Green Bonds - A Catalyst for Municipal Action Against Climate Change and the Age-Old Problem of Municipal Fiscal Capacity?

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Climate change is among the most serious threats facing humanity. According to the United Nations Intergovernmental Panel on Climate Change, the global rise in temperature must be kept within 1.5 degrees above pre-industrial levels, or large swathes of the planet will become uninhabitable.[1] Based upon current projections, the world has 12 years to prevent this outcome, or risk a climate catastrophe.[2] Canada is particularly vulnerable to the effects of climate change, as its landmass—70% of which is frozen tundra—is warming at twice the global rate.[3]

In response to the climate emergency, jurisdictions around the world are committing themselves to ambitious emission reduction targets such as net-zero emissions. Net-zero emissions refer to the process of ensuring balance between greenhouse gas emissions ("GHG") emitted, and GHG's removed from the atmosphere. The current federal government has committed Canada to net-zero emissions by 2050,[4] while municipalities such as Toronto are seeking to get to net-zero by 2040.[5] To meet these goals, a staggering amount of capital investment will need to be mobilized. The OECD notes that countries worldwide will need to spend $6.9 trillion a year to meet their 2030 Paris Climate Accord ("Paris Agreement") targets.[6] The European Union is estimated to require $321 billion USD in annual investment to become

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[1] "Global Warming of 1.5 C" (June 2019), online: *IPCC* < www.ipcc.ch/sr15/>.
[2]Jonathan Watts, "We have 12 years to limit climate change catastrophe, warns UN" (8 October 2018), online: *The Guardian* <www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report>.
[3] "Canada's Changing Climate Report – Executive Summary" (4 April 2019) at 5, online (pdf): *Natural Resources Canada* <www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/Climate-change/pdf/CCCR_ExecSumm-EN-040419-FINAL.pdf>.
[4] David Rider, "City of Toronto aiming to be carbon neutral by 2050 or earlier" (26 September 2019), online: *TheStar* <www.thestar.com/news/city_hall/2019/09/26/city-of-toronto-aiming-to-be-carbon-neutral-by-2050-or-earlier.html>.
[5] Amanda Connolly, "Liberals pledge Canada will have net-zero emissions by 2050 – but details are scarce" (24 September 2019), online: *GlobalNews* <globalnews.ca/news/5943543/canada-net-zero-emissions-2050/>.
[6] "Financing Climate Futures: Rethinking Infrastructure – Policy Highlights" (2018), online (pdf) at 2: *OECD* <www.oecd.org/environment/cc/climate-futures/policy-highlights-financing-climate-futures.pdf>.

net-zero by 2050.[7] The scale of investment required makes clear that the public sector and private sector must work together to their GHG emission reduction commitments.

While most of the focus has been on national and sub-national governments, municipal governments are an essential actor in combatting climate change. According to the UN, cities are responsible for more than 60% of GHG emissions worldwide despite only occupying 2% of land.[8] According to Statistics Canada, 86% of Ontario residents live in urban areas, which makes municipal action against climate change a pragmatic imperative.[9]

For Ontario municipalities, the move towards a low-carbon future must be led by the federal and provincial government due to the constitutional structure and legislative constraints. However, this does not mean that Ontario municipalities do not have an important role to play. Such efforts however require funding, which runs into the age-old problem of municipal fiscal capacity. Traditionally, municipalities have raised funds through property taxes, user fees and by-law enforcement, but given the nature of the challenge and recent political developments, this is no longer enough.

How then can an Ontario municipality raise funds to combat climate change? This paper will argue that green bonds are a pragmatic and realistic solution to address climate change. A green bond is a type of debenture “whose proceeds are earmarked for environmental or climate-related projects, such as public transit or low-carbon infrastructure investments.”[10] Whereas previously, environmentally conscious investors had to research bonds and entities that did not explicitly cause environmental harm, green bonds allow individuals to seek out

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[7] John Ainger, “Green Bonds Are the Fresh Way to Get Germany to Borrow” (17 December 2019), online: *Bloomberg Businessweek* <www.bloomberg.com/news/articles/2019-12-17/green-bonds-are-the-fresh-way-to-get-germany-to-borrow>.
[8] United Nations, “Cities and Pollution contribute to climate change” (2019), online: *UN Climate Action* <www.un.org/en/climatechange/cities-pollution.shtml>.
[9] “Canada goes urban” (17 May 2018), online: *Statistics Canada* <www150.statcan.gc.ca/n1/pub/11-630-x/11-630-x2015004-eng.htm>.
[10] ICLEI Canada, “On the money: Financing tools for local climate action” (2018) at 22, online (pdf): *Federation of Canadian Municipalities* <www.fcm.ca/sites/default/files/documents/resources/guide/financing-tools-local-climate-action-pcp.pdf >.

investments that *actively* help the environment. It will recommend that the Association of Municipalities Ontario ("AMO") and the ONE Investment Program ("ONE") work with municipalities to issue green bonds.

Current political environment

This paper presumes that the current provincial government ("Ford government") will not be implementing large-scale efforts to combat climate change. Upon being elected, the Ford government has cancelled the Ontario Cap and Trade program,[11] and then refused to implement a comparable emission reduction program. Following the imposition of the federal carbon tax backstop, the Ford government has appealed its constitutionality to the Supreme Court of Canada.[12] Since being elected, the Ford government has also cancelled 227 different environmental programs and initiatives.[13] The Ford government has justified these actions on the basis that Ontario has done its part to meet its Paris Agreement targets, given that the previous government phased out coal fired power plants, and implemented other policies.[14]

The Office of the Auditor General of Ontario ("AG") evaluated the Ford government's climate change plan, and characterized it as not based "on sound evidence"[15] and noted that it would fall well short of Ontario's Paris Agreement commitments.[16] In addition, the AG noted that Ontario's current climate change plan depended upon programs that had already been

