA performance for safety training, behaviour and culture at all its mining operations. When possible, Vale shares its safety knowledge and experience with its communities by supporting such activities as Safe Workers of Tomorrow and Threads of Life. In Thompson, Vale has reviewed the city's annual Safe Operations Audit results and offered guidance for the next steps in the city's journey to zero harm. This dialogue and sharing of best practices has allowed the City of Thompson to reduce workplace injuries.

At Voisey's Bay, Vale implemented the SafeProduction system across the operation, which provides tools for risk recognition, management and mitigation, with expectations for management coaching and interaction. In 2015, Vale's Sudbury operations introduced a new safety program called HomeSafe, with a primary goal to effectively manage risk so that everyone goes home to their loved ones every day without injury. The company also launched a three-year study called Mining Mental Health to gain vital information to develop key strategies that promote positive mental health for workers.

BIODIVERSITY

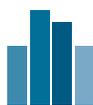
Biodiversity protection demonstrates how much Vale prizes the planet. In 2015, the company continued to actively support biodiversity work by partnering with the Manitoba department of conservation's woodland caribou collaring program, supporting the Vale Living with Lakes Centre, and conducting extensive biodiversity studies in Voisey's Bay.

In Sudbury, more than 300,000 pine seedlings are grown annually in greenhouses at Vale's underground and surface-level operations. In the same greenhouses, Vale raised over 6,000 fish in 2015 and released them into area lakes and streams. Beehives have been placed at the base of Vale's revegetated slag hills to pollinate the flowering plants that provide a source of nectar and pollen for the bees and aid efforts to restore declining bee populations in the local area.

In 2015, Vale was a finalist for the TSM Environmental Excellence Award for the company's black bear management strategy at the Voisey's Bay mine.

For more information, please visit: www.vale.com





Externally
Verified Results

2015 TSM Results

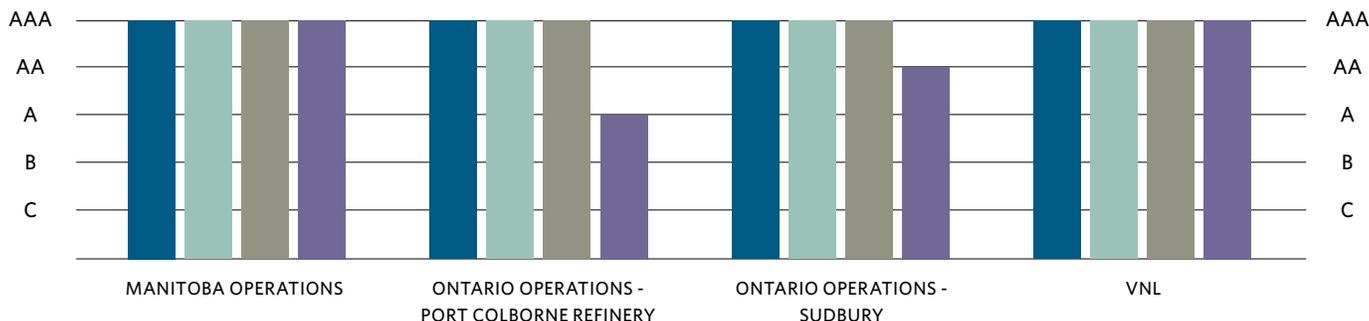
Vale

Crisis Management Planning Assessment

FACILITY	PREPAREDNESS	REVIEW	TRAINING
CORPORATE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
MANITOBA OPERATIONS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ONTARIO OPERATIONS - PORT COLBORNE REFINERY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ONTARIO OPERATIONS - SUDBURY	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VNL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

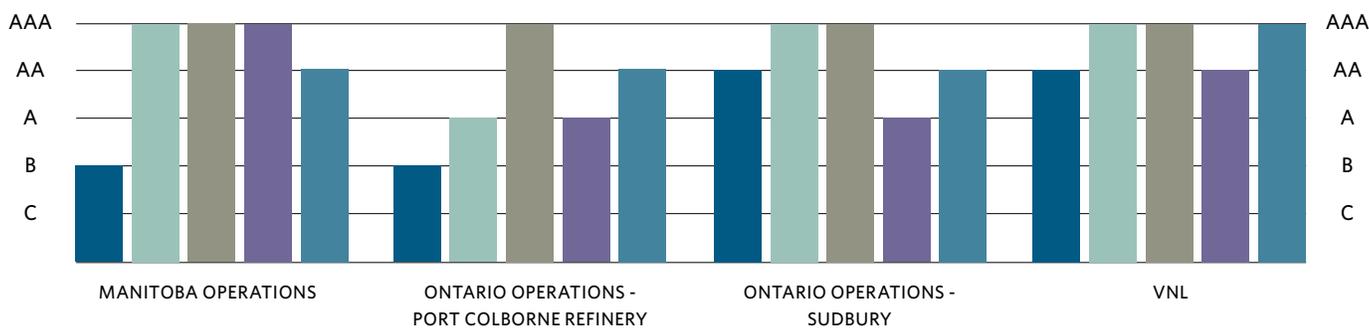
Aboriginal and Community Outreach Assessment

