

Institute for Sustainable Brampton

*Building the case for a sustainability
institute in Brampton. Why we need it.
What it would do. How it would run.*

January 2019

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select members of the
Brampton Grow Green Network

Public Engagement Edition Version 1.0, January 8, 2019

This document is endorsed and supported by the following organizations:

Sheridan College Sustainability Office
Unifor West GTA Environmental Council
Sierra Club Ontario – Peel Group
Alpha Laboratory Solutions
Dayle Laing Interior Designs Inc.
Brampton Blue Dot (David Suzuki Foundation)

With review and input from:

Toronto and Region Conservation Authority
Credit Valley Conservation Authority
And many individual contributors

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“We're all a resident of somewhere.

So residents of cities have a huge role to play [in sustainability] – that's where we can pull the levers on things like transportation decisions, land use decisions. People understanding where they live, where they work, how they get around – this is their everyday life that actually can make a real difference.”

Lauren Faber O'Connor, Chief Sustainability Officer,
Office of Mayor Eric Garcetti, Los Angeles California

1. Background

In September 2017, the City of Brampton embarked on a process to create a Vision to guide the evolution of the City to the year 2040. The process was one of the largest public consultations that the City has ever undertaken. Contacts were made with hundreds of thousands of residents. Responses and ideas were contributed by over 11,000 people. The resulting **Brampton 2040 Vision: Living the Mosaic¹** was designed to reinvent Brampton; to reflect what the people want for the future of their City.

Throughout the public consultation process a “green” Brampton was both applauded and demanded. Among the features most cherished by long-term City residents are the parks and natural heritage system. From the younger generation there was a consistent call for a more environmentally sustainable City. As such, sustainability forms the first of four DNA strands that permeate the Vision, beginning with the first of seven building block Vision statements:

*“In 2040, Brampton will be a mosaic of sustainable urban places, sitting within an interconnected green park network, with its people as **environmental stewards** – targeting ‘one-planet’ living.”²*

One-Planet Living, a concept developed by Bioregional, a UK based Environmental Charity, is a vision of the world “where everyone, everywhere can live happy, healthy lives within the limits of our planet,

leaving space for wildlife and wilderness”.³

One-Planet Living uses ecological and carbon foot-printing as its headline indicators. It is based on ten guiding principles of sustainability as a framework, (see Figure 1). Currently, 4.5 million people live in cities and city-regions that will be participating in the new One Planet Cities project, funded by the KR Foundation.⁴

Figure 1 One Planet Living Principles

<http://www.bioregional.com/oneplanetliving/>

Health and happiness	Encouraging active, social, meaningful lives to promote good health and wellbeing								
Equity and local economy	Creating safe, equitable places to live and work which support local prosperity and international fair trade								
Culture and community	Nurturing local identity and heritage, empowering communities and promoting a culture of sustainable living								
Land and nature	Protecting and restoring land for the benefit of people and wildlife								
Sustainable water	Using water efficiently, protecting local water resources and reducing flooding and drought								
Local and sustainable food	Promoting sustainable humane farming and healthy diets high in local, seasonal organic food and vegetable protein								
Travel and transport	Reducing the need to travel, encouraging walking, cycling and low carbon transport								
Materials and products	Using materials from sustainable sources and promoting products which help people reduce consumption								
Zero waste	Reducing consumption, re-using and recycling to achieve zero waste and zero pollution								
Zero carbon energy	Making buildings and manufacturing energy efficient and supplying all energy with renewables								

The Brampton 2040 Vision **specifies** an **Institute for Sustainable Brampton (ISB)** as the vehicle that will allow the City to achieve ‘one-planet’ living.

“The prime mandate of the Institute for Sustainable Brampton over the next 25 years is to achieve ‘one-planet’ living.”⁵

¹ <https://www.brampton.ca/EN/City-Hall/Documents/Brampton2040Vision/brampton2040Vision.pdf>

² Brampton 2040 Vision - Vision 1, ibid. p.21

³ <http://www.bioregional.com/oneplanetliving/>

⁴ 595,000 people are living in, visiting and working at organisations, communities and cities that have committed to One Planet Living, pg. 3

⁵ Brampton 2040 Vision - Action #1-1, ibid. p.22

In the summer of 2018, select members of **Brampton's Grow Green Network**⁶, a collection of environmentally focused organizations operating in Brampton, formed the **ISB Task Force** with the objective of making the **Institute for Sustainable Brampton** a reality. The task force determined the best way to get started would be to create this white paper, the purpose of which is to:

- **Flesh out** the ISB concept as outlined in the 2040 Vision document
- **Present** a clear case for the need and priority for an ISB
- **Solicit feedback** from residents and other city stakeholders on:
 - the stated goal for the ISB
 - its proposed structure
 - its strategic and operational role
- **Gain support** for initial funding and next steps
- **Define priorities** for the near, medium and long-term

2. Why does Brampton need the Institute for Sustainable Brampton now?

The people of Brampton clearly want the City to live within its environmental means. They want to see complete neighbourhoods, higher density land uses, with an integrated network for walking, cycling and transit⁷. They want to reclaim road space to provide travel choices for civic sustainability.⁸ They want nature brought back with a million trees planted, a new Eco-Park and sustainable living integrated into everything.⁹

The Brampton of today holds a tantalizing promise that it can become that future City residents want. Brampton is the 9th largest city in Canada¹⁰. MoneySense ranks it in the top quartile of Canadian cities in which to live based on a moderate climate, a diverse and growing population and close proximity to Pearson airport, among other amenities.¹¹ Brampton has a wealth of parks winding through its urban river valleys. It boasts two conservation

It's coming to be seen as a necessary part of city leadership. To be seen as a top-performing, world-class city, [environmental sustainability] is one of the elements you're expected to demonstrate.

Peter Madden, Chief Executive of Future Cities Catapult via the Financial Times

<https://www.ft.com/content/d183a1ec-bfef-11e3-b6e8-00144feabdc0>

⁶ The Grow Green Network is an affiliation of environmentally focussed organizations operating in Brampton. It was created in 2016 by the Brampton Environment Advisory Committee with support from the City of Brampton. ISB Taskforce organizations include: Sierra Club- Peel Chapter, Toronto and Region Conservation Authority, Credit Valley Conservation Authority, BikeBrampton, GTA West Environmental Council (Unifor).

⁷ Brampton 2040 Vision - Vision 4, ibid. p.59

⁸ Brampton 2040 Vision - Vision 4 ibid. p.59

⁹ Brampton 2040 Vision, ibid. p.4 (Action #1-2 Brampton Eco-Park, p.23)

¹⁰ <http://www.brampton.ca/EN/Business/economic-development/Why-Brampton/Pages/Welcome.aspx>

¹¹ <https://www.moneysense.ca/canadas-best-places-to-live-2018-create-your-own-ranking/>

areas within its borders. Considering its position in southern Ontario, it has some extraordinary natural heritage features, including a wetland complex ranked 7th of 2,260 listed on Ministry of Natural Resources' Ontario Wetland Evaluation System.¹²

But the Brampton of today is dealing with a number of growth and environmental challenges that threaten that promise of One-Planet Living.¹³

Globally, a healthy, predictable environment can no longer be taken for granted. Topped by Climate Change, there is a growing list of environmental risk factors that threaten the very fabric of ecosystems and the essential services they supply.¹⁴ Taking action to address these risks is now an economic and moral imperative and everyone must do their part. Brampton can and must take the necessary steps to protect its own natural capital while reducing carbon emissions in support of Regional, Provincial, National and International targets.

