

Environmental management



Why it's important

Enbridge operates across diverse landscapes, from densely populated areas to remote locations. We recognize the ecological and cultural significance of every location where we operate and work toward safeguarding the environment throughout the lifecycle of our projects. We strive to minimize our impacts on the environment while complying with applicable laws and regulations in the jurisdictions where we operate.

Protecting natural resources and supporting conservation are priorities for Enbridge. We work closely with local stakeholders, Indigenous communities and our employees to mitigate impacts and to promote shared environmental values and priorities. We invest in programs that directly support and promote environmental stewardship.

Governance

We recognize that our business has interactions and dependencies with nature. We believe it is important to our business that we understand these interactions and manage nature-related risks to protect the environment and communities in which we operate. We have strong governance practices for environmental management, including robust Board of Directors oversight and risk management practices.

The following list outlines how we maintain oversight of environmental management, from the Board level to individual employees.

- **Board of Directors:** The Board and its five committees are responsible for identifying and understanding Enbridge's principal business risks, including environmental risks, and

overseeing the implementation of appropriate systems to monitor, manage and mitigate those risks. Each committee's expertise is relevant for specific sustainability-related topics. Nature-related risks, dependencies and impacts fall primarily under the responsibility of both the Sustainability Committee and the Safety and Reliability Committee.

- **Sustainability Committee:** This committee of the Board has oversight of sustainability matters, including the Company's sustainability policies and practices, and environmental risks and opportunities. The Sustainability Committee is also responsible for overseeing the integration of environmental factors into business strategy and decision-making.
- **Safety and Reliability Committee:** This committee of the Board is responsible for policies directed at preventing and minimizing adverse environmental impacts, as well as oversight of operational matters, including environmental management, pipeline and facility integrity management, and emergency management and response.
- **Management:** Management establishes and oversees adherence to corporate policies and programs and integrates safety strategies and risk management into day-to-day operations, including the Operations and Integrity Committee, with executive oversight.
- **Employees:** All employees are responsible for conducting our business in a safe, environmentally responsible and ethical manner, consistent with our policies and values.

Policies

Our [Sustainability Policy](#) sets out the principles and values that underpin our operating practices at all levels of our organization, including protection of the environment. Our commitment to environmental protection is also articulated in our [Safety and Reliability Policy](#), which outlines the commitment to conduct our activities in a systematic, comprehensive and proactive manner that manages risk and prevents incidents. This policy establishes Enbridge's Management System Structure, an integrated management system that encompasses safety, security and protection of the environment by providing consistent expectations, standards and levels of discipline across our enterprise – and across asset lifecycles.

As part of our Management System Structure, business units implement an integrated management system and the Environmental Protection Program (EPP) that defines environmental management accountabilities and responsibilities. The goal of the EPP is to anticipate, prevent, manage and mitigate operational risks and conditions that could significantly affect the environment by defining environmental management accountabilities and responsibilities in the organization. The development and implementation of this system is informed by industry-leading protocols including, but not limited to, ISO 14001.

Enbridge works in highly regulated jurisdictions within the United States, Canada and Europe, with stringent and rigorously implemented environmental legislation. We work cooperatively with regulatory agencies and aim to meet, if not exceed, expectations set by federal, state or provincial regulators. This makes environmental management and compliance risk management an important part of our operations.

Our approach

Enbridge completes all necessary impact assessments for our new projects – which may include but are not limited to: environmental, species at risk, siting, noise and cultural impacts, among others – and we develop avoidance and/or mitigation measures that aim to protect ecosystems and environmentally sensitive areas, maintain wildlife and aquatic life, and reduce land, water and habitat disturbances. We continually monitor our environmental performance and conduct regular internal audits of our environmental protection program to assess and enhance our environmental management practices. Enbridge's primary regulators also conduct periodic audits of our management systems and EPP to assess and enhance our environmental management practices.

Enbridge respects designated protected areas located near or adjacent to our operations and follows regulatory requirements, as applicable. We aim to build relationships with landowners, Indigenous groups and stakeholders by engaging directly with them to support their land use objectives – from agriculture to conservation to commercial activity.

Through Enbridge's Fueling Futures, our community investment program, we contribute to regional environmental organizations and invest in projects that support environmental initiatives and create benefits for the communities where we operate. We fund environmental research projects with universities and other research agencies, including topics such as habitat preferences that inform restoration activities.

Enbridge engages potentially affected communities, Indigenous groups, landowners and other stakeholders early to assess and develop measures to avoid and/or mitigate adverse social and environmental impacts of our projects and operations. As part of our [Indigenous Reconciliation Action Plan](#) (IRAP), we recognize the strong Indigenous connection to nature and the traditional importance of the land, air, animals and water, and are committed to collaborative stewardship and inclusion of traditional cultural knowledge in our plans, projects and operations. Pillar 4 of our IRAP outlines commitments for Indigenous inclusion in the environmental review process and field work.

Biodiversity

Focus on nature

Enbridge aims to reduce our impact on land, water, biodiversity, air and climate.

