



**Responsible
Buildings
Pact**

ANNUAL REPORT

2025-2026

An initiative of the

CSBA Climate
Smart
Buildings
Alliance





Responsible Buildings Pact

Momentum continues to build around the Responsible Buildings Pact. Growing participation and collaboration across the construction sector are creating new opportunities to identify, evaluate and advance lower-carbon building solutions.

A Critical Moment for Low Carbon Construction

In 2026, the global economy is experiencing significant disruption. While climate issues have too often fallen from the headlines, there remain strong reasons for optimism. Major investments in housing, economic development and defense infrastructure are creating significant opportunities to build smarter, while low carbon solutions are increasingly being adopted because they deliver real business value alongside environmental benefits.

Globally, the building and construction sector accounts for 34% of carbon emissions¹. About a third of these are embodied emissions produced upfront from construction activities and materials. While they represent a minority over the lifecycle of a building, these upfront emissions will sit in the atmosphere for the full 50–70 year life of a building, having an immediate and lasting impact on climate change.

Now is the time to scale low carbon solutions everywhere they make sense, so the industry can meet this moment of growth without locking in decades of avoidable emissions.

While many low carbon options are often available, tight project schedules and a justifiable aversion to risk often discourage the building industry from adopting new innovations. In many cases, lower carbon solutions simply aren't considered—even when their cost and performance may be comparable to conventional choices.

New materials or one-off designs alone will not solve this. The industry needs a cultural and business shift—one that embraces innovation and defaults to lower carbon options wherever it makes sense to do so.

It was with that goal that the Climate Smart Buildings Alliance brought together a group of collaborators in 2024 to launch the Responsible Buildings Pact. The Pact isn't a club or association; it's a governance framework aimed at helping all signatories consistently consider lower carbon options and shift the industry towards greater collaboration and accountability up and down the value chain.

The Pact's first year report brought together 37 organizations. In year two, that number has grown to 58 signatory and supporter companies that pledge to work together to widen both the Pact's reach and the reporting framework detailed in this report.

Moving into year three, the Responsible Buildings Pact continues to prove the value of cross-industry collaboration and shows what innovation across the construction sector can achieve.

We invite you to be part of this effort.

¹ UN Environment Programme, [Global Status Report for Buildings and Construction 2024/2025](#).

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Why Create a Pact?

Construction is a competitive, cost-driven team sport, with dozens of companies touching the development, design, engineering, and eventual build of new buildings and infrastructure.

Upstream, major materials industries such as concrete and steel are partnering with governments on industry-wide strategies to reach net-zero. But manufacturer decarbonization only works if it's backed by the wider community of designers, engineers, developers, and contractors who spec, purchase, and put new lower carbon materials to use in projects.

Change is difficult, and it can carry real competitive risk. Cross-industry pacts let competitors and collaborators move together, shifting standard practice over time while reducing the risk of unintended consequences.²



The Responsible Buildings Pact is designed to work across the full value chain, building a common standard and shared accountability among everyone involved in designing and using building materials. The Pact also looks inward at company-level processes. Internal practices at building and construction firms shape industry culture, and lower carbon materials will only become the default once building sector companies embed that expectation into their own internal frameworks.

² Other industry initiatives which inspired the creation of the Responsible Buildings Pact include the [Canada Plastics Pact](#) in the consumer goods space, and both [AIA2030](#) (architects) and [SE2050](#) (structural engineers) in the building space.

What's Required of Signatories to the Responsible Buildings Pact

The Pact was built to be a simple, workable framework for the broad mainstream of the building and construction industry, not just its leading edge. Our goal is to meaningfully increase how often lower carbon materials and designs get used, while recognizing the business realities and complex project relationships that shape material selection.

Signatories to the Responsible Buildings Pact commit to three things:

1. Stay Informed on Low Carbon Materials

New lower carbon material technologies reach the market on an ongoing basis. Companies need to understand what these options are and how they could be deployed, and that understanding needs to extend well beyond a small sustainability team.

2. Build an Internal Consideration Process

Companies commit to building a low carbon material or design consideration process into their standard workflow, so that lower carbon options are actively weighed on every project. Where those options offer comparable cost, performance and availability, signatories agree to use them or recommend them to clients and partners.

3. Report Publicly on Outcomes

Companies agree to stand behind their decisions and share the results. Lower carbon options will not make sense in every case, but we commit to consistently identifying the situations where they do. Sharing both successes and challenges, even with competitors, will help establish new standard practices and shift the industry's culture toward lower carbon defaults.

Companies should always use or recommend the right material for the job. But we should also ask the right questions and stand behind the decisions we make.



Responsible Buildings Pact: Year Two, 2025-26

Building on a successful pilot, year two widened the Pact's focus materials for both consideration and reporting to include steel alongside concrete. Participants again aimed to apply low carbon material or design consideration processes to roughly five projects each, though the exact number varied with company size, structure and project timing.

Signatories and supporters met quarterly throughout the year. These forums continue to double as a place for practitioners to learn about emerging materials and trade lessons with partners from across the value chain.

The reporting template that all signatories agreed to in December 2024 was updated this year to capture steel alongside concrete, while still keeping the list of mandatory company level metrics short and treating additional questions as optional, summarized only at the full Pact level.

We are excited to see results in this year's report reflect the expansion in membership and scope. Overall carbon emissions avoided across reported Pact projects nearly doubled, climbing from roughly 60 kilotonnes in 2024-25 to over 110 kilotonnes in 2025-26. This is especially exciting considering a lower number of reporting companies this year, partially due to a significant slowdown in parts of the building sector.

A Note on the Data

The Pact's public reporting requirement exists to surface best practices and build a shared sense of transparency and accountability for material and design decisions. We've deliberately kept the administrative burden low, relying on a short set of simple questions rather than detailed carbon accounting, so that the framework works across different company structures and protects potentially sensitive commercial information.