Closer to home, the City is growing 2.5 times faster than the national average¹⁵, the 2nd fastest city growth rate in Canada.¹⁶

*"Brampton, historically, has not sat sustainably within its natural setting – this remains one of the most profound urban challenges in our country. Cities are harsh intrusions with their host ecosystems so the way we build, service, and manage them must be reinvented with nature in mind."*¹⁷

Brampton continues to consume vast tracts of land to build low density residential developments. These developments contribute to urban sprawl. They destroy natural habitat. Less tax base revenue per hectare leaves less public funds available for green-space preservation and other services like transit and libraries. Low density costs more to service and maintain than medium or higher density urban centres.¹⁸ Low density favours car-based transportation leading to clogged roads, higher pollution levels and further environmental degradation. In addition, the City struggles to find sufficient local employment for its growing population, where 60% of residents work outside the City.¹⁹ Brampton is also experiencing increasing crime.²⁰

With an expected 50% population increase to nearly one million people by 2040, the Brampton of 2040 will not be the city defined in the 2040 Vision document unless there is a dramatic change in the city's current trajectory. And, with each passing month, the city's environmental options become more limited and more expensive to implement.

¹² <http://bikebrampton.ca/2017/11/02/future-of-heart-lake-road-at/>

¹³ <https://www.bramptonguardian.com/news-story/8772779-brampton-tops-mississauga-in-moneysense-best-places-to-live-in-canada-ranking/>

¹⁴ <https://record.umich.edu/articles/most-land-based-ecosystems-worldwide-risk-due-climate-change>

¹⁵ Brampton 2040 Vision, ibid. p.20

¹⁶ http://www.brampton.ca/EN/City-Hall/meetings-agendas/City%20Council%202010/20181212cc_Agenda.pdf p.182

¹⁷ Brampton 2040 Vision, op. cit. p.21

¹⁸ <https://environmentaldefence.ca/report/report-the-high-costs-of-sprawl/>

¹⁹ Brampton 2040 Vision, op. cit. p.27

²⁰ <https://www.bramptonguardian.com/news-story/8674271-murders-up-60-per-cent-in-brampton-so-far-this-year/>

Brampton residents see the urgency for the City to start placing greater emphasis on environmental sustainability. Following Council endorsement of the Brampton 2040 Vision in the spring of 2018, the City released a public survey asking for feedback on which of the Brampton 2040 visions/themes the City of Brampton should prioritize. Sustainability and the Environment came out on top, (see Figure 2).²¹

“But shifting the trajectory of the whole city must be a massive, community-wide effort.”²²

Brampton needs the Institute for Sustainable Brampton to:

- **Coordinate** a community-wide effort
- Be the **environmental advocacy voice** that will bring balance to the economic and social voices that already exist in the City
- **Encourage** Brampton to grow as a “**Sustainable Community**” with improved quality of life including: lower crime rates, healthier populations and efficient use of valuable resources. Sustainable communities also create conditions which attract viable economic development, facilitate the preservation of natural beauty, and foster connections amongst diverse cultures.²³

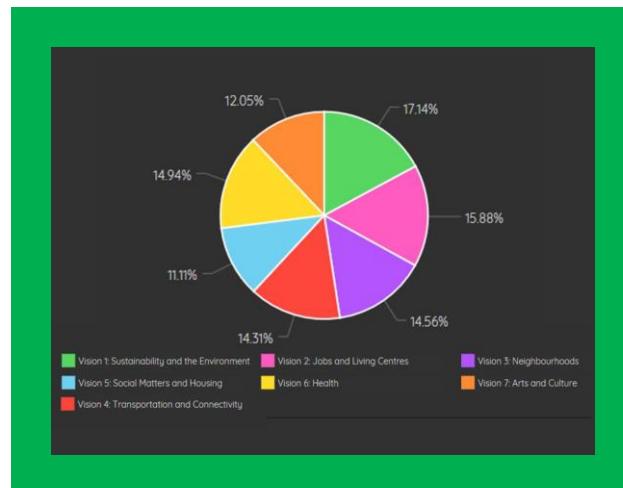


Figure 2 2040 Vision Resident Feedback Survey

3. How is the City currently doing on the Environmental Front?

In 2014, City Council passed a resolution supporting “Brampton Grow Green”; the City’s first Environmental Master Plan (EMP) and endorsed a declaration proclaiming that the City “will be a leader of environmental sustainability, as a corporation and a community.”²⁴ The plan laid out over 200 actions to be completed over 10 years with the objective of meeting defined targets across 6 environmental pillars: Air, Land, Waste, Water, Energy and People.

The City has followed through on a number of actions in the first half of the plan’s timeline. Highlights include:

- Establishment of an interdepartmental Grow Green Team to coordinate and champion EMP implementation
- Creation of the Grow Green Network to help foster collaboration between the City and environmentally focussed organizations

²¹ <http://geohub.brampton.ca/pages/brampton-2040-vision>

²² Brampton 2040 Vision, op. cit. p.22

²³ https://greenliving.lovetoknow.com/Developing_Sustainable_Communities

²⁴ <http://www.brampton.ca/EN/City-Hall/meetings-agendas/Agenda%20Packages/20140528cw.pdf> pg. 8

- Running the Eco Pledge program to encourage action and bring greater awareness of the EMP to Brampton citizens and staff
- Initiation of the all-electric bus program and solar powered bus shelters
- Establishment of Cycling Advisory Committee and achievement of Bicycle Friendly Bronze status
- Piloting grey/brown water systems in City Hall West Tower, Fire Station 212 and Springdale Library
- Development of a Sustainable Community program with design guidelines for development proposals
- Implementation of two Sustainable Neighbourhood Retrofit Action Plans (SNAP) in the City (County Court (TRCA), Fletcher's Creek (CVC))
- Development of an Energy Conservation and Demand Management Plan for City owned facilities
- Installation of 32 EV stations at 11 City owned facilities
- Installation of solar power sources at Fire Station 205, Clark and Sandalwood Transit Facility, and Gore Meadows Recreation Centre
- Launch a green printing strategy to save 500,000 sheets of paper annually
- Use of recycled asphalt in paving projects²⁵

While much has been accomplished, the City is far from meeting expectations. According to the original EMP timelines **well over 50% of planned actions should have been completed by the end of 2017**. Yet, as of May 2018, **70% remained unaddressed**.

The approved plan also called for “an annually updated 'working list' to reflect new environmentally sustainable initiatives and programs by the City and its partners”, as well as an “Annual Council Report summarizing what EMP actions were implemented over the preceding year, and direction for furthering EMP objectives over the next year.”²⁶ Despite this requirement, Council received the first EMP update only in spring 2018.²⁷ That update focussed almost entirely on accomplishments rather than on addressing the long list of past due actions.

Brampton residents deserve more balanced and realistic accountability. The Institute for Sustainable Brampton will shine a spotlight on what is and what should be happening environmentally through City Hall and will partner with and support City staff and municipal decision makers to move these goals and initiatives forward. The ISB will also become a consultative partner to City staff on aspects of the EMP implementation strategy.

4. Why can't Brampton City Hall manage Environmental Issues on behalf of residents on its own?

Too often environmental and sustainability issues are trumped by short-term political, economic and social priorities. Pollution and environmental degradation are viewed as unfortunate but necessary by-

²⁵ https://www.brampton.ca/EN/City-Hall/meetings-agendas/Committee%20of%20Council%202010/20180411cw_Agenda.pdf
pg. 53

²⁶ <http://www.brampton.ca/EN/City-Hall/meetings-agendas/Agenda%20Packages/20140528cw.pdf> pg. 32

²⁷ https://www.brampton.ca/EN/City-Hall/meetings-agendas/Committee%20of%20Council%202010/20180411cw_Agenda.pdf

products of growth, progress and prosperity. Environmental preservation is perceived as “nice to have”, something that receives attention and focus only in strong economic times.

The demand for continuous economic growth means yesterday’s successes are considered failures by today’s standards. Therefore strong economies become tougher and tougher to achieve and so environmental decline continues.²⁸

Today, at the municipal level, much discussion occurs about the built environment:²⁹, where to construct the buildings; the proper mix of residential, commercial and industrial developments; where intensification will take place; the renewal of mature neighbourhoods, and the preservation of historical structures. Much discussion also takes place about driving economic growth,³⁰ reducing crime,³¹ supporting diversity³² and providing social services for those in need.³³ Environmental sustainability, on the other hand, receives little attention in comparison to its relative importance to the future of the community.

