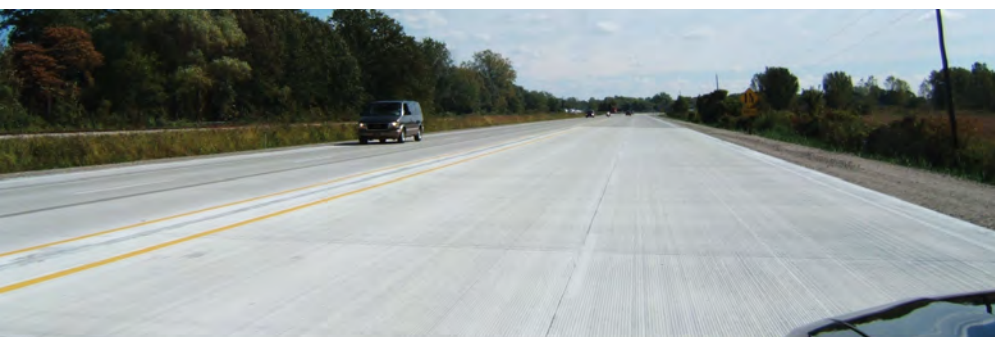


CEMENT ASSOCIATION OF CANADA

2017

Year in Review



Cement
Association
of Canada

Association
Canadienne
du Ciment

CONCRETE
Build for *life*

LE BÉTON
Bâtir pour *l'avenir*

Contents

Message from the President and CEO	3
National Highlights	7
Industry Affairs.....	8
Sustainability and ENGO Strategy	9
Marketing Communications	12
Codes and Standards	15
Markets and Technical Affairs	18
Regional Highlights	21
Western Region	22
Ontario Region	25
Quebec and Atlantic Region	27

Cover: From the top right: University of Alberta Innovation Center for Engineering, Edmonton, AB (architect: Dialog); Western University Richard Ivey School of Business, London, ON (architects: Hariri Pontarini Architects); concrete pipes; Bryn Maur Road, Victoria, BC (architects: Associated Engineering (BC) Ltd.); Canada Line Light Rail Transit System, Metro Vancouver, BC; concrete road, Windsor area, ON.

Page 7: Confederation Bridge, N.B. / P.E.I (architect: Jean. M. Muller).

Page 21: University of Alberta Innovation Center for Engineering, Edmonton, AB (architect: Dialog)

Message from the President and CEO



Dear Board Members and Colleagues,

At this time each year, I am pleased to report to you on the work we have done over the preceding twelve months and to highlight our key achievements. This year's report comes on the heels of a year that saw a slight increase in Portland cement consumption. This is an

encouraging sign but not yet in sync with the volumes anticipated from unprecedented spending on infrastructure across Canada. Total expenditures on infrastructure by all three levels of government over the next decade are expected to exceed \$800 billion and we remain optimistic that this will translate into a much higher demand for cement or concrete across the industry. It is encouraging that much of this investment is to be focused on securing the resilience of Canada's infrastructure as it transitions to a low-carbon "clean economy". This is a focus that aligns well with concrete's natural strengths, and is a core message in the CAC's outreach, communication and marketing work.

The new 2017-2019 CAC Strategic Plan was approved by the Board in February 2017. This revised Strategic Plan flows from the previous one as our vision, mission and overarching goals have not changed significantly. The 2017-2019 Strategic Plan is built around seven core strategies that define the nature of the work we do (social license & public affairs, market expansion, market intelligence, codes & standards, partnerships, marketing communications, people and governance). This plan will continue to be our roadmap for the coming years, assuring strategic continuity and forming the basis for how we will be held accountable for delivering measurable results for our membership.

Our goals as an association are ambitious. Building stronger and more collaborative relationships with our Allies remains a significant priority in securing our capacity to create a "culture of concrete" in Canada. Working closely with our Members, we remain continuously engaged with our Allies, directly and through the Concrete Council of Canada (CCC). This year, many of these relationships have found solid footing. For example, the CCC has made significant progress on moving forward with science and fact-based messaging with stronger collaboration, engagement and support from the full CCC

membership. This work culminated in the roll-out of the "CONCRETE | Build for Life" campaign – among our top marketing priorities and achievements in 2017. "CONCRETE | Build for Life" targets architects, engineers, and other stakeholders in the building design community, along with government decision-makers. It is a bold new creative platform for communicating concrete's unique value proposition in a world struggling to transition to a low-carbon, climate-resilient built environment. The value of the new platform – as both a communication strategy and, importantly, as a unifying platform for the CAC and Concrete Allies – was proven at our federal Lobby Days in October. This was the first-ever comprehensive lobbying effort in Ottawa with cement and concrete Allies from across Canada, and among the largest industry advocacy days ever on Parliament Hill. It set a new tone for our industry, demonstrating the power of industry-wide collaboration on consistent, coordinated and compelling messaging and outreach, and strengthening our credibility and influence with federal officials.

I am confident that the successful launch of "CONCRETE | Build for Life" and the tremendous goodwill created through the federal lobby days have laid the foundation for strong industry collaboration in 2018. Already we are seeing significant progress in working collaboratively across all industry segments toward the implementation of the *Concrete Sustainability Council Responsible Sourcing Certification System* for concrete, as well as collaboration on sustainability issues generally. For example, we are delighted to have been invited to sit as vice-chair of CPCI's Sustainability Committee.

2017 was a very significant year in climate policy both federally and provincially and the CAC was thoroughly engaged on all fronts. While the federal carbon pricing backstop received much of the media attention, of all the initiatives proposed under the *Pan-Canadian Framework on Clean Growth and Climate Change*, the federal clean fuel standard (CFS) is our primary concern. The regulatory framework for the CFS was released December 13, 2017 and proposes to develop a suite of regulations that will set unique lifecycle-based GHG intensity values and requirements for subsets of liquid, gaseous and solid fuels. Unlike any other jurisdiction in the world, the CFS envisioned by the Government of Canada will apply not only to transportation fuels but also to fuels used in buildings and industry. While these requirements will fall on fuel producers, importers and distributors, they could impact our industry by increasing the cost of traditional fuels and, perversely, diverting capital away from existing

and lower cost efforts to reduce combustion-related GHG emissions from cement.

Unlike the federal carbon pricing backstop and existing provincial carbon pricing systems (except for BC), the CFS regulatory framework – which is effectively a carbon tax by another name – offers little clarity on what mechanisms, if any, will be implemented to protect the competitiveness of Emissions Intensive Trade Exposed (EITE) sectors like cement. The CAC has been very active in expressing concerns regarding the potential impact of the CFS on the competitiveness of our sector. Our reputation as an informed and credible industry on climate policy appears to be serving us well as federal officials have recently indicated that they are eager to work on a regulatory design that would accommodate and, in fact, reward facilities for current and future fuel substitution achievements. While the CFS regulatory framework speaks to a number of potential tools that the CAC has recommended in its interventions (for example, a credit-based trading system that recognises fuel switching) it is not yet clear if and how cement facilities will be able to participate to avoid and/or offset potential cost impacts on traditional fossil fuels. This will be one of our key priorities with the federal government in 2018.

Provincially, the CAC's relentless efforts in engaging and working with governments across Canada have resulted in several key achievements in 2017. For example, our members in Ontario have begun to see some of the \$40-60 million in technology funding committed under Ontario's Climate Action Plan to help the sector transition to lower carbon fuels. Also in Ontario, the Ontario Provincial Standard Specification (OPSS) Municipal 1350 specification adopted the CAC's proposed language to remove all barriers to the use of Contempra at the municipal level. This is a big win and the result of years of tireless advocacy by the CAC and our Members! In BC, public statements this past July from the new NDP Environment and Climate Change Minister, George Heyman, confirmed that our representations to him resulted in a good understanding of the importance of changing the current BC Carbon Tax to protect the competitiveness of EITEs and prevent carbon leakage. In Alberta, the CAC was appointed a co-convenor of several industry consultation sessions on the development of an Output-Based Allocation (OBA) System and worked closely with the Minister of Environment and Parks and her office to ensure the government understood the cement manufacturing industry. The announcement of Alberta's OBA system by Minister Shannon Phillips in early December included a favorable OBA benchmark for the cement sector at 785.3 kg CO₂ per tonne of cement. This is almost identical to the Canadian Average of 786 kg CO₂ per tonne of cement for which we advocated. Along with 100% free allocation of process emissions, and a 1% tightening rate that applies

only to combustion emissions starting in 2020, it appears that the government listened to our collective industry voice and the cement operations in Alberta will continue to operate well below these metrics.

In Quebec, ongoing efforts from the CAC throughout the year played a significant role in shaping the rules for the post-2020 cap and trade system published on November 29th. These efforts culminated in the government of Quebec continuing the practice of providing the cement sector with free allocations in the post-2020 regime, including 100% free allocations for process emissions until at least 2023, which represents an enormous win compared to what the Government initially proposed.

In 2017, we also dedicated significant time and effort towards developing a "three-screen approach" to infrastructure funding and promoting this approach to federal, provincial and municipal governments. This three-screen approach is designed to ensure that government-funded infrastructure projects will be built once, built right and built to last. Simply put, the approach advocates for applying the three screens – full lifecycle cost, lowest carbon footprint building materials, and best available solutions – during the infrastructure decision-making process. We are making progress with this approach in Alberta and federally, but most specifically in Ontario, where we will see the use of lifecycle cost analysis beginning in 2019 as announced in the Long Term Infrastructure Plan on November 28th. This is a game-changing development that will significantly bolster the opportunity to promote the same approach with other governments through 2018 and beyond.

Education and outreach remained an important part of our work in 2017. We continue to organize seminars and other learning opportunities across Canada for government officials and the private sector. Concrete pavement promotion was significantly bolstered through activities like our cross-country concrete pavement for industrial and trucking facilities tour and through targeted research aimed at validating our promotional messaging. Important tools, like the Stantec LCCA standard practice guideline, enhancements to the Athena Pavement LCA tool, the independent economic impact study of various pavement types, and the pivotal work of MIT, have strengthened our concrete pavement promotion efforts and will continue to do so in the coming years.

