



VEC Green Buildings Investment Mission

Summary Report | Learnings & Opportunities

PREPARED BY:

George Benson

Consultant - Green Building Market Acceleration

gbenson@vancouvereconomic.com



VANCOUVER
ECONOMIC COMMISSION

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Executive Summary

Vancouver Economic Commission (VEC), the City of Vancouver's economic development agency, attended and presented at the [C40 Cities World Mayors Summit in Copenhagen](#) between October 7 and 11. VEC shared insights from Vancouver at the C40 members-focused [Green Economy and Innovation Forum](#), and the globally-oriented [Cities and Business Forum](#).

Immediately following the summit, VEC's consultant on green buildings, George Benson, embarked on a further two weeks of trade and investment work across Europe, engaging with businesses, nonprofits, governments and industry organizations in Sweden, Germany, Austria, the Netherlands and Belgium. He also attended the [Nordic Architecture Fair](#), an industry event focused on architecture and city planning for the future.

We have identified four major opportunities that emerged from VEC's time at the C40 Summit and meetings with leaders across Europe:

1. Bringing international investment in the green buildings sector to Vancouver and BC;
2. Engaging in knowledge transfer between Europe and Canada's construction and green buildings sectors;
3. Policy coordination and collaboration between various levels of European and Canadian governments specific to green buildings and clean construction; and
4. Other partnership opportunities that will facilitate advancement of low-carbon economies in Canada and Europe.

In the following report, these opportunities are interwoven with knowledge gained in thematic areas of relevance to the green buildings sector, including:

- » Labour & Talent
- » Circular Economy
- » Digitalization
- » Engineering Wood
- » International Trade & Investment

This report details all learnings gathered, opportunities identified and relevant next steps. The appendix includes a matrix of all meetings and contacts.

Introduction

Vancouver Economic Commission (VEC), the City of Vancouver’s economic development agency, attended the [C40 World Mayors Summit in Copenhagen](#) between October 7 and 11. VEC shared insights from Vancouver at the C40 members-focused Green Economy and Innovation Forum, and the globally-oriented Cities and Business Forum.

After the summit, George Benson, VEC’s Green Buildings Lead, embarked on two weeks of trade and investment work across Europe, engaging with businesses, nonprofits, governments and industry organizations in Sweden, Germany, Austria, the Netherlands and Belgium. He also attended the [Nordic Architecture Fair](#), an industry event focused on architecture and city planning for the future.

Rationale for Trade & Investment Meetings

In the VEC’s 2019 Green Building Market Forecast, the Commission in partnership with the research team at Delphi Consulting identified a number of market leaders in key green buildings products in Europe. The products identified in the forecast have the potential to accelerate Vancouver and BC’s action on green buildings, and generate foreign direct investment (FDI) opportunities that could entice global companies to set up operations in Vancouver. Further consultations with local thought leaders, companies, policymakers and other industry stakeholders generated a list of contacts and key themes for VEC to explore during the Europe meetings.

Ideas were consolidated into the following key objectives for the meetings:

- » **Showcase findings** of the 2019 Green Building Market Forecast to build excitement and interest among European companies to invest in Vancouver;
- » **Target companies with specific technologies or expertise** that fill critical gaps in the Vancouver marketplace, especially in mechanical systems;
- » **Build relationships** with regulators and other government agencies at a national or EU level, with whom we can partner to advance green building policy;
- » **Foster strategic partnerships** that promote Vancouver and BC’s approaches to synergising building code and economic development efforts.

