

TA5.3 Attachment 1



Scaling and Focusing for Greatest Impact

Year-End Report on the 2019 Business Plan

January 2020



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Letter from the CEO

This past year we all saw the level of climate urgency escalate. Whether you're a long-standing practitioner or a member of the newly engaged public, we collectively witnessed the first-ever declarations of climate emergency and even more ambitious Federal and Municipal carbon reduction targets. The broad commitment to reduce emissions by 80% by 2050 has intensified to achieving carbon neutrality by the same year.

TAF also set itself ambitious objectives for 2019, aimed at accelerating adoption of low-carbon solutions GTHA-wide. We are an organization committed to action and to learning – from what works, to what doesn't, from our colleagues and the market we operate in, and from each other. That's why it's so important throughout the year, and at year-end, to have the discipline of evaluating our own results. Our successes and failures reveal enduring insights that will continue to guide ever more critical climate action.

Some highlights from the year include:

- Raising \$350 million for urban climate action across Canada – including a \$40 million increase to TAF's endowment. Through this new network of Low-Carbon Cities Canada (LC3) comes an opportunity for even greater strategic collaboration and scaling pathways for low-carbon solutions;
- Re-orienting our work and team towards *scaling* proven low-carbon solutions including strategic, bolder contributions to policy development and advocacy across the Greater Toronto and Hamilton Region (GTHA) and Federally;
- Developing a concept leveraging our TowerWise demonstration expertise, for how we might truly scale-up the delivery of building energy retrofits to serve the region;
- Seeing the GTHA-wide reach of our grants growing with support for more projects and organizations, than ever;
- Increasing our capacity, starting with an Investor Partnerships Manager to handle more and bigger transactions, a Director of Strategy & Grants to add focus and attention on internal operations to ensure our culture and processes enable us to do more work, faster, and together, and a Manager, Climate Policy. The total TAF staff complement, including term contracts, is now 23; and
- Welcoming four new Board members and several new Committee members, as well as saying goodbye to several as well – all tremendous volunteers who play a key, mission-critical role.

And still, we continue to follow the carbon. GTHA carbon emissions levels remain steady, despite a great deal of public and private sector attention. 2019 was another strong year for TAF, yet our work is only growing in importance and necessity. This look back on the year has fueled our organization forward, and I hope it does the same for you.



Julia Langer

#1: TowerWise

2019 Objective: Accelerate the implementation of deep energy efficiency in the built environment by demonstrating the technical and economic feasibility of energy efficiency retrofits, showcasing the potential for multiple benefits, and developing policy and program recommendations for scale-up.

TAF Lead: Bryan Purcell, VP Policy & Programs

Team Members: Keith Burrows, Low-Carbon Buildings Manager; Kaitlin Carroll, Energy & IEQ Research Coordinator; Devon Calder, TowerWise Coordinator; and Mina Rizkalla and Hamza Zaheer, Building Energy & Environment Researchers



Announcing funding for our deep retrofit work

OUTCOMES

2019 was a significant year for TowerWise, as we undertook our first deep retrofit and continued other large-scale retrofit projects to a high degree of success – from partnership management, to installation, to tenant engagement.

It was also significant because the Government of Canada finalized [energy efficiency regulations](#) for heating equipment, including boilers. TAF's first 10 TowerWise demonstration projects were designed intentionally, and funded by the Government of Canada, to produce real-world performance and costing data needed to justify the adoption of a regulatory standard for boilers. TowerWise data was critical to the regulatory process, and our policy team organized a number of stakeholders to support the regulation. Over the next 20 years, the new regulations are estimated to reduce carbons emissions by a cumulative total of approximately 15 megatonnes.

2019 Objective	2019 Outcome
Share what we learn: Publish and disseminate six (6) case studies and several technical papers documenting the outcomes and insights from TowerWise demonstration sites including the results of our indoor environmental quality (IEQ) research, smart thermostat pilots, heat pump pilots and measurement & verification guidelines.	Insights and evidence to inform retrofits continued to be shared with the market: - Three (3) case studies published: Arleta Manor, R.J. Smith Apartments and Trethewey Tedder Apartments. Additional case studies in development and to be published in Q1 2020 - Two (2) technical papers published: Improving IEQ in Multi-Unit Residential Buildings and a smart thermostat white paper. A third paper, on the business case for deep retrofits, is to be published in Q1 2020 Heat pump explainer video released GTHA outreach supported by VIP walking tour of Arleta Manor with TAF board members, Toronto Community Housing (TCH), Alectra, Enbridge, VanCity Community Investment Bank, Region of Durham, Durham Community Housing, and Building Up to discuss future project potential.