In the same vein, we made significant progress on our science-based strategy to counter the environmental claims of the wood industry. Of particular note, we commissioned a ground-breaking study from the International Institute of Sustainable Development (IISD) to critically examine the assumptions underpinning the wood industry's claims on the climate benefits of wood buildings. Early

findings from this work confirm that the wood industry is not fully disclosing the greenhouse gas (GHG) related impacts of wood products over their full life cycle. The results of this study, which will be finalized in Q1 2018, will be central to our efforts to position concrete as the sustainable construction material of choice.

I am also very proud of the publication of the fourth edition of the *CAC Concrete Design Handbook*. This document has proved to be the number one reference for engineers over the years and it is used in civil engineering faculties across Canada as a mandatory handbook. Over a four-year period, this handbook also generated over \$800,000 in revenues for the CAC, which contributes to offsetting the costs of participating in the CSA standards development process. In 2017, the CAC team prepared and delivered a one-day seminar on the Handbook in seven cities across the country. Joining them as co-presenters were other experts in the field, including a few co-authors of the Handbook. For the CAC, the seminar series represented a key opportunity to foster the proficiency of structural engineers and designers in implementing these changes in their day-to-day practice and to connect in person with this important constituency. All told, the seminars drew over 300 attendees and received consistently positive feedback.

As you can see, we have many achievements to celebrate and be proud of in 2017. However, we continue to face very dynamic market conditions and regulatory environments and need to remain vigilant and focused on implementing our strategic plan. The coming year will bring its own unique set of challenges and opportunities, as climate policies get further detailed by the federal and provincial governments and as the historic investment in infrastructure is deployed over the next decade. The imperative – and opportunities – to position the cement and concrete industry as the material of choice for durable, resilient and sustainable communities in Canada have never been greater.

As noted above, the proposed federal clean fuel standard will be a key priority in 2018. The Minister of Environment and Climate Change, the Honourable Catherine McKenna, sees the clean fuel standard as the cornerstone of the federal contribution to the *Pan-Canadian Framework on Clean Growth and Climate Change* and the main instrument in the government's toolbox to reach Canada's aggressive GHG reduction target. We must be vigilant in our work to ensure the government understands the competitiveness and carbon leakage risks our industry will face if the CFS is not designed to protect EITs. Virtually none of our import and export markets have a price on carbon or anything resembling the robust set of climate measures that exist or are under development in Canada.

With some 40% of cement production in Canada destined for export, ensuring that Canada's climate policies are protective of the competitiveness of EITs is our number one priority.

Another of our important challenges remains the aggressive and well-funded campaigns conducted by the wood industry across Canada. In 2018, we will actively address claims from the wood industry relating to carbon sequestration and the overall sustainability of wood products, using our toolbox of third-party reviews of these claims, and specifically the results of the research we have commissioned from the internationally renowned and well-respected IISD. We will also continue to push on the building code front, challenging code changes as needed, so that building codes are supported by scientific facts and not the whims of elected officials. We will aggressively engage governments in these discussions so that they understand that governments' role is not to adopt strategies that "rob Peter to pay Paul" by favoring one industry over another, but rather setting high standards and supporting the market in choosing the best material for the job.

In parallel to these activities, we will continue to work towards implementation of the three-screen approach both federally and provincially, ensuring that the full lifecycle costs and lowest carbon footprint are considered by governments in the decisions they make around infrastructure investments.

As always, we will continue to anticipate and prepare for changes in the political and business environment across Canada. We will closely monitor the political landscape as Ontario and Quebec approach their respective provincial elections in 2018 and Alberta sails towards elections in 2019.

In my role as President and CEO of the CAC, my priority is to ensure that our Members' financial contribution to the CAC is fully optimized. We need to understand their priorities and economic pressures and adapt accordingly. The CAC Members are the shareholders of this association and we must be mindful to always ensure we are in step with the collective vision they have for the cement and concrete industry in Canada. We are extremely focused on this and will continue to be so in 2018. This year, the CAC continued successfully to follow its policy of doing more with less and our budgets are being reduced by 5%. As an association dedicated to serve its members, we work to provide increased services to our members and remain proactive in promoting and participating in CCC activities. Our results and achievements are enhanced when we work in a harmonized and aligned manner with Allies and their Members. It is our goal to continue to leverage the financial commitment of the CAC Members and Allies to drive a culture of concrete across the country.

I am blessed to be surrounded by a committed and talented team at the CAC, who work tirelessly for our Members. This year saw the retirement of Rico Fung after almost 30 years with the CAC. We miss his incredible knowledge and passion which have benefited the CAC Membership all those years. Given our commitment to reduce expenditures and to do more with less, Rico was not replaced and his responsibilities were taken over by existing staff members Sherry Sullivan, Guillaume Lemieux and Shane Mulligan. We also celebrated Rick McGrath who has been with the CAC for over 35 years and is a beacon in the codes and standards world; we are blessed to have Rick on our team. In 2017, we were delighted with the return of Martha Murray as Director, Public Affairs, Sustainability and Stakeholder Relations in Ontario. Martha is returning to the CAC after a tour of duty as the Ontario Minister of Labour's Chief of Staff – it's always nice when a former team member wants to come back.

The prospects and challenges are immense for our industry in 2018. We remain optimistic that the markets conditions for cement and concrete will continue to improve as infrastructure dollars start to flow. Whatever the markets and policy makers bring in 2018, I know we will be up to the task of providing the services that our Members and Allies value and expect from us, seizing the opportunities and tackling the challenges that lay ahead of us.

Thank you for your support and work and best wishes for a Happy, Healthy and Prosperous New Year in 2018!

Michael B. McSweeney

Michael McSweeney
President and CEO
Cement Association of Canada





National Highlights



Industry Affairs

CAC staff and Members continued to participate in significant policy development on air quality issues in 2017. We are proactively involved in several aspects of the national Air Quality Management System (AQMS), in particular as it relates to the development of ambient air quality standards. The CAC sits on the AQMS Stakeholder Advisory Group, which held multiple meetings over 2017 and provided us with an opportunity to ensure our sector's competitiveness was always top of mind as new policies or approaches were designed and implemented.

We continue to work on the Canadian Ambient Air Quality Standards (CAAQS) Development and Review Working Group, which has been tasked to help the Canadian Council of Ministers of the Environment (CCME) Air Management Committee develop ambient air quality standards for SO₂ and NO₂ and update the existing PM and Ozone standards. As part of this initiative, the CAC worked in close collaboration with other industry sectors. This year, extensive work was conducted on the development of new NO₂ ambient air quality standards, which were formally announced by the CCME in November 2017, and the work on ground-level Ozone has been initiated in the second half of the year.

Another important policy area is the federal implementation of the *Pan-Canadian Framework on Clean Growth and Climate Change* that was announced in 2016. Over the past few months, the CAC has been involved in several engagement sessions on various components of the federal climate policy development, such as the recently released Clean Fuel Standard regulatory framework, the federal carbon pricing backstop and the proposed changes to the existing GHG emissions reporting. Our biggest concern on these policies relates to potential overlap and misalignment of various federal and provincial measures.

In 2017, we continued to monitor new developments on two international agreements with potential impacts on the cement industry in Canada. It is now becoming clear that Canada's implementation of the *Minamata Convention on Mercury* will not significantly affect the cement industry. Environment and Climate Change Canada (ECCC) will target other sources of mercury as they believe that the cement industry has already achieved emissions reduction (through multi-pollutant control strategies that deliver co-benefit controls for mercury) and does not represent a significant source of mercury.

On another note, the *International Convention for the Control and Management of Ships' Ballast Water and Sediments* came into effect in September 2017. Potential impacts on Canada's cement companies who own or operate ships in the Great Lakes or on the coasts have been identified. Transport Canada is working with ship owners towards a smooth and phased-in implementation of the new requirements over the coming years.

We also continued to report the industry's releases to the environment through the National Pollutant Inventory Release (NPRI) administered by Environment and Climate Change Canada. Since 2013, CAC members have been reporting using the Cement Sustainability Initiative (CSI) Protocol 3.04. A CAC representative sits on the NPRI multi-stakeholder Work Group, which provides advice to the federal government on the implementation of the NPRI program.

Sustainability and ENGO Strategy

Federal Initiatives

2017 saw a significant uptick in the CAC's federal engagement with the release of several major climate related policy proposals. The Pan Canadian Framework on Clean Growth and Climate Change was signed in December 2016, outlining the federal government's intention to work with Provinces toward Canada's GHG commitment under the Paris Agreement. The linchpin of federal interventions will be its Carbon Pricing Backstop, a \$10 per tonne carbon tax to be initiated in 2018 and rising \$10 per year to \$50 in 2022. Crucially, the federal system proposes to use an Output Based Allocation system to protect the competitiveness of Energy Intensive Trade Exposed Sectors like cement – modeled very closely after the Alberta system and informed by the successful work the CAC has done to educate federal and provincial officials on the negative impacts our sector has experienced, and continues to experience, under the BC Carbon Tax. The equivalency provisions built into the federal carbon pricing backstop mean that all of our facilities will continue to be subject to the existing (or soon to be implemented) provincial pricing systems in the provinces where they operate. It should be noted, however, that given the considerable political uncertainty in Alberta and Ontario (and even in Quebec), we cannot take for granted that existing provincial systems will remain in place or continue to meet the federal requirements. As such, the CAC will remain vigilant in ensuring the federal pricing system is designed and implemented with our competitiveness in mind.

