

A photograph of a modern building with a glass facade and a person walking on a walkway. The image is overlaid with a dark blue tint. The text 'MONTONI' is centered in large white letters, and 'Zero-Carbon Building Standards' is centered below it in smaller white letters.

MONTONI

Zero-Carbon Building Standards

Zero carbon



Why is it important?

Buildings are a major source of greenhouse gas (GHG) emissions in Canada, and construction industry players have a responsibility to help meet the country's 40% emissions-reduction target.

Why now?

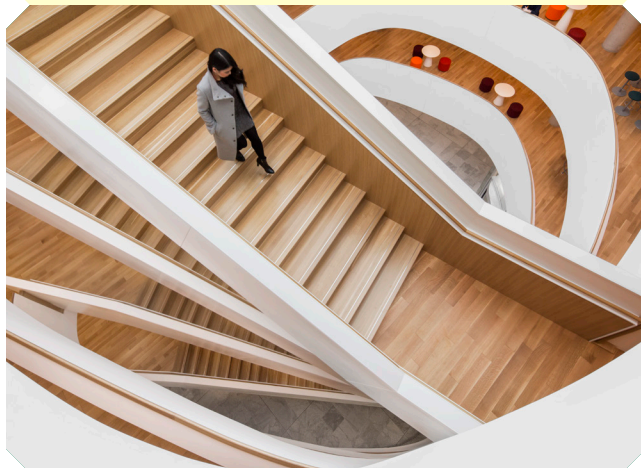
Buildings that are not built to zero-carbon standards will require major investments to retrofit mechanical equipment, ventilation systems and building envelopes by 2050 to meet Canada's targets. In addition, many municipalities, including Montréal, are currently enacting legislation to introduce new construction-industry standards in this area.

Why aim for Zero-Carbon Building (ZCB) certification if a building already meets the LEED® standard?

The two certification schemes are complementary. LEED® certification accounts only partially for carbon. That's why a zero-carbon building is extremely energy efficient: it helps reduce GHG emissions from both materials and building operations.

Did you know?

According to the report by the Intergovernmental Panel on Climate Change (IPCC), 20% of GHG emissions worldwide are attributable to cement and steel use in building construction and renovation.



In Québec, per 2017 data, half of all commercial and institutional building spaces are heated with natural gas or oil. At least 46,000 buildings in this sector will therefore need to be decarbonized in the coming years.

To achieve carbon neutrality by 2050, the construction sector, which accounts for 10% of GHG emissions in Québec, must transition away from fossil fuels within a very short timeframe.

Benefits of zero-carbon buildings

Reduced risk to asset value from extreme weather events in the future

Improved occupant comfort, health and productivity

Protection against increases in the price of energy and of carbon pollution



Improved financial returns through energy savings and carbon reduction

Achievement of climate leadership objectives in a way that is profitable

Avoidance of costly and disruptive future renovations

The ZCB standard explained

Carbon

Projects must account for and eliminate carbon emissions over the building's full life cycle.

Energy

Projects must demonstrate superior energy efficiency. Some indicators include thresholds that must be met, and others only have to be reported.

Impact and innovation

Projects must incorporate innovative and efficient technologies and design approaches (customized for each project).



How do we calculate the zero-carbon balance?



Net emissions



Embodied carbon

- > Upfront carbon
- > Building use stage embodied carbon
- > End-of-life carbon



Operational carbon

- > Direct emissions
- > Indirect emissions



Avoided carbon

- > Exported green power
- > Carbon offsets

Zero-carbon balance: ZCB-design and ZCB-performance

The difference between the two certifications:
there are two pathways to ZCB certification.