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[11] The Canadian Press, "Ontario government officially kills cap-and-trade climate plan" (31 October 2018), online: *CBCNews* <www.cbc.ca/news/canada/toronto/ontario-officially-ends-cap-and-trade-1.4885872>.
[12] CBC News, "Ontario appeals federal carbon tax decision to Supreme Court of Canada" (28 August 2019), online: *CBCNews* <www.cbc.ca/news/canada/toronto/appeal-carbon-ford-ontario-supreme-1.5262871>.
[13] Fatima Syed, "EXCLUSIVE: Doug Ford didn't tell you Ontario cancelled 227 clean energy projects" (9 July 2019), online: *National Observer* <www.nationalobserver.com/2019/07/09/news/exclusive-doug-ford-didnt-tell-you-ontario-cancelled-227-clean-energy-projects >.
[14] Aaron Wherry, "By claiming Ontario's done its 'fair share,' Doug Ford pushes the climate burden west" (25 April 2019), online: *CBCNews* < www.cbc.ca/news/politics/doug-ford-climate-carbon-tax-emissions-1.5108852>.
[15] Rob Ferguson & Robert Benzie, "Ford government's climate change plan is not based on 'sound evidence,' auditor general says" (December 4, 2019), online: *TheStar* <www.thestar.com/politics/provincial/2019/12/03/ford-governments-climate-change-plan-is-not-based-on-sound-evidence-auditor-general-says.html>.
[16] *Ibid*.

cancelled. For instance, the Ford government's emission reduction calculations included the impact of increased sales of electric vehicles,[17] which decreased by 55% during the first half of 2018 following the cancellation of incentive programs instituted by the previous government.[18] In response, Mr. Ford has noted that "people should wait until 2030 before they criticize his government's 10-year plan."[19] Given the current state of affairs, and the loss of $1.88 billion in direct and indirect funding to municipalities to combat climate change[20], municipal leadership is critical.

<u>Municipal Legislative Background</u>

In Ontario, every municipality except Toronto is governed by the *Municipal Act*, 2001 (the "*Act*"). The City of Toronto is governed by the *City of Toronto Act*, 2006 ("*Toronto Act*"). Both acts set out municipal powers of taxation. Under section 394(1) of the *Act*, a municipality is prohibited from imposing a "fee or charge"[21] based upon "the income of a person"[22] and the "generation [and] exploitation of natural resources."[23] The corresponding section in the *Toronto Act* is section 267(2), which notes that the city may not impose an income tax[24], a sales tax[25], or a carbon tax.[26] Essentially, this prohibits municipalities in Ontario from levying an income tax or a carbon tax on residents. Consequently, municipalities in Ontario have raised revenues primarily through property taxes, development charges and by-law enforcement.

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17 *Ibid*.
18 Allison Jones, "Sales of electric vehicles plummet in Ontario now that province has cancelled rebate" (15 December 2019), online: *CBCNews* <www.cbc.ca/news/canada/toronto/year-ont-electric-vehicles-1.5397190>.
19 The Canadian Press, "Premier Doug Ford says Ontario on track for 2030 emissions targets despite auditor's doubts" (6 December 2019), online: *CBCNews* <www.cbc.ca/news/canada/toronto/ford-auditor-report-1.5387686>.
20 *Supra* at note 11.
21 *Municipal Act*, 2001, SO 2001, c 25, s 394(1) [the "*Act*"].
22 *Ibid* at s 394 (1)(a).
23 *Ibid* at s 394 (1)(e).
24 *City of Toronto Act*, 2006, SO 2006, c 11, Sched A, s 267(2)(1) ["*Toronto Act*"].
25 *Ibid* at s 267(2)(5).
26 *Ibid* at s 267(2)(11).

Municipalities may also raise revenues by accruing debt. Under the *Act*, municipalities have the right to "incur a debt for municipal purposes"[27] and may also "issue debentures and prescribed financial instruments"[28]. Municipalities are limited in the amount of debt they can accrue by an annual limit, which is calculated using a formula "that amounts to 25 percent of the operating, own-source revenues of a municipality in a year, minus debt payments and other financial liabilities."[29] The City of Toronto and York Region debt limits are calculated using a different formula for historical reasons. If a municipality wants to exceed this limit, they must apply to the Local Planning Appeal Tribunal.[30] Given these restrictions, it is not surprising that municipal debentures represented only 3% of the total Canadian bond market in 2014.[31]

<u>Are property taxes the solution?</u>

Politically, increasing taxes has never been popular. Several Canadian municipalities have struggled to raise taxes to deal with pressing issues such as affordable housing and transit. The experience of a wealthy city like Toronto is instructive in this regard. The mayoral tenure of Rob Ford was characterized as a populist backlash against his predecessor David Miller, who increased property taxes and instituted levies such as a land transfer tax, and a plastic bag tax. Mr. Ford came to power explicitly seeking to halt the 'gravy train'. He froze property taxes and sought drastic cuts in city spending.

