

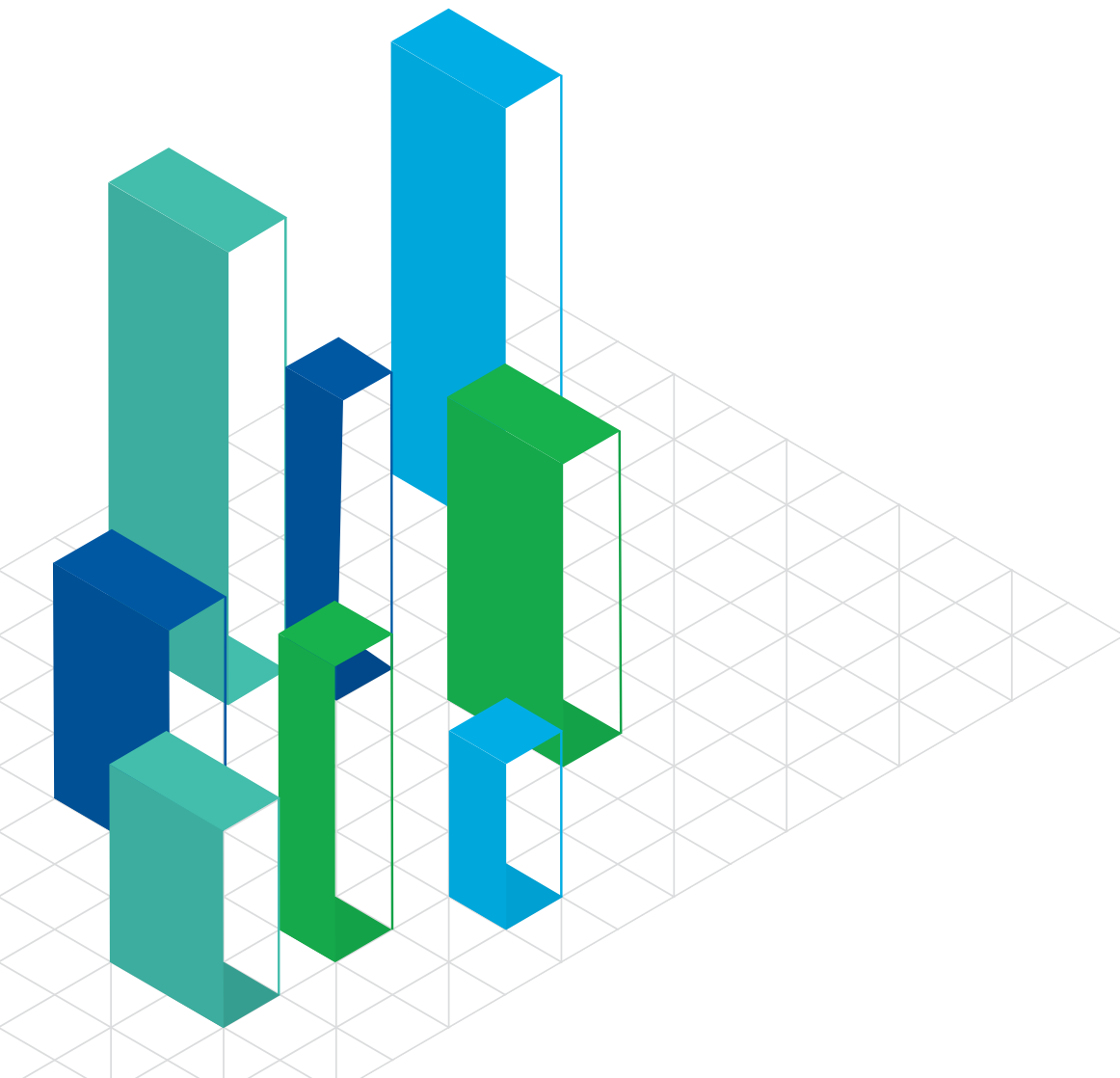
Bloomberg



**THE
READY
COMMITMENT**

Sustainability Dialogue: Spotlight on Canada

Building Sustainable Cities



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Building Sustainable Cities

As the world is becoming increasingly urbanized, more than 50 percent of the population is now residing in cities. That's expected to rise to 70 percent by 2050¹ and contribute to a dramatic increase in the number of highly populated cities.