ZCB-Design

- > Requirement to model a zero-carbon balance
- > Requirement to provide a quote for carbon credits or anticipated green power products during building operation

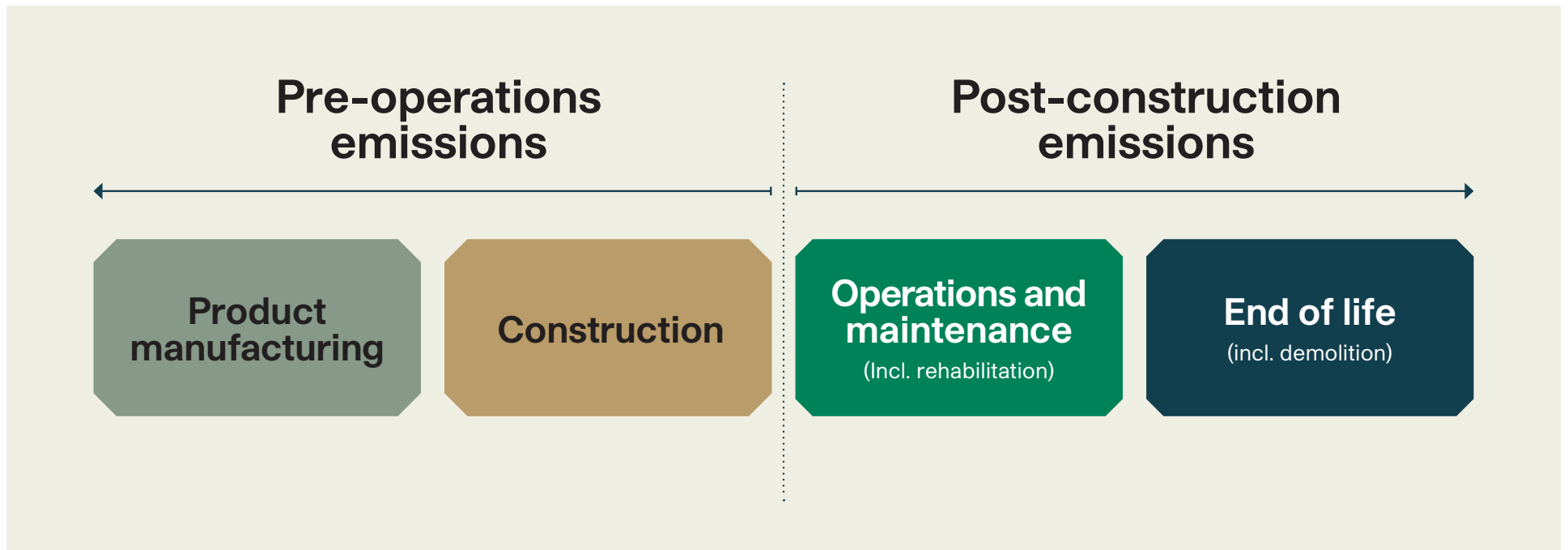


ZCB-Performance

- > Requirement to achieve a zero-carbon balance during building operation
- > If carbon credits or green power products are used, requirement to submit proof of purchase

What is a life cycle?

Life cycle is a measurement that calculates a building's impact from its inception to the end of its life, i.e., "from cradle to grave." To reduce the impact of materials on a building's carbon balance, conducting a life-cycle analysis of those materials is essential to making smarter strategic choices.





Why embodied carbon is important

MEASURES FOR REDUCING EMBODIED CARBON

Build less and make better use of existing buildings

Reuse or repurpose existing structures

Use low-carbon materials such as cement mixes with low carbon content

Explore the potential of sequestering carbon in building materials

Optimize efficient use of materials

The benefits for you as a business

A zero-carbon building will have a positive impact on:

- > Your employer brand (e.g., productivity gains, lower turnover)
- > User wellness
- > Occupant comfort and safety
- > Your company's reputation
- > Cost reduction through greater energy efficiency

A zero-carbon building helps you:

- > Achieve greenhouse-gas emissions reductions
- > Achieve ESG (environment, social and governance) gains
- > Gain access to new markets and new sources of capital





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Thank you