Acknowledging the global risk of nature loss and its effect on businesses and society, Enbridge recognizes the Kunming-Montreal Global Biodiversity Framework – to reverse nature loss by 2030 and restore biodiversity by 2050. We're also closely monitoring the development of *Canada's 2030 National Biodiversity Strategy* and evaluating the disclosure recommendations and guidance set out in the Taskforce on Nature-related Financial Disclosure (TNFD) guidelines.

Enbridge is working to evaluate dependencies and impacts on nature, assess the risks and opportunities to the organization and report on the results. We recognize the integrated nature of climate change and biodiversity.¹ We believe that there are benefits in taking an integrated approach to identifying, assessing and responding to climate and nature-related dependencies, impacts, risks and opportunities.

Nature-related issues are location-specific and require local, context-specific assessments and responses. We recognize the knowledge and expertise of local communities and Indigenous Peoples in understanding these location-specific issues.

¹ <https://www.un.org/en/climatechange/science/climate-issues/biodiversity>

Biodiversity and land use

Biodiversity – the variability among living organisms – is an essential characteristic of nature that enables ecosystems to be productive, resilient and able to adapt to change. By respecting nature and focusing on maintaining biodiversity, we can help preserve ecosystems essential to human life.

Throughout the lifecycle of our projects, our engineering and technical services teams integrate biodiversity considerations into the design, construction, maintenance and operation of our assets. Where sensitive ecological features are identified, we implement a mitigation hierarchy to reduce potential impact to species and habitat. This includes avoidance, mitigation, restoration and offsets.

Prior to any new project, Enbridge undertakes a project planning and siting process that incorporates environmental and cultural assessments. As part of project planning phase, we:

- Undertake siting assessments to identify key ecological features, sensitive habitat, cultural resources and community priorities.
- Aim to use pre-existing rights-of-way, where possible.
- Conduct baseline assessments on soil, vegetation, wildlife, aquatic environments, air quality and water quality.
- Engage qualified professionals to identify sensitive areas, implement mitigation measures and implement a mitigation hierarchy.

During construction, we implement management practices that include vegetation management and invasive species control measures, soil management and erosion control measures, protecting species at risk and sensitive habitats. Following construction, we begin reclamation of disturbed lands. Rights-of-way are restored in rural areas so agricultural activities can resume.

During operations, project-specific environmental protection plans may be considered to identify and monitor any potential impact to land, water or wildlife. For each project, we develop unique plans that include avoidance and mitigation measures. We apply vegetation management methods at our facility and pipeline right-of-way locations and work with landowners and regulatory agencies to address the spread of invasive species that threaten valuable native species and natural plant and animal diversity. Wetland and watercourse crossing sites are monitored regularly following construction and we work to restore them to their previous function and value.

In the case of decommissioning, we aim to return the site to equivalent land capability. We use techniques that are suitable for the landscape we are working in, including active reclamation and revegetation, natural regeneration and environmental monitoring. We engage with local communities, landowners and Indigenous communities in developing the restoration goals. Following decommissioning of a site, we conduct environmental monitoring to verify the success of reclamation efforts.

Water

Water is a fundamental societal, environmental and economic resource and we aim to use it responsibly. We operate in freshwater ecosystems throughout our liquids and natural gas pipelines and utilities operations, and in ocean ecosystems through the development of our gas gathering system and offshore wind farms. Enbridge uses limited amounts of groundwater and surface water in our operations.

Water use for pipeline operations

Enbridge's main reason for drawing water is hydrostatic pressure testing, a practice we use to test the integrity of our pipeline assets. Hydrostatic testing involves filling sections of pipe with water at high pressure and maintaining the pressure for a prescribed period to confirm that there are no leaks in the pipeline. The exact volume of water used and location of withdrawal varies from year to year depending on our testing needs, which vary according to the number of projects under construction and our overall integrity management requirements. Water for hydrostatic testing is typically sourced from fresh surface water and municipally sourced potable water.

Prior to undertaking a hydrotest, we obtain required water withdrawal permits from local regulators and operate within the allocation limits of our permits. In areas where there is high water stress, our approach is managed by local regulatory bodies who issue water use permits. A negligible volume of water is consumed through hydrostatic testing; on average, more than 99% of the water used for this purpose is returned to the environment.

Our teams use detailed procedures to evaluate water quality prior to release to the environment or disposal. Water withdrawal volumes are measured using meters located on the withdrawal pumps. Water withdrawal quality is measured using field instruments and tests and/or laboratory analysis. Discharged water is not typically measured, unless required by a regulatory agency. The water quality testing requirements for hydrostatic testing vary by jurisdiction and the regulatory requirements of the appropriate environmental agency.

If the water can't be safely returned to the environment, we dispose of it using approved methods following regulatory requirements where they exist, or in the absence of these requirements, following internal procedures based on best management practices.

Water use for natural gas production

The production of natural gas by Wexpro, a company that develops and produces natural gas and supplies it directly to Enbridge Utah, uses water for drilling and completion of wells. We aim to use produced water, where possible, to reduce the requirement for fresh water.

Produced water is also associated with the natural gas production process. This water is not considered hazardous; however, it is highly saline and must be disposed of according to regulatory requirements. Enbridge typically manages produced water by either injecting it back underground into disposal wells or reuses the water in the drilling process for new wells.