Within 10 years, the Organization for Economic Cooperation and Development estimates there will be almost 500 cities with more than 1 million residents. By 2030, the number of "megacities" with populations more than 20 million will grow to 41, up from just two in 1950.

These population trends are clearly reflected in Canada, where over 80 percent of the population – about 29 million people – live in a metropolitan area, with 31 percent concentrated in Toronto, Montreal, and Vancouver.²

Increasing urbanization poses enormous environmental, social, and economic implications. Cities consume 60 to 80 percent of energy production worldwide, and thus account for the majority of greenhouse gas emissions. They are heavily impacted by severe weather events, and the disaster recovery costs are steep. For instance, a single 2018 thunderstorm in Toronto caused flooding that resulted in \$80 million in damage claims.³

As cities grow, issues magnify. City residents must contend with higher levels of pollution and other threats to health and well-being. As they compete for affordable housing and jobs, they are at risk of being marginalized economically.⁴

At the same time, cities are vital national assets – engines of economic growth and centers of innovation. According to the OECD, metropolitan areas with more than 500,000 residents drive 55 percent of the GDP of member countries, and more than 60 percent of the growth.

For all these reasons, business and government have an incentive and an obligation to help develop sustainable cities that reduce and ultimately eliminate greenhouse gas emissions, use natural resources responsibly, and support residents by providing access to green spaces, affordable housing, and public transportation.

While a local issue, it's a global challenge. That's why the United Nations urges action to tackle the challenges of urbanization. One of the UN's Sustainable Development Goals is to "make cities inclusive, safe, resilient, and sustainable."⁵ The UN SDGs provide a roadmap for climate resilience, and increasingly, businesses are looking to the SDGs to help inform their sustainability efforts.

On Feb. 27, 2019, Bloomberg and TD Bank Group assembled a group of leaders from Canada's cleantech, finance, government, real estate, and nonprofit sectors for a conversation about supporting sustainable urban centers in Canada. The meeting coincided with the GLOBE Capital Conference, a major sustainable business conference held in Toronto that week. It was part of the TD-Bloomberg Sustainability Dialogues taking place across Canada to foster dialogue and conversation around the country's transition to a low-carbon economy. TD supports such efforts through its corporate citizenship platform, The Ready Commitment.

Early Steps

There is no debate that sustainable cities are a vital goal for Canadian society. But it is still early in the journey, with fundamental questions to be resolved about financing, technology and innovation, public policy, and implementation.

It is necessary, therefore, to align stakeholders on a common definition of sustainable urban centers that incorporates every element of the challenge, including transportation, energy and water use, development, and finance. This will help identify the right issues and lay the groundwork for solutions.

¹ Organization for Economic Cooperation and Development, "Governing Cities," <http://www.oecd.org/gov/cities.htm>

² Statistics Canada, "Canada at a Glance 2018," <https://www150.statcan.gc.ca/nl/pub/12-581-x/2018000/pop-eng.htm>

³ Insurance Bureau of Canada, "Toronto Flood Causes Over \$80 Million in Insured Damage," Sept. 7, 2018, <http://www.ibc.ca/on/resources/media-centre/media-releases/toronto-flood-causes-over-80-million-in-insured-damage>

⁴ Axel P. Lehmann, "Sprawling Cities, Growing Risks?" World Economic Forum, Jan. 15, 2015, <https://www.weforum.org/agenda/2015/01/sprawling-cities-growing-risks/>

⁵ United Nations, Sustainable Development Goals, "Goal 11: Sustainable Cities and Communities," <https://www.un.org/sustainabledevelopment/cities/>

“There is no textbook definition of sustainable cities,” said Nicole Vadori, head of environment at TD. “That’s because creating a sustainable city is a multidisciplinary effort, and every discipline and constituency has its own perspectives and priorities.”

However, there are several common features of a sustainable city around which stakeholders can agree.

First, sustainable cities must strive to mitigate the effects of climate change through the use of renewable and low-carbon energies, as well as by offering a good supply of alternative means of transportation, and by committing to water and energy savings. Some large-scale redevelopment projects, such as Waterfront Toronto, aim to go beyond emissions reduction to be “carbon positive” – removing more carbon from the atmosphere than they emit.