His successor John Tory has maintained many of Mr. Ford's fiscal policies and maintained property taxes at or below the rate of inflation. When assessing Mr. Tory's first four-year term, it was noted that the "aggregate increases in property taxes amounted to just $580

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[27] *Supra* note 21 at s 401(1).
[28] *Ibid*.
[29] Gustavo Carvalho, "Climate Finance for Canadian Cities: Is Debt Financing a Viable Alternative?" (2018), online at 17 (pdf): *Institute on Municipal Finance & Governance* <www.tspace.library.utoronto.ca/bitstream/1807/82766/1/imfgpaper_no37_climatefinance_gustavocarvalho_march_15_2018.pdf>.
[30] *Supra* note 21 at s 407 (2).
[31] *Supra* note 29 at 18.

million – a sum that doesn't quite cover the interest the City paid on its accumulated debt in 2018 alone."[32]

Recently, Mr. Tory unexpectedly came out in favour of increased property taxes to repair social housing and build transit projects. Mr. Tory backed a proposal that would increase property taxes 1% between 2020 and 2021 and 1.5% between 2022 and 2025,[33] which was backed by Toronto City Council on December 17, 2019.[34] An analysis by the Ryerson University's Centre for Urban Research and Land Development notes that even factoring this recent increase, property taxes in Toronto when compared to the 29 Greater Toronto and Hamilton ("GTHA") municipalities are at the median level in dollar terms, and "below median levels for property tax as a percentage of market value (14% less) and for property tax as a percentage of household income (15% less)."[35]

Smaller Municipalities

For smaller and less wealthy municipalities, the challenges are only amplified. Smaller municipalities do not have the economic base to justify imposing high property taxes. In Southwestern Ontario for instance, previously prosperous communities such as City of Windsor ("Windsor") are grappling with lost industrial jobs and a poor recovery from the global financial crisis. The per capita income in Windsor "fared worst of all Ontario cities, with median household income actually dropping 6.4 per cent to about $59,000 between 2005 and 2015."[36]

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[32] John Lorinc, "ELECTION: John Tory's shameful fiscal record" (9 October 2018), online: *SpacingToronto* <www.spacing.ca/toronto/2018/10/09/election-john-torys-shameful-fiscal-record/>.
[33] CBC News, "Your Toronto tax bill is likely going up, as Mayor John Tory backs city building fund boost" (4 December 2019), online: *CBCNews* <www.cbc.ca/news/canada/toronto/toronto-city-building-fund-increase-1.5383788>.
[34] Jennifer Pagliaro, "Toronto council votes overwhelmingly to increase property taxes by 8 per cent over 6 years" (17 December 2019), online: *TheStar* <www.thestar.com/news/gta/2019/12/17/toronto-council-meets-at-city-hall-to-debate-property-tax-increases.html>.
[35] Frank Clayton & Frances Grout-Brown, "Toronto Homeowners Won't Be Overburdened by a Proposed Property Tax Increase to Fund Infrastructure" (16 December 2019), online: *Centre for Urban Research and Land Development* <www.ryerson.ca/cur/Blog/blogentry44>.
[36] CTV Windsor, "Windsor has worst drop in average income in Ontario from 2005 to 2015" (13 September 2017), online: *CTVNews* <www.windsor.ctvnews.ca/windsor-has-worst-drop-in-average-income-in-ontario-from-2005-to-2015-1.3587942>.

The city therefore must be conscious of ensuring that the property tax rate is sustainable for residents. Indeed, Windsor residents already pay one of the highest property tax rates by percentage in the province, which leaves little room for increases.[37] The impact of this is felt in city services and infrastructure such as relatively poor roads.[38]

In addition, the city cannot allocate funds to deal with critical issues such as flooding. Windsor is particularly vulnerable to flooding due to having less than 10% watershed cover and wetlands, which act as natural flood barriers.[39] In 2016 and 2017, the City of Windsor saw two once-in-a-century type storms within a 11-month period.[40] The 2017 storm cost $175 million in damage, and flooded 6,116 homes.[41] The Mayor of Windsor has noted that the city is “flat as a pancake and surrounded by water”[42] and observed that if there was another major storm “there's nowhere for the water to go. We're really needing Noah's Ark at that point.”[43] It is estimated that the city requires over $500 million to renovate and build sewer infrastructure to address the issue.[44] Despite this, the city has not been able to secure the required funding through existing municipal tools or through higher order governments.

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[37] Jonathan Pinto, “Yes, Windsor's property tax rate is high — but that doesn't mean we pay more” (1 August 2019), online: *CBC*News <www.cbc.ca/news/canada/windsor/windsor-property-tax-rate-more-1.5233796>.
[38] CTV Windsor, “Windsor's 'very poor' roads would cost hundreds of millions to fix” (31 July 2019), online: *CTVNews* <www.windsor.ctvnews.ca/windsor-s-very-poor-roads-would-cost-hundreds-of-millions-to-fix-1.4531695>.
[39] Dianne Saxe, “Back to Basics – 2018 Environmental Protection Report” (November 2018) at 52, online (pdf): Environmental Commissioner of Ontario <www.docs.assets.eco.on.ca/reports/environmental-protection/2018/Back-to-Basics.pdf >.
[40] Mary Baxter, “Ontario under water: Why the southwest needs to prepare for extreme weather” (18 October 2019), online: *tvo* <www.tvo.org/article/ontario-under-water-why-the-southwest-needs-to-prepare-for-extreme-weather>.
[41] Trevor Wilhelm, “Worst storm in Windsor history caused $175 million damage to city homes” (13 September 2017), online: *WindsorStar* <www.windsorstar.com/news/local-news/worst-storm-in-windsor-history-caused-175-million-damage-to-city-homes>.
[42] *Supra* note 40.
[43] *Ibid*.
[44] *Ibid*.

Additional powers of taxation

Another option is for Ontario to provide municipalities with additional powers of taxation under the *Act*. To date, no municipality has requested this, but it is highly unlikely to occur. If anything, recent developments have indicated that the Ford government has explicitly attempted to reduce municipal revenues and taxes to shrink the size of government. For instance, Mr. Ford has reduced the provincial fuel tax by "nine cents per litre".[45] The fuel tax is among the primary sources of funding for public transit expansion and operation for municipalities, as they "receive two cents per litre on all the gas that is taxed."[46] In 2018, this amount totalled $364 million.[47] This occurred despite Mr. Ford promising during the 2018 election campaign that he would maintain a previously agreed upon increase to the amount of provincial gas tax revenues shared with municipalities.[48]

Is debt the answer?