	Measurement & verification guidelines to be delivered in 2020.
Going Deep: Achieve substantial completion on at least one of the new deep retrofit projects in order to demonstrate the feasibility and co-benefits of achieving 40% carbon reductions. Advance other deep retrofit demonstration sites to construction readiness.	One new deep retrofit underway, at 66 Walpole. A press launch held to announce federal funding via FCM's Green Municipal Fund. Pursuing three (3) additional deep retrofit sites -- one (1) building in Toronto and two (2) buildings in Mississauga. Launched a second phase of work at one (1) TCH site; the work at RJ Smith Apartments (already part of TowerWise) is expected to boost the retrofit to 'deep retrofit' status. This project is the first demonstration of a key feature of TAF's ESPATM financing product; namely, that additional resource conservation measures can be installed during the ESPATM's 10-year performance period in order to increase the savings and returns.
Mobilize financial capital: Secure an additional \$5-15 million for TowerWise and potentially other deep retrofit projects.	\$4.65 million secured to support TowerWise: • \$2 million from TCH for Walpole deep retrofit • \$2.5 million from TCH for RJ Smith Phase II • \$150,000 from CMHC for deep retrofit work
Prepare scale-up across the GTHA: Develop a preliminary scale-up strategy for deep retrofits in the multi-residential sector, including documenting the business case and financing options, consideration of capacity building needs, and required policy/program supports. Work directly with key stakeholders - including TCH- to accelerate investment in deep retrofits.	Scale-up strategy white paper developed and circulated to key stakeholders – including Natural Resources Canada (NRCan), the Independent Electricity System Operator (IESO), and the Federation of Canadian Municipalities – which outlined the 'retrofit delivery centre' concept we are advancing in 2020. Discussions on expanding our partnership with TCH were initiated and a memorandum of understanding has been drafted; this is a priority activity for 2020.

#2: Electrification of Transportation

2019 Objective: To develop a strategic program for TAF's work in this area. Note that electrification of heating is addressed under TowerWise.

TAF Lead: Initially Mary Pickering, VP Strategy & Partnerships; then Bryan Purcell, VP, Policy & Programs

TAF Team: Ian Klesmer, Director, Strategy & Grants

OUTCOMES

The team focused on informing and supporting policy strategies to accelerate the electrification of transportation, including participating in the development of the regulations under the federal Clean Fuel Standard (CFS), and helping to develop the Regional Municipality of Peel's EV strategy (see more in the policy section).

Capacity constraints in 2019, including a parental leave and a staff re-assignment affected the scope of work achieved this year.

2019 objective	2019 outcome
Understand the landscape and TAF's strategic role: Drawing on insights from TAF's EV300 program and current leading-edge work on electrification of transportation, research and identify opportunities for, challenges to and impact of electrification of transportation in the GTHA, including key stakeholders, potential co-benefits and co-harms of a transition. Identify gaps that TAF could fill related to policy, financing, technology or other approaches, and opportunities for partnerships and collaboration that could improve the potential for success and impact. Seek input from key stakeholders to map out TAF's program plan, including intervention points, milestones and an evaluation framework to guide implementation.	We helped develop the City of Toronto's and the Region of Peel's EV strategies and EV-related policy work. A landscape review identified areas of activity for TAF in 2020: • Research and advocacy for policy solutions to accelerate electrification of transportation; including municipal permitting and bylaws in support of EV charging • Solutions design for EV charging infrastructure; including financing tools, pilot demonstrations, and grant-making In 2020 we will identify specific financing, funding, policy, regulatory and other barriers to EV charging in GTHA and create a strategy to address them.

Raise the profile of EVs as low-carbon solutions. As a member of the Board of Directors for Electric Mobility Canada (EMC), establish partnerships with key stakeholders, showcase successful EV solutions, enhance EV-related communications and support strong provincial and federal policies which can accelerate EV uptake in the GTHA.	In 2019 we contributed to EMC's: • Supply and demand policy for zero-emission vehicles (ZEVs) (April 2019) • Broader organizational strategy: strengthening the mandate, the model and membership (EMC members, but as of Dec 2019, auto manufacturers have left EMC)
Support a strong EV Strategy for Toronto and the GTHA. As Vice-Chair of the City of Toronto's Electric Vehicle Working Group, support the development of a strong EV strategy which establishes Toronto as a leading jurisdiction. Disseminate the strategic recommendations to support EV adoption among other GTHA municipalities.	The <i>City of Toronto EV Strategy</i> was approved by City Council in January 2020. As above, we also joined the steering committee to develop Peel's EV strategy, which is scheduled to be completed in Q4 2020.