Second, cities should incorporate the use of natural solutions to conserve, restore, and improve the management of land. The simple act of planting trees, for instance, helps clean the air, lower ambient temperatures⁶ while providing green space for people to enjoy.

Third, cities should be resilient to the effects of climate change, with specific adaptation strategies for rising sea levels and extreme weather events. Urban forests, for example, can help with flood control, alleviating some of the burden on a city’s conventional drainage system.

In addition, they must prioritize the well-being of their residents. A sustainable city should be livable for everyone, with parks and other green spaces, good public transportation, and access to quality public education and affordable housing.

Develop a Simple Solution

Creating a sustainable city is a complex undertaking. It’s made more difficult by the fact that no comprehensive, turnkey solution exists to tie together all the elements of the project. To address sustainability, municipal officials must navigate a web of clean-technology vendors,

financiers, and real estate developers, all with their own business approach and perspective on how to tackle the challenge.

Stakeholders in these industry sectors need to adapt and modernize their business models, with the aim of integrating into a single framework and repeatable process.

At the same time, many municipalities need to develop the capacity to manage the transition to sustainability. “Large cities have people to work on these projects,” said Elizabeth Shirt, executive director of policy and strategy at the nonprofit Emissions Reduction Alberta. “Small municipalities rarely have the people to take on these opportunities, even when you offer them funding.”

The city of Guelph, Ontario (population 132,000), is working on the issue in a new way. “Like most mid-size cities, we’ve always taken the traditional approach, sending out RFPs for a specific solution,” said Barbara Swartzentruber, the city’s executive director of strategy, innovation, and intergovernmental services. “We know we’re painfully slow, so we’re looking for new ways to build capacity and onboard innovation.”

Guelph is now exploring an approach to purchasing government services known as innovation procurement,⁷ which focuses on acquiring a solution to a problem rather than purchasing a solution with predetermined requirements.

In 2016, Guelph launched a pilot project called the Civic Accelerator,⁸ in which entrepreneurs are invited to work side-by-side with city workers to develop solutions for the city. “We do think it’s going to accelerate our efforts,” Swartzentruber said.

Infrastructure Slows Innovation

Technology development presents its own challenges.

“There’s no shortage of innovative ideas and technologies,” said Pino Di Mascio, director of planning at Sidewalk Labs, an urban design and technology company. “The bigger challenge is, where and how do you develop it?”

⁶ The Nature Conservancy, “How Urban Trees Can Save Lives,” Oct. 31, 2016, <https://www.nature.org/en-us/what-we-do/our-insights/perspectives/how-urban-trees-can-save-lives/>

⁷ Annalise Huynh, “What’s in the Mix: Challenges and Opportunities for Municipal Innovation Procurement,” Brookfield Institute for Innovation & Entrepreneurship, February 2019 <https://brookfieldinstitute.ca/wp-content/uploads/MIX-Report-FINAL.pdf>

⁸ City of Guelph, “Civic Accelerator: Open Government, Open Innovation,” <https://guelph.ca/city-hall/open-government/city-guelph-improvement-network/civic-accelerator/>

In theory, a city is a great laboratory for innovation, but incorporating complex cleantech solutions into existing municipal infrastructure is difficult.

"We have a variety of systems, with traditional old infrastructure that we build in municipalities. It's tough to build a platform for major change," Di Mascio said. "We could say the same about the real estate industry, which has traditional methods for building things that don't utilize these technologies."

Sidewalk Labs is one of the organizations working to develop cleantech solutions on its own or in partnership with other entities. The company is involved in several projects in the Waterfront Toronto development, for example.

"At this point, it's more realistic to incubate these projects on a smaller scale," Di Mascio said. "The next step is for municipalities and developers to take on some of the risk and get the rewards of innovation on a large scale."

Create New Financial Models

As sustainable city efforts mature and evolve, traditional financial models will need to change as well. Sustainable development is typically a long-term endeavor that attracts financial backers with a long-term investment horizon. Institutions that usually finance traditional real estate development expect quicker returns on their investment.