According to an AMO presentation, 47% of Ontario municipalities are characterized as being "in the low fiscal capacity and high infrastructure intensity zone."[49] Dubbed the 'unfortunate zone', this is defined as "lower-than-average fiscal capacity and higher-than-average infrastructure intensity."[50] Most municipalities have very little fiscal capacity to maintain existing infrastructure, let alone tackle climate change. So, what then is the solution? The answer may be debt.

45 CBC News, "Ford says he'll reduce gas prices by 10 cents per litre by cutting cap-and-trade, fuel tax" (16 May 2018), online: *CBCNews* <www.cbc.ca/news/canada/toronto/ford-gas-prices-fuel-tax-1.4665386>.
46 *Ibid*.
47 Colin D'Mello, "Ford government 'committed' to lowering gas tax; mum on increased share for cities" (8 January 2019), online: <www.toronto.ctvnews.ca/ford-government-committed-to-lowering-gas-tax-mum-on-increased-share-for-cities-1.4245618>.
48 Lauren Pelley, "What Ontario's budget means for Toronto: Goodbye gas tax revenue hike, hello circus at Ontario Place" (11 April 2019), online: *CBCNews* <www.cbc.ca/news/canada/toronto/what-ontario-s-budget-means-for-toronto-goodbye-gas-tax-revenue-hike-hello-circus-at-ontario-place-1.5090512>.
49 "Municipal Infrastructure Investment & Financial Sustainability: AMO – York Region Joint Research Report" (Spring 2018) at 40, online (pdf): *Association of Municipalities Ontario* <www.gastaxatwork.ca/sites/default/files/assets/Documents/Research/Municipal%20Infrastructure%20Investment%20and%20Financial%20Sustainability.pdf>.
50 *Ibid* at 47.

This paper is cognizant of the fact that accruing debt is not popular politically. In an era of record low interest rates, however, it arguably makes sense to accrue debt to combat climate change. Debt based financing has been used by governments around the world since capital markets and financiers have existed. Governments have traditionally issued bonds on financial markets and used the proceeds to finance initiatives. This process is relatively straightforward, and there is little oversight of bond proceeds, and what they were used for.[51]

Green Bonds

As noted previously, a green bond is a type of debenture that are structured like regular bonds, in the sense that investors are paid back their principal plus interest over time. However, green bonds are explicitly labelled and seek to raise capital specifically for environmental related initiatives. This "means that investors do not have to choose between financial returns and environmental benefits."[52] A recent analysis by the S&P Dow Jones stock market index noted that their green bond index fund has outperformed their global aggregated fund by 0.5%.[53] This is particularly promising, given that the world bond market is an estimated $115 trillion.[54] Indeed, the "United Nations Principles for Responsible Investment lists more than 1200 organizations representing $70 trillion assets under management as…signatories committing to socially responsible and sustainable investments."[55] To meet ambitious carbon reduction targets, capital markets will need to be engaged with products like green bonds.

The first ever green bonds were issued by the European Investment Bank in 2007.[56] The municipal green bond market is relatively new, with the first tax-exempt green bond being

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[51] Aye M Soe et al, "A Look inside Green Bonds: Combining Sustainability with Core Fixed Income" (November 2019) at 2, online (pdf): *S&P Dow Jones Indices* <www.us.spindices.com/documents/research/research-a-look-inside-green-bonds.pdf>.
[52] *Ibid*.
[53] *Ibid* at 8.
[54] Spriha Srivastava, "Global debt surged to a record $250 trillion in the first half of 2019, led by the US and China" (15 November 2019), online: *CNBC* <www.cnbc.com/2019/11/15/global-debt-surged-to-a-record-250-trillion-in-the-first-half-of-2019-led-by-the-us-and-china.html>.
[55] DY Tang & Y Zhang, "Do Shareholders Benefit from Green Bonds?" (2018): J Corporate Finance 1 at 3.
[56] *Supra* note 51 at 3.

issued by Massachusetts in 2013.[57] Like other bond offerings, green bonds can also be sold by private entities and not-for-profit institutions.

Green bonds have experienced astronomical growth in recent years, with a 90% growth in 2016 and 87% growth rate in 2017.[58] Their overall worldwide volume exceeded $136 billion by 2018,[59] and they are expected to increase to between180 to 250 billion by the end of 2019.[60]

<u>Green bonds in Canada</u>

A recent Royal Bank of Canada asset management survey found that only 14% of respondents felt that there were enough green investment products on the market.[61] Consequently, the green bond market in Canada is rapidly expanding and characterized as "highly oversubscribed, suggesting a [positive] mismatch between current demand and available supply."[62]

By the end of 2018, all three levels of government had issued approximately $15.2 billion in green bonds, which ranked Canada ninth globally.[63] Municipalities comprised 42% of all green bonds issued in 2018,[64] with Ottawa being the first Canadian municipality to issue a bond.[65] The two most common stated use of proceeds, were clean energy projects and transit expansion at 32% and 30% respectively.[66]

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[57] *Supra* note 51 at 4.
[58] "Takeaways from 2019 Green Bond Conference" (April 2019) at 3, online (pdf): *RBC Capital Markets* <www.rbccm.com/assets/rbccm/docs/uploads/2019/RBCCM_Green_Bond_Brochure.pdf>.
[59] Alice Gledhill & Alexander Weber, "Climate Changed – Wall Street's New Battleground Is $136 Billion Green-Bond Market" (18 September 2019), online: *Bloomberg* <www.bloomberg.com/news/articles/2019-09-18/wall-street-s-new-battleground-is-136-billion-green-bond-market>.
[60] *Supra* note 58 at 3.
[61] *Ibid* at 5.
[62] Tiff Macklem at al, "Final Report of the Expert Panel on Sustainable Finance: Mobilizing Finance for Sustainable Growth" (2019) at 30, online (pdf): *Environment and Climate Change Canada* <www.publications.gc.ca/collections/collection_2019/eccc/En4-350-2-2019-eng.pdf>.
[63] Climate Bonds Initiative, "Green finance state of the market – 2018)" (February 2019) at 1, online (pdf): *Smart Prosperity Institute* <www.institute.smartprosperity.ca/sites/default/files/cbicanadasotm2018web.pdf>.
[64] *Ibid*.
[65] Barry Critchley, "Ottawa becomes first municipality in Canada to issue green bonds" (3 November 2017), online: *Financial Post* <www.business.financialpost.com/news/fp-street/ottawa-becomes-first-municipality-in-canada-to-issue-green-bonds>.
[66] *Supra* note 62 at 30.