The purpose in sharing this data is to spotlight the moments where lower carbon materials and designs made sense on a range of projects and applications, and to understand the barriers preventing broader adoption. Our hope is that this transparency will build momentum with others in the industry, illustrating that climate smart solutions can also be business-smart if we work together.

With these goals in mind, all the data in this report comes directly from what Pact signatories have reported to CSBA. It has not been independently audited or vetted and should be understood as an indicator of progress rather than confirmed emissions avoidance. We have worked hard to keep the metrics consistent across companies, though some variation or double counting is still possible, for example, when more than one signatory worked on the same project and we weren't able to catch the overlap.

We are excited by what this year's results show, and the process has also taught us lessons that will sharpen our data collection in future years.

Why focus on concrete and steel?

Structural systems typically account for 40-60% of a building's total embodied carbon, but can be even higher. Water aside, concrete is the most widely used material on earth, and producing and using it accounts for roughly 8% of global carbon emissions.³

Concrete made sense as a pilot material because a wide range of lower carbon mixes are already commercially available. Swapping in supplementary cementitious materials (SCMs) such as fly ash or steel slag for a portion of the cement can meaningfully cut emissions, and major suppliers continue to invest heavily in new cement technologies and industrial carbon capture.

Balancing potential carbon savings against cure times and performance requirements is part of optimizing any concrete mix, and thoughtful design can also shrink the total volume of concrete a project needs. Year two extended that same logic to steel, adding bulk elements such as rebar, rebar cage, decking, siding and cladding to the Pact's consideration and reporting framework. Steel carries a substantial embodied carbon footprint of its own, and a widening menu of lower carbon steel products made it the natural next material for the Pact to take on.

For more insights on low carbon concrete design and use, see [*Concrete: A Pragmatic Approach to Embodied Carbon 2023*](#).

³ [*World Economic Forum. Cement is a big problem for the environment. Here's how to make it more sustainable.*](#) September 13, 2024

Year Two Reporting Summary

Total Number of
Pact Signatories
and Supporters

 **58**

Total Companies
Submitting
Reports

 **23**

Total Number
of Pilot Projects
Reported

 **124**

Percentage of
Total Low Carbon
Concrete Usage



Where lower carbon
concrete made sense,
approximate %
it represented of total
concrete volume:

- Foundations – **83%**
- Suspended Slabs – **78%**
- Other Horizontal Elements – **64%**
- Vertical Elements – **91%**
- Landscape – **40%**

Main reasons where there was not a
business case in pilots to use lower
carbon concrete:

1. Performance (55)
2. Cost (50)
3. Scheduling (41)
4. Availability (30)

Following evaluation,
projects able to
use lower carbon
steel/steel designs:



- Rebar – **33**
- Fabricated Hot Rolled Structural – **21**
- Fabricated Tubular Products – **13**
- Fabricated Plates – **11**
- Cold Formed Sections & Panels – **10**
- Architectural/Decking – **14**
- Misc. Steel – **2**

Where lower carbon steel made
sense, % of total volume that
was lower carbon.

- Rebar – **65%**
- Fabricated Hot Rolled Structural – **55%**
- Fabricated Tubular Products – **56%**
- Fabricated Structural Steel Plates – **28%**
- Cold Formed Sections and Panels – **39%**
- Architectural/Decking) – **38%**
- Miscellaneous Steel – **9%**



Total Reported GHG
Emissions Reduced:

Almost **110,687** Tonnes
(Equivalent to the emissions of **24,000** cars)

Summary

Approximate % of total projects that included low carbon concrete – **43%**

Approximate % cost increase using lower carbon concrete options – **5%**

Approximate % of total projects that included low carbon steel – **23%**

Approximate % cost increase using lower carbon steel options – **7%**

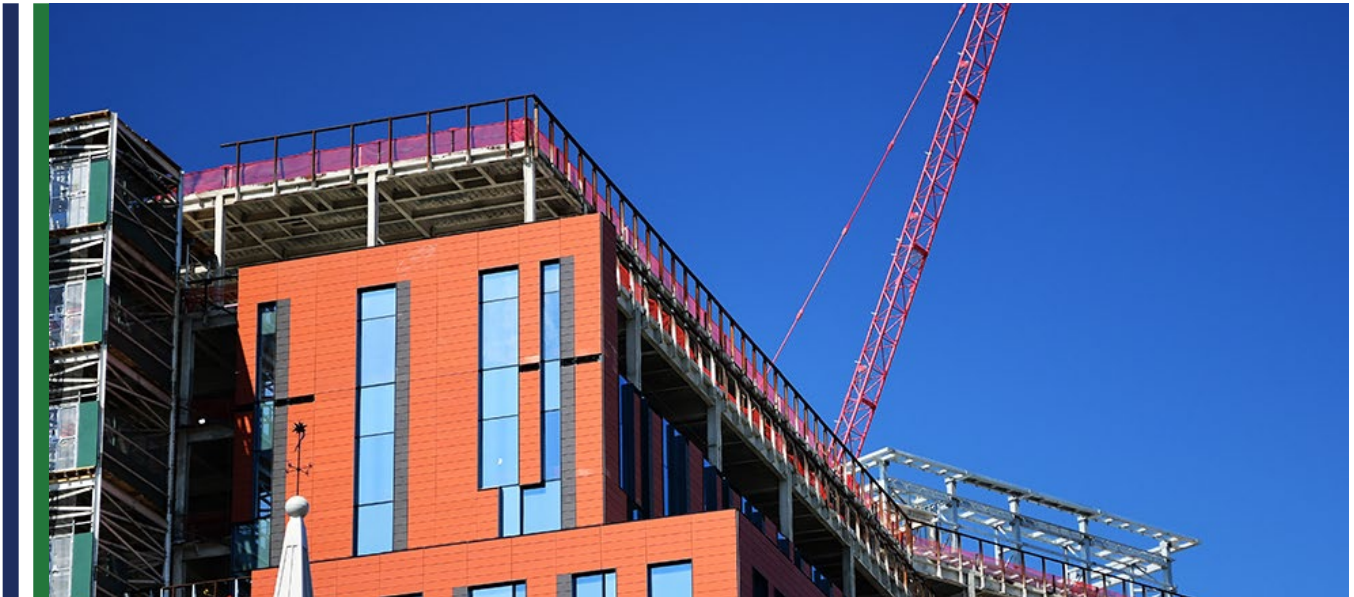
Where We Go From Here

After successful expansion in terms of members and materials, year three is about building on that same momentum to scale our impact even further.