In addition to carbon pricing, the federal government has also released a regulatory framework for a federal Clean Fuel Standard (CFS) which, unlike any other jurisdiction in the world, would apply not only to transportation fuels but also to fuels used in buildings and industry. If the regulations developed within this framework are designed poorly, they could significantly increase the cost of traditional fuels for the cement industry and, perversely, rob capital from lower cost GHG reductions efforts to switch to zero or lower carbon fuels. The CAC has been very active in expressing our concerns regarding the impact of the CFS on the competitiveness of the sector. Our reputation as an informed and credible industry on climate policy means we have the ears of federal officials. While they have assured us that they will work with us on the design of CFS regulations to accommodate and, in fact, reward facilities for current and future fuel substitution achievements, much work remains to ensure that they deliver on this commitment and that federal CFS regulations also recognise and help us overcome the low carbon fuel

challenges we continue to face at the provincial level. This will be one of our key priorities with the federal government in 2018.

Our “three screen” proposal that would require all federal infrastructure dollars, whether spent directly or through provincial and municipal infrastructure initiatives, to undergo a lifecycle costing assessment, lifecycle GHG assessment and “best available solution” assessment is also showing signs of taking root in the minds of key senior officials in Environment and Climate Change Canada (ECCC), Infrastructure, and Treasury Board. Initially wary of being offside with the provincial and municipal lobby, which prefers federal transfers to come with “no strings attached”, many elected officials (from all parties) and senior civil servants recognize that this kind of common sense decision making is the only way to ensure that the \$800 billion of anticipated infrastructure investments over the next decade return the best value to taxpayers. We were particularly pleased when the Minister of the Environment and Climate Change, Catherine McKenna, made specific mention of our industry's leadership on this proposal during her speech at the GreenPAC breakfast on Parliament Hill in October. CAC staff also participated in a number of invitation-only expert workshops on how the federal government could integrate lifecycle principles into its procurement policies and practices.

Another sign of our strong reputation for credible, collaborative leadership on climate policy was seen when the Manitoba Premier's office solicited federal officials for advice on who to invite as an “industry expert” to their industry consultation on a “made in Manitoba” carbon pricing system, and federal officials recommended the CAC. This is in addition to our now regular invitations to speak as an industry expert at a variety of climate focused events, such as Ontario's annual Cap & Trade Forum.

In addition to our federal lobby days and individual meetings with MPs and officials throughout the year, in March of this year, the CAC also made a formal deposition to the Senate Committee on Energy, the Environment and Natural Resources Hearing on the *Study on the effects of transitioning to a low carbon economy*.

Environmental Claims from the Wood Industry

In 2017, the CAC significantly ramped up its efforts to counter the environmental claims of the wood industry regarding wood construction products. In particular, we are pursuing ground breaking research designed to counter some of the claims from the

wood industry as it relates to carbon sequestration and the overall sustainability of wood products.

With strong moral and intellectual support from leading voices in the ENGO community, the CAC drafted a comprehensive Request for Proposals, which was formally issued in January 2017 and ultimately awarded to the International Institute for Sustainable Development (IISD) through a competitive process. A core component of this study and its credibility and influence with government and the building community lies in its advisory body. The advisory body is made up of university affiliated forestry academics, conservation groups and leading sustainable architects and builders. The fact that the CAC has been able to attract such an esteemed group of individuals to support this study is a testimony to its importance and to the trust we have built as a sector as a credible voice on the role of the built environment in addressing climate change. The report is anticipated to be completed in early 2018, and the CAC will be crafting a robust communication and engagement strategy based on its findings and recommendations.

Concrete Sustainability Council (CSC) Certification System

The Canadian cement and concrete industry has, for a number of years, discussed the need to develop an independent sustainability certification system for cement and concrete with the intent of achieving for concrete the same internal and market benefits that other systems, such as the Forest Stewardship Council (FSC) certification system, have achieved for other sectors, namely:

- Help improve concrete's sustainable/responsible performance
- Improve transparency of the concrete sector
- Recognition in green building rating systems (e.g. LEED)
- Recognition in green procurement government policies
- Improve the public opinion of concrete products and the sector
- Improve the business case for responsible/sustainable concrete

While the concept has been broadly supported in principle, the level of effort and resources required to start a new system from scratch had been a significant barrier in the past. In January 2017, the WBCSD CSI initiative in Europe released such a standard, opening the door for the Canadian industry to leverage the CSI's global infrastructure towards certification in Canada, at a time when governments and the market are increasingly looking to position themselves as leaders in the clean economy. Working closely with industry veterans Bill Galloway and John Hull, as well as CRMCA and the Concrete Council of Canada, the CAC has played a central role in reaching out to the entire cement and concrete sector as well as key stakeholders in the ENGO community to lay the foundation for bringing the certification system to Canada. We have made

tremendous progress and are confident that we will be in a position to formally launch, and start benefitting from the system in 2018.

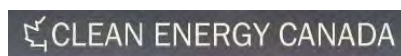
Other Miscellaneous Activities

The CAC remains the "go to" industry for ENGOs seeking a credible voice on climate change and other sustainability issues. This year saw the continuation of collaborative projects and policy initiatives with Canada's leading ENGOs – the Pembina Institute, Environmental Defense, Clean Energy Canada for example – as well as multiple invitations to strategy sessions with ENGOs and environmental grant makers from family foundations to help shape national and provincial policy engagement strategies. As the federal government is moving aggressively on climate change and other environmental issues, solid relationships with the broader community of environmental influencers is proving extremely valuable in navigating the fast-moving regulatory environment and addressing potential challenges to our industry very early in the design stage rather than trying to fix problems after they arise.

In BC, we remain an active participant on the Bowen Group – an industry / ENGO collaboration to design a solution for EITE competitiveness under BC's carbon tax. In Alberta, we maintain strong relationships with the Pembina Institute. In Ontario, we continue to be a central voice on the Clean Economy Alliance and in Quebec, we remain actively engaged with the province's leading environmental voice, Équiterre.

The CAC continued to press municipalities on LCA and climate resilience issues. In addition to our municipal meetings, we were invited this year to sit as a founding member of the FCM Innovation Network where we have successfully lobbied for the integration of lifecycle approaches into procurement as a top priority innovation for municipalities. Through 2018 we hope to leverage this group to see practical application of LCA concepts by leading municipal innovators.

The CAC also remains an active member of the NRCan Climate Adaptation Platform Infrastructure and Buildings Working Group where we have been engaged in the research community's efforts to develop and advocate climate resilience infrastructure strategies in communities across Canada.



Federal Lobby Days

60+ DELEGATES • 70 MEETINGS • 1 MESSAGE

On October 16-18, the cement and concrete industry came together in its largest ever gathering to communicate our industry's central role in Canada's economy and the transition to a low-carbon future to Canadian Members of Parliament and senior civil servants. With more than 60 delegates from all sectors of the industry participating in over 70 meetings, it was, by most accounts, among the largest advocacy efforts Parliament Hill has ever seen.

With all three levels of government expected to collectively spend some \$800 billion on Canada's infrastructure over the next ten years, our core message focused on this once-in-a-lifetime opportunity to renew Canada's aging infrastructure, and to modernize the process through which infrastructure decisions are made to ensure that all infrastructure investments in Canada are subject to three basic due-diligence screens: 1) lifecycle cost analysis; 2) lowest carbon footprint; and 3) a best available technology assessment that recognizes low carbon innovations like Contempra cement and emerging carbon capture and utilization technologies like CarbonCure, Solidia and Pond Technologies.

Our message invariably resonated with everyone we met – parliamentarians of all political parties and from all regions of the country, senior civil servants, the Minister of Infrastructure and Communities as well as the Minister of the Environment and Climate Change, who is challenging her colleagues to think holistically about how to build a low carbon, climate resilient and prosperous Canadian economy. In her words, *"why wouldn't we have a philosophy of using the building materials that produce the lowest carbon footprint?"*

From a media perspective, the lobby days were supported by an OpEd published in the October 16 issue of the Hill Times (Parliament Hill's "must read" weekly), positioning concrete as a game-changer in Canada's transition to a clean economy. A press release jointly issued by the CAC and the Concrete Council of Canada on October 17 was picked up by several online media, including the National Post. And our respective tweets generated well over 60,000 impressions and 1,500 engagement actions over a few days.

As part of the Lobby Days, the CAC took the opportunity to host a working dinner for all delegates on Tuesday, October 17. Our featured speakers were Glen Murray, President of the Pembina Institute and Former Minister of Environment and Climate Change for Ontario; Thomas Mueller, President of the Canada Green Building Council; and Dr. Blair Feltmate, Head of the Intact Center on Climate Adaptation at the University of Waterloo, and Chair of the Expert Panel on Climate Change Adaptation and Resilience. These three presenters outlined the various paths forward in the overall push to grow the concrete market share as governments and stakeholders move to 'green' residential and commercial construction.

The Lobby Days wrapped up with a networking reception attended by over 150 MPs, Senators, political staff and industry delegates.

Our ability to cohesively come together as an industry to deliver one consistent message was a remarkable achievement for all involved and we sincerely thank our Members and Allies for their proactive role in making the 2017 Lobby Days such a success! Our next Federal Lobby Day will take place in May 2019 and we look forward to building our profile during that event, but remember our engagement must be constant, coordinated and consistent if we are to build a culture of concrete across Canada.



Andre Pajot, Lehigh-Hanson; Nicole Campbell, Yorkton Concrete; Chris Ward, Lehigh Hanson, Shawn Tupper, Assistant Secretary to Cabinet, Lands and Economic Development; Bill Asselstine, St Marys Cement, Dan Hanson, Concrete Alberta, Steve Morrissey, CAC.



René Thibault, Lafarge; Alex Car, Lehigh Hanson; John Pontarollo, CRH; François Marleau, Ciment Quebec; the Hon. Catherine McKenna, Minister of the Environment and Climate Change; Filiberto Ruiz, St Marys Cement; Chris Ward, Lehigh Hanson; Adam Auer, CAC.