The reason for this is because there is no one organization based in Brampton looking at global environmental issues through a specific Brampton geographical lens. While the City has excellent staff working on environmental initiatives, their scope is curtailed and their capacity is severely limited. There are also environmental laws and special interest groups³⁴ that focus on specific environmental causes or topics. But there is no current organization that combines evidence-based, scientific reasoning and community based social marketing that will generate the broad and deep communal effort necessary for Brampton to become a leader in environmental sustainability and achieve the 2040 Vision of “One-Planet Living”.

The Institute for Sustainable Brampton will be that arm’s length organization to fill this role and provide the necessary balance to the economic, social and environmental equation. **This need was recognized by citizen consultation in the Brampton 2040 Vision.**³⁵

5. What will the Institute for Sustainable Brampton do?

As stated in the 2040 Vision Document:

“The prime mandate of the Institute for Sustainable Brampton over the next 25 years is to achieve ‘one-planet’ living. This is a comprehensive standard in which people enjoy happy, healthy, vibrant living within their fair share of the earth’s resources, leaving space for wildlife and wilderness. It covers the technical, business, and lifestyle aspects of carbon neutrality, zero

²⁸ <https://www.nap.edu/read/5409/chapter/16#184> Attitudes toward the Environment Twenty-five years after Earth Day, Karlyn Bowman, American Enterprise Institute for Public Policy Research

²⁹ <http://www.peelregion.ca/planning/officialplan/focus-health-env.htm>

³⁰ <http://www.brampton.ca/EN/Business/economic-development/Pages/Welcome.aspx>

³¹ <https://www.peelpolice.ca/en/index.aspx>

³² <http://www.brampton.ca/EN/City-Hall/multilingual-services/Pages/welcome.aspx>

³³ <http://www.peelregion.ca/health/>

³⁴ eg. <https://www.sierraclub.ca/en/ontario/peel> <https://www.facebook.com/BramptonBlueDot>

³⁵ Brampton 2040 Vision, op. cit. p.21

waste, circular economy solutions, clean air, water and transportation, localized food production, and renewable energy resilience. To make this real, the Institute will lead reforms in every sector of society to secure higher and higher performance. It will sponsor newly invented environmentally sustainable solutions and practices that are uniquely suitable to suburban conditions, tastes and preferences. It will do pilot projects. It will provide guidance to neighbourhood audits and new neighbourhood design. It will advocate for agriculture and natural land reserves. Being Brampton-based, the Institute will become expert in sustainability and resiliency in a suburban context. Being community based, it will offer a powerful citizen and business stewardship of the local environmental agenda. For both reasons, it will gain a national profile for its innovations.”³⁶

The implementation of the ISB will evolve over the short, medium and long-term. The 20 years to achieve the Vision of One-Planet Living will be broken into five year operating plans and priorities based on collaborative input from the partners and from continued public engagement.

6. Two Strategies for Achieving One-Planet Living

The ISB will follow two major strategies to achieve the One-Planet Living goal.

First, it will work in partnership with Brampton Board of Trade, Partners in Project Green, BILD, the City's Economic Development Committee and The Circular Economy Leadership Coalition to develop programs to create, foster and support the local **Green (Circular) Economy**. It will identify priorities to attract green innovative companies to locate in Brampton and hire Brampton based talent. It will leverage Brampton based knowledge and showcase Brampton as a leader in green innovation and One-Planet Living.

Second, it will found the **Environmental Education Centre (EEC)** in partnership with Sheridan College, the Toronto & Region Conservation Authority and Credit Valley Conservation Authority, (the Brampton University will also be included in the partnership).

The EEC will be a place where hot topics, critical thinkers and innovative minds come together to focus on the environment and sustainability as it relates specifically to Brampton. It will measure and promote the value that ecosystem services bring to Brampton residents and businesses. It will foster awareness of existing initiatives across the City to encourage pride and participation. It will collate existing research and commission new studies. It will communicate best practices, build knowledge and inform decision making.

These two strategic foci are synergistic, highly visible elements that people can relate to. Taken together they can deliver a very powerful argument for action.

Through these two strategies, the ISB will help define environmental solutions that can be implemented in the context of economic and social progress. On the social side, for instance, it will rally public

³⁶ Brampton 2040 Vision, ibid. p.22

"Investors and other financial stakeholders are increasingly aware that environmental, social and governance (ESG) issues, previously considered "non-financial", are relevant to the financial performance and long-term value creation potential of a business."

*Bill O'Mara
Global Head of Audit, KPMG International*

https://home.kpmg.com/content/dam/kpmg/campaigns/csr/pdf/CSR_Report_2017.pdf page 26

"There are now more jobs in renewable energy in the state of Pennsylvania than coal, natural gas, and oil combined."

Bill Peduto, Mayor of Pittsburgh

support for the creation of an Eco Park, intentionally designed and integrated with the natural heritage system, incorporating the planting of **one million trees over 20 years**. On the economic side, it will help foster and drive **a green economy** in Brampton that will attract and retain top talent and create local jobs, wealth and prosperity. The resulting prosperity will allow both the public and private sectors to increase investments in green infrastructure, green technologies and green innovation, accelerating Brampton's leadership in One-Planet Living.

6.1.1. The Green (Circular) Economy

Focussing on the Green (Circular) Economy provides an opportunity to bring much needed employment and business opportunity to Brampton, while capitalizing on the investments made in moving the City to a leadership position as a sustainable community for One-Planet Living.

"A Green (Circular) Economy is as an alternative economic vision that generates growth and improvements in people's lives in ways consistent with sustainable development,"³⁷ see Figure 3. The Green Economy promotes triple bottom line performance, where companies give equal weight to sustaining and advancing economic, environmental and social well-being.

It supports the use of renewable energy and clean technologies. The circular aspect refers to a regenerative system that "allows for the long life, optimal reuse, refurbishment, remanufacturing and recycling of products and materials."³⁸

The green economy is now worth more than the fossil fuel

sector, over \$4 trillion US worldwide³⁹, and more than \$3.7 billion in Canada.⁴⁰ The green economy could represent more than 7% of global capitalization by 2030.⁴¹ According to Bloomberg, clean energy is attracting **twice as much global funding as fossil fuels**.⁴²

Capital markets are recognizing the interdependencies of environmental, social and economic health and resilience, and are increasingly investing in sustainable companies and sustainable communities⁴³.

³⁷ World Resources Institute, <https://www.wri.org/blog/2011/04/qa-what-green-economy-0>

³⁸ Kraaijenhagen, Van Oppen & Bocken. 2016, Ellen MacArthur Foundation, 2016

³⁹ <http://www.climatechangenews.com/2018/06/05/green-economy-now-worth-much-fossil-fuel-sector/>

⁴⁰ bluedot.ca/wp-content/uploads/2017/06/Municipal-Toolkit-Guide-11.pdf

⁴¹ <http://www.climatechangenews.com/2018/06/05/green-economy-now-worth-much-fossil-fuel-sector/>

⁴² <https://www.bloomberg.com/news/articles/2016-04-06/wind-and-solar-are-crushing-fossil-fuels>

The reasons are simple. Prosperous economies rely on a stream of raw materials minimally affected by natural limitation, a supply and distribution system minimally impacted by natural disasters, and a healthy, happy, and productive population acting as both workers and consumers. People are much happier, healthier and productive when they are living in and interacting with a healthy, resilient and richly biodiverse environment.⁴⁴

More and more, companies are recognizing that good environmental and social performance also leads to better profit outcomes. According to KPMG, 93% of the world's 250 largest companies use environmental sustainability as a measure of their success⁴⁵.

These “triple bottom line” (i.e. people, planet, profit) companies are considered to be the foundation of the green economy. These types of corporations tend to establish and maintain a competitive advantage over their peers because of their innovative approach which helps them see new markets, reduce costs, and better manage supply chains.⁴⁶

Because of their reliance on innovation, triple bottom line companies tend to rely on highly skilled workers and are inclined to locate where those types of workers are readily available. Highly skilled workers tend to prefer to live in cities that are walkable, bikeable, transit-oriented and with plenty of green space and available recreational options⁴⁷.