Under an expanded Terms of Reference, 2026-27 will keep concrete and steel as core focus materials while adding **insulation** as a new, optional reportable material. Insulation carries real potential for lower carbon substitution, and making it optional first gives signatories room to build experience and data before it becomes a core requirement in a future year.

Quarterly Pact meetings will keep running as practitioner forums, giving signatories and supporters a recurring space to learn about emerging materials and compare notes with partners across the value chain.

The Responsible Buildings Pact Year 3 Terms of Reference and the draft 2026-27 reporting template are both available at buildingsalliance.ca/pact.



Join Us

The Responsible Buildings Pact grew to 58 signatory and supporter organizations in its second year and we intend to keep that growth going. The framework is built to work across company sizes and business models, because transforming this industry takes all of us working together.

To join the Responsible Buildings Pact, reach out through buildingsalliance.ca or email Pact@buildingsalliance.ca.



Signatory Reporting **Contractors**

The **Responsible Buildings Pact** is a voluntary cross-industry agreement uniting developers, consultants, and contractors to consistently evaluate and adopt lower-carbon building materials to reduce embodied emissions. This page highlights the Pact signatory's activity in 2025.

Total Projects under low carbon review in 2025-2026 reporting period: 6 (1 included last year)

Construction phase for review:	Design	2
	Pre-construction	1
	Construction	3

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 6

Low carbon concrete business case established:

Foundation	3
Suspended slabs	2
Other horizontal elements	-
Vertical elements	3
Landscape/hardscape	1

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories:

Foundation	100%
Suspended slabs	100%
Other horizontal elements	-
Vertical elements	100%
Landscape/hardscape	0%

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	Yes	-	-	-	-
Suspended slabs	Yes	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

STEEL

	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	3	3	-	1	-	-	-
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	-	Yes	-	-	-
Projects that accommodated lower carbon steel designs	3	3	-	1	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	100%	-	100%	-	-	-

EDUCATIONAL ATTESTATION

Mandatory Sustainability 101 for all new employees including a piece on embodied carbon. We also published a course on low-carbon concrete in our learning portal, and provide training to the Envision Sustainable Infrastructure Framework twice per year. In the coming year we will continue to reinforce our training offering, focusing on low carbon solutions for materials.

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Total Projects under low carbon review in 2025-2026 reporting period: 5

Construction phase for review:	Design	-
	Pre-construction	3
	Construction	2

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 5

Low carbon concrete business case established:

Foundation	5
Suspended slabs	3
Other horizontal elements	3
Vertical elements	4
Landscape/hardscape	3

Approximate percentage of total concrete volume for which a lower carbon option was recommended across all projects. 65%

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories:

Foundation	80%
Suspended slabs	55%
Other horizontal elements	55%
Vertical elements	65%
Landscape/hardscape	60%

Primary reason in pilot projects cited above that lower carbon concrete was not applied:

 = Number of projects citing no business case = Number of projects recommended but not applied by client

	Cost	Availability	Performance	Schedule	Other
Foundation	1	-	-	1	-
Suspended slabs		-	-	1 1	-
Other horizontal elements	1	-	-	1	-
Vertical elements		-	1	-	-
Landscape/hardscape	1	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 4

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	-	-	-	-	-	-
Projects that accommodated lower carbon steel designs	-	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	0%	0%	0%	0%	0%	0%	0%

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations most prevalent, vertical elements second. Limiting high-early concrete (or lengthening strength gain time needed) helps reduce suspended slab carbon.

Low carbon steel: Rebar specified most frequently, however availability/trade factors made this challenging this year.

Percentage of total workforce that participated in low carbon training: **15%**

EDUCATIONAL ATTESTATION

Mandatory sustainability training to be rolled out to all employees in 2026, includes foundational knowledge on embodied and operational carbon, and the impact and opportunities of construction companies.

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Total Projects under low carbon review in 2025-2026 reporting period: 15

Construction phase for review:

Design	-
Pre-construction	-
Construction	15

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 15

Low carbon concrete business case established:

Foundation	>10
Suspended slabs	-
Other horizontal elements	-
Vertical elements	-
Landscape/hardscape	-

Approximate percentage of total concrete volume for which a lower carbon option was recommended across all projects. 95%

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories:

Foundation	95%
Suspended slabs	-
Other horizontal elements	-
Vertical elements	-
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	>10	10	2	4	17 No EPD
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 1

Percentage of total workforce that participated in low carbon training: 15%

EDUCATIONAL ATTESTATION

Environment Week (daily one-hour sessions covering internal sustainability tools, on-site environmental actions, diesel-reduction strategies, and ways to minimize material impacts, ending with a brainstorming workshop) as in 2025-26, updating all sessions to reflect new initiatives implemented during the year. We will also continue regular internal communications to raise awareness, strengthen engagement, and build a strong environmental culture across all teams.