Ross Monsour, ICFMA, Martha Murray, CAC, Kevin Davis, Quad-Lock; David Yurdiga, MP for Fort McMurray.



Sacha Kisin, Canada Masonry Design Centre; Lyse Teasdale, CAC; Richard Cannings, MP, South Okanagan, West Kootenay; Nathalie Lasnier, Tubecon; Domenico Miceli, Forterra.



Jonathan Moser, Lafarge; John Pontarollo, CRH; Alex Car, Lehigh Hanson; The Hon. Amarjeet Sohi, Minister of Infrastructure and Communities; Filiberto Ruiz, St Marys Cement; Chris Ward, Lehigh Hanson.

Marketing Communications

Our marketing communications activities in 2017 have continued the long-term work of establishing concrete as the construction material of choice and the local solution for building prosperous, low-carbon, climate-resilient communities. Supporting the CAC's overall strategic plan, we have maintained our focus on conveying a constant, coordinated, consistent and compelling message designed to educate and build equity with decision makers and influencers.

Refreshed Branding





Cement Association of Canada Association Canadienne du Ciment

Concrete.

The best solution for building resilient infrastructure for the clean economy.

www.rediscoverconcrete.ca

CONCRETE Build for life™ **LE BÉTON** Bâtir pour l'avenir™

A major milestone this year was the launch of the new tagline “CONCRETE | Build for life | LE BÉTON | Bâtir pour l'avenir” and a refreshed creative platform, both of which have since underpinned all our communications. They were developed in collaboration and shared with our Members and Allies for incorporation into their communication platforms.

Building on the durability, resilience and versatility attributes for which concrete is already valued, we expanded the message to better capture the core content of our discussions with governments and ENGOS – namely, to convey more fully the actions of the cement and concrete industry to reduce its environmental footprint and highlight concrete's essential contribution to a clean economy.

We validated the refreshed message with our Members and Allies, whom we thank for their helpful feedback. We then took the message to our various target audiences: the federal and provincial decision makers with whom we met as part of our Lobby Days; the municipal elected officials we presented to and spoke with at various municipal conferences across the country, and; the engineering and architectural community via various communications channels. We are pleased to

see that this message is consistently well received, but are cognizant that we must be a constant presence with all our audiences as other building material industries are pursuing a similar tack.

Building equity with the architectural community

Architects remained a key constituency in 2017. We continued to collaborate with the Concrete Council of Canada on our long-term strategy to educate and build equity with the architectural community on our industry's vital contribution to a low-carbon, climate-resilient future. Architects are among the first consultants engaged on a project, so ensuring they fully understand our product's value proposition is critically important if we want them to use concrete.

The 2017 *Thermal Performance Requirements Seminar series* allowed us to advocate to some 400 architects and other building professionals from across the country on current and upcoming energy efficiency requirements as well as on the paths to code compliance offered by concrete products and systems. Presented by RDH Building Science Laboratories, these seminars consistently garnered highly positive feedback.



Our top-level sponsorship of the *RAIC Festival of Architecture* again this year gave us an excellent platform to build equity with the more than 1,000 architects in attendance from across the country. The CCC delivered the industry's message to the plenary RAIC Foundation Lunch for the

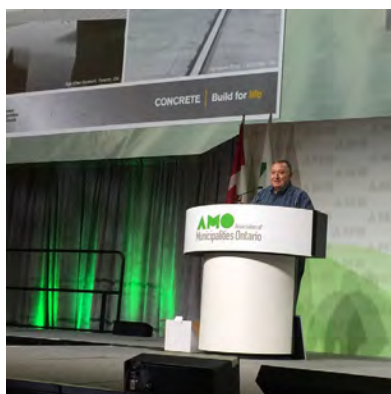
third year in a row; our session on lifecycle assessment and building sustainably, delivered by MIT CSH Executive Director Jeremy Gregory, attracted some 65 architects; and an abridged version of the Thermal Performance Requirements seminar presentation was sold out. The CCC-sponsored supplement *Building prosperous low carbon, climate resilient communities* published by SABMag contributed to establish concrete as a key building material as Canada continues to grapple with climate change mitigation and adaptation.

In order to further demonstrate our support and build our presence with this key constituency, the CAC was pleased to partner with the Canadian Precast Prestressed Concrete Institute (CPCI) and the Canadian Concrete Masonry Producers Association (CCMPA) to support the Moriyma RAIC International Prize.

Building equity with municipal decision makers

Municipalities are very much on the front line when it comes to addressing Canada's climate change and infrastructure agenda. Much of the \$800 billion that all three levels of government are expected to spend on infrastructure over the next ten years will actually be delivered through municipalities.

Continuing to educate and advocate to municipal leaders on the value of integrating a three-screen lifecycle approach into the design and procurement process for infrastructure has been a priority for us. The CAC's partnership with the Federation of Canadian Municipalities (FCM) remains an important linchpin to our municipal strategy and we continue to seek ways to deepen our relationship with these key stakeholders.



This year again, we had the opportunity to engage directly with FCM's Big City Mayors Caucus (BCMC) and with FCM's new Board of directors at FCM's Annual conference. The conference also provided us a high-profile platform to deliver our three-screen message to municipal leaders at a plenary session where we immediately

followed a speech by the Prime Minister before over 1,900 delegates. The CAC's panel session on how public procurement agencies can use LCA/LCCA to optimize full lifecycle benefits from infrastructure decisions was also well attended.

Beyond the conference, the CAC plays a leadership role on FCM's new Innovation Network, a program designed to connect engaged municipalities, industry, academia, youth and other key stakeholders to share knowledge and collaborate on how to use technology and innovation to build prosperous, inclusive and sustainable communities. This FCM program has emerged as another valuable channel for us to educate municipalities on the three-screen approach, as well as to reinforce the traditional benefits of concrete: resiliency and durability.

Our influence is paying off as we now see FCM organize educational events focused specifically on best practices in addressing climate change mitigation and adaptation – the very message we have been championing for many years.

The CAC also had a strong presence at the Association of Municipalities of Ontario (AMO) annual conference, where we delivered substantive presentations to the AMO Board and remarks to all delegates on our key themes of lifecycle costing analysis/lowest carbon footprint building materials, as well as hosted a very successful networking event attended by over 150 Ontario municipal leaders. A follow-up letter recapping our key messages was sent to delegates after the conference, along with a short piece on optimizing road infrastructure investments. In response, we have received over a dozen requests for meetings with infrastructure and procurement officials in municipalities across Ontario.



Building equity with other stakeholders



Our national sponsorship program continued to play an equally important role in building credibility and equity with ENGOs and NGOs. We have continued to support the work of influential organizations such as the Pembina Institute, Earth Rangers, Lake Ontario Waterkeeper, Fraser Riverkeeper, Équiterre and Pollution Probe. This investment in relationships is leading to these groups assisting

in the delivery of our key messages to decision makers. This is a tremendous benefit as it is always more powerful to have external champions tell your story than telling it yourself.



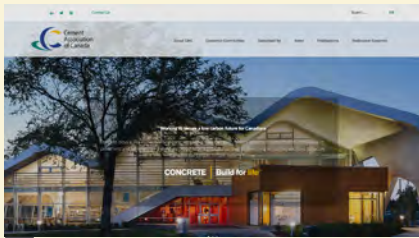
We also continued to play an active role on several committees and sub-committees of the Transportation Association of Canada (TAC) and were pleased again to host over 170 delegates at our networking event as part of this year's conference held in St John's, NL.

Similarly, we continued to sponsor and participate in the Association des Ingénieurs Municipaux du Québec annual conference, in partnership with Tubécon, where we together drove home the resiliency message of concrete products.

On the pavement front, the CAC organized successful workshops on concrete pavements for industrial and trucking facilities in Toronto, Vancouver, Halifax and Montreal. The potential market for concrete pavements is huge across Canada and we continue to invest significant time in developing this market. In Ontario and Quebec, there is a strong possibility that concrete pavements can win on first cost, however we need to get more procurement and engineering departments to call for alternate design/alternate bids in order to demonstrate this.

Fresh compelling content for our audiences

Building on the insights gained from last year's creative platform market test, we have created or collaborated in the development of new digital and print material that aim to tell concrete's story in a fresh and relevant way to our diverse target audiences and to substantiate it with key facts for added credibility. Below are a few examples:

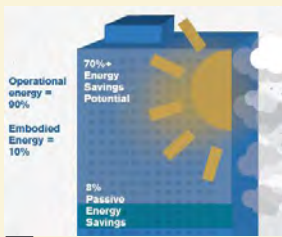


New concrete.ca – The CAC's website was significantly streamlined to eliminate duplication with rediscoverconcrete.ca and redesigned to reflect the refreshed creative platform at launch time.

Building resilient communities for the clean economy – This two-pager synthesizes our story at a high-level – the cement and concrete industry's contribution to local economies and concrete's vital role in building a low-carbon, climate-resilient built environment for the clean economy.

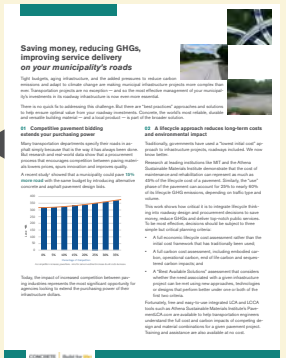


Building low carbon, climate resilient communities SABMag Supplement – Intended primarily for architects, this piece discusses the industry's actions as a partner in addressing climate change and the inherent energy efficiency and resiliency attributes of concrete for low-carbon, climate-resilient buildings. It was developed in collaboration with other CCC members and distributed to SABMag print and digital subscribers, CaGBC conference attendees, and it was on hand at the RAIC Festival of architecture.



Infographics – These support our high-level message, visually serving up the “key facts” that substantiate it, including the industry's actions as a proactive partner on climate change; concrete's role in building a low-carbon, climate-resilient future; and recent innovations. They are posted on rediscoverconcrete.ca and leveraged in other new content.

