Local Environmental Impacts

Environmental considerations are integrated into the way we do business, whether it's minimizing environmental impacts, protecting natural resources or reducing waste.

Business Context and our Strategic Response

Protecting natural resources and biodiversity and supporting conservation is a priority for Enbridge. As we execute on our capital expansion plans and maintain our existing infrastructure we are committed to conducting our operations in a manner that prevents harm to the environment and adheres to all laws and regulatory processes.

We work with local and Indigenous communities and other stakeholders and invest in projects and initiatives that promote environmental values and priorities that are mutually important and create benefits for the communities in which we operate.

Our Approach

We integrate environmental considerations into our business decisions and management, which are governed by our Safety and Reliability Policy. Our commitment to the environment is guided by the Enbridge Management System Structure (EMSS) which provides consistent expectations, standards and levels of discipline across our enterprise—and across asset lifecycles.

EMSS is put into practice through the Environmental Protection Program (EPP). The goal of the EPP is to anticipate, prevent, manage and mitigate environmental risk and conditions that could adversely affect the environment. The development and implementation of these risk management frameworks is informed by industry-leading protocols including, but not limited to, ISO 14001.

Each Enbridge business unit must establish, implement, and maintain an Integrated Management System for its defined assets and business processes that meets the enterprise minimum requirement and ensures regulatory and permit compliance.

Biodiversity and Land Management

We strive to avoid and/or minimize all impacts our projects and operations may have on sensitive habitats, species at risk and ecosystems. Our engineering operations and technical services teams help ensure that all of our assets are designed, constructed, maintained and operated to minimize the risk of habitat disturbance. Accordingly, we:

- Conduct environmental and cultural assessments to identify sensitive areas and use pre-existing rights-of-way where possible.
- Work with landowners and regulatory agencies to address the spread of invasive species that threaten valuable native species and natural plant and animal diversity.
- Monitor wetland and watercourse crossing sites regularly, following construction, to ensure they are fully restored to their previous function and value.
- Restore pipeline rights-of-way through rural areas so that agricultural activities can resume promptly following construction.
- Use appropriate vegetation management methods at our facility and pipeline rights-of-way locations.
- Employ habitat restoration methods including reclamation, environmental monitoring and mitigation, and follow-up landowner outreach.

We work cooperatively with regulatory agencies such as the Environmental Protection Agency, the U.S. Fish and Wildlife Service, the Bureau of Land Management, U.S. Army Corps of Engineers, National Parks Service, Environment and Climate Change Canada, and Fisheries and Oceans Canada, as well as state and local permitting and wildlife management agencies. Our philosophy is to meet, if not exceed, expectations set by any state, provincial or federal regulator.

SPOTLIGHT : NEXUS team hatches migratory bird conservation plan

Promotion of biodiversity and sustainability were key planning considerations for Enbridge's 356-mile NEXUS Gas Transmission pipeline project. Initiatives included minimizing forest fragmentation, implementing compensatory mitigation to forested habitat clearing and adhering to winter clearing dates to avoid direct impacts to listed bat species and migratory birds.

The NEXUS team went a step further when they created a Migratory Bird Conservation Plan (MBCP) that focused specifically on federally-listed, state-listed and birds of conservation concern identified in state breeding bird atlases as potentially occurring within the project counties. Using the data, the project team developed a target clearing schedule of individual breeding bird habitats. The schedule was much more refined that the existing broad winter clearing windows and enabled a more accurate compensatory mitigation calculation. NEXUS' voluntary compensatory mitigation helped offset impacts to upland forested habitat across the project and the MBCP contributed to enhanced conservation of protected species.

Managing Water Resources

We recognize the ecological, cultural and social significance of water as a resource, and we're committed to responsible water management. Primary risks include impacts to water quality as a result of spills or hydrostatic testing, increased sediment loading due to flooding or heavy rainfall, withdrawing water from water-stressed areas, and implications for marine wildlife.

Enbridge's primary use of water is for hydrostatically testing the integrity of existing and new pipelines and related equipment prior to operation. Our operations and engineering groups carefully manage water used for hydrostatic pressure testing and have detailed procedures in place to measure water quality prior to disposal, either back to its source or via other approved methods.