Number of reported projects that involved another Pact member: 1



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Total Projects under low carbon review in 2025-2026 reporting period: 8

Construction phase for review:	Design	2
	Pre-construction	1
	Construction	5

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 8

Low carbon concrete business case established:

Foundation	3
Suspended slabs	5
Other horizontal elements	-
Vertical elements	-
Landscape/hardscape	-

Approximate percentage of total concrete volume for which a lower carbon option was recommended across all projects. 65%

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories: 25%

Foundation	20%
Suspended slabs	35%
Other horizontal elements	-
Vertical elements	-
Landscape/hardscape	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 8

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	-	-	-	-	-	-
Assessment conducted for lower carbon steel materials & designs	Yes	-	-	-	-	-	-
Projects that accommodated lower carbon steel designs	-	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	15%	-	-	-	-	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations, slab.

Low carbon steel: Rebar.

Percentage of total workforce that participated in low carbon training: **15%**

EDUCATIONAL ATTESTATION

PCL remains committed to providing continuing education to its employee group.

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Total Projects under low carbon review in 2025-2026 reporting period: **8**

Construction phase for review:	Design	-
	Pre-construction	6
	Construction	2

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **-**

Low carbon concrete business case established:	Foundation	8
	Suspended slabs	8
	Other horizontal elements	8
	Vertical elements	8
	Landscape/hardscape	-

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories: **-**

Foundation	100%
Suspended slabs	100%
Other horizontal elements	100%
Vertical elements	100%
Landscape/hardscape	100%

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **8**

STEEL

	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	-	-	-	-	-	-
Projects that accommodated lower carbon steel designs	3	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	0%	0%	0%	0%	0%	0%

Percentage of total workforce that participated in low carbon training: 5%

EDUCATIONAL ATTESTATION

Standardizing procedures for projects that include low-carbon materials including formalizing training.

Number of reported projects that involved another Pact member: 1



Signatory Reporting **Consultants**

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Total Projects under low carbon review in 2025-2026 reporting period: 3

Construction phase for review:	Design	-
	Pre-construction	3
	Construction	-

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 3

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	3
Suspended slabs	-
Other horizontal elements	3
Vertical elements	-
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	1	2	-	-
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	1	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements:
All clients asked their suppliers for it.

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	-	-	-	-	-
Assessment conducted for lower carbon steel materials & designs	-	-	-	-	-	-	-
Projects that accommodated lower carbon steel designs	-	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	0%	0%	-	-	-	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Footings, slabs, foundation walls.

Percentage of total workforce that participated in low carbon training: **25%**

EDUCATIONAL ATTESTATION

Train all our office staff in embodied carbon modelling.

Number of reported projects that involved another Pact member: **2**

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Total Projects under low carbon review in 2025-2026 reporting period: 5

Construction phase for review:	Design	-
	Pre-construction	1
	Construction	4

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 1

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	-
Suspended slabs	2
Other horizontal elements	-
Vertical elements	3
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	3	-	2	-	-
Suspended slabs	5	-	-	-	-
Other horizontal elements	2	2	-	1	-
Vertical elements	2	1	2	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 5

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	-	Yes	-	Yes	-	-
Assessment conducted for lower carbon steel materials & designs	-	-	-	-	-	-	-
Projects that accommodated lower carbon steel designs	-	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	0%	-	0%	-	0%	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundation & below-grade structure.

Low carbon steel: None.

Percentage of total workforce that participated in low carbon training: **100%**

Number of reported projects that involved another Pact member: **3**



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Total Projects under low carbon review in 2025-2026 reporting period: 4

Construction phase for review:	Design	2
	Pre-construction	-
	Construction	2

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 4

Low carbon concrete business case established:	Foundation	3
	Suspended slabs	1
	Other horizontal elements	3
	Vertical elements	1
	Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	1
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 3

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations and superstructures for buildings.

Low carbon steel: Rebar.

Percentage of total workforce that participated in low carbon training: **70%**

EDUCATIONAL ATTESTATION

CBCL undertook LCA training and developed a corporate low carbon structural steel design guide.

Number of reported projects that involved another Pact member: **1**

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Total Projects under low carbon review in 2025-2026 reporting period: **5**

Construction phase for review:	Design	3
	Pre-construction	1
	Construction	1

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **5**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	5
Suspended slabs	1
Other horizontal elements	-
Vertical elements	3
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	4	-
Vertical elements	-	-	2	5	-
Landscape/hardscape	-	-	5	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **1**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	-	-	Yes	-	-
Projects that accommodated lower carbon steel designs	-	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	0%	0%	0%	0%	0%	0%	0%

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundation.

Low carbon steel: Rebar.

Percentage of total workforce that participated in low carbon training: **75%**

EDUCATIONAL ATTESTATION

Sustainability lead will attend more decarbonization conferences and then share information with the company through lunch and learns. Continuing education on lower carbon steel sources and lower carbon insulation.

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Total Projects under low carbon review in 2025-2026 reporting period: **10**

Construction phase for review:	Design	6
	Pre-construction	1
	Construction	3

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **10**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	10
Suspended slabs	9
Other horizontal elements	10
Vertical elements	9
Landscape/hardscape	6

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **10**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Projects that accommodated lower carbon steel designs	1	2	2	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	95%	95%	0%	0%	0%	0%

Percentage of total workforce that participated in low carbon training: **40%**

EDUCATIONAL ATTESTATION

DIALOG plans to continue delivering internal education sessions and toolkits on our low carbon design consideration process, while also maintaining strong connections and presence in industry forums. We are currently contributing to research and pilot projects that support advancement of both internal and industry-wide low carbon material efforts.

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Total Projects under low carbon review in 2025-2026 reporting period: **3**

Construction phase for review:	Design	2
	Pre-construction	1
	Construction	1

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **3**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	3
Suspended slabs	2
Other horizontal elements	3
Vertical elements	3
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	3	-	-	-	-
Suspended slabs	2	-	2	2	-
Other horizontal elements	-	-	2	-	-
Vertical elements	-	-	2	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **3**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	-	-	Yes	-	-
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	-	-	-	-	-
Projects that accommodated lower carbon steel designs	2	1	-	-	-	1	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	80%	80%	-	-	0%	70%	-

Percentage of total workforce that participated in low carbon training: **50%**

EDUCATIONAL ATTESTATION

We are working on developing cheat sheets for structural, building envelope and infrastructure projects for our staff. These cheat sheets will provide guidance on ways to reduce embodied carbon.