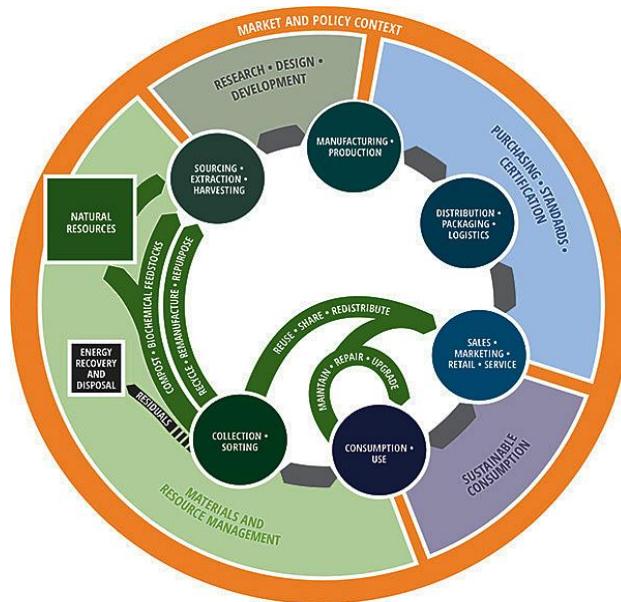


Figure 3 Circular Economy
<http://circulareconomylab.com/circular-economy-framework/>

Three examples illustrating the possibilities for Brampton's Green (Circular) Economy

1. Just Junk Brampton

Just Junk Brampton⁴⁸, is part of a Canadian franchise with a purpose of recycling and repurposing garbage and useable items that people no longer want. It aims to help the environment by reducing the amount of material that goes to landfill, increasing the reuse and recycling of useful materials and creating a viable profitable business.

⁴³ https://www.theglobeandmail.com/report-on-business/streetwise/caisse-chief-michael-sabia-has-a-new-investment-strategy/article12043360/?utm_source=medium&utm_medium=referral&utm_campaign=CAISSE%20-%20Michael%20Sabia%20-%20New%20Investment%20Strategy&utm_content=CAISSE%20-%20Michael%20Sabia%20-%20New%20Investment%20Strategy

⁴⁴ <https://medium.com/thrive-global/get-outside-how-nature-enhances-work-productivity-25e26386c348>

⁴⁵ https://home.kpmg.com/content/dam/kpmg/campaigns/csr/pdf/CSR_Report_2017.pdf page 9

⁴⁶ <http://525principle.com/is-there-a-tradeoff-between-profit-and-corporate-social-responsibility/>

⁴⁷ <https://www.thespruce.com/find-best-place-to-live-2435883>

⁴⁸ <https://justjunk.com/junk-removal-brampton>

This is a great example of a Green Economy business that is already located in Brampton. How many people in Brampton know of the company and the services they provide? What happens to the material that is currently collected?

What would it take for more businesses like Just Junk Brampton to locate here in the City? Is there an opportunity to encourage more product to be recycled locally thus creating more business and job opportunities?

2. Genecis Bioindustries

Genecis Bioindustries, is a Toronto-based cleantech startup. They have developed a process that uses specialized bacteria cultures to convert food waste into biodegradable plastic. Bioplastics can be used in a range of products including single-use packaging, mouldable plastic containers, medical tools and 3-D plastic printing filaments. Bioplastics perform as well or better than their petrochemical-based counterparts and have two significant advantages; they are carbon neutral, and they break down completely in marine environments.

Advancements in process and performance are making bioplastics cost competitive. Currently they supply about 1% of the 320 million tonnes of plastic materials produced worldwide annually. While the future success of Genecis Bioindustries is far from assured, its technical advantages have the potential to capture a significant share of the bioplastics market, which is forecasted to be \$1.7B by 2023.⁴⁹

How could Brampton create the right conditions for companies like Genecis Bioindustries to spawn and grow in Brampton rather than other parts of Ontario, Canada or the world? What if Brampton had the highest rate in the province of green bin compliance and the lowest rate of recyclable products going to landfill? What if Brampton was able to achieve this because the residents could see the connection between food waste collection, recycled products and high paying jobs?

3. Sheridan District Energy Project

Another example is the district energy plan currently being developed at Sheridan College.

District Energy is the production and supply of thermal energy. Hot water and chilled water are produced at central plants and distributed to surrounding buildings via a closed-loop underground distribution system known as a thermal grid. The thermal energy delivered to the buildings is used for space heating, domestic hot water heating and air conditioning. Buildings connected to the grid such as commercial buildings, town-houses, condominiums, hotels, sports facilities, universities, and government complexes do not need their own boiler or furnaces, chillers or air conditioners.⁵⁰ Thermal grids are way more efficient at producing and using energy than when each building has its own separate heating and cooling source.

Once a thermal grid is established, a common next step is to connect small power generation plants. Known as cogeneration or combined heat and power (CHP), the plants recover waste heat from

⁴⁹ IHS Market, a London based consulting firm

⁵⁰ <http://www.markhamdistrictenergy.com/district-energy-101/>

electricity generation. The heat is distributed in the thermal grid and the electricity is passed to the local power grid.⁵¹ CHP heat is currently generated from fossil fuel sources. The technology is evolving rapidly, however, and future systems will be able to use a renewable solar source, storing excess heat from the summer sun to heat buildings during the winter months.⁵²

District energy is not a new concept. Its origins stem from the hot water-heated baths and greenhouses of ancient Rome. Today, it is an internationally accepted method of heating, cooling and powering communities.

In some European countries, such as Denmark, participation in district energy is mandated. Municipalities can set up District Energy Plans as part of creating a District Energy Network. The Plans define standards so that the heating and cooling distribution systems for new or retrofitted buildings are designed to be connected to a future centralized energy source.⁵³

In Canada, a number of communities have operated district energy systems for many decades. In Ontario, district energy systems are currently operating in Toronto, Ottawa, London, Markham, Hamilton, Sudbury, Cornwall, and Windsor.⁵⁴

As a living laboratory, Sheridan College is in their fifth year of implementing an Integrated Energy Climate Master Plan. The plan encompasses the sustainability of the Mississauga and Brampton campuses and is aimed at achieving breakthrough GHG reductions through energy efficiency while delivering measurable and justifiable economic returns. Brampton's Davis Campus has already been configured as a local district energy network. As part of Sheridan Sustainability Mission, any new construction on campus is to be configured to be 'district energy ready'.⁵⁵

How can Brampton realize the potential of the District Energy project that is going on within its borders? What if Sheridan's District Energy campus network could be integrated into a wider municipal district heating and cooling network, as part of a strategy for Brampton to decarbonise municipal heating and hot water demands? What if that network were extended through partnerships with private sector property owners (eg. multi-unit residential buildings and seniors residences)? Could it then lead to a sustainable green energy master plan for residential, commercial and industrial communities in Brampton?

What can the ISB do to help foster the Green Economy in Brampton?

Brampton has the potential to attract innovative 21st century, triple bottom line companies looking for an educated, highly skilled workforce. Brampton already has one of the youngest workforces in the

⁵¹ <http://www.markhamdistrictenergy.com/district-energy-101/>

⁵² Seeker news <https://www.youtube.com/watch?v=AWrBzv4gVKw>

⁵³ <http://www.luluslandenergy.ca/district-energy-ready-buildings/>

⁵⁴ <http://www.markhamdistrictenergy.com/district-energy-101/>

⁵⁵ http://missionzero.sheridancollege.ca/wp-content/uploads/2015/08/report-v11oct-2_nocrops-final-version.pdf

country; with an average population age of 36.5⁵⁶ Brampton also is soon to become a University town with a focus on **STEM**: science, technology, engineering and mathematics.⁵⁷

But the 2040 Vision recognizes bringing green industry and jobs to Brampton will require a co-ordinated and competitive effort.