Other water uses

Enbridge also relies on water for other operational purposes including water used for water, sanitation and hygiene (WASH) purposes and other operational uses including cooling systems, dust management during construction and operations, fire suppression systems and cleaning equipment. These withdrawals are not measured due to logistical and economic challenges.

Enbridge has metered service connections to municipal water treatment and distribution systems supplied to Enbridge-owned and leased facilities across the business. Some Enbridge facilities consume a small amount of unmetered water supplied by local wells or potable water delivery at remote operating locations.

Water risk assessments and mitigation

We operate around waterbodies and watercourses and recognize the potential impact to freshwater and ocean ecosystems, including water quality and aquatic life. We aim for zero releases of any of the hydrocarbons we transport because these types of releases have the potential to impact the environment, damage property and threaten the safety of workers and the public. We invest in preventing spills and releases – including in or near watercourses and environmentally sensitive areas – through rigorous asset integrity practices and emergency response and preparedness planning.

Enbridge uses a combination of approaches to identify, assess and mitigate potential water risks across our operations. We take a lifecycle approach to manage the safety and design of our assets and assess water risks as part of an established enterprise risk management framework.

During project planning and operations, we conduct risk assessments using regional government databases that help identify higher-risk environmental features, such as municipal water intake locations and recharge areas for municipal drinking water supplies. The risk assessments also consider subsurface conditions, such as the depth of the groundwater table and proximity of regulated areas like floodplains to our project footprint. These aspects are important determinants for permitting requirements and mitigating water risks.

Risks related to water withdrawal include withdrawing water from water-stressed areas; limited water resources to support our operations; and impacts due to erosion, flooding or heavy rainfall. Our operations and engineering groups carefully manage water used for operations. Risks related to water quality include impacts to water quality as a result of spills or hydrostatic testing, which may have implications for aquatic wildlife and ecosystems. Enbridge has robust operational practices focused on the protection of water quality and extensive experience in protecting water resources when pipeline infrastructure crosses a waterway.

Water stress testing

Enbridge utilizes tools developed by regulators to evaluate the potential water stress in British Columbia. In all other locations, the volume of water removed is based on allowable limits placed on Enbridge by the applicable regulator. The regulator maintains authority to determine if it is ecologically safe to take water from a system. For example, the regulator will rescind water removal during drought conditions. The locations for hydrostatic testing differ from year to year, therefore our water-stress analysis differs from year to year.

Non-GHG air emissions

Operating our gas and liquids pipeline network may result in greenhouse gas (GHG) air emissions associated with stationary combustion to move gas, and working and breathing losses on process vessels and tanks. Non-GHG air emissions known as criteria air contaminants (CACs) are released from our facilities and include carbon monoxide, nitrogen oxides and volatile organic compounds. CACs released in smaller quantities include sulfur dioxide, nitrogen oxide and particulate matter.

Enbridge operates in jurisdictions that have regulations to limit and report these air emissions. Our facilities have permits designed to prevent impacts to communities and ecosystems. During project siting, permit renewal and environmental assessment, we complete and assess air dispersion modeling as required by local regulatory agencies. Facilities are managed and operated to comply with regulated ambient air quality requirements. We strive to keep air emissions from our operations in line with regulations and guidelines designed to protect the environment and the health of local communities. We have established management programs that define our roles, responsibilities and timelines for managing and reporting emissions to government agencies in both Canada and the U.S.

Waste

Waste, if not managed properly, can have impacts on soil and water and adversely impact plant, animal and human health. Minimizing waste and managing waste responsibly are important parts of reducing our environmental impact. Waste is generated through the construction, operations, maintenance and decommissioning of our assets. Common types of waste from our assets and operations include construction debris, industrial waste and contaminated soil. We manage both hazardous and non-hazardous waste.

Reporting

We operate in jurisdictions where waste management is regulated and reporting is required by local regulators. Reporting requires proper testing, classification and management of the waste through our contracted waste vendors. Our environmental teams complete waste-related regulatory reporting following jurisdictional requirements. A centralized waste data repository is currently being evaluated to enhance timely and accurate reporting of our waste. The centralized system is expected to support the establishment of key performance indicators for waste minimization and allow for improved electronic data reporting.

Reduction

Waste minimization, source reduction and recycling offer both environmental and economic benefits. We follow all applicable regulations to manage waste from our operational activities. For our hazardous waste, we aim to reduce it whenever possible through treatment and recycling processes. Several jurisdictions require hazardous waste minimization reports, which are completed annually and help support operational activities to improve our waste management processes. For our non-hazardous waste, we look for opportunities to reuse or recycle construction materials, utilize recycled steel in construction projects and implement waste recycling and compost programs at our office locations, where possible. In our corporate office and several of our major office locations we recycle items such as paper, plastic, cans and batteries. We continue to seek practical opportunities to reduce waste from our offices and field operations.

More information

See our [2024 Sustainability Report](#) for additional activities and initiatives on environmental protection.

See our [2024 Datasheet](#) for environmental performance data.

See our [Sustainability Policy](#) for more information.