Number of reported projects that involved another Pact member: **2**

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Total Projects under low carbon review in 2025-2026 reporting period: 4

Construction phase for review:	Design	-
	Pre-construction	1
	Construction	3

CONCRETE

Concrete pilot projects that underwent low carbon consideration: -

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	4
Suspended slabs	4
Other horizontal elements	4
Vertical elements	4
Landscape/hardscape	3

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	1	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 4

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	-	-	-
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	-	-	-
Projects that accommodated lower carbon steel designs	1	1	1	1	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	100%	100%	100%	-	70%	-

Percentage of total workforce that participated in low carbon training: **20%**

EDUCATIONAL ATTESTATION

Companywide internal sustainability webinar training course.

Number of reported projects that involved another Pact member: **3**

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Total Projects under low carbon review in 2025-2026 reporting period: **3**

Construction phase for review:	Design	3
	Pre-construction	-
	Construction	-

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **3**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	3
Suspended slabs	3
Other horizontal elements	-
Vertical elements	3
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	2	-	-	2	-
Other horizontal elements	-	-	1	2	-
Vertical elements	-	-	1	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **3**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	-	-	-	-
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	-	-	-	-
Projects that accommodated lower carbon steel designs	1	-	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	0%	0%	-	-	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations, Parking slabs, Shear walls, Columns, Transfers.

Percentage of total workforce that participated in low carbon training: **75%**

EDUCATIONAL ATTESTATION

Externally, Glotman Simpson plans to continue our monthly blog series OnTrack, and release a minimum of two formal case studies to the wider industry. Within our firm, we will continue to use and develop our engineers' literacy in embodied carbon and life cycle assessment, including hands-on calculations and reviews.

Number of reported projects that involved another Pact member: **1**

The **Responsible Buildings Pact** is a voluntary cross-industry agreement uniting developers, consultants, and contractors to consistently evaluate and adopt lower-carbon building materials to reduce embodied emissions. This page highlights the Pact signatory's activity in 2025.

Total Projects under low carbon review in 2025-2026 reporting period: **2**

Construction phase for review:	Design	-
	Pre-construction	-
	Construction	2

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **2**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	2
Suspended slabs	1
Other horizontal elements	-
Vertical elements	1
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	-	1
Other horizontal elements	-	-	-	-	2
Vertical elements	-	-	-	2	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **2**

STEEL

	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	-	Yes	-
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	-	-	Yes	-
Projects that accommodated lower carbon steel designs	Not enough information yet						
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	100%	100%	0%	-	100%	-

Percentage of total workforce that participated in low carbon training: **85%**

EDUCATIONAL ATTESTATION

We aim to continue as industry leaders in embodied carbon, sharing and gaining expertise at events across the country.

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Total Projects under low carbon review in 2025-2026 reporting period: 5

Construction phase for review:	Design	2
	Pre-construction	-
	Construction	3

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 5

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	5
Suspended slabs	5
Other horizontal elements	5
Vertical elements	5
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 5

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	Yes	Yes	Yes/No
Projects that accommodated lower carbon steel designs	5	4	4	4	4	0	0
% of total steel volume that was lower carbon (where lower carbon steel was used)	70%	70%	70%	70%	70%	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations, Slab on Grade, Columns, Walls, Swimming Pool Tanks, Exterior Walls.

Low carbon steel: Rolled Steel Shapes, Hollow Structural Steel, Plate Steel, Open Web Steel Joists, Rebar,.

Percentage of total workforce that participated in low carbon training: **90%**

EDUCATIONAL ATTESTATION

MJMA's Embodied Carbon Team will continue to increase carbon literacy across the studio. Strategies have been created to collaborate with project teams to address sustainability practices and learn from previous projects. Research initiatives emerge from collaboration across the industry, and insights are applied towards projects and the studio at large.

Number of reported projects that involved another Pact member: **5**



Engineers

rjc.ca

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Total Projects under low carbon review in 2025-2026 reporting period: 11

Construction phase for review:	Design	3
	Pre-construction	1
	Construction	7

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 11

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	>10
Suspended slabs	8
Other horizontal elements	>10
Vertical elements	10
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	8	-
Other horizontal elements	-	-	-	7	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **11**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	-	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	-	-	-	Yes	-
Projects that accommodated lower carbon steel designs	2	2	2	2	N/A	1	0
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	80%	100%	50%	-	90%	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Columns, Walls, Foundations.

Low carbon steel: Higher strength deck, high strength rolled sections in large tonnage projects, reduce tonnage designs to to design optimization.

Percentage of total workforce that participated in low carbon training: **50%**

EDUCATIONAL ATTESTATION

Our Embodied Carbon Ambassadors will be local experts, with regular check-ins with project teams and leadership. This provides on-the-ground support to staff in using our tracking tool RJC-Ascend as we work to formalize and embed our low carbon workflow. Education will shift from information sharing to widespread learning by doing.

Number of reported projects that involved another Pact member: **4**



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Total Projects under low carbon review in 2025-2026 reporting period: **9**

Construction phase for review:	Design	5
	Pre-construction	2
	Construction	2

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **6**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	5
Suspended slabs	6
Other horizontal elements	5
Vertical elements	6
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	2
Suspended slabs	-	-	-	-	2
Other horizontal elements	-	-	-	-	2
Vertical elements	-	-	-	2	-
Landscape/hardscape	-	-	-	-	-

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **4**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	Yes	Yes	-
Projects that accommodated lower carbon steel designs	2	-	1	-	2	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	80%	-	100%	-	100%	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: We show different pathways to achieve reductions in all components using concrete.