#3: Policy Development and Implementation

2019 Objective: Development, advancement, and support for implementation of strategic policies to accelerate deep retrofits, net zero construction and electrification of transportation.

TAF Lead: Bryan Purcell, VP Policy & Programs

TAF Team: Harpreet Sahota, Policy Coordinator



Discussing the Clean Fuel Standard at the Dan Leckie Forum

OUTCOMES

A new policy assessment tool launched this year – evaluating carbon emission impact, TAF expertise ‘fit’, and the need for our involvement – enabled us to be strategic and selective about which opportunities we go after, how, and with whom. A second in-house tool helped us forecast and track climate policy activity, including when and where our participation, consultation or response would be most effective and whether TAF should lead, participate or advance the work through a grant.

Stakeholder engagement continues to be an increasingly important mechanism for advancing our policy work and this year we worked with the HVAC industry, and with dozens from across sectors on the CFS to define pathways to electrification of heating. A key lesson is to include more non-traditional partners of ours, like industry and other interests, to successfully reach and influence policymakers.

While plans and strategies are helpful for aspiration and broad commitment, they don’t necessarily lead to action, and not at the pace nor scale we need. For example, we supported the City of Toronto’s EV strategy and resilience strategy and the Mississauga Climate Action Plan. However, these well-intentioned efforts don’t on their own lead to carbon emissions reductions; there is still a need to fight for by-laws, budgets and resources to implement these strategies – something we’ll be more vocal about in 2020.

2019 objective	2019 outcome
Towards ‘near zero’ new construction.: Work with diverse stakeholders to support the adoption of a more ambitious national model building code and Ontario Building Code to provide clear pathways to near zero emissions buildings by 2030.	We provided a multi-year grant (\$290,000) to Efficiency Canada to advance a strong national model code and Ontario Building Code, including a focus on capacity building for code compliance and enforcement. We also cultivated a grant proposal from the Ontario Home Builders Association to build capacity for ‘near zero’ new construction.
Collaborate with City colleagues and community groups on the successful implementation of Toronto Green Standard V3, and with regional stakeholders to support adoption and refinement of green development standards in the GTHA.	We continued to work with the City of Toronto to advance ‘near zero’ new construction via the Toronto Green Standard (TGS3), including via a grant to the City (2018) for capacity building. We engaged with other municipalities in the GTHA around creation and refinement of municipal green development standards, providing technical advice and also exploring granting opportunities.
Stimulating deep energy retrofits: Continue to support the development of minimum energy performance standards (MEPS) for high-impact product categories including windows, ventilation and heating.	2019 was a landmark year: the Government of Canada amended the <i>Energy Efficiency Regulations</i> to introduce or strengthen minimum energy performance for all major types of gas-fired heating equipment in Canada. This came after years of advocacy on our part, most recently joint advocacy with Efficiency Canada Our grant to Efficiency Canada (2019-2022) includes a strong focus on advancing MEPs in support of Canada’s Market Transformation Roadmap, which TAF also helped to develop. This includes tracking the Province of Ontario’s progress in achieving strong MEPs, identifying provincial and federal advocacy priorities to support this progress, and assessing the economic impacts of advancing MEPs in alignment with the roadmap.
Support the expansion of natural gas conservation programs in Ontario.	We led the development of a joint letter to the Ontario Energy Board regarding the design of the post-2020 gas conservation framework. This involved input from Efficiency Canada (the above-mentioned grant to Efficiency Canada supports their advocacy for a strong gas conservation framework at the OEB), the Canada Green Building Council, and the City of Toronto. We also collaborated with Pollution Probe, Clean Air Council, the Green Energy Coalition and Environmental Defence to maximize alignment on key recommendations. The policy development process was paused by the OEB in July and is expected to resume in 2020.