- COMMUNITY OF INTEREST (COI) IDENTIFICATION
- COI RESPONSE MECHANISM
- EFFECTIVE COI ENGAGEMENT AND DIALOGUE
- REPORTING



Safety and Health Assessment

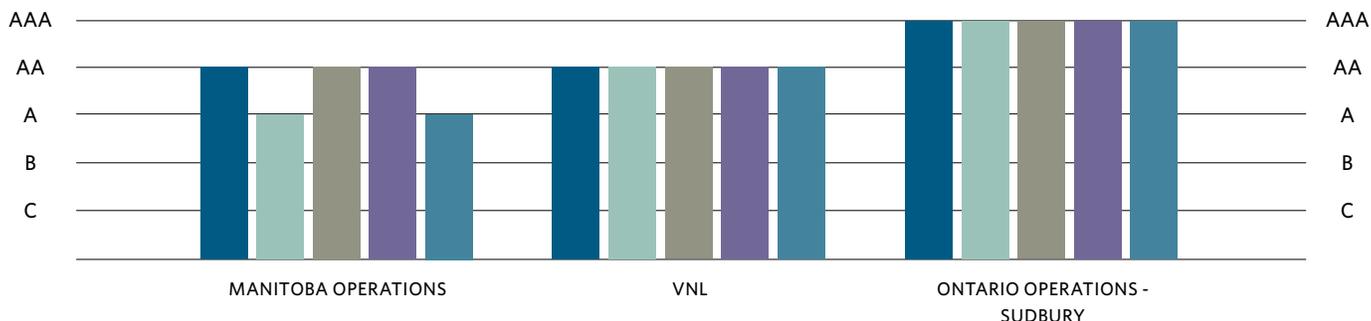
- POLICY, COMMITMENT AND ACCOUNTABILITY
- TRAINING, BEHAVIOUR AND CULTURE
- PLANNING, IMPLEMENTATION AND OPERATION
- MONITORING AND REPORTING
- PERFORMANCE



Tailings Management Assessment

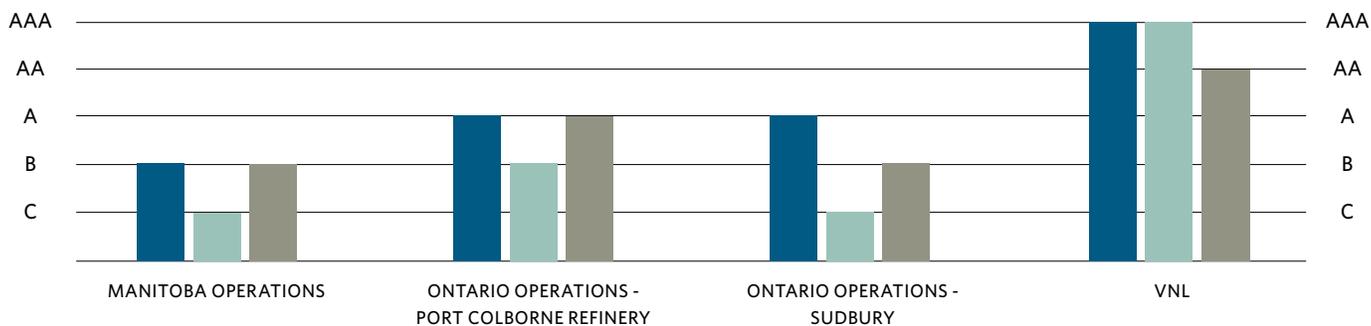
Externally Verified Results

- TAILINGS MANAGEMENT POLICY AND COMMITMENT
- TAILINGS MANAGEMENT SYSTEM
- ASSIGNED ACCOUNTABILITY AND RESPONSIBILITY FOR TAILINGS MANAGEMENT
- ANNUAL TAILINGS MANAGEMENT REVIEW
- OPERATION, MAINTENANCE AND SURVEILLANCE (OMS) MANUAL



Biodiversity Conservation Management Assessment

- CORPORATE BIODIVERSITY CONSERVATION POLICY, ACCOUNTABILITY AND COMMUNICATIONS
- FACILITY-LEVEL BIODIVERSITY CONSERVATION PLANNING AND IMPLEMENTATION
- BIODIVERSITY CONSERVATION REPORTING



Energy Use and GHG Emissions Management Assessment

- ENERGY USE AND GHG EMISSIONS MANAGEMENT SYSTEMS
- ENERGY USE AND GHG EMISSIONS REPORTING SYSTEMS
- ENERGY AND GHG EMISSIONS PERFORMANCE TARGETS