Saving money, reducing GHGs, improving service delivery on your municipality's roads – Designed for elected municipal officials and senior staff, this “two-pager” positions the value of competitive pavement bidding; the importance of lifecycle assessment and the “three-screen” approach; and concrete as part of the broader solution to municipal infrastructure challenges.



Codes and Standards

Codes and standards are at the foundation of our work. If we cannot influence the development of codes and standards that the federal, provincial and municipal governments use, then we lose part of the battle. The CAC places a huge emphasis on the participation in codes and standards committees by CAC staff, Members and Allies. Our work on Standards and Codes committees is fundamental to ensuring we are at the table to question the initiatives put forward by others, including the wood industry, and to promote the tangible and intangible benefits of concrete.

National Building Code of Canada (NBCC) Activities

The CAC holds active membership on three National Building Code of Canada (NBCC) Standing Committees (Fire Protection, Structural Design and Earthquake Design) and also participates as required in a fourth one (Housing and Small Buildings). Active NBCC issues currently being addressed by the CAC include:

- **Tall Wood Buildings:** A proposal for 12 storey Cross Laminated Timber (CLT) buildings in the 2020 NBCC has been debated from a fire safety perspective over the last year at the NBCC. The CAC has critically reviewed and successfully amended a number of the changes associated with this proposal. The CAC has successfully imposed height limits for Tall Wood buildings as well as restricting the amount of exposed wood in the structure and instituting limitations on cladding materials. Our primary goal is safety and with more safety comes increased costs – it is the cost equation that will drive the number of wood buildings built today and in the future.
- **Earthquake Design:** The CAC is preparing to aggressively resist height increases for seismic and gravity load Tall Wood systems. Proposed Tall Wood seismic provisions are being critically evaluated by the CAC to ensure that, if they are adopted, they meet the same exacting criteria as that of concrete and steel. In addition, CAC officials continue to be actively engaged in the review and development of revised building seismic ductility factors and proposed performance-based design provisions in the NBCC, to ensure that concrete is treated equitably and that the best attributes of concrete construction continue to be recognized in Code. Existing inequities in the seismic design of housing and small buildings as they relate to commercial construction are also being addressed by the CAC to ensure that concrete is not disadvantaged in the market place.

Proposed changes for the 2020 NBCC are now available for public review through the National Research Council of Canada (NRCC) website. The CAC has alerted its membership and all allied industries of this development. We will also be preparing a concise summary of those proposed changes that are of interest to the Canadian cement and concrete industry along with a description of the implication of these changes and proposed comments that could be submitted to the NRCC during this public review.

We encourage our Members and Allies (along with their Members) to use the comments prepared by the CAC Code team and engage in a letter campaign to the Minister of Science and Innovation (responsible for the NRCC) and to your local Members of Parliament. Remember it is always the squeaky wheel that gets the grease. If we don't tell our story, no one else will. So the time to engage is now!

CSA Standards Activities

The CAC participates on a variety of CSA Standards, including CSA A3000 Cement; CSA A23.1 Concrete; CSA A23.3 Design of Concrete Structures; CSA S413 Parking Structures; CSA N287/291 Nuclear Containment and Safety Related Structures; CSA S304 Masonry Design; CSA A179 Masonry Mortars; CSA S478 Designing for Durability. In 2017, CAC Code Development Engineer Helene Dutrisac has been appointed as an Associate Member of both the CSA A3000 and A23.1 Technical Committees.

Current issues that the CAC is addressing through the CSA with relevance to the cement and concrete industry are described below.

Contempra Cement: Contempra is permitted to be used in all jurisdictions in Canada, but barriers still exist to its use in sulphate exposure environments and soils, which prohibit a full industry conversion to this lower carbon cement. Changes that the CAC has now shepherded through the current cycle of both the CSA A3000 Cement and CSA A23.1 Concrete Standards will remove these barriers and allow for the full industry conversion to Contempra. These changes that were at first scheduled for adoption in the next edition of these standards will now instead be fast tracked into the market place as amendments to the existing editions of these Standards. This is a huge achievement beneficial to CAC members.

Carbon Sequestration in Concrete and Recycled Aggregate: A new Annex has been approved for the 2019 CSA A23.1 Concrete standard dealing with carbon additions to ready mixed concrete. This technology

reduces the carbon footprint of concrete without affecting its durability or plastic properties and provides the concrete industry with its own carbon sequestration mechanism to combat climate change. Again, this Annex is being proposed as an amendment to the existing A23.1 Standard to expedite its use in the market place.

Ultra High Performance Concrete: For the first time since its inception, Ultra High Performance Concrete (UHPC) will be addressed in CSA Standards. Annexes on UHPC have now been developed for both the CSA A23.1-19 Concrete Standard and the 2019 CSA S6 Bridge Design Code. This will represent the first time the Canadian cement and concrete industry has codified this ultra-strong and ultra-durable concrete material. These new Annexes will provide guidance to the ready mixed concrete industry and designers alike in the design, testing and utilization of UHPC.

Concrete Design: This cycle of the CSA A23.3-19 Design of Concrete Structures Standard will see a refinement and simplification of the seismic design provisions, greater reliability in the installation of adhesive anchors, a new Annex featuring a new simplified slab design procedure and a more closely coordinated development schedule with the NBCC.

Removing Barriers: Previous testing requirements in Canada's Nuclear Standards were a significant impediment to cement and concrete suppliers to this market. The CAC has successfully amended some of these testing requirements in the CSA N287/291 Nuclear Standards in this cycle. Significant work remains to be done with these Standards in the future.

American Concrete Institute (ACI) Activities

In order to ensure the CAC team continues to learn and understand new applications or how to communicate concrete it is important to participate and network in various organizations. One of these is the ACI and its committees, in particular:

ACI 216 Fire Resistance: The CAC participates in this committee to ensure that ACI has the benefit of Canadian fire research and Code provisions during its deliberations.

ACI 355 Anchorage to Concrete: The CAC Chairs the CSA A23.3 Anchorage Subcommittee and as such also participates in this ACI committee as the Canadian requirements in this area follow closely the American provisions. New installation specifications for adhesive anchors recently adopted by ACI will be incorporated into Canadian specifications, improving the reliability of these anchors in Canadian practice.

ACI 318-Sub H on Seismic Design: The CAC continues to participate in this American seismic design committee to stay abreast of developments south of the border which may influence Canadian seismic design practice.

ACI 330 Concrete Parking Lots and Site Paving: This is the committee that recently published ACI 330.2R-17, "Guide for the Design and Construction of Concrete Site Paving for Industrial and Trucking Facilities". This guide was the foundation for our cross-Canada seminar series on Industrial Concrete Pavements.

ACI 327 Roller Compacted Concrete (RCC) Pavements: The CAC participates on this committee, as well as the RCC Promotion and Research Council and the ACPA RCC Task Force. These are the three main committees focusing on RCC pavements in North America. Participation on these committees is in alignment with our strategic objective to actively promote Roller Compacted Concrete Pavements across Canada.

ACI 325 Concrete Pavements, including 325-0A Pavement Design and 325-0F Concrete Pavement Overlays and a newly formed working group on Thin Concrete Pavements. Our participation in this committee and sub-committees, as well as our involvement with the American Concrete Pavement Association, is in alignment with our strategic objective to actively promote full-depth concrete pavement and concrete overlays across Canada.

ACI 360 Design of Slabs on Ground: The CAC participates on this committee to stay abreast of developments that may influence the interior concrete slab market in Canada.

Research and Development

NRCC announced in 2017 the existence of a \$40M Climate Change Adaptation fund. The CAC has consulted with its member companies, allied industries and the Canadian research community and developed a list of four key research areas for consideration of public funding under the Climate Change Adaptation Fund. Proposals on these initiatives are being developed and will be submitted to NRCC by the end of the year.

New CAC Standards Subcommittee

In response to more demanding standards development procedures at CSA, we have recently created a Standards Subcommittee of the CAC Product Standards and Technology Committee. The purpose of this Subcommittee will be to provide the cement industry with a quick response sounding board that will allow the industry to evaluate and address the many CSA A3000 and A23.1 Technical Poll items that are now administered by CSA in its Online Workspace.



Concrete Design Handbook 4th Edition Seminar Series

The CAC Codes and Standards team prepared and delivered a one-day seminar on the Concrete Design Handbook 4th Edition in seven cities across the country. Joining them as co-presenters were other experts in the field, including a few co-authors of the Handbook. The seminar was designed to provide engineers, designers and building officials with an overview of the main changes to the CSA A23.3-

14 standard and advancements in the 4th Edition of the Concrete Design Handbook, Canada's premier guide for concrete design. For the CAC, the seminar series represented a key opportunity to not only foster the proficiency of structural engineers and designers in implementing these changes in their day-to-day practice but also to connect in person with this important constituency. All told, the seminars drew over 300 attendees and received consistently positive feedback.

Markets and Technical Affairs

Economics Program/Market Intelligence

In 2017 the focus for CAC Market Intelligence has been on furthering our understanding of cement and concrete markets through additional reports and better data.

CAC members and Allies have long identified the lack of data on Canadian building markets as a challenge. In comparison to the U.S., the absence of data on building materials usage in different regions and construction project types is considered problematic.

Last year, a working group was set up to address gaps and discrepancies in the official Statistics Canada data. After internal discussions and engagement with Statistics Canada, the decision was made to expand the CAC's existing data collection program from eastern and central Canada to include the Prairies and BC regions. Logan Katz, our accounting firm, expanded their survey collection and the new data began to be incorporated into the *Canadian Monitor* and the forecast reports in the summer. Trade data continues to be a challenge and remains under discussion, with Statistics Canada continuing to provide those numbers as of the end of 2017.