“...shifting the trajectory of the whole city must be a massive, community-wide effort. Civic activity will need other drivers to support it – drivers that will operate in situations not particularly accessible to the City, like corporate boardrooms and people’s private homes. The Institute for Sustainable Brampton will be an arms-length over-arching facilitator for everyone – partnering, advocating and finding new resources.”⁵⁸

Changing the trajectory means Brampton must become a recognized leader as a sustainable community in One-Planet Living. That means Brampton:

- Gives equal weight to economic, environmental and social considerations in its growth plans and strategies
- Is recognized as being committed to the highest standards of environmental stewardship
- Is ranked among the top Canadian cities for liveability with a million trees being planted, an interconnected urban park and support for walking, cycling and public transit
- Has developed a reputation for supporting companies and innovation in the Green Economy
- Has set a date and time for achieving net zero energy
- Is producing university graduates that offer companies a highly skilled workforce trained under advanced programs such as: genetic engineering, molecular biology and artificial intelligence

Virtually every plan, decision and policy must be vetted through the lens of its impact on the environment and its contribution to the Green Economy. The Institute for Sustainable Brampton will become that lens. As an organizational structure at arm's length from the City of Brampton, the ISB can act as an independent over-arching facilitator, partner and advocate that will encourage and support actions at City Hall, as well as in corporate boardrooms and in the homes of Brampton residents.

[Institute for Sustainable Brampton] “will marshal the financial and social capital to secure the practical capacity for sustainability. It will teach, program, market and model sustainable practices. It will exemplify the truth that the future of the environment is in the hands of every single citizen – and will only be secure when every citizen acts at home and in business.”⁵⁹

The ISB will create a framework for innovation in Brampton's Green Circular Economy through its partnerships, networks and its attention to environmentally focussed economic opportunities.

⁵⁶ <http://worldpopulationreview.com/world-cities/brampton-population/>

⁵⁷ <https://www.bramptonguardian.com/news-story/8560716--steam-ontario-government-decides-to-add-arts-to-stem/>

⁵⁸ Brampton 2040 Vision, op. cit. p.22

⁵⁹ Brampton 2040 Vision, op. cit. p.22

The ISB will promote green building projects in the City in association with the Building Institute and Land Development Association, the Canadian Green Building Council and, Morguard Real Estate.

The ISB will form specific partnerships with the **Circular Economy Leadership Coalition**.⁶⁰ Using relationships with CELC companies (eg. Loblaw, Ikea and Unilever) as well as partnerships with Sheridan / Ryerson, Partners in Project Green, Brampton Board of Trade and, the City's Economic Development Office, the ISB will look for global linkages where locally produced waste streams might provide cost effective inputs for other products or services, locally and/or globally. It will also promote **conscious consumerism** in Brampton businesses and homes, focussing on opportunities to extend product lifespans, recycling, upcycling and reducing waste.

Ontario is implementing recently enacted legislation, "Strategy for a Waste-free Ontario: Building the Circular Economy (2017)" and is working towards the goals of diverting 50% of waste from landfill by 2030 and 80% of waste from landfill by 2050.⁶¹ Peel Region is committed to diverting 75% of waste from landfill by 2034.⁶² The ISB can play an important role in advocating for and supporting further research on resource recovery as well as the promotion of businesses that would add to the circular economy in Brampton. This will encourage more companies like Just Junk Brampton to locate and grow in the City.

Through its contact with global environmental associations and relationship with Toronto Global, the ISB will help position and promote Brampton as an **environmental leader on the world stage**. Through its Environmental Education Centre (see 6.1.2), it will highlight Brampton's environmental accomplishments and engage corporations and private citizens in environmental campaigns. It will foster and support locally relevant environmental research. It will help inform academic curricula that will position graduates for local employment opportunities.

The EEC could help showcase district energy pilot projects as they are spawned in various parts of the city. Potentially all new multi-unit residential, commercial and industrial buildings in Brampton could be constructed with the ability to attach to a future district energy network leading to substantial savings in both heating costs and greenhouse gas reductions. Brampton could become a recognized leader in using district energy to meet GHG goals and, at the same time, help create green economic opportunities in the community.

All of this will attract green companies like Genecis Bioindustries to locate and grow here. Attracting Green Economy companies means Brampton can retain graduates from the higher education programs. A larger, highly skilled workforce in turn attracts more Green Economy companies. And so the cycle of success continues.

How will the ISB work with the Brampton Board of Trade (BBOT)?

As stated in the Brampton Board of Trade's Prosperity Roundtable Summary & Discussion Paper:

⁶⁰ The Circular Economy Leadership Coalition is a national not for profit coalition including corporate and NGO leaders, think tanks, and sustainability experts working to eliminate waste and accelerate the reduction of carbon emissions from the Canadian economy. <http://www.circulareconomyleaders.ca/>

⁶¹ <https://www.ontario.ca/page/strategy-waste-free-ontario-building-circular-economy>

⁶² <http://peelregion.ca/strategicplan/20-year-outcomes/waste-diversion-rate.asp>

"The future must include various businesses of all industries (healthcare, technology, manufacturing, transportation, etc.) existing in harmony, all with a focus on creating a livable, prosperous, and environmentally conscious Brampton. Only when livability rankings, business rankings, and environmental rankings consistently place Brampton at the top of their respective lists will the desired state be achieved".⁶³

The Board of Trade recognizes the importance of Brampton being a sustainable community as it contributes to the prosperity and well-being of the Board's business members as well as to the City's citizens. It also recognizes the importance for Brampton to be recognized as a leader in environmental sustainability. The ISB will work in concert with BBOT, Sheridan College and the City to foster and encourage Brampton's Green Economy, to vet economic plans and programs through an environmental lens, and to help raise Brampton's profile as an environmental sustainability leader.

How will the ISB work with City of Brampton Economic Development?

The final version of the City's Economic Development Master Plan was written with input from BBOT, City representatives and entrepreneurs and approved by Council this summer.⁶⁴ It highlights how Brampton plans must align with the Brampton 2040 Vision and defines five key themes for growth:⁶⁵

- Talent and workforce development and retention
- Investment by both public and private sectors (commercialization of knowledge, green investment and education), fostering sustainable economy
- Innovation and technology will drive economic growth with the City playing a major role
- Employment lands must be proactively managed and planned for by the City.
- Competitiveness must be promoted by City policies and initiatives to attract business

Each one of these themes was compared with six comparably sized cities and Brampton's shortfalls and successes were listed. Both long and short-term goals are identified to attempt to establish Brampton as "a mosaic of vibrant centres with quality jobs, a rich range of activities, and integrated living".⁶⁶

Although supporting Brampton's growth as a sustainable community is not included as a growth theme, the Plan does speak to the importance of protected green space and investments in green infrastructure as part of sustainable economic growth. It also benchmarks Brampton against Oslo Norway's 2025 plan in which that City plans to become "the world's most sustainable and innovative municipality".⁶⁷

While not to denigrate Norway in any way, it is the belief of the ISB task force that Brampton has more capacity than Oslo to become a world-wide sustainability and innovation leader, **if that objective were given the appropriate focus**. The ISB will network with the City's Economic Development staff, the Economic Development Master Plan steering committee members, and elected officials to influence the

⁶³ Prosperity Roundtable Summary_Final_Feb-23 2018, Brampton Board of Trade, pg 4

⁶⁴ <http://www.brampton.ca/EN/Business/economic-development/Documents/Economic%20Development%20Master%20Plan.pdf>

⁶⁵ <http://www.brampton.ca/EN/Business/economic-development/Documents/Economic%20Development%20Master%20Plan.pdf>, page 7

⁶⁶ Brampton 2040 Vision op cit, page 27

⁶⁷ Brampton Economic Development Master Plan Draft 2018, page 15

implementation of this Master Plan to ensure that the green issues described remain visible and prioritized. Aspects of the “smart city” strategy used in Oslo (a comparably sized city) should be included in the implementation of the Economic Development Master Plan, as it highly prioritizes parks and greenspace investment, enhancing the residential livability of the City and enhancing Brampton’s reputation as a leader in One-Planet Living.