Low carbon steel: Rebar mainly, showed some pathways for HSS.

Percentage of total workforce that participated in low carbon training: **95%**

EDUCATIONAL ATTESTATION

As RWDI is a climate and performance engineering consulting firm, many employees beyond the sustainability team have expertise in low carbon design and materials but have not been quantified. In 2025-26 we will continue to strengthen our educational commitment by advancing internal knowledge sharing, collaborating with other teams across company to integrate low-carbon solutions, and participating in industry events, webinars, and collaborative initiatives to promote best practices.

Number of reported projects that involved another Pact member: **1**

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Total Projects under low carbon review in 2025-2026 reporting period: 5

Construction phase for review:	Design	-
	Pre-construction	2
	Construction	3

CONCRETE

Concrete pilot projects that underwent low carbon consideration: -

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	3
Suspended slabs	3
Other horizontal elements	3
Vertical elements	3
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	2	-	-	-	-
Suspended slabs	2	-	-	-	-
Other horizontal elements	2	-	-	-	-
Vertical elements	2	-	-	-	-
Landscape/hardscape	2	-	-	-	3

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 2

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Projects that accommodated lower carbon steel designs	2	3	3	3	1	2	1
% of total steel volume that was lower carbon (where lower carbon steel was used)	0%	30%	30%	60%	0%	45%	0%

BUILDING COMPONENTS SELECTED:

Low carbon concrete: Foundations, slabs, columns, reduction/elimination of transfer slabs.

Low carbon steel: Larger structural steel elements such as HSS, W-beams, etc. Architectural steel decking.

Percentage of total workforce that participated in low carbon training: **75%**

EDUCATIONAL ATTESTATION

Continued participation in the Toronto Biobuild Collective, including the Biobuild mock-ups project; continuing education through 10N Ecodesign modules; and staff attendance at the 2026 Embodied Greenhouse Gas Symposium at the University of Toronto.

Number of reported projects that involved another Pact member: **1**

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Total Projects under low carbon review in 2025-2026 reporting period: 5

Construction phase for review:	Design	-
	Pre-construction	-
	Construction	5

CONCRETE

Concrete pilot projects that underwent low carbon consideration: 5

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	5
Suspended slabs	5
Other horizontal elements	5
Vertical elements	5
Landscape/hardscape	-

Primary reason there was no business case for lower carbon concrete in pilot projects cited above:

	Cost	Availability	Performance	Schedule	Other
Foundation	-	-	-	-	-
Suspended slabs	-	-	-	-	-
Other horizontal elements	-	-	-	-	-
Vertical elements	-	-	-	-	-
Landscape/hardscape	-	-	-	-	5

Number of pilots in which clients applied the recommended low carbon concrete for any elements: 5

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	Yes	Yes	Yes	Yes	No
Projects that accommodated lower carbon steel designs	3	2	1	-	1	1	0
% of total steel volume that was lower carbon (where lower carbon steel was used)	30%	0%	0%	6%	0%	0%	0%

BUILDING COMPONENTS SELECTED:

Low carbon concrete: All concrete elements had lower carbon concrete relative to Concrete BC EPD baselines except for landscape/hardscape concrete. We have not considered this scope thus far but will do so for future projects.

Low carbon steel: Rebar is typically the easiest steel elements to obtain lower carbon steel. we have also had some success with steel framing elements and steel deck.

Percentage of total workforce that participated in low carbon training: **80%**

EDUCATIONAL ATTESTATION

We will continue our efforts to understand how to procure low carbon steel. on two of the projects reported and one additional project that was not reported this year, we are working with trade partners to understand the supply chain challenges and range of EDP information available for lower carbon steel. We share out project learnings as part of office Lunch and Learns and pinup boards.

Number of reported projects that involved another Pact member: **2**



Signatory Reporting **Developers**



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Total Projects under low carbon review in 2025-2026 reporting period: **9**

Construction phase for review:	Design	9
	Pre-construction	9
	Construction	9

CONCRETE

Concrete pilot projects that underwent low carbon consideration: **9**

Projects where the process recommended lower emission concrete or lower carbon concrete designs for each structural element:

Foundation	9
Suspended slabs	9
Other horizontal elements	9
Vertical elements	9
Landscape/hardscape	8

Averaged across these applicable projects, percentage of all concrete used that was a lower carbon option across these categories: **25%**

Foundation	100%
Suspended slabs	100%
Other horizontal elements	100%
Vertical elements	100%
Landscape/hardscape	100%

Number of pilots in which clients applied the recommended low carbon concrete for any elements: **8**

STEEL	Rebar	Fabricated hot rolled structural sections	Fabricated hollow structural sections	Fabricated Structural Steel Plates	Cold Formed Sections & Panels	Architectural Steel	Misc.
Steel use in projects listed above	Yes	Yes	-	-	-	Yes	Yes
Assessment conducted for lower carbon steel materials & designs	Yes	Yes	-	-	-	Yes	Yes
Projects that accommodated lower carbon steel designs	1	1	-	-	-	-	-
% of total steel volume that was lower carbon (where lower carbon steel was used)	100%	100%	-	-	-	-	-

BUILDING COMPONENTS SELECTED:

Low carbon concrete: All concrete.

Low carbon steel: Rebar, Beams, Decking, Misc..

Percentage of total workforce that participated in low carbon training: **75%**

EDUCATIONAL ATTESTATION

Continue education on low carbon concrete and steel, add education sessions on low carbon insulation options, education on national building code updates (2030) on embodied carbon.

Case Studies



JLL | Hines | 
P RETAIL
UNITIES
- 4,750 SF
** | ROSA JONES ** | MATTHEW MARSHALL *

Peel Regional Police Operational Support Facility

The Peel Regional Police Operational Support Facility, designed by DIALOG, is a modern, inclusive, and forward-thinking workspace designed for people – prioritizing collaboration, safety, and well-being. Located in Brampton, Ontario, this facility is designed to showcase a commitment to sustainability in alignment with the Region of Peel's net-zero carbon goals.