"The typical investment cycle is different, and the goals can be different," said Steven Pacifico, director of sustainability and innovation at Epic Investment Services, a real estate advisory company. "Doing sustainable development, your goal is to create value through sustainability. It's in our best interest to be a good steward of the environment and the community and keep sustainability in the forefront. For traditional developers, it might not be in their interest to put a lot of attention into these kinds of issues and details."

One way to attract financing to these projects is to calculate and assign a monetary value to their environmental and social benefits. This approach, which economists call "monetizing externalities," enables everyone involved to understand and appreciate the project's true economic value.

"When investors see the value of these externalities, they'll be more inclined to come on board," said Chris Boivin, managing director at the Green Municipal Fund, a government program that supports municipal sustainability initiatives. "But once we attract the investment, we want to harness some of the value for the benefit of the community. Maybe everyone takes a bit of a haircut on the financial return, but the project overall is more equitable and more affordable for the people who live there."

Pursue Quick Wins

In such a challenging environment, it could be wise to start small and gradually build toward larger goals. "Go for the low-hanging fruit," said Luke Tucker, chief executive of Hyperion Global Energy, an energy company specializing in renewable systems. One example is to look at a typical downtown district and observe how many office buildings keep their lights on all night.

"You could approach the building manager and get the lights turned off at a certain time every night," Tucker said. "Make it a cost-savings exercise for them."

Cities could also focus on their bus systems.

"A lot of cities would like to switch to electric but don't have the funds," he said. "What if you do it one at a time? When an old bus comes offline, replace it with an electric bus. If you present that to an investor as a five- or 10-year plan, they might want to get involved because it's a long-term contract."

A third example is a program for retrofitting old buildings that is limited in scope. "Start with a few buildings and prove the benefits and return on investment, then design a larger plan with an even bigger ROI," Tucker said. "Investors will be attracted to a proven concept."

Financing on the Upswing

Sustainable investment in Canada is growing. According to the latest survey report by the Responsible Investment Association,⁹ impact assets under management grew 81 percent from 2015 through the end of 2017, and performance has met or exceeded investor expectations. In addition, 89

⁹ Responsible Investment Association, "2018 Canadian Impact Investment Trends Report," <https://www.riacanada.ca/research/2018-impact-trends-report/>

percent of investors expect moderate to high levels of growth in impact investing over the next two years.

Pension funds are pushing some of that growth. A Bloomberg analysis¹⁰ shows that environment, social, and governance assets in pension funds grew 37 percent in 2017, driven in part by demand from millennials.

New Development Models Emerge

Sustainability professionals can also take a lesson from an approach that has been employed successfully by energy companies when developing large-scale projects. The model features community benefit agreements between local groups and the developer. The agreements identify a range of benefits the developer agrees to provide as part of the development in return for the community's support of the project.

The Toronto Community Benefits Network was established in 2013 to collaborate with the city as it develops a number of transit projects. Steven Pacifico believes it is a promising model for sustainable development.

"It's transformational because the community gets stewardship over the development process," he said. "They get rights for housing, and rights for developing exactly the kind of infrastructure that serves a utility for that community. And it's truly collaborative, because the developers are getting the community perspective on exactly what's needed.

"The energy sector has been doing this for more than a decade, so we know it can work. Cities could scale this model up."

Enlist Public Support

Sustainability professionals must also bear in mind that any initiative is more than a technical or economic endeavor – it is also a communications and political challenge. A key to success will be making the case to the public and winning support.

"This is the moment to have a fulsome public conversation about these issues," said Barbara Swartzentruber of Guelph. "We can't get ahead of the public. Because in the end, cities are responsible to residents and taxpayers. And we need to be able to bring them along in this process."

Conclusion

As cities grow in size and importance, they become more vulnerable to the effects of climate change while also contributing to the problem. That's why so many cities around the world are taking steps to mitigate and adapt to these forces.

Canada, with more than a third of its population living in urban areas, has the same opportunity. Stakeholders should start taking steps now if they want Canada's cities to become safer, more resilient, and more livable.

¹⁰ Shaheen Contractor, "Pensions Demand, Millennials Propel Sustainable Investing Growth," Bloomberg Intelligence, Aug. 8, 2018, <https://www.bloomberg.com/professional/blog/pensions-demand-millennials-propel-sustainable-investing-growth/>

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