The ISB will also help raise awareness and importance of green technologies and the growth this area is seeing worldwide. It will help to ensure green technology companies are targeted. It will encourage the development of employment lands similar to the “technological hubs” in Santa Clara and San Jose, California, **which have integrated green spaces for enhancing the quality of life of employees**. The ISB will work with the City to determine and develop incentives to attract green technology companies. The ISB will draw upon expertise of BBOT members experienced in proposal writing, so Brampton companies can access provincial and federal grants for green research and start-up funding.

Once these companies have established a presence in Brampton, the ISB will partner with BBOT, Partners in Project Green and Economic Development staff to help deliver their story on the Green Economy global stage.

How will the ISB work with Partners in Project Green?

Partners in Project Green is a partnership between the Greater Toronto Airports Authority (GTAA) and Toronto & Region Conservation Authority (TRCA) to develop the Pearson Eco-Business Zone as an internationally recognized community known for its competitiveness, high-performance and eco-friendly business climate. Supported by the Region of Peel, City of Toronto, City of Brampton, City of Mississauga and York Region, Partners in Project Green is a vast community comprised of hundreds of businesses, government bodies, institutions, and utilities striving to strengthen and ‘green’ Greater Toronto Area’s economy and beyond.⁶⁸

By connecting community members, leveraging community champions, and creating unique peer-to-peer learning and collaboration opportunities, Partners in Project Green drives sustainability actions, propagates innovation, and fosters cross-industry cooperation. Based in the two largest employment areas in Canada (City of Toronto and Pearson Eco-Business Zone), Partners in Project Green benefits from growing support throughout the Greater Toronto Area, and is uniquely positioned to assess the viability and enhance adoption of important sustainability initiatives. Partners in Project Green community partners have implemented over 2,500 projects, conserved more than 1.39 billion litres of water, diverted more than 10,000 tonnes of waste, and reduced more than 117,000 tonnes of emitted CO₂. Some examples of projects that were completed from 2014-2017 include:

- **Electric Vehicle Network** - Partners in Project Green worked with 17 organizations within the business community to install 132 electric vehicle charging stations across the Greater Toronto Area. Several of these installations were the first large-scale deployments of their kind in the country and participating organizations continue to be leaders in the electric vehicle infrastructure.

⁶⁸ <https://www.partnersinprojectgreen.com/>

- **Recycling Collection Drive** - Partners in Project Green supported 102 locations throughout the Greater Toronto Area by placing municipally branded textile collection bins on industrial, commercial, and institutional properties with a challenge to divert textile material. An engagement reach of 38,200 employees and local residents was established along with a diversion of approximately 20.1 tonnes from local landfill.
- **Water Efficiency Cluster** - Partners in Project Green has collaborated with five municipalities focussed on efficiency in Ontario (City of Guelph, Region of Peel, City of Toronto, Region of Waterloo, and York Region) to identify best practices and effective engagement opportunities aimed at the industrial, commercial, and institutional sector constituents of each participant municipality. The collaborative effort uncovered gaps in program design, positive engagement techniques, and ways to foster water efficiency and conservation (providing technical guidance and advisory support to small, medium, and large businesses). This effort included designing effective business cases for new and existing implementation projects, establishing a vendor network of industry specialists, and facilitating connectivity with financing and incentive programs that are offered by governmental stakeholders in Ontario.

In an effort to green our economy, Partners in Project Green would be interested in exploring opportunities with the ISB to support Brampton's business community's desire to improve its sustainability performance. City of Brampton is a founding member of Partners in Project Green and has made important contributions towards the success of Partners in Project Green programs.

6.1.2. ISB Environmental Education Centre (EEC)

"A popular objective for the Institute is to found an Environmental Education Centre to dramatically expand literacy and interest of the average person in the imperatives and potentials of sustainable urbanism."⁶⁹

The EEC will be the primary outreach arm for the Institute in four significant areas:

First, it will drive and encourage sustainability leadership based on data driven decision making. It will be a place where hot topics, critical thinkers and innovative minds come together. In consultation with the conservation authorities and academic institutions, the EEC will help ensure that decisions made by both the private and public sector in Brampton are based on the leading edge research and latest data available. It will collate existing research and spawn new studies to help build knowledge and inform decision-making. "It will sponsor newly invented environmentally sustainable solutions and practices that are uniquely suitable to suburban conditions, tastes and preferences."⁷⁰

Second, it will work to engage the public towards the One-Planet Living objective. One of the key ways the ISB can achieve this is to help people better understand the value of ecosystem services.

⁶⁹ Brampton 2040 Vision: Living the Mosaic, pg. 22

⁷⁰ Brampton 2040 Vision: Living the Mosaic, pg. 22

Ecosystem services include all of the naturally provided supports necessary to support and sustain life on this planet. They include: **provisioning services** such as food fibre and fresh water, **regulating services** such as flood and disease control, **cultural services** such as recreation, spiritual enrichment and cognitive development and **supporting services** necessary for the production of all other ecosystem services. Examples include: biomass production, atmospheric oxygen production, soil formation, nutrient cycling, water cycling and habitat provisioning.⁷¹

Ecosystem services contribute positively to property values and to resident productivity, health and well-being.⁷² The connections, however, are not always obvious and myths abound. The EEC can provide fact based arguments to help Brampton residents understand and appreciate the economic, social and cultural value of protecting and enhancing the ecosystem services that Brampton's natural capital provides. It will quantify both the intrinsic and monetary value of Brampton's ecosystem services. It will quantify impacts of proposed city, resident and employer actions on ecosystem services value. Working with academic agencies and Conservation Authorities, it can evaluate and quantify environmental risks and help both City staff and residents to justify and make better, more sustainable choices.

Third, it will partner with schools, businesses, real estate industry associations, and labour unions as well community, cultural and arts groups, to communicate that value in a context relevant to the daily lives of average Brampton residents, employees and business owners.

Fourth, it will foster awareness of existing sustainability initiatives across Brampton to encourage pride and participation. For instance, there has been a growing repair movement which has spawned more than 1,500 repair café around the world.⁷³ Repair Café, provide regular community events and workshops teaching people how to fix their broken household items. Sheridan College has been offering Repair Café events on its campus for four years and has more recently offered it jointly with Brampton Library at various library branches. The responses from the community and in particular young people have been enthusiastic. A Repair Café in conjunction with the ISB location would be able to support repair shops and train people to work in the repair field.

Being locally focussed allows the EEC to create a relationship of trust. While there is general agreement that the environment is important, there is a lack of accessible decision support tools for residents and businesses to easily **evaluate cost/benefits and risks associated with environmental features**. The EEC will work to develop and present those tools. Once developed, they could be integrated into the City's GeoHub portal

Brampton's Innovation Hub

As expressed in the Downtown Brampton University and Centre for Education, Innovation and Collaboration Economic Impact Statement:

"In September 2017, the City of Brampton hired an external consultant to consider the additional (and cumulative) benefits that would be realized through the proposed development of a new,

⁷¹ <https://www.greenfacts.org/glossary/def/ecosystem-services.htm>

⁷² <https://www.foeeurope.org/sites/default/files/biodiversity/2017/briefing-nature-health-and-equity-march-2017.pdf>

⁷³ <https://repaircafe.org>

complementary, yet stand-alone facility that would be developed near or adjacent to the City's new university campus. It is assumed that this facility, referred to as the Centre for Education, Innovation and Collaboration (CEIC), would be built by the City of Brampton for the full benefit of all Brampton area residents.

This new facility would be designed and implemented in a way that clearly articulates Brampton's ongoing commitment to life-long learning, innovation and collaboration. The facility will become a new hub for individuals, community groups, businesses and cultural organizations that understand the importance of collaborative, peer-to-peer learning and community-based partnerships.