Green bonds can also be issued by corporations, pensions funds, governments and financial institutions. For instance, Ontario Power Generation ("OPG") and Brookfield Renewable Partners have also issued large green bonds. OPG issued green bonds in 2018 and 2019, which raised $450 million and $500 million respectively.[67] Proceeds from these bonds were used to renovate and expand eight hydroelectric dams across the province and acquire a renewable energy corporation in the US.[68]

Given the current political environment in Ontario, it is notable that the Ford government is not averse to green bonds. On November 27, 2019, it issued a $750 million bond to finance the Eglinton Crosstown LRT project and GO Transit expansion.[69] This once again suggests that green bonds are a viable financing option for Ontario municipalities.

Green bonds - best practises

With respect to green bond reporting, compliance and packaging, several organizations have developed best practises. While each taxonomy is somewhat different, all recommend the development of clear standards and objectives, transparency, and external verification.[70] The final report of the Expert Panel on Sustainable Finance recommended that Finance Canada in conjunction with the financial sector "define a roster of eligible investment products and develop robust accreditation standards"[71] for green bonds. The report recommended following the four voluntary standards developed by the International Capital Markets Association -

[67] "Green Bond Impact Report" (2019) at 5, online (pdf): *Ontario Power Generation* <www.opg.com/document/2019-green-bond-impact-report>.
[68] *Ibid* at 8-9.
[69] "Ontario 5-Year - $750 million Global CAD Green Bond" (November 2019) at 2, online (pdf): *Ontario Financing Authority* <www.ofina.on.ca/pdf/Nov27_19_G77_en.pdf>.
[70] "Resource Centre" (2019), online: *International Capital Markets Association* <www.icmagroup.org/green-social-and-sustainability-bonds/resource-centre/>.
[71] *Supra* note 62 at 9.

1) *Transparency of purpose* – Green bonds should outline “clear environmental benefits”[72], be “assessed and, where feasible, quantified by the user.”[73]

2) *Project Evaluation and Selection* – There should be clear communication with the market and investors on how a project is classified as environmentally friendly. It is also recommended that issuers note how the green bond fits into a larger strategy “relating to environmental sustainability.”[74] Ideally, the processes are subject to external review and certification.

3) *Management of Proceeds* – the proceeds should be “credited to an account”[75] and “tracked”[76] by the issuer. This should be a formal process and is ideally monitored by an auditor or third-party authority.

4) *Reporting* – Given that bonds are usually issued for a medium to long-term time horizon, regular reporting to the public and investors on progress towards the goal of the project, including quantitative and qualitative performance measures when possible is desirable.[77]

These best practises may seem excessive for a government bond offering. If structured properly, however, green bonds have been proven to save municipalities money on borrowing costs. Due to their higher compliance and certification, green bonds receive preferential interest rates and other benefits such as “tax privileges, guarantees and letters of comfort.”[78] A recent

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72 “Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds” (June 2018) at 3, online (pdf): *International Capital Markets Association* <www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2018/Green-Bond-Principles---June-2018-140618-WEB.pdf>.
73 *Ibid*.
74 *Ibid*.
75 *Ibid* at 5.
76 *Ibid*.
77 *Ibid* at 5.
78 Suk Hyun, Donghyun Park & Shu Tian, “Differences Between Green Bonds Versus Conventional Bonds” in Jeffrey D Sachs et al, eds, *Handbook of Green Finance*, (Singapore: Springer, 2019) 127 at 130.

analysis indicated that municipal green bonds in the US were “price[d] competitively”[79] against regular bonds. For instance, the cost of funding the Ottawa green bond was “lower than what a comparable 30-year non-green bond issue would have cost.”[80] Overall, the city is estimated to have saved $400,000 in interest costs by issuing a green bond, when compared to a regular bond.[81] This is not an insignificant amount of money for municipalities.

<u>Green bonds concerns – external interest</u>

There are three primary concerns with green bonds and debentures in general. The first relates to securing external interest. To start with, bonds are sold based on creditworthiness. If a municipality does not have a history of borrowing and repayment or does not appear or have the capacity to pay back borrowed funds, they will not be assessed to be credit worthy. Credit worthiness is usually assessed by credit rating agencies, who provide a rating for each financial product. The interest rate influences the interest rate, rate of return for investors and market demand. While not a major issue for larger municipalities such as Toronto, green bonds issued by smaller municipalities such as North Bay for instance, may not attract much interest on the bond market due to the reasons noted above.

<u>Green bonds concerns – type of project</u>

The second relates to the type of project. Climate Bonds Initiative, an international organization working to mobilize the bond market towards climate change solutions has tracked the Green Bond market since its inception. In a 2019 report, it noted that a “small number of adaptation projects [are] funded by green bonds.[82] An analysis of the Bloomberg Green Bonds Database found that “only 2% of the certified issuers (from 2010 to 2018) declared that the

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[79] Candace Partridge & Francesca Romana Medda, “The evolution of pricing performance of green municipal bonds” (2020) 10: 1 J Sustainable Finance & Investment 44 at 61-62.
[80] *Supra* note 65.
[81] Moore I, “Municipal Green Bonds: What does the law say?” (May 2018), online: *Municipal World* <www.municipalworld.com/articles/municipal-green-bonds-what-does-the-law-say/>.
[82] Monika Filkova et al, “Post-Issuance Reporting in the Green Bond Market” (September 2019) at 20, online (pdf): *Climate Bonds Initiative* <www.climatebonds.net/files/files/CBI_post-issuance-reporting_rev092019_en%281%29.pdf >.

volume leveraged should be used only for adaptation projects."[83] In addition, the *Act* notes that long-term debentures can only be issued "to provide financing for a capital work" [84], which may make it difficult to finance projects that are not defined as a capital work "such as an early warning system".[85] An early warning system for flooding would be a critical climate change adaptation tool for municipalities such as Windsor for instance.

