



SNC • LAVALIN



MINING SUSTAINABILITY

GET STARTED



MINING SUSTAINABILITY



INTRODUCTION



**MINING
SUSTAINABILITY**



**SNC-LAVALIN
OVERVIEW**

YOUR PARTNERS THROUGHOUT THE MINING LIFECYCLE

The environment in which miners operate is very different today than it was in the past. The need for sustainable engineering design, environmental management and meaningful community involvement has never been greater.

SNC-Lavalin's sustainable mining services cover the entire mining lifecycle. Our teams support clients at every stage from exploration, Indigenous and community engagement, environmental studies and assessment, early mine planning, operations, closure, decommissioning, and post-closure. We develop focused solutions that meet project and stakeholder expectations and align with sustainability principles.



OVERVIEW: MAXIMIZING VALUE ACROSS THE MINING LIFECYCLE

This is an interactive map.
Scroll over the hotspots to read more.

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MINING SUSTAINABILITY

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Early Stage Planning

Indigenous and Community Engagement

Water Management

Mine Operations

Post Closure

Environmental Management

Mine Closure

Tailings Storage Facilities



EARLY STAGE PLANNING

The affects of climate change and need for social acceptance of mining activities are significant considerations during early stage planning.

SNC-Lavalin integrates sustainability principles into its design process at the early stages of a mining project. Designing for closure during the initial planning has benefits for operations, cost optimization, and allows for a progressive closure approach (i.e., close-as-you-go). The timely and early identification of geochemical and physical properties of mining waste with application of suitable long term climatic criteria allows for resilient design, operation, and closure of tailings storage facilities and waste rock piles. This approach minimizes risks of adverse environmental impacts from acid mine drainage, metals leaching, and groundwater contaminants migrating to unwanted receptors.

The early development of an effective mining waste management plan that engages the local communities and focuses on effective liability management reduces overall closure costs and minimizes the need for costly long-term water treatment.



INDIGENOUS AND COMMUNITY ENGAGEMENT

We understand the criticality of sustainable and socially beneficial projects.

Our teams work closely with those who live, work and play near the projects we develop. We believe the cultivation of meaningful involvement by local communities enhances project value. We support our clients in creating and managing community engagement strategies, social impact assessments, development initiatives, and community partnerships.



MINE OPERATIONS

Mine operations last decades and changing conditions throughout the lifecycle present significant challenges for mine waste and water management.

Our team supports clients with ongoing needs related to the management of operations in a continually changing environment. Drivers such as climate change require innovative technically sound solutions to ensure key infrastructure resilience (e.g., tailings storage facilities and water resources).

SNC-Lavalin provides a wide range of services in support of mine operations such as dam safety inspections, engineering for dam raising, dam safety reviews, permitting support, water audits, and design of water management infrastructure.

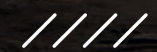


TAILINGS STORAGE FACILITIES

Tailings management impacts the viability of any mine operation.

It is important to have a partner with a strong track record in effective asset risk management through innovative design, construction, monitoring, and closure phases of tailings facilities (e.g., dams, dry stack, backfill, etc.). Our experts bring decades of experience and provide robust designs compliant with industry best practices including Global Tailings Standard and a focus on changing climatic conditions ensuring safe and reliable operations throughout the lifecycle.

We have worked at some of the largest tailings storage facilities in the world, on five continents, and have covered a wide range of geographical and geological settings including permafrost, residual soils, marine clays and glacial deposits.



WATER MANAGEMENT

The management of mine water resources is a complex field that requires a diversified set of expertise.

SNC-Lavalin brings together world class innovative talent for water management solutions. Our teams include experts in water management, aquatic fisheries, ML/ARD assessments, ground/surface water quality/flow modelling, treatment, hydrology, hydrogeology, geohazards, geochemistry, and plant engineering.

Our innovative solutions comply with our clients' expectations while conforming with applicable regulations.



ENVIRONMENTAL MANAGEMENT

Environmental strategies that mitigate risks and maximize benefits are key for obtaining social and regulatory project acceptance.

Preserving the natural and built environment is an investment. SNC-Lavalin experts ensure benefits are maximized for our clients and the planet we all share.

Our technical specialists are renowned in the industry and devoted to creating complete, customized solutions for any project and work together with the client to overcome any sustainability challenges.



MINE CLOSURE

Closure of a mining or metallurgical facility of any size is a multi-faceted and complex undertaking requiring diversified expertise.

SNC-Lavalin brings together extensive global experience in the design, implementation, and monitoring of closure plans. We apply a risk-based approach to closure developed with input from the client, Indigenous and local communities, and stakeholders for effectively managing liability, maximizing benefits, minimizing costs, and achieving a sustainable outcome.



POST CLOSURE

Post-closure planning and monitoring is essential to ensure measures were effectively implemented and are performing as intended.

A closed mine site must be robust and safe forever. Effective planning and monitoring of key indicators is necessary to provide high confidence levels of reclamation activities to owners, communities, and regulators.

SNC-Lavalin works with clients, Indigenous communities, and stakeholders long after the remediation work is completed offering support for post-closure monitoring, technical assistance, regulatory support, engineering, and field services with necessary consideration for land uses and long term benefits.



SNC-LAVALIN

PEOPLE. DRIVE. RESULTS.

We're connecting people, technology and data to meet today's most pressing challenges.

SNC-LAVALIN VISION

We create sustainable solutions that connect people, data, and technology to design, deliver and operate the most complex projects.



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