The overarching vision for the CEIC is a facility that provides a future-ready platform for individuals and organizations to achieve productive, collaborative and deeply enriching learning experiences.

In simple terms, the CEIC would be a flexible building featuring collaborative activity zones that are functionally supported by a network of partnership-based outreach programs designed to enable individuals and groups to reach their full potential.

The intent is to create a modern reinterpretation of the public library. The CEIC would be a place where residents of all ages learn from peers and mentors. The CEIC would be a place where discussions lead to shared understanding. A place where collaboration leads to innovation. Where innovation leads to better outcomes. Where better outcomes lead to more dynamic and connected community.”⁷⁴

The ISB task force believes the goals and objectives of the EEC align well with the CEIC. Both organizations will strive to create opportunities for learning and collaboration leading to innovation. The EEC would focus this collaboration and innovation on issues of environmental sustainability. Although questions remain about funding for the CEIC, the ISB task force recommends that the concept of locating the EEC within the CEIC should be strongly considered.

Community Outreach Campaigns

A part of the vision for the EEC will be to highlight environmental initiatives and issues impacting the City of Brampton. Here are a few examples of projects that will benefit from greater public awareness:

TRCA & CVC SNAP (Sustainable Neighbourhood Action Plan)

Sustainable Neighbourhood Action Plan is a plan for climate action and urban renewal that engages neighbourhood residents, businesses, schools, and local community groups and aligns municipal priorities with prevailing neighbourhood needs and interests. SNAP addresses complex sustainability challenges in older urban areas by taking a collaborative approach to revitalization, maximizing the value of planned projects, and building community support through engagement.⁷⁵

⁷⁴ https://www.brampton.ca/EN/City-Hall/University/Documents/2017_11_08%20Downtown%20Brampton%20University%20and%20Innovation%20Hub%20-%20FINAL%20RELEASE.pdf

⁷⁵ <https://trca.ca/conservation/sustainable-neighbourhoods/>

Drawing on 50 years of sustainable city-building experience, Toronto and Region Conservation Authority (TRCA) developed SNAP to help municipalities improve efficiencies, draw strong local community support and build trust for long-term engagement, as they implement a broad range of climate change-related urban renewal initiatives in the public and private realms.

Two SNAP projects are presently underway in Brampton. Led by the local conservation authorities in partnership with City of Brampton and Region of Peel the two projects are: County Court SNAP (TRCA) and Fletchers Creek SNAP (Credit Valley Conservation (CVC)). SNAPS are priority communities needing environmental improvement, and therefore represent ideal settings for the ISB to partner in targeting on-the-ground action, pilot testing innovative solutions, and sharing knowledge at the neighbourhood scale. SNAPS also represent existing and growing neighbourhood networks through which ISB messaging will be disseminated.

SNAP projects can also encourage participation in the Green Economy including: skills training, local green jobs, and broader health and wellness. One great example is from the Black Creek SNAP in the Jane-Finch neighbourhood of Toronto, where pilot programs like ‘Harvest the Rain Residential program’ and the ‘San Romanoway Tower Revitalization’ initiative are delivering many local economic benefits.

Some successes from the San Romanoway SNAP include:⁷⁶

- 8 residents hired and 200 trained in balcony gardening
- 19 residents trained in fruit tree care certification
- 9 residents trained in horticulture certification
- 95 residents trained in urban agriculture
- 12 residents starting green social enterprise
- 146 active volunteers.

In addition to SNAP, CVC and TRCA have an abundance of existing restoration and stewardship programming suited to a wide variety of audiences available in Brampton. Examples include: Your Green Yard, Greening Corporate Grounds, Community Tree Planting, Stream of Dreams, Multicultural Outreach, Health and Wellness, and Watershed on Wheels. These programs support neighbourhood sustainability and watershed health, align with Brampton initiatives such as Grow Green, and will play an important supporting role in helping Brampton to achieve the 2040 Vision and One-Planet Living.

Flood Control Management

Climate change has increased the likelihood of more severe and frequent storms, which in turn raises the risk of flooding. TRCA and CVC Flood Risk Management programs play a key role in providing municipalities with the information they need to respond to flooding. In addition to providing information on flood risk, the TRCA and the CVC work with the Region and Municipalities on both small and large-scale flood management projects. The City’s \$250M Riverwalk is an example of project collaboration between TRCA and Brampton.⁷⁷

Working with the Conservation Authorities, the EEC will help Brampton citizens better understand the importance of “at source” storm water management and the benefits of pervious surfaces and low

⁷⁶ <https://trca.ca/conservation/sustainable-neighbourhoods/snap-neighbourhood-projects/black-creek-snap/>

⁷⁷ <http://www.brampton.ca/EN/Business/planning-development/projects-studies/riverwalk/Pages/Welcome.aspx>

impact development on residential and commercial properties. As the City of Brampton explores new means of storm-water financing, the ISB can play an important supporting and complementary role in educating property owners about low impact development and its environmental and financial benefits.

Certified Building Standards

Buildings are one of the largest contributors to GHG emissions.⁷⁸ Improving their energy efficiency therefore is an effective way of combatting climate change.

According to the Green Buildings Information Gateway⁷⁹ there are 76 locations in Brampton that are certified to either LEED or BOMA standards.

LEED (Leadership in Energy and Environmental Design) is an internationally recognized green building certification system, developed by the US Green Building Association. LEED provides third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.⁸⁰ The City of Brampton has 11 buildings that are either LEED certified or on their way to becoming certified.⁸¹

BOMA BEST Sustainable Buildings certification recognizes excellence in energy and environmental management and performance in commercial real estate. The Program is managed by the Building Owners and Managers Association of Canada (BOMA Canada) and is delivered by the eleven Local BOMA Associations throughout Canada.⁸²

To combat climate change, more developers must be encouraged to build energy efficient buildings or retrofit existing ones. The slightly higher initial capital cost is more than offset in reduced operating expenses during the building's life span. Further, occupants of buildings built to these standards have been shown to be healthier, happier and more productive.⁸³ More and more commercial enterprises view these types of buildings favourably when considering new real estate options.

How many Brampton citizens know about building energy certification or understand why they should care? How many home buyers or businesses owners understand why they should place energy efficiency high on their list of requirements? The EEC will help in this education and stimulate additional demand for energy efficient investments.

Brampton Blue Dot

A group of local volunteers supported by the David Suzuki Foundation has been working at the Municipal, Provincial and Federal government levels with the goal of having the inherent rights of

⁷⁸ https://media.assets.eco.on.ca/web/2016/11/2016-Annual-GHG-Report_Chapter-2.pdf pg. 3

⁷⁹ <http://www.gbig.org/places/26974>

⁸⁰ <http://www.bu.edu/sustainability/what-were-doing/green-buildings/leed/>

⁸¹ <http://www.brampton.ca/EN/residents/GrowGreen/Pages/Energy.aspx>

⁸² <http://bomacanada.ca/bomabest/aboutbomabest/>

⁸³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1892106/>

Canadians to *Clean Air, Clean Water and a Healthy Environment* recognized in an Environmental Bill of Rights.⁸⁴ Blue Dot has become a national movement with support from over 100,000 Canadians. In the fall of 2016, Brampton Council joined with over 150 Municipalities across Canada which have passed resolutions in support of the movement.^{85 86}

The ISB will help educate the citizens of Brampton on the benefits of a formal recognition of environmental rights, and the positive impact that recognition would have for current and future generations of Canadians. It will also help fulfill the intentions of the Bill of Rights by moving the City along the path towards One-Planet Living.

Bike to School Week

Cars and trucks account for one third of Ontario's Greenhouse gas emissions.⁸⁷ One quarter of all transportation trips in Peel Region result from parents transporting children to or from school.⁸⁸

Metrolinx supports incentive programs designed to change transportation habits in the Province. Bike to School Week (BTSW) is one such program that continues to grow in popularity each year. 2018 was particularly successful with student cycling rates almost doubling to 7.3% of trips taken.⁸⁹

Peel Region has done a very good job in supporting the Bike to School Week program by providing incentives to schools which run a BTSW event. 165 Peel schools participated in BTSW 2018, the highest number of schools of any region in the GTHA, including Toronto. 165 schools represent about 40% of schools in Peel. There is still room for growth and the ISB will help bring awareness to the program and help maintain momentum for active school travel throughout the school year⁹⁰.