It is unclear if this is because most issuers of green bonds to date have focused efforts on climate change mitigation measures, which often require large sources of revenue. It is possible that investors do not find projects earmarked for adaptation to be an attractive investment option. For instance, transit expansion always receives a great deal of media attention, but relatively little importance is given to transit operation and repair. Investors in green bonds may also be driven by a social purpose and therefore want to focus their efforts on mitigation to help prevent a climate catastrophe. The reality, however, is that most municipalities will not have major transit or clean energy projects that require funding, which suggests that municipalities may find it difficult to attract interest in green bonds focused on climate change adaptation projects.

<u>Green bonds concerns - municipal capacity</u>

The third concern revolves around municipal capacity. To start with, lower-tier municipalities such as Mississauga "[do] not have the power to issue debentures"[86] on their own according to the section 401(3) of the *Act*. 241 of the 444 municipalities in Ontario are lower-tier municipalities. Consequently, lower-tier municipalities would require approval from their upper-

[83] Dirk Heine et al, "Financing Low-Carbon Transitions through Carbon Pricing and Green Bonds" (August 2019) at 6, online (pdf): World Bank Group – Macroeconomics, Trade and Investment Global Practise <www.documents.worldbank.org/curated/en/808771566321852359/pdf/Financing-Low-Carbon-Transitions-through-Carbon-Pricing-and-Green-Bonds.pdf>.
[84] *Supra* note 21 at s 408 (2.1).
[85] *Supra* note 29 at 17.
[86] *Supra* note 21 at s 401(3).

tier municipality to issue debentures. Upper-tier municipalities would likely accede to a request made by the council of a lower-tier municipality, but this remains a concern.

A recent study found that green bonds offerings across several jurisdictions have a similar average size per issue, despite exponential growth in the green bonds market since their introduction. [87] This is arguably due to higher planning and compliance costs. Regardless of size however, investors expect green bonds to comply with best practises and include complicated measures such expected GHG emissions saved to be included in offerings.[88] Such calculations generally require the use of a computer-based model.[89] If best practises are followed, this would also need to be verified by a third-party, which increases costs. Higher planning and compliance costs is perhaps why the City of Ottawa required one year to develop and issue its green bond despite receiving help from the province, the Export Development Corporation and investment bankers.[90] Overall, the issuance of a green bond requires financial resources, expertise, and a sophisticated city administration staff that smaller and medium sized municipalities may not possess or have time to dedicate towards.

Recommendation

With the above-mentioned considerations and concerns in mind, it is recommended that the AMO work with the ONE investment program to monitor, package and help municipalities develop green bonds.

Rationale

The AMO has existed under various iterations and titles since 1899 and is the primary advocacy organization for Ontario municipalities. In 2001, the AMO signed a memorandum of

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[87] Suborna Barua & Micol Chiesa, "Sustainable financing practices through green bonds: What affects the funding size?" (2019) 28: 6 Bus Strategy & Environment 1131 at 1141.
[88] Clarence Tolliver, Alexander Ryota Keeley & Shunsuke Managi, "Green Bonds for the Paris Agreement and Sustainable Development Goals" (2019) 14: 6 Environmental Research Letters 1 at 12.
[89] "Green Bond Impact Report" (2019) at 11, online (pdf): *Ontario Power Generation* <www.opg.com/document/2019-green-bond-impact-report>.
[90] *Supra* note 65.

understanding (“MOU”) with the Government of Ontario, that committed both parties to consultation before changes, and regular meetings. The promise of consultation was also legislatively enshrined in section 3(1) of the *Act*.[91] In the most recent MOU, it was noted that Ontario recognizes “municipalities as responsible and accountable governments with respect to matters within their jurisdiction.”[92]

As the primary organization advocating for municipalities, AMO is aware of municipal fiscal capacity and the Ford government’s policies in the environmental sector. Consequently, it understands that municipal action and financing is required to combat climate change. Indeed, the AMO has listed combatting climate change and building municipal capacity as one of its 2020 strategic objectives.[93]

The AMO already has experience providing oversight and administering capital in an efficient and transparent manner. Since 2005, it has distributed federal gas tax funds (the “Fund”) to all Ontario municipalities except Toronto.[94] The AMO administers approximately $800 million per year through the Fund and has distributed 7.86 billion to municipalities since 2005.[95]

To distribute the funds, a Municipal Funding Agreement (the “Agreement”) is signed between the federal government, provincial government and AMO to administer and monitor the distribution of the Fund’s proceeds.[96] The AMO monitors the municipal usage of the Fund, conducts random audits, and per section 7 of the Agreement, is required to monitor and receive

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[91] *Supra* note 21 at s 3(1).
[92] *Memorandum of Understanding between the Association of Municipalities of Ontario and the Province of Ontario*, 21 August 2018, at 2, online (pdf): <www.amo.on.ca/AMO-PDFs/About/MOU/AMO-MOU_Signed_Aug21_2018_Final.aspx>.
[93] “2020 Strategic Objectives”, online: *Association of Municipalities Ontario* <www.amo.on.ca/YourAssociation/StrategicObjectives>.
[94] Jordan Scantlebury, “The Federal Gas Tax Fund: Updates and other comments” (18 September 2019) at 5, online (pdf): *Association of Municipalities Ontario* <www.gastaxatwork.ca/sites/default/files/assets/Documents/Presentations/2019%20MFOA%20Conference/Updates%20on%20the%20Federal%20Gas%20Tax%20Fund.pdf>.
[95] *Ibid* at 6.
[96] *Municipal Funding Agreement for the Transfer of Federal Gas Tax Funds*, 1 April 2014, at 1, online (pdf): <www.gastaxatwork.ca/sites/default/files/assets/Documents/Agreements/Municipal%20Funding%20Agreement.pdf>.

an annual report on project descriptions, amounts spent, and progress made in meeting commitments.[97] Consequently, the AMO is familiar with monitoring the spending and compliance of municipalities.