After consulting with CAC Markets and Technical Affairs committees, and with Concrete Allies, we issued an RFP seeking Canadian construction data. Hanscomb was chosen as the provider and submitted data to the CAC that was the basis of the *Analysis of Building Materials Shares in the Canadian Construction Market* report. There were few surprises in the data though gaps in the numbers meant that few conclusions could be made with confidence. For example, the numbers did not show any penetration of wood into mid-rise construction markets but data limitations prevented any firm conclusion. The CAC continues to work on ways of addressing the gaps in the data provided for this report through both alternate data providers and internally developed models using available data. We will update this work in the first half of 2018 and be able to share and consult with our Allies next year.



Good trade data continues to be a challenge that is being addressed.

In addition to the forecast, *Canadian Monitor*, and the Building Materials Shares report, three additional reports were added to the distribution in 2017: the Labour Energy Report, Plant Information Summary, and Competitive Materials report.

The CAC has also continued to support reports by third parties including CIPEC, CIEEDAC, and EnergyStar to demonstrate our transparency and commitment to improving our industry's environmental performance.

Concrete Infrastructure Promotion

In 2017, our focus for concrete infrastructure promotion was on developing new opportunities and new markets. The exterior industrial concrete pavement market is a huge opportunity for our industry, both with roller compacted concrete and full-depth concrete using optimized designs. Approximately 250 people attended our four workshops across Canada, and several projects are being discussed as a result. This program was a huge success and we will continue in 2018 with additional workshops. We will also work directly with owners and developers on potential projects.

We also continue to work with provincial and municipal governments, encouraging them to allow a fair opportunity to compete. Many transportation departments specify their roads in asphalt simply because that is the way it has always been done. But research and real-world data show that a procurement process that encourages competition between paving materials lowers prices, spurs innovation and improves quality. A recent study showed that a

municipality could pave 15% more road with the same budget by introducing alternative concrete and asphalt pavement design bids. Ensuring a fair opportunity to compete along with a robust Life Cycle Cost Analysis (LCCA) and Life Cycle Assessment (LCA) has been our main focus for government infrastructure projects in 2017.

Another noteworthy infrastructure project for 2017 was the development of a Canadian LCCA Standard Practice Guideline. This project, initiated by CAC and completed by Stantec, reviewed the LCCA practices in place across transportation agencies in Canada as well as in select international agencies. The guideline provides a reference guide on LCCA for alternate pavement-type bidding. Based on the review of LCCA practices, the study identified recommended practices in conducting life cycle cost analysis in pavement design. The practices relate to the: length of analysis period, discount rate, (agency, user, and environmental) costs, economic criteria method, and LCCA computational approach.

CONFERENCES AND INITIATIVES WITH PARTNERS & ALLIES

It is important to highlight the breadth and depth of the CAC's involvement in conferences and other initiatives, both in Canada and the U.S., where we put forward our ideas, author studies, and participate in committee work, all aimed at increasing the market share of concrete pavements across Canada. In this vein, the CAC continues to work with various organizations through the participation in and sponsoring of conferences and other events and the design and implementation of partnerships resulting in the promotion of concrete infrastructure. Key initiatives conducted in 2017 are highlighted below:

- The **American Concrete Institute** is a leading authority and resource worldwide for the development and distribution of consensus-based knowledge on concrete and its uses. With respect to Concrete Infrastructure, the CAC participates in several ACI committees, as described earlier in this report.
- The **Transportation Research Board (TRB)** engages professionals worldwide in a broad range of interdisciplinary, multimodal activities to lay the foundation for innovative transportation solutions. The CAC participates in various TRB committees as an active player in research and technology transfer. <http://www.trb.org/Main/Home.aspx>.
- The **Transportation Association of Canada (TAC)** is the Canadian source for roadway-related technical documents, best practices, and national guidelines that are referenced in many jurisdictions across the country. TAC councils and committees serve as an

ongoing forum for the dissemination of knowledge, the exchange of information and the discussion of a wide variety of issues to advance the state of knowledge in transportation. The CAC is an active participant in several of these TAC committees.

<http://www.tac-atc.ca>.

- The **American Concrete Pavement Association (ACPA)** is the world's largest trade association that exclusively represents the interests of those involved with the design, construction, and preservation of concrete pavements. ACPA draws its strength from a solid network comprised of the national ACPA, local ACPA Chapters and Affiliated State Paving associations. The CAC is the Canadian chapter of ACPA. <http://www.acpa.org/>.
- The **International Society for Concrete Pavements (ISCP)** facilitates the advancement of knowledge and technology related to concrete pavements through education, technology transfer and research at an international level. The CAC is no longer on the board of directors, but continues to participate as a committee member. <https://www.concretepavements.org/>.
- The mission of the **MIT Concrete Sustainability Hub (CSHub)** is to develop breakthroughs that will achieve sustainable and durable homes, buildings, and infrastructure. The CAC actively participates on the technical advisory group and we have leveraged MIT CSHub results and products to assist in life cycle assessment implementation in Canada. <https://cshub.mit.edu/>.
- The CAC continues to support the **Athena Sustainable Materials Institute** and further enhancements to their Pavement LCA tool. The software provides environmental impact results for all life cycle stages — materials manufacturing, roadway construction, use, and rehabilitation — and enables quick and easy comparison of multiple design options over a range of expected roadway lifespans. <https://pavementlca.com>. <http://www.athenasmi.org/>.
- In 2017, the CAC and Athena partnered with **Manitoba Infrastructure and the MIT Concrete Sustainability Hub** to produce a paper entitled "*Concrete Pavement Life Cycle Environmental Assessment & Economic Analysis: A Manitoba Case Study*". This study evaluated the environmental impacts of different strategies being considered by the province. This paper was presented at the 2017 Pavement LCA Symposium in Illinois.
- The **Canadian Airfield Pavement Technical Group (CAPTG)** was developed as a national forum to create new avenues of communications in the Canadian Airport Community for the dissemination of expertise, knowledge, and experience related

to airfield pavement technology and other related technical issues as a response to the decentralization and privatization of Canadian airports. Membership includes more than 150 airport managers, engineers, consultants, and academia from across Canada. The CAC is an active participant as an industry officer and sustaining member. <http://www.captg.ca/>.

- **SWIFT** exists for the airport community to gather and learn about new pavement design, construction, evaluation and maintenance techniques as well as other airport operations matters. The CAC is an active participant in this conference, both as a sponsor and contributor to the technical program. <https://www.swiftconference.org>
- Founded in 2014, the **Roller Compacted Concrete (RCC) Promotion & Research Council** is an industry trade association representing the interest of those involved with the construction of RCC pavements. The council supports research and promotion to improve the quality of RCC pavements and expand their use in a responsible and sustainable manner. The CAC is an active participant in this newly created council. <http://rccpavementcouncil.org/>.

RESEARCH AND DEVELOPMENT

In partnership with our Allies and stakeholders, the CAC continues to support ongoing research in areas relating to cement, concrete and resiliency. This kind of research is paramount if we want to continue to ensure that concrete is considered by those stakeholders who ultimately make the decision or recommendation to use concrete pavements. Without current research, we run the risk that end users might continue to recommend asphalt pavements based on plans that have existed for decades. Examples of where we participate include:

- **University of Manitoba** — Dr. Ahmed Shalaby, Municipal Infrastructure Chair. This research program is supported by the City of Winnipeg, the province of Manitoba and 12 construction industry contractors, suppliers and associations — including the CAC. The Chair partners work together to develop and test innovative solutions that will extend the life and durability of infrastructure, improve and harmonize design and construction practices, and reduce the risk of implementing new innovations to infrastructure owners and contractors. In 2017, the CAC participated in a workshop that was looking at Paving in Cold Weather, and ways to extend the paving season. <https://home.cc.umanitoba.ca/~shalabya/MunicipalChair.html>.
- **University of Toronto** — Dr. Doug Hooton, NSERC Industrial Research Chair in Concrete Durability and Sustainability. This Chair provides innovative and effective approaches to improve both the environmental sustainability and durability of concrete, as well as to provide leadership in development of required standards and specifications that will allow implementation of these types of concrete.
- **University of Waterloo** — Professor Susan Tighe, Director of the Centre for Pavement and Transportation Technology (CPATT). This is a partnership between universities, the public sector, and the private sector, involving a board of advisors and a research team responsible for the planning, management, and conduct of the research program. CPATT research focuses on structural design, construction and maintenance technology, materials and geotechnical engineering, field evaluation methods, equipment and data processing, intelligent transportation systems and safety, as well as risk and reliability methods.

Regional Highlights



Western Region

2017 was a busy year for the CAC in BC, Alberta and the Prairies. With a change in government in BC on May 9, 2017, we continued to deepen our already solid relationships which had been established with the BC NDP during their time in opposition through our diligent work with them over the past decade. We believe that the heavy investment in relationship building with the NDP will pay off in terms of addressing the competitiveness issue created by the provincial carbon tax, to which the former government paid little attention.

INDUSTRY AFFAIRS

BRITISH COLUMBIA

BC Cement Industry Lobby Days were held in Victoria on February 27 and 28, 2017. This included meetings with BC Liberal Ministers as well as NDP opposition MLAs (several of whom are now Ministers in the new NDP Government) and included representatives from the CAC, Lafarge and Lehigh. We also hosted two receptions for the government and the opposition. Both receptions were well attended, with NDP MLAs keen on continuing their dialogue with the industry as we got closer to the May 9th election.

The BC election on May 9, 2017 resulted in a minority NDP government, which ultimately took power as a result of their agreement with the BC Green Party. We have continued our advocacy with the new government in an almost seamless manner, and the industry has been well received at subsequent meetings.

The CAC worked with the "Bowen Group" on the development of a proposed solution to addressing the issue of competitiveness in EITE industries, including cement. In addition to the CAC, this group included Clean Energy Canada, Pembina Institute, Teck Resources, CAPP, COFI, and academia. The work of the group was presented to then opposition MLA George Heyman in a meeting with the CAC on March 20, 2017. The entire team met with Minister Heyman on September 25, 2017 to present its recommended "Output-Based Allocation" system.