High-Level Itinerary

- » October 7–12: Copenhagen, Denmark
- » October 13–15: Stockholm & Gothenburg, Sweden
- » October 16–18: Munich, Germany
- » October 19–24: Vienna, Austria
- » October 25: Dortmund, Germany
- » October 26–28: Netherlands & Belgium

Events Attended

- » **C40 Mayors Summit**
 - » Green Economy and Innovation Forum
 - » Cities and Business Forum
- » **Nordic Architecture Fair**



General Takeaways from Trade & Investment Meetings

- » **Europeans continue to view the North American high-performance building market as immature and too small for immediate investment.** However, there is heightened interest in specific jurisdictions, particularly New York City and Vancouver.
- » **The European construction industry is facing similar headwinds to Canada’s, but industry-government coordination appears far stronger, particularly in advanced jurisdictions like Sweden, Denmark, Austria and Belgium.** Economic Clusters, government-business partnerships and industry-scale innovation efforts (such as Sweden’s G5 digitalization standard) are all leading to significant movements in sectoral advancement that far outweigh similar movements in Canada.
- » **Canadian policymaking, particularly in Vancouver and BC, is respected and sought-after by European regulators and businesses alike.** A number of policymakers expressed interest in aligning with Vancouver or BC standards, particularly given the opportunity to generate trade and investment opportunities on both sides of the Atlantic.
- » **Policymakers and practitioners working in trade and the built environment, especially at the regulatory level, are not well-linked at any level of government.** The [EU-Canada Comprehensive Economic and Trade Agreement \(CETA\)](#), with its governance committees and technical round tables, offers a unique opportunity to ensure full delivery of ambitions around climate change in less visible aspects of climate action, including the built environment.
- » **Cluster development and industrial coordination is incredibly advanced across Europe with associations and commercial federations such as EcoPlus Austria exhibiting model tactics in international marketing, innovation planning and strategies.** Key learnings could be distributed by facilitating knowledge-sharing and industry collaboration between the Austrian green building cluster and the emerging BC Cleantech Cluster.

Thematic Learnings & Opportunities

Labour & Talent

Circular Economy

Digitalization

Engineered Wood

International Trade & Investment

Labour & Talent

Learnings

- Many countries in Europe are facing similar labour shortages to Vancouver, and are struggling to meet expectations for future demand with anticipated retrofits and new construction. In addition, most are uncertain how future needs will be met due to an aging workforce and impending retirements.
- The International Trade Union Confederation’s (ITUC) Just Transition Centre [highlights Oslo and Norway’s collaborations](#) with local unions to build a “Fair Restructuring Task Force”, and has helped to launch and support declarations (for example, the [Silesia Declaration](#)).

Opportunities

- The Metropolitan Government of Amsterdam offers a multi-stakeholder supported “[House of Skills](#)” (website in Dutch) retraining centre that has shown interest in sharing ideas with the BC Energy Step Code Council.
- ITUC’s Just Transition has expressed interest in direct city partnerships on research, programming and sharing best practices.

Circular Economy

Learnings

- The [Buildings as Materials Banks](#) (BAMB) project, which is working towards adaptation, deconstructability and reconstructability in buildings, has uncovered a significant need for training around integrated project design for all construction professionals, if circularity and reusability goals are to be met.
- The first phase of [BAMB's](#) European leadership on building circularity, deconstructability and adaptability concluded with the Horizon 2020 funding structure. The next iteration will focus on sharing policy innovations with government to test and iterate, and expanding the use of reversible design tools to create example projects that model the ongoing development of reversible and deconstructable buildings.
- Dutch company [Madaster](#) has successfully developed a [materials passport](#) digital tool that enables building owners to track the composition of materials on their assets, as well as their value over time, not only to ensure all elements of the building are accounted for between construction and demolition/deconstruction, but also that they are appropriately valued and, ideally, reutilized.
- German wood products manufacturing company [Steico](#) credits much of its success to a “wood cluster” model, which employs an industrial symbiosis-style approach to prevent the waste of any material streams. (This appears to be common across mass timber and wood products companies in Europe, as it supports long-term stability.) Combined with the diversity of products it enables, waste prevention ensures long-term insulation from product and commodity price swings.
- Mass timber manufacturers bemoaned unfair code and policy barriers, particularly fire concerns, for placing wood and other low-carbon materials on unfair footing. The development of the [“Eurocodes” for construction](#) offers opportunities to improve the standing of low-carbon materials, particularly mass timber, but outside help is likely needed to influence these processes.