In addition, the municipality is required to submit an Outcomes Report to AMO detailing progress made towards achieving goals and "beneficial impacts,"[98] collect information on the amounts spent and provide regular updates on project timelines and deadlines.[99] Municipalities are also familiar with reporting to AMO on the use of funds, and any other compliance requirements.

<u>The ONE Investment Program</u>

The ONE "is a co-investment program jointly operated by…subsidiaries of AMO and the Municipal Finance Officers Association of Ontario."[100] Created in 1993, it "provides investment options that support the needs of Ontario's municipalities."[101] As of 2018, it administered over $2 billion in funds, on behalf of 165 municipalities and broader public sector entities.[102] Policy and financial decisions at ONE are made by an Investment Board comprised of financial administrators from Ontario municipalities.[103] The Board Chair is Ken Nix, the Commissioner, Corporate Services and Treasurer for the Town of Whitby. As an entity created to offer investment opportunities to municipalities, the ONE is well placed to help municipalities develop and issue green bonds.

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[97] *Ibid* at 8.
[98] *Ibid* at 9.
[99] *Supra* note 94 at 19.
[100] "Guide to the Municipal Funding Agreement for the transfer of Federal Gas Tax Funds" (April 2014) at 5, online (pdf): *Association of Municipalities Ontario* <www.gastaxatwork.ca/sites/default/files/assets/Documents/Guidance/Guide%20to%20the%20Municipal%20Funding%20Agreement.pdf>.
[101] "About ONE Investment", online: *ONE Investment* <www.oneinvestmentprogram.ca/AboutUs.aspx>.
[102] "ONE Investment – 2018 Annual Report" (2018) at 6, online (pdf): *ONE Investment* <www.oneinvestmentprogram.ca/Docs/Annual-and-Quarterly-Reports/2018-Annual-Report-with-pages-FINAL.aspx>.
[103] "Governance", online: *ONE Investment* <www.oneinvestmentprogram.ca/AboutUs/Governance.aspx>.

Current offerings

The ONE provides municipalities with five financial products. Two are of interest – a short-term Bond Portfolio ("BOND"), and a longer-term Universe Corporate Bond ("UCB"). Both offerings include investments that are highly rated by the rating agencies and comply with the prudent investment standard required under section 418.1(1) of the *Act*.[104]

The BOND was created to provide municipalities with "competitive rates of return through a diversified portfolio of conservatively managed short-term bonds"[105] Ideal for an investment window within the 18 months to three-year range, these include Government of Canada, Ontario and municipal debt, and other relatively safe investment options.[106]

The UCB was created to provide higher rates of return with a four plus year range by investing with a diverse range of "corporate and government bonds, debentures, and/or promissory notes as permitted by applicable regulation."[107] Clearly, then, ONE has experience developing, selling and purchasing different types of bonds in the market.

Addressing concerns

ONE would help address all three concerns identified about green bonds previously. For starters, it has credibility in the financial market given that it administers two bond offerings. ONE works directly with two private service providers that work in the ethical investing space and manage funds worth over $25 billion.[108] It therefore has the experience and the rolodex to help municipalities understand if their green bonds would receive interest on the market, and if so, help attract investors.

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[104] "ONE Investment – Investment Guidelines: One Bond Portfolio" (26 February 2019) at 1, online (pdf): *ONE Investment* <www.oneinvestmentprogram.ca/Docs/Guidelines/Bond-Guidelines-2019-02-26.aspx>.
[105] "Bond Portfolio – Short Term Investments in Government Bonds", online: *ONE Investment* <www.oneinvestmentprogram.ca/WhatWeOffer/ONELegalList/Bond.aspx>.
[106] *Ibid*.
[107] "Universe Corporate Bond Portfolio – Growth Potential of Longer Term Year Corporate Bonds", online: *ONE Investment* <www.oneinvestmentprogram.ca/WhatWeOffer/ONELegalList/UniverseCorporateBond.aspx>.
[108] "Service Providers", online: *ONE Investment* <www.oneinvestmentprogram.ca/AboutUs/ServiceProviders.aspx>

With respect to the concern about the low percentage of green bonds proceeds being used for climate change adaptation projects, ONE and AMO could work with municipalities to address this issue. The Royal Bank of Canada has noted that this can be addressed by "issuing pan-Canadian climate adaptation bonds"[109], which would work by grouping together a series of projects from different municipalities before being issued on the market.

The AMO can also help address this issue. In 2015, an advocacy group called for the Government of Ontario to amend the "definition of public infrastructure"[110] to include green infrastructure which includes water and stormwater projects. This is not just a cosmetic change. The definition of public infrastructure is included in the information provided to investors and influences the type of green bonds sold.[111] This is perhaps why Ontario green bonds proceedings have primarily focused on transit and clean energy projects, as opposed to mitigation projects. The AMO is well placed to lobby the Ontario government to accede to such a change.