As a responsible building, the project incorporated a low carbon design consideration process that included completing a life cycle assessment at both the early and final design stages to determine opportunities to reduce embodied carbon impacts of building materials.

As a result, the facility incorporates mass timber construction to reduce embodied carbon impact of the structure. To further reduce embodied emissions, the project specified a 10% reduction in greenhouse gas emissions from ready-mix concrete from the regional baseline. Now in construction, the project has been able to exceed this target to greater than 15% reduction in ready-mix concrete embodied emissions (> 700 tons).



AGO: Dani Reiss Modern and Contemporary Gallery

Phase: In Construction

This addition to the Art Gallery of Ontario (AGO) will expand gallery space by 40,000 square feet, increasing the museum's total space available to display art by 30%. The extension will sit one storey above the AGO's existing loading dock, seamlessly connecting to the existing galleries from four locations and substantially improving visitor circulation throughout the museum.



Designed as column-free spaces to adjust to the needs of the program, these new galleries can be converted into large open areas or divided into a series of more intimate galleries. The dynamic space caters toward great modern and contemporary artists of today while being adaptable to the needs of future generations working across all media. Consultation with Indigenous leaders and communities was led by Two Row Architect, driving principles of adaptability, accessibility, and inclusivity in the design.



The Dani Reiss Modern and Contemporary Gallery has been designed to operate without burning fossil fuel. The all-electric mechanical plant will use no on-site operational combustion and create no direct emissions. The gallery has been awarded the CAGBC Zero Carbon Building — Design certification, making it one of a very small number

of museum spaces to accomplish this. The efficiency needed to meet the Zero Carbon standard and electrify operations could not have been achieved without applying Passive House principles to minimize heating and cooling loads.

In collaboration with EllisDon, a Responsible Buildings Pact contractor, the team investigated, specified and procured materials for this project with a carbon lens. Multiple structural systems were evaluated, including the use of mass timber, resulting in the selection of a majority structural steel system to meet space and owner requirements. The structural steel design was optimized to reduce volumes, and shapes were majority sourced from EAF mills using recycled content. Low and ultra-low carbon concrete was deployed across the project, from the foundations to the interior floor toppings, with “standard” mixes only used where required for specific performance needs.

Senakw Development

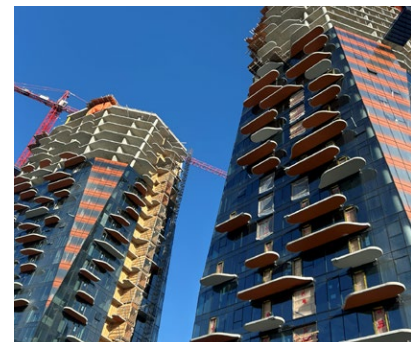
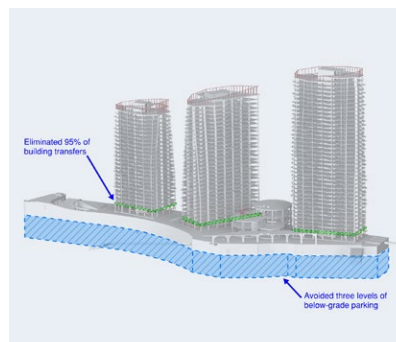
Glotman Simpson analyzed phase 1 of the Senakw development in Vancouver, BC to assess its embodied carbon reductions against a functionally equivalent baseline. There were three primary strategies to enable an embodied carbon reduction of 22% or 11,000tCO₂e including a reduction of 22,000 cubic yards of concrete and 2,700 tonnes of reinforcing steel. This is estimated to result in a material savings of \$12 million.

Strategy 1 incorporated a transit-oriented development with a parking ratio of 0.08 stalls per unit instead of the standard 0.54 in this area. This eliminated three levels of below-grade parking and created most of the embodied carbon and cost savings.

Strategy 2 utilized sloped columns in the tower and efficient below-grade programming to remove 95% of the building transfers. This is estimated to save 4,000 cubic yards of concrete and 1,800 tonnes of reinforcing steel.

Strategy 3 involved specifying 56 and 91-day strengths for vertical structures (foundations, shear walls, and columns). This encourages the use of SCMs and lower overall cement use for an estimated reduction of 1,400tCO₂e.

[Read the full case study.](#)



North York Community Center

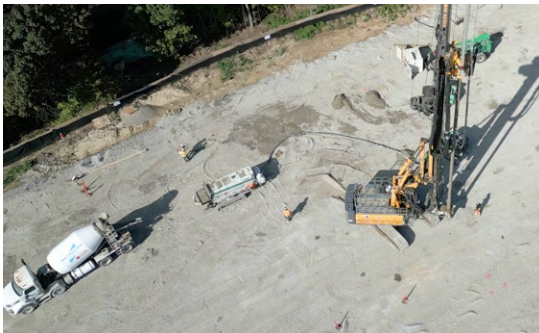
The North York Community Center project, developed by the City of Toronto, required an environmental strategy to align with the Toronto Green Standards.

The site presented challenging geotechnical conditions, with very soft soils extending to 25 m, making ground treatment essential. Menard proposed a ground-improvement solution that reduced the overall quantity of concrete by about 30% and simplified the structure of the building compared to a Deep Foundation solution. By incorporating wick drains and optimizing the design of the Controlled Modulus Columns (CMCs), Menard was able to further reduce the use of concrete while maintaining technical performance.

To further enhance the project's sustainability, Menard incorporated both low-carbon and low-strength concrete where suitable. This allowed Menard to achieve the lowest possible emission factor without compromising the performance of the CMCs system. Throughout construction, carbon outputs were carefully monitored through a dedicated tracking system.