We have strong operational practices focused on the protection of water quality and extensive experience in protecting water resources when pipeline infrastructure crosses a waterway. Waterway crossings are clearly marked and inspected annually by our employees for bank erosion, pipeline exposures and leaks. In addition, we employ divers to inspect submerged pipeline infrastructure at select locations, such as Line 5 beneath the Straits of Mackinac.

Air Emissions

The major air emissions that our facilities release include carbon monoxide (CO), nitrogen oxides (NOx) and volatile organic compounds (VOCs). Other contaminants that they release, but in much smaller quantities, include sulfur dioxide (SOx), hydrogen sulfide, particulate matter (PM) and hazardous air pollutants (HAPs). Our facilities are designed to ensure that air emissions from our operations are kept below regulated limits.

These emissions are classified as criteria air contaminants (CACs) in Canada and criteria air pollutants (CAPs) in the U.S., and are released through incineration, industrial processes and fuel combustion. We have established management programs that define our roles, responsibilities and timelines for reporting emissions to various government agencies in both Canada and the U.S. We are making significant investments in equipment to reduce air emissions associated with our operations and to meet regulatory requirements.

Hazardous and Non-Hazardous Waste

We are committed to waste minimization, source reduction and recycling—approaches that offer both environmental and economic benefits. For example, we look for opportunities to reuse or recycle construction materials, we utilize recycled steel in our construction projects, and property managers at our office locations have implemented waste recycling programs.

Waste generation volumes fluctuate from year to year and are likely driven by many factors, primarily by the number and scale of construction and maintenance projects undertaken. Enbridge endeavors to continue expanding the current waste management processes to integrate other business units and report on their waste volumes in subsequent Sustainability reports.

Crossing the Straits of Mackinac

We'll be making a safe pipeline safer—by replacing our Line 5 Straits crossing in Michigan with a pipeline secured in a larger tunnel, bored deep beneath the lakebed.

Learn more

Our Performance

Efficient Use of Water

In 2018, Enbridge used a significantly larger volume of water compared with previous years, primarily due to several large pipeline construction and maintenance projects. These projects included the testing of pipelines and facilities for the L3RP, Line 4 Replacement and Seaway Connectivity for Liquid Pipelines; and the NEXUS Gas Transmission Pipeline for GTM.

Water Use for Hydrostatic Pressure Testing
(Megaliters)

	2016	2017[1]	2018[1]
Total Volumes	225.3	704.8	8,421.4

[1] 2017 and 2018 reflects Spectra Energy and Enbridge assets as a combined company.

Red snapper revival at Valley Crossing Pipeline Project

Research Institute for Gulf of Mexico Studies: Between 2017 and 2019, approximately 240,000 red snapper, the project's primary goal fish, were successfully raised from juvenile stage to adulthood. Valley Crossing Pipeline's gift enabled the purchase of critical marine transport components, including industrial dockage, rail transport, loading and unloading machinery and reefing material.

Learn more

Air Emissions

Overall, emissions of criteria air contaminants increased in 2017 with the acquisition of Spectra Energy, but have either stabilized or declined in 2018 for most business units.

Criteria Air Contaminants[1]
(tonnes)

Total Volumes	2016[2]	2017	2018
NOx (as NO_2)	2,267	17,105	17,588
SO_2	519	8,485	6,757
VOCs	4,479	5,954	4,803
PM2.5	57	263	300
PM10	512	715	754
TPM	1,967	2,144	2,228
CO	1,489	7,904	7,122

[1] Breakout by business unit can be found in the Performance Data.
[2] 2016 data represents legacy Enbridge only, while 2017 and 2018 data represents combined company operations.

Hazardous and Non-Hazardous Waste

Overall, waste generation volumes increased in 2017 with the acquisition of Spectra Energy, but have either stabilized or declined in 2018 for most business units. In 2018, the volume of non-hazardous waste was elevated due to the generation of soil from the Wyndwood Pipeline Expansion Project in northeastern British Columbia.

As a result of recycling and organics collections programs initiated by the EGI Real Estate group, the volume of solid waste diverted from landfills has increased by 15% since 2015. This reduction corresponds to more than 100 metric tonnes of diverted solid waste annually.

Solid Waste Diversion at EGI Buildings[1]
(tonnes)

	2016	2017	2018
Solid waste sent to landfill	501	525	424
Solid waste diverted from landfill	601	863	794
Diversion rate	**54%**	**62%**	**65%**

[1] EGI buildings include offices in Toronto, Markham, Thorold, Tecumseh and operational depots.