The Output-Based Allocation system to address EITE industry competitiveness was presented to opposition MLA George Heyman by the Cement Association on March 20, 2017 and then by the entire "Bowen Group" to Minister George Heyman on September 25, 2017.

A Vancouver Sun article on July 27, 2017 quoted George Heyman, the new BC Minister of the Environment, as follows:



"It's also important to protect emission-intensive industries that are exposed to trade. It doesn't help us if we put a price on carbon for B.C.'s cement industry, then import cement that faces no such carbon pricing and can be sold at a cheaper price."

When governments change, there is always a risk that decisions made by the previous government would be overturned. We are happy to report that the new Government

has continued payments to Lafarge and Lehigh under the third year of the BC Cement Low Carbon Fuel Program. Negotiations with government are continuing on the establishment of an appropriate year-end GHG benchmark target for 2017, 2018 and 2019 for both of the BC cement plants. We believe our success here is a result of our constant and consistent approach to the work of the BC Finance Committee, to whom we have presented each and every year for the past decade. Ensuring that decision makers hear our message is important – and crucial to advancing our competitiveness agenda.

PRAIRIES

The cement industry's annual advocacy days in Alberta were held in May 2017, with the CAC, along with representatives from Lafarge, Lehigh, and Concrete Alberta holding a series of meetings with key elected officials and ministers. Topics of discussion included continued opportunities for government's investment in infrastructure and a three-screen approach to procurement (lifecycle cost, carbon footprint, best available solution), as well as opportunities for emission reductions through the adoption of low-carbon fuels.



Shannon Phillips, Alberta's Minister of Environment and Parks, and Michael McSweeney at the CAC's Alberta Cement Mixer.

Meetings were held with Shannon Phillips, Minister of Environment and Parks; Brian Mason, Minister of Transportation and Infrastructure; Christina Gray, Minister of Labour, as well as caucus members from the PC and Wildrose parties.

As an outcome of its May meetings with government, the CAC was asked to develop terms of reference for a Working Group on Waste, tasked with facilitating the diversion of waste towards low carbon fuels in Alberta. This group includes representatives from the Cities of Calgary and Edmonton, the Ministry of Environment, regional airsheds, and the cement industry. The goal is to identify low carbon fuel alternatives that use waste streams diverted from landfill, as well as streamline the permitting process for this fuel use. A summary report of the working group's recommendations is scheduled to be submitted to Minister Shannon Phillips towards the end of the year. Following the Minister's review, we anticipate follow-up actions in 2018.

The development of the Output-Based Allocation (OBA) System in Alberta included a number of industry consultation and workshop sessions, for several of which the CAC was a co-convenor. One-on-one meetings were also held between the cement industry and the Alberta Climate Change Office (ACCO). In April, the cement industry in Alberta submitted its formal position on the OBA system in terms of the definition of cement, as well as the establishment of a proposed benchmark and tightening rate. Details of Alberta's OBA system were announced by Minister Shannon Phillips in Calgary in early December, including an OBA benchmark for the cement sector of 785.3 kg CO₂ per tonne of cement. This is almost identical to the industry's Canadian Average figure of 786 kg per tonne of cement, for which we had strongly advocated. Along with 100% free allocation of process emissions, and a 1% tightening rate that applies only to combustion emissions starting in 2020, it demonstrates that government listened to our collective industry voice. This policy will allow the cement operations in Alberta to continue to operate well below these metrics for many years to come.

MARKETS AND TECHNICAL AFFAIRS

BRITISH COLUMBIA

The CAC continues to maintain relationships with key elected officials and industry leaders in order to increase awareness of the cement and concrete industry, its importance in major infrastructure, and its long-term environmental benefits.

Our attendance at events in 2017 included the Metro Vancouver Zero Waste Conference and the Solid Waste Association of North America (SWANA) conference – this was an important step as we continue to work with Metro Vancouver to reduce the amount of fossil fuels we use in the production of cement – and the BC Business Council Summit. These events all serve as opportunities to increase knowledge of the industry and build continued support for the cement and concrete sector as an important local industry.

The CAC organized several meetings during the annual Union of British Columbia Municipalities (UBCM) Convention, held this year in downtown Vancouver during the week of September 25th. Meetings were held with communications staff in the office of Premier John Horgan and several government and opposition MLAs, as well as with local government officials. We also met with senior staff of Metro Vancouver to discuss opportunities for our industry to collaborate on the handling of waste materials as alternative fuels.

The CAC was a platinum sponsor and supporter of the Pacific NorthWest Economic Region (PNWER) Conference held in Victoria from November 5th to 7th, 2017. This session provided the opportunity to also meet with key government officials, including Claire Trevena, Minister of Infrastructure; Carole James, Minister of Finance; George Heyman, Minister of Environment; as well as MLAs Rick Glumac and Mable Elmore. Our industry continues to deliver its message on the need for a three-screen evaluation for infrastructure procurement, the need for a solution to carbon pricing for EITE industry, and the GHG reduction opportunities resulting from concrete and the use of lower-carbon alternative fuels.

With its sponsorship of PNWER, the CAC was able to host and speak to over 100 delegates and political representatives at a reception for Ministers, MLAs and key legislative staff of the BC Legislature. Further, we organized a session at the conference on the topic of climate resilience that featured speakers from the City of Calgary and the Insurance Bureau of Canada.

A seminar on Concrete Pavements for Industrial and Trucking Facilities was hosted in Vancouver by the CAC on June 27, 2017.

This was attended by about 70 land owners, developers, consultants, contractors and the concrete industry. The seminar featured speakers discussing opportunities with respect to the design and construction of concrete pavements for industrial and trucking facilities, distribution centers, and industrial sites.

PRAIRIES

As part of the CAC's continued focus on the top municipalities in Western Canada, a series of concrete paving sessions and seminars were held across the Prairie provinces. Working in collaboration with Concrete Alberta, the CAC presented to engineers and project managers at the City of Edmonton and the City of Grande Prairie, with other key municipalities to follow in 2018. Separately, a concrete paving seminar and site tour was held in Red Deer, Alberta, related to the 67th Street and Johnstone Drive concrete roundabout project completed this year. In attendance were representatives from the City of Calgary, City of Camrose, and City of Lacombe.



In August, the CAC partnered with Concrete Saskatchewan to host a concrete paving workshop, for provincial and municipal officials, as well as local engineering consultants. This seminar, which represented the launch of an annual program, was an introduction to the benefits of concrete pavements from design, construction and maintenance perspectives, and featured projects from the City of Yorkton and Manitoba Infrastructure. Approximately 60 people were in attendance including representatives from the Ministry of Highways and Infrastructure, and the cities of Saskatoon, Moose Jaw, and Estevan.

The CAC was a Gold Sponsor at the 59th Annual IEEE-IAS/PCA Cement Industry Technical Conference held in Calgary, Alberta, from May 21 to 26, 2017. The CAC presented as part of a panel session on GHGs and the Western Climate Initiative from Canadian and Californian perspectives.

In November, the CAC and Chris McQuarrie, a Member of CAC's National Markets and Technical Affairs Committee, met with several Manitoba cabinet Ministers, MLAs, the Mayor of Winnipeg and some senior civil servants to discuss our three-screen approach and our newest cement, Contempra. These meetings were successful and there is great interest in the concepts we were advocating.

Ontario Region

Industry Affairs

ONTARIO LOBBY DAY

The CAC hosted its Ontario Lobby Day at Queen's Park on November 14th. Building on the success of the recent federal Lobby Days, the day featured over 18 meetings with Cabinet Ministers, MPPs, senior officials and the Premier's office, and was attended by both cement CEOs and our concrete Allies. Using similar messaging from the federal lobby days around climate change, the economy, innovation and resilience, the day was successful in driving home consistent messages around the industry's most important issues.

The day concluded with the annual popular Cement Mixer in the Legislative Dining room where cement and concrete Allies were able to mingle with the Premier, Ministers, MPPs, staff and officials.



Premier Wynne with, from left to right, CRH's Dan O'Hara, Marie Glenn, Rich Lalonde, David Bangma and John Pontarollo.

LONG-TERM INFRASTRUCTURE PLAN

On November 28th, the Minister of Infrastructure, the Hon. Bob Chiarelli announced the Long-Term Infrastructure Plan. We were pleased that as a direct result of our efforts, LCA is included in that document with an expedited timeline. Original information coming from the Ministry indicated that they were looking to implement LCA in mid-2020, but after proactive advocacy we were able to convince the Minister and his office to move up the implementation date to 2019. This will ensure that all future provincial infrastructure investments are evidence-based. We will continue to engage with the Ministry to ensure that they have the knowledge and tools to

effectively implement LCA according to the timelines set out in the long-Term Infrastructure Plan.

THE MINISTRY OF THE ENVIRONMENT: CAP AND TRADE & LOW CARBON FUELS

Cap & Trade

The CAC continues to work with the government as a partner to reduce emissions. The CAC met in early June with the former Minister of the Environment, Glen Murray, to put forward our position on the cap-and-trade program for the next compliance period. Following his resignation, the CAC has been working with the new Minister Chris Ballard and his staff to build on these discussions and ensure that our positions are well understood. We continue to monitor any developments and to have ongoing discussions with the Minister's office and Ministry officials.

Low Carbon Fuels

In 2017, the CAC continued to stress with both the Minister and senior officials at the Ministry of Environment that the greatest opportunity for reducing emissions is through the use of low carbon fuels. In a meeting in June, the CAC discussed new options for streamlining approvals and opportunities to bring greater certainty to members. We were encouraged by the Ministry's willingness to work with us and look forward to ongoing discussions.