These combined initiatives enabled the project to exceed its environmental objectives and demonstrated Menard's commitment to reducing embodied carbon and improving the overall environmental performance of the foundation system.



Submitted by

MJMA
ARCHITECTURE & DESIGN

Western North York Community Centre

Designed by MJMA Architecture & Design, the 77,000-square-foot Western North York Community Centre (WNYCC) demonstrates how embodied carbon reduction can be integrated into the design of one of the most resource-intensive building types: aquatic recreation facilities. Developed for the City of Toronto, the project served as a research-driven initiative to establish new embodied carbon benchmarks for municipal recreation centres and support the city's ambitious climate objectives.

Recognizing that operational efficiency alone would not achieve the project's sustainability goals, MJMA focused on reducing the carbon impact of construction materials and building systems. The project introduced lower-carbon concrete strategies for swimming pool construction and explored innovative approaches to aquatic facility design that reduced embodied emissions while maintaining long-term durability and performance.

The facility also incorporates exposed mass timber elements, including glue-laminated beams and laminated wood decking in major public spaces, demonstrating the potential for renewable structural materials to replace more carbon-intensive alternatives.

By combining material innovation, applied research, and architectural design excellence, WNYCC establishes a precedent for the next generation of low-carbon community infrastructure and provides a replicable model for future recreation facilities across Canada.



YZD Plaza

The YZD Plaza, built in 2025, turned a once-industrial patch of tarmac into a place where adaptive reuse of materials takes a centre stage in the placemaking and early activation of YZD prior to the start of development work. This temporary landscape area is a hub for social and economic activity, hosting weekly markets, cultural events, winter skating, and family programming. It is also a place where we introduce the community to our approach to green infrastructure, heritage, biodiversity, and sustainable materials.

To create this temporary landscape, our focus on sustainable materials included minimizing our impact on existing conditions and maximizing the reuse of materials and artifacts left over from the former airplane manufacturing industry on site.



More than 21.5 tonnes of material was salvaged for the project, with some of the most notable applications being:

- An airplane fuselage repurposed as public art/performance stage
- Fourteen 1-tonne steel fuselage carts converted into planters
- Runway lighting integrated throughout
- Steel barn doors converted into a pedestrian gate



A key attribute to the success of this project was working with local fabricators to repurpose material in reimagined ways and with a contractor who was willing to explore alternative materials choices within the scope of the project budget.



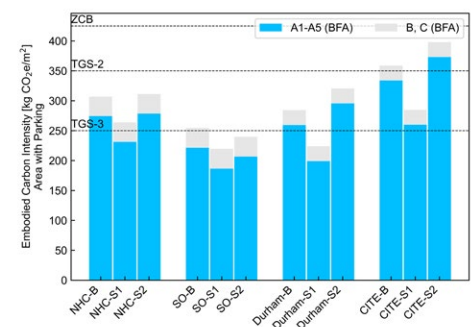
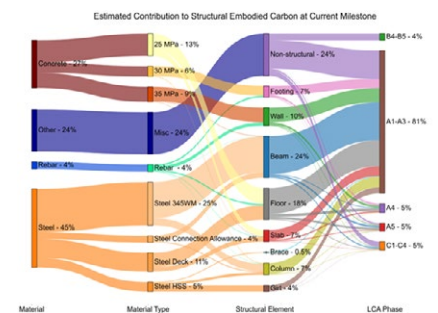
Low Rise Commercial Embodied Carbon Study

At the request of the Canadian Institute of Steel Construction, RJC Engineers studied the embodied carbon of typical low rise (1–6 storey) steel buildings in Canada. The study assessed five representative projects using whole building life cycle assessment (wbLCA), including structural quantities for all projects and nonstructural quantities for four.

Results indicated most low rise steel buildings can meet current municipal embodied carbon limits with reasonable low carbon material selection. The average embodied carbon intensity for recently constructed projects was $\sim 301 \text{ kgCO}_2\text{e/m}^2$ (Built Floor Area). Specifying lower carbon steel alternatives could reduce total embodied carbon by up to 15%, while buildings relying solely on basic oxygen furnace steel may struggle to comply.

The study found that approximately 90% of emissions occur upfront (A1–A5). Structural steel elements contributed roughly 40% of total embodied carbon. Hot-rolled shapes, metal deck, OWSJs and reinforcing steel contributed >85% of the steel emissions with hot-rolled shapes being the largest contributors. Seismic provisions of NBCC 2020 could increase emissions by $\sim 7\%$.

[Read the full study.](#)



Embodied Carbon Reduction Through Material Optimization

Driven by a goal to reduce whole-building embodied carbon by 20%, the project team pursued a strategic approach that balanced carbon performance, cost-effectiveness, and material availability. From the outset, the focus was on identifying practical opportunities to lower the building's global warming potential (GWP) without compromising constructability or project objectives.

A key contributor to the project's success was the use of locally sourced low-carbon concrete mixes, which reduced embodied CO₂ emissions by approximately 30 to 40 percent compared to conventional alternatives. The greatest carbon reductions were achieved in high-volume concrete elements, including foundations, sump pits, raft slabs, footings, mud slabs, slab-on-steel deck, slab-on-grade construction, parapets, and interior curbs. Across these components, GWP reductions ranged from 30 to 40 percent.

Additional savings were realized throughout the building's structural system. Vertical elements such as walls, columns, foundation walls, and tunnels achieved GWP reductions of approximately 15 to 20 percent per element. Suspended slabs and beams, which represented roughly 37 percent of the project's total ready-mix concrete embodied carbon, also delivered estimated GWP savings in the range of 15 to 20 percent.



Beyond concrete, the project team identified opportunities to reduce the embodied carbon associated with structural steel and reinforcing steel, achieving an estimated reduction of approximately 11 percent. Collectively, these measures demonstrate how thoughtful material selection and supply chain collaboration can substantially reduce embodied carbon while supporting project budget and procurement requirements.



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