Invasive Species Brings Risk to Brampton's Natural Heritage System

Brampton's natural heritage system provides habitat that supports a diverse range of native plants and animals while providing ecosystem services crucial to the well-being and quality of life enjoyed by Brampton residents.⁹¹

Invasive Species are a rapidly growing challenge to the health of our natural environment. For example, Emerald Ash Borer (EAB) is an invasive species of beetle which feeds exclusively on ash trees. The larvae burrow under the bark of the trees and feed there, causing extensive damage leading to the death of the tree within a few years.⁹²

⁸⁴ <https://www.facebook.com/BramptonBlueDot/>

⁸⁵ <https://davidsuzuki.org/project/blue-dot-movement/>

⁸⁶ <https://www.bramptonguardian.com/news-story/6927094-brampton-signs-on-to-blue-dot-movement-on-environmental-rights/>

⁸⁷ <https://www.ontario.ca/page/ontarios-climate-change-update-2014>

⁸⁸ <http://walkandrollpeel.ca/projects/sts/index.htm? ga=2.13538295.1378366237.1545088121-1549875347.1500645380>

⁸⁹ http://dmg.utoronto.ca/pdf/tts/2016/2016TTS_Summaries_Peel_Wards.pdf

⁹⁰ <http://www.walkandrollpeel.ca/projects/schools.htm>

⁹¹ City of Brampton - Grow Green Environmental Master Plan

⁹² City of Brampton - Parks and Forestry

We are seeing many invasive plants along roadsides, in our parks and neighbourhoods (eg. Giant hogweed, Phragmites, European buckthorn, Dog-strangling vine, Garlic mustard). Invasive plants lack natural predators, grow aggressively, reproduce rapidly, are difficult to eradicate, and out-compete native species. The presence of invasive plants can mean less food and shelter for wildlife dependent on native plants, and often result in decreased biodiversity.⁹³

The City and the Conservation Authorities have invasive species management plans for their lands. The EEC can focus on actions that the public, business, and institutions can do on their lands that would complement being taken by the City and the Conservation Authorities' plans to create a coordinated invasive species management plan. The ISB will also be available to gather current information, inventories and best practices, and to collaborate as stakeholder that would assist the City, the Region and the Conservation Authorities in the continued development of their respective plans.

7. What will the Organizational Structure of the ISB look like?

It is envisioned that the Institute for Sustainable Brampton will be an, "arm's length over-arching facilitator"⁹⁴, led by "influential environmental, corporate and civic leaders, assisted by civic administration and the Brampton Environmental Advisory Committee"⁹⁵. It will **partner, advocate, find** new resources, **teach, program, market** and **model** sustainable practices.

*"It will exemplify the truth that the future of the environment is in the hands of every single citizen – and will only be secure when every citizen acts at home and in business."*⁹⁶

The ISB Task Force reviewed three citizen-based environmentally focussed organizations in other jurisdictions, as examples for modelling the ISB organizational structure.

- Clean Air Partnership
- Toronto Environmental Alliance
- Burlington Green

From that review, the task force recommends the following:

Organizational Model

- Indirect partnership with the City, at arm's length to maintain independence
- Limited direct partnerships with Sheridan College and other Brampton-based advanced education institutions, (Algoma University, Ryerson University)
- Affiliation with Partners in Project Green, TRCA, CVC , labour unions and other environmental groups
- Set up as a charitable not-for-profit organization that will allow for individual tax refundable donations

⁹³ Credit Valley Conservation Authority

⁹⁴ Brampton 2040 Vision, ibid.

⁹⁵ Brampton 2040 Vision, ibid.

⁹⁶ Brampton 2040 Vision, ibid. p.22

The ISB Board will be made up of key stakeholders including:

- Sheridan / Ryerson
- BEAC Co-chairs
- Conservation Authority (TRCA and CVC) representation
- Brampton Environmental Planning staff
- City of Brampton/Region of Peel Council
- Brampton Board of Trade
- Brampton Resident Associations (including leaders of social media neighbourhood groups)

How will the Institute for Sustainable Brampton be Funded?

Several funding approaches will be used to finance the set up and on-going expenses for the ISB. Most granting agencies offer funds only to incorporated not-for-profit organizations or CRA registered charities. Seed money will have to be raised first to pay for incorporation expenses, recruit and set up a temporary board and bring on an interim executive team with a combination of paid and volunteer staff.

Seed money sources will include:

- Membership drive
- Community Fundraising activities
- City of Brampton grant (funds could be requested through Federation of Canadian Municipalities (FCM) Green Municipal Fund)
- Corporate sponsorship grant
- Insurance company grant

On-going funding will come from:

- Memberships and Donations (Individuals, Community Groups, Not-for-profit organizations, Corporations)
- Community Foundation Grants (eg. Akran, Aviva, F.K. Morrow, Ivey Foundation, J.P. Bickell Foundation, etc.)
- Government Grants (Government of Canada – Climate Action Fund)
- Corporate Foundation Grants (Cascades, TD – Friends of the Environment)
- Environmental Foundations (Tides Canada)
- Insurance Companies and associated organizations (Intact Centre for Climate Adaptation)
- Local Utility Companies

Membership funding has the advantage of providing the ISB with legitimacy and gives the Institute a louder participant voice in the decision making because it represents the opinions of Brampton citizens on matters related to environmental sustainability.

The ISB will be eligible to receive funding from sources not accessible to the City of Brampton, due to its not-for-profit corporate structure.

Summary

Brampton is a large and fast growing City that, like many cities in the developed world, struggles with maintaining a balance amongst the interdependent forces of economic growth, social health and environmental sustainability.

*"Make no mistake, Brampton is at a turning point from being a comfortable suburban community, to becoming over the next 20+ years a big city more complete in all ways, more competitive in all ways, more important in all ways, but also more vulnerable in all ways to the big-city challenges that exist throughout our culture. How it tackles this growth and change is as important as what form that change takes."*⁹⁷

The Institute for Sustainable Brampton will significantly contribute to the necessary balance and change of trajectory. It will do that by raising the awareness of the contribution of ecosystem services to the health and well-being of Brampton residents and businesses, and by facilitating the development of the Green (Circular) Economy that will lead to economic growth and the creation of good, well-paying jobs. At the same time it will lower Brampton's environmental footprint. The ISB will bring together residents, employers, employees and partner organizations, all with a common purpose to create a sustainable future for our community. Brampton will become a recognized leader as a sustainable community. Brampton will be a community that achieves One-Planet Living by 2040.

Next Steps

The intent of this white paper is to create dialogue and a list of prioritized actions. This white paper will be disseminated widely to stakeholders and potential funders. When a commitment to basic funding has been secured, the task force will work to define the interim board, create the corporate entity, finalize seed funding arrangements, and define standard operating procedures.

The first task of the interim board will be to hire an interim executive team and commission the first five-year operating plan.

In soliciting feedback to this document, the concept of the ISB must be viewed through all five lenses of the 2040 Vision⁹⁸.

Public Engagement: The ISB will involve corporate, interest and cultural groups in a systematic and inclusive way.

Collaboration: The ISB will collaborate and share decision-making with the City and other key stakeholders.

Design: The ISB will take its design cue from the beauty of the natural world and look for ways to incorporate that beauty into the urban mosaic.

⁹⁷ Brampton 2040 Vision, op. cit. p.12

⁹⁸ Brampton 2040 Vision, op. cit. pgs. 13-17

Technology: The ISB will embrace innovation and new technologies as it encourages the City towards One-Planet Living

Identity: The ISB will help the City achieve a unique identity that embraces its strengths and allows it to achieve true leadership as a sustainable community.

Please provide your feedback by email to: david@daylelaing.com