THE MINISTRY OF TRANSPORTATION: CONTEMPRA

The CAC has been working on a Special Provision GHG Reduction that would see the inclusion of Contempra in the specification for a 20% reduction in GHGs. We continue to work on this Special Provision and will be participating in an upcoming meeting with the Minister to discuss several large pilot projects around the province. In the meantime, the OPSS Municipal 1350 specification adopted language that the CAC submitted to them which removes all barriers to the use of Contempra at the municipal level.

THE MINISTRY OF NATURAL RESOURCES AND FORESTRY: THE AGGREGATE RESOURCES ACT

The CAC was very involved in the consultation process leading up to the Aggregate Resources Act being passed. In early Spring, the CAC was successful in lobbying for a delay in the increase of fees to January 1, 2018 to ensure that existing bids for this year were not negatively affected. We continue to press the government to exempt limestone that is used for cement manufacturing from a fee increase.

GOVERNMENT RELATIONS ACTIVITIES

With an upcoming election in June 2018, it is important for the CAC to be advancing our most important issues with all three parties as they develop their platforms for the next election. We will continue to engage with all three parties in the months ahead leading up to the election.

Markets & Technical Affairs

Our main focus in 2017 was to remove all barriers for the use of Contempra in Ontario. A significant amount of effort was spent both technically and politically, and we are pleased that the OPSS 1350 municipal specification released in November removed all barriers to the use of Contempra on municipal infrastructure projects.

Throughout the year, the CAC continued to build and maintain relationships with municipalities, consultants, owners and developers to actively promote cement and concrete solutions as an alternative to asphalt pavement and specifically promote the benefits of concrete pavements for industrial and trucking facilities. To that end, we held an industrial pavement workshop and several follow up meetings relating to specific projects.

The CAC also remains active in several technical committees of associations such as ACI Ontario Chapter, Concrete Ontario, ORBA Structures Committee and the Municipal Concrete Liaison Committee.

Quebec and Atlantic Region

INDUSTRY AFFAIRS:

The CAC's Quebec Regional Industry Affairs Committee (QRIAC) continued to be active in engaging with the Government on a number of initiatives, in particular Quebec's proposed cap-and-trade program post-2020, which was the most critical policy issue for Quebec's cement industry in 2017.

Working with partners is important for the CAC. As a Board member of CPEQ (Québec Environmental Business Council), and a key player in CPEQ Air & Climate Change Committee, we attended numerous meetings and conference calls throughout the year to discuss government programs and policies with other industry sectors, identify common concerns and develop joint strategies when appropriate.

Along with our Members, we organized and attended a meeting of the CAC-MDDELCC Joint Committee in May 2017. This committee is critical in advocating to and educating members of government on our industry and how our sector can remain competitive in Quebec. In addition, we actively participated in the Conseil patronal de l'environnement du Québec (CPEQ)-MDDELCC Joint Committee, the CPEQ-MERN (Ministry of Energy and Natural Resources) Joint Committee and the CPEQ-ECCC (Environment and Climate Change Canada) Joint Committee. These meetings allowed us to educate key government officials on vital ongoing environmental and energy files.

QUEBEC'S CAP AND TRADE PROGRAM POST-2020

In September 2016, the MDDELCC had made a proposal for a very aggressive post-2020 approach to GHG emission reductions. It included a mandated reduction in process emissions, which as most know, is not possible in the cement industry. The CAC made this issue a top priority in 2017 to proactively work with the relevant civil servants to ensure they understood the cement industry and to advocate to them so they would understand the competitiveness issues such a drastic proposal would present for the cement industry.

In May 2017, the CAC's President and CEO sent a letter to the Minister of MDDELCC expressing serious concerns about the Government's proposal. The letter reiterated that process emissions cannot be reduced and must be fully covered by free allocations, and that doing otherwise would seriously impact the cement industry's competitiveness since it is trade-exposed. CAC officials worked relentlessly to present factual information to government officials, both from the MDDELCC and the Ministry of Economic Development and Innovation (MÉSI).

The proposed regulations, published in the Gazette officielle du Québec on August 31, significantly addressed the concerns of CAC Members and after substantial discussion, the CAC Members in Quebec agreed to the proposed regulations. Under this approach, free allocations will be reduced by 0.6% per year, which represents a significant win for the industry compared to what was initially proposed (reduction of 5% per year for combustion emissions and 3% per year for process emissions).

ENERGY POLICY 2030

The provincial government released Quebec's Energy Policy 2030 in 2016. The main expected impact on the cement industry is the proposed elimination of thermal coal by 2030. This policy objective would mean that cement plants would no longer be authorized to burn coal in their kilns by 2030, unless they can capture and sequester carbon to offset GHG emissions associated with burning coal. The Government already recognized that such an objective will have a significant impact on the cement industry and agreed to create a working group to identify the related challenges and to develop solutions to help the industry. The working group was created in 2017, with representatives from every cement plant in Quebec as well as CAC officials. However, the working group has not started its work yet, as the elimination of thermal coal is not a short term priority under the Energy Policy. We expect work to be initiated in 2018.

In order to get ready for these discussions, the CAC commissioned a small study from Dr. Guy Mercier and his team at the Institut National de Recherche Scientifique (INRS) in Quebec City. The purpose of the study was to provide a state-of-play regarding carbon capture, sequestration and utilization, in particular as it relates to the maturity, readiness and applicability at the plant level of various methodologies that are currently being developed or tested around the world.

In 2017, CAC officials were involved in a series of consultation events held by Transition Énergétique Québec (TEQ), a new government agency created under the Energy Policy. TEQ is developing its "Plan Directeur" and has been seeking input from stakeholders throughout the Fall.

MODERNIZATION OF THE ENVIRONMENTAL QUALITY ACT

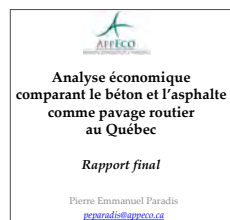
In March 2017, the Government of Quebec adopted a legislation amending its Environmental Quality Act. One of the main features of the revised legislation is the modernization of the environmental authorization processes. Under the new regime, environmental authorizations will be based on risk, which will eliminate the need to go

through a complete authorization process in some cases. For example, some low-risk activities will be identified by regulations and will only require the proponent to file a “declaration of compliance” basically stating that the activity will take place according to the measures or conditions described in the regulations. The CAC and its member companies have identified a few types of projects that should be considered by the Government in their work towards identifying low-risk activities. In particular, it is believed that the use of low-carbon alternative fuels in cement kilns could be included as a low-risk activity. We are planning to engage in formal discussions with MDDELCC in 2018 on this subject.

MARKETS AND TECHNICAL AFFAIRS

QUEBEC

Our key activity in 2017 was the commissioning of a study on the cost-benefit analysis of pavement procurement policies in Quebec. The CAC engaged APPECO, an economic consulting firm, to perform



this work. The main objectives of the study were to summarize the state of knowledge of the economic performance of the two major types of road surfaces, asphalt and concrete, and assess the potential savings that would result from optimizing road surfaces in future work, both in total and distributed for individuals,

businesses and the Government of Quebec. The report has been finalized and we are now in the process of implementing a lobbying strategy to promote the findings of the study to key governmental players. This work is underway, however, due to a major Cabinet shuffle in Quebec in October, the work will continue into Q1 2018.

The CAC has been active in building and maintaining relationships with municipalities, consultants, and academics to actively promote cement and concrete solutions as an alternative to asphalt pavement. Throughout the year, the CAC pursued several meetings with consultants and municipalities to promote the benefits of concrete pavements and engineered soils. An industrial pavement workshop, lunch & learn events and technical meetings were used to reach out to these stakeholders. By providing either guidance, and/or equivalent design, two municipal roller-compacted concrete (RCC) projects were completed this year while three others were discussed but postponed to 2018. In partnership with a life-cycle assessment consultant, the CAC also produced an LCA report to help one of these municipalities get funding from the Federation of Canadian Municipalities. Standard specifications for municipal RCC roads are also under production.

The CAC also strengthened its partnership with Équiterre in 2017 by organizing a series of seminars held in universities for architecture and

civil engineering students. The key topic of these presentations was the importance of building material selection. Normand Roy from Équiterre presented to over 300 students how the triple bottom line approach led Équiterre to deciding to use concrete for the construction of their headquarters in Montreal, la Maison du Développement Durable. Simply put, Équiterre chose concrete as its main building material because it is a sustainable building material. These seminars will continue in 2018.

In September 2017, the CAC and Tubecon shared the platinum sponsorship of AIMQ's Conference under the name “Redécouvrir le Béton”. Nathalie Lasnier from Tubecon and Guillaume Lemieux from the CAC had the opportunity to educate the audience about innovations in the cement and concrete industry, and promote a seminar series, Les Journées Béton 8, that will be held in eight different cities in early 2018.

The CAC also remains active in several technical committees of associations such as ACI-Quebec & Eastern Ontario Chapter, ABQ, AQTr, CERIU, CPEQ, and ACRGTQ.

ATLANTIC

In February 2017, the CAC continued its tradition to be the platinum sponsor of the CONAtlantic conference, held this year in Saint-John, NB. The CAC hosted its traditional networking event and again this was a great opportunity to continue to build relationships with the major concrete players in Atlantic Canada. In parallel to the conference, CAC Director of Communications, Lyse Teasdale, also presented the new branding initiative “CONCRETE | Build for life | LE BÉTON | Bâtir pour l'avenir” to the Atlantic Concrete Association (ACA) annual general meeting.

In September, the CAC partnered with the ACI Atlantic Chapter and ACA to deliver a well-attended workshop on the subject of industrial pavement. Another similar workshop will be held in 2018. Finally, the CAC continues to work with ACA on other workshops such as the tilt-up concrete workshop that was held in November.



ACA Executive Director Pam Woodman and OSCO Concrete Jamie Reid meet with Opposition Environment Critic Ed Fast during the Federal Lobby Days.