ONE is also well placed to also help municipalities fulfil the high compliance and monitoring requirements associated with green bonds. In 2018, it incorporated as a not-for-profit organization, which allowed it to "broaden investment options and offer formal investment advice to municipalities."[112] ONE has described the services it offers as a "turnkey solution that allows all municipalities' access to…broader investment powers"[113], and help guide municipalities "through every step [of the investment process], including governance, by-laws

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[109] *Supra* note 58 at 6.
[110] Carolyn Johns, "Green Infrastructure and Stormwater Management in Toronto: Policy Context and Instruments" (10 December 2018) at 12, online (pdf): *Centre for Urban Research and Land Development* <www.ryerson.ca/content/dam/cur/pdfs/JohnsGIandSWMTorontoFinalDec18.pdf >.
[111] *Ibid*.
[112] "ONE Investment – Frequently Asked Questions", online: *ONE Investment* <www.oneinvestmentprogram.ca/AboutUs/FAQs.aspx>.
[113] "ONE Prudent Investor", online: *ONE Investment* <www.oneinvestmentprogram.ca/WhatWeOffer/PrudentInvestor.aspx>.

and investment policy development."[114] If ONE is already capable of offering step by step help for regular investments and bond offerings, it can presumably do the same for green bonds.

Windsor Context

Windsor is well-placed to issue green bonds to finance climate change efforts at this juncture as it will be taxpayer funded debt free by 2021.[115] To start with, the city has been assessed to have a double AA credit rating by the Standard and Poors credit rating agency since 2007, which would likely make any green bond offerings competitive on the bond market.[116]

Windsor currently finances new investments through a pay go policy, which essentially prohibits the accrual of debt. While prudent fiscal management is important, it also means that there is a limit on how much capital the city can allocate to finance essential projects. Debt is an important part of any planning approach according to the Government Finance Officers Association, which notes that it is "not fair to burden current taxpayers with the cost of assets people will use in the future."[117] One expert used the hypothetical example of road construction, and noted that "if we're building a new road and that road is meant to last for 20 years ... if I pay for the whole road in the first year then all the users on that road for the next 20 years are using it for free."[118] It stands to reason that if the costs are spread out over a longer time horizon, then all users of the road are paying for its usage throughout the 20 years period. The same logic applies to using green bonds to finance climate change mitigation and adaptation projects. Climate change is an inter-generational challenge that will require sustained investment and

[114] *Ibid*.
[115] "2020 Budget: Lowering Windsor's debt" (23 January 2020), online: *City of Windsor* <www.mayordrewdilkens.ca/2020/01/23/2020-budget-lowering-windsors-debt>.
[116] "City of Windsor Financial Rating Affirmed at 'AA' by S&P" (14 February 2019), online: *City of Windsor* <www.citywindsor.ca/Newsroom/Pages/City-of-Windsor-Financial-Rating-Affirmed-at-AA-by-S-and-P.aspx>.
[117] "As Windsor identifies $34M in funding shortfalls, expert thinks the city should start borrowing" (2 August 2019), online: *CBCNews* www.cbc.ca/news/canada/windsor/asset-management-debt-windsor-1.5232801>.
[118] *Ibid*.

policy action for decades. Any actions taken today will benefit future generations. Consequently, it makes sense that the costs of combatting climate change be amortized and spread out over a longer time horizon given legislative, fiscal and political realities.

This is especially the case since interest rates are at record lows. In 2019, the City of Sudbury raised $205 million to fund projects, by issuing debentures due to low interest rates.[119] Sudbury borrowed the funds through the Infrastructure Ontario ("IO") Loan Program. The IO provides long-term capital financing to municipalities by purchasing their debentures.[120] There is no reason why Infrastructure Ontario could not purchase a green bond debenture issued by Windsor for instance.

While this paper has focused on the feasibility of green bonds, it should be noted that they may also be positively correlated with larger emission reductions. A recent econometric analysis by the World Bank found that the combination of green bonds and a carbon tax would accelerate the transition to a low-carbon economy[121] and "produce the best welfare outcomes" when compared to two other scenarios that omitted either input.[122] The analysis concludes by noting that a carbon tax, which is currently in place in Ontario actually "improves the performance of green bonds, which in turn improve inter-generational equity, political feasibility, and help address multiple market failures."[123]

Green bonds also have additional advantages such as helping catalyze technological advancement. The World Bank notes that an examination of past technological transitions indicates that markets need to play a "market-shaping"[124] role rather than a market-fixing one. Given the amount of capital required needed to prevent a climate catastrophe and meet

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[119] Jamie-Lee McKenzie, "Greater Sudbury borrowing $205M for large projects" (15 August 2019), online: *CBCNews* <www.cbc.ca/news/canada/sudbury/sudbury-large-projects-loan-1.5245366>.
[120] "Loan Program Guidelines" (2019), online: *Infrastructure Ontario* <www.infrastructureontario.ca/WorkArea/DownloadAsset.aspx?id=2147492639>.
[121] *Supra* note 83 at 10.
[122] *Ibid* at 11.
[123] *Ibid* at 11.
[124] *Ibid* at 5.

ambitious emission reduction commitments, green bonds will help bridge the gap between the public and private investment markets and help finance a low carbon future.

Conclusion

Municipal green bonds issued in Canada have raised hundreds of millions of dollars on the market, proving to be an important way to finance reductions in GHG emissions, in an era of low interest rates, political stasis, and legislative caps on debt accrual. This paper is realistic about the current size of the green bonds market and their potential application by Canadian municipalities. However, in a situation where inaction imposes heavy environmental, social and economic costs, green bonds are an effective tool to raise capital to finance mitigation and adaptation measures against climate change.

Given the concerns and barriers associated with green bonds, AMO working with the ONE investment program to help municipalities develop green bonds is the best and most feasible option. Municipalities have a strong relationship with AMO and a history of working closely on shared priorities. The ONE's function, expertise and familiarity with the financial and bond markets, make it the ideal vehicle to help municipalities develop and issue green bonds.

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