Opportunities

- BAMB has shared eagerness to explore collaboration opportunities with Canadians working on circularity/deconstructability. Should collaborations proceed, BAMB's webinars and online training would be made available to Canadians.
- BAMB is eager to review Canada-EU collaboration mechanisms, either through trade agreements or otherwise, to promote ideas around reuse of building materials and systems.
- Madaster is keen to visit Vancouver and Canada to meet with the embodied carbon community of practice, and those working on circularity. The goal is to determine whether their tool and data-holding foundation can be implemented here.
- European building code operators are interested to learn more about Vancouver and BC approaches, particularly if discussions lead to advancement of the Canada-EU trade agreement.
- Vancouver, BC and Canada code officials can continue and deepen dialogues with the EU regarding wood and other low-impact materials in the Eurocode.

Digitalization

Learnings

- Sweden’s Construction Federation has universally shifted to the [GS1 Standard](#) across all purchased goods and utilized equipment, and this is driving far greater uptake in digital technologies, including construction tech (“contech”).
- Circularity leaders like [BAMB rely on many digital tools, including Building Information Modelling](#) (BIM) to execute 5D modelling on different iterations of buildings that meet carbon and other design criteria (5D = 3D + schedule + cost). This kind of parametric design is highly anticipated, and understood to be a key enabler of circular and sustainable buildings.
- The European Institute of Innovation and Technology (EIT) climate innovation group, the Climate Knowledge Information Community (KIC), is also leaning into circularity and digitalization, [having completed a Europe-wide knowledge gathering exercise](#) on these linkages; their conclusion is that “digitalization could unlock the huge potential of the circular economy.” Specific takeaways include the need for greater integration of technology into fundamental business models, more open data, more standardization between data platforms, and a clearer policy pathway towards circularity and digitalization.
- Though the trade and investment meetings did not include the United Kingdom, Europeans across the continent continue to highlight the work of the British government to champion further adoption of digital technologies in the construction sector. Some, including Bavarian and Austrian officials, indicated they would like to see this “gold standard” approach of significant government investment, coupled with strong government procurement rules, adopted in their markets.

Opportunities

- Canadian construction associations are encouraged to work towards association-to-association conversations on digitalization and shared standard-setting from respected peer markets.
- Vancouver and BC regulators can study and engage with emerging parametric design practices in Europe, and identify connection and collaboration points with peers.
- Regulators can review and potentially partner with initiatives that drive technology adoption through parallel investment in digitalization, with related procurement and regulatory mandates.

Engineered Wood

Learnings

- German and Austrian wood products manufacturers showcased highly integrated extraction, design, manufacturing and sales approaches. Most manufacturers kept all aspects of their production in-house, and [KLH](#), one of the largest engineered wood manufacturers in the world, was emphatic that their success depended on the ability to carefully tailor products to clients' specifications, and to recommend specific iterations of their product unique to each project.
- German and Swedish manufacturers opined that large players such as [Stora Enso](#) and [KLH](#) could afford larger market presence in North America, but even these were generally small sales offices. While all have minimal contact with Canadian markets, few expressed any interest to pursue further operations in Canada; instead, they prefer to rely on importing partners, or simply expect Canadian manufacturing to out-compete them on a long-term basis.
- Whether in business or government, Europeans uniformly shared envy and admiration of Vancouver and BC's wood building policies and regulations. Performance-based approaches to regulation, particularly for building materials, are highly respected among our European colleagues, and some manufacturers felt they were being "punished" with excessive testing and safety standards because they were using bio-based materials. Overall, they did not feel that [Eurocode](#) implementation efforts were reducing any of these barriers.

Opportunities

- [KLH](#) has engaged in limited partnerships with designers and architects to offer training in their particular product lines. They are seeking clear sales lines, but are willing to offer training in BC with the right partnerships.
- [KLH](#) offers significant training for interns, and is open to partnerships with universities and institutes in Vancouver and BC; this would involve sending students to Austria so they can learn Austrian design techniques.
- [Shneider-Holz](#), a German mass-timber manufacturer, also hosts students and tours, and is similarly interested in Canadian partnerships.
- [Steico](#), a leading German manufacturer of wood-based insulation products and other bio-based materials, has experienced limited success with importing in North America due to high shipping costs. The company is interested to learn more about partnership opportunities with BC-based companies.

International Trade & Investment

Learnings

- The EU-Canada Technical Roundtables that are being built out as part of the implementation of [CETA](#) offer unique opportunities to bring Canadian expertise, particularly from the municipal and provincial levels, to a supra-national level.
- The EU and Canada are looking to share positive stories of CETA, particularly with regards to professional qualifications. Campaigns in 2020 should focus on architects, as this is one of the earliest professions to move towards harmonization.
- Nordic cities and national governments are eager to collaborate on municipal and sub-national (e.g., BC to Denmark) levels regarding policy questions related to climate and environment, and may be interested in setting up long-term relationships.
- European lawmakers and trade policy officials are uniquely successful at collecting statements from businesses about challenges they face when importing to Canada; it has been much harder to solicit similar information from Canadian businesses. More work needs to be done to ensure European law adequately enables Canadians to sell within the European Common Market.
- Some EU-level regulators are eager for CETA to help establish a greater number of shared standards around energy, resilience, materials and supply chains between Canada and Europe. Currently, their connectivity with CETA is low, but there is an emerging intention to deepen the relationship as the agreement proceeds in implementation.
- Many European producers rely on deputized importers in Canada, if they have a presence within Canada at all, and those spoken to within the context of this mission needed a great deal of demand to be demonstrated before they would consider their own footprint in Canada.

Opportunities

- Urge CETA governance committees and other technical working groups to advocate for stronger and more coordinated legislation around the built environment, especially leveraging progressive local policies like the [Zero Emissions Building Plan](#) or [BC Energy Step Code](#).
- Leverage the trans-Atlantic relationships held by professional associations like the Canadian Institute of Planners, the Royal Architectural Institute of Canada and others.
- Work with the [Mission of Canada to the EU](#) and Natural Resources Canada to explore opportunities for secondments or rotational sharing of experts, regulators and other policymakers to spread awareness of best practices and learnings.
- Coordinate with Canadian business organizations and relevant agencies to collect statements, which are in turn provided to the Mission of Canada to the EU, with the goal of removing barriers to Canadians exporting to the EU.

Conclusion & Next Steps

Europe offers one of the most significant opportunities for investment, trade, multi-level collaboration and knowledge transfer with regards to green buildings and the built environment. Certain Vancouver and British Columbia regulations already mirror previous successes within different European jurisdictions, such as Brussels' transformation in seven years from laggard to leader on building energy and airtightness regulations.

Significant investments in time and resources are necessary to action the opportunities for investment and industry transformation presented in this report. From the vantage point of the Commission, Vancouver and BC are well-positioned to do so, as we are already leading the country in climate ambition - particularly with regards to regulations and policy - as well as industry competency and capacity in high-performance buildings.

In 2020, the Commission will work with partners in Canada and the European Union to more fully realise these opportunities. Tactics include:

- » **Serving as facilitator and connector between European and Canadian actors working on high-performance buildings**, helping to curate and enable policy work, facilitating knowledge-sharing, and identifying relevant events and projects;
- » **Bringing opportunities in Europe to Canadian businesses** and helping them strategize how best to proceed;
- » **Working with the building sector in Vancouver and BC to engage in coordinated, strategic investment attraction for European companies that can fill key pain-points;**
- » **Supporting advocacy among Canadian and European regulators** for standardized, streamlined and progressive approaches to regulating the built environment on both sides of the Atlantic, including energy efficiency, circularity, density, industrialization, digitalization and otherwise.

We look forward to working with you on next steps.

About Us

The Vancouver Economic Commission is the economic development agency for the city's businesses, investors and citizens. It works to strengthen Vancouver's economic future by supporting local companies, attracting high-impact investment and promoting international trade in the world's fastest-growing, low-carbon economy. VEC works collaboratively to position Vancouver as a global destination for innovative, creative, diverse and sustainable development.

Find out more at vancouvereconomic.com and follow on Twitter [@VanEconomic](https://twitter.com/VanEconomic).