Continue to support implementation of Ontario's Energy and Water Reporting and Benchmarking (EWRB) Regulation, as well as strategic use of the data.	Through a multi-year grant to the City of Toronto (activated in 2017), we continued to support the implementation and use of EWRB data; and this work has dramatically increased the compliance rate in Toronto, as compared to the province. Based on this success, in 2019, TAF funded the Canada Green Building Council to undertake this work region wide. In late 2019, the Province proposed a regulatory amendment to stop further rollout of the EWRB initiative to buildings under 100,000 ft². We mobilized a diverse coalition of stakeholders to write letters urging the government to reconsider this misguided rollback, including by presenting at a webinar and submitting our own letter. We expect a final decision in Q1 2020.
Champion provincial and federal support for energy efficiency retrofits, including through the proposed Ontario Carbon Trust, federal climate funding programs, and tax incentives.	While the Province has sought out TAF's ideas regarding the proposed Ontario Carbon Trust (AKA Emissions Reduction Fund) it became clear that the Fund would not advance in 2019 so we postponed further research and advocacy on this, pending some signal that the Province intends to proceed. We worked with the City of Toronto and the HVAC industry on extending favorable federal tax treatment to air-source heat pumps and other energy-efficiency measures, in line with the treatment for geothermal pumps. The City and FCM have subsequently made this an advocacy priority. We advocated for federal grants and financing support for energy efficiency, which contributed to several announcements including \$600 million for residential and community housing retrofits through FCM and \$400 million for financing deep retrofits in commercial buildings, to be disbursed following a national competition. Ensuring strong and viable projects for this funding is a priority for TAF in 2020.
Support the use of municipal property standards to drive basic energy efficiency retrofits in multi-unit residential buildings.	We participated in an interdivisional working group at the City of Toronto, led by the Resilience Office, to develop a recommendation to update the City's property standards to incorporate more robust HVAC standards to address both resilience and climate goals. More work is required to ensure robust standards are established and enforced. We are continuing to explore this policy option with the City through our participation on the steering committee for its Existing Buildings Emissions Strategy, expected to be finalized in 2020.

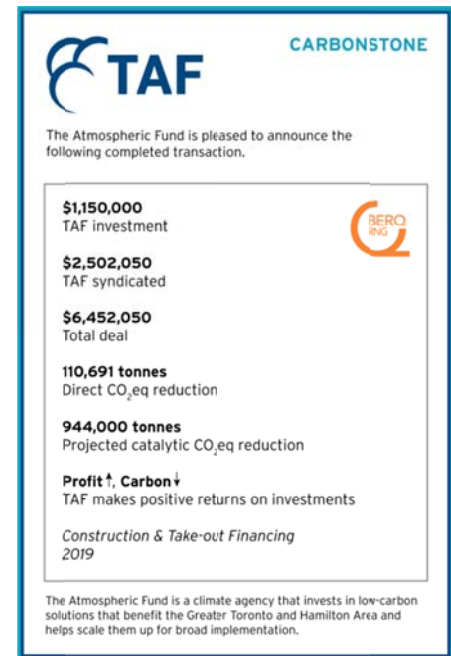
Explore policy and program options to support electrification of heating (i.e. transition to heat pump technology).	We collaborated with Ontario's HVAC industry stakeholders to try to drive provincial government action to support greater adoption of heat pumps in the province. This culminated in a collective HVAC industry letter that was sent in April to the Ontario Minister of the Environment, Conservation and Parks outlining policy recommendations to implement its Made-In-Ontario Environment Plan commitment to accelerate heat pump uptake. TAF secured a follow-up meeting with the Minister's office, where it was made clear that the recommendations would not move forward for the foreseeable future as they conflicted with other government priorities. TAF's Dan Leckie Forum this year focused on how the proposed Federal Clean Fuel Standard (CFS) could be designed to accelerate electrification of heating. Twenty-five (25) stakeholders from all relevant sectors – cities, utilities, district energy, HVAC, real estate, and engineering – attended. The forum resulted in a consensus on most of the key issues. We are now developing recommendations to Environment & Climate Change Canada (ECCC) for a CFS Building Electrification Pathway, which we expect most if not all the participants to endorse.
Driving electrification of transportation: Continue to promote the design and adoption of an effective Clean Fuel Standard in collaboration with allies via participation on the Multi-Stakeholder Consultative Committee; and to advance demand- and supply-side policies for EVs under the federal ZEV strategy.	We continued to lead engagement around the development of the CFS and provided detailed recommendations to ECCC, endorsed by over 25 organizations, highlighting the importance of a reinvestment requirement to ensure EV credit revenues are used to further accelerate transportation electrification. We also led the development of a joint letter to Minister McKenna endorsed by 13 organizations, including environmental and industry groups, highlighting broad consensus on most of the points in our detailed submission, including reinvestment requirements. Following the release of the Proposed Regulatory Approach of the CFS in late summer 2019, TAF submitted another letter. While the proposed approach did include TAF's reinvestment requirement, it was framed as a 50-100% requirement; in our latest submission we recommended 90%. We have also engaged a broader coalition of industry and environmental groups ("the CFS Advocates"), to draft a joint letter endorsed by 30+ cross-sector organizations. The letter is focused on increasing the level of ambition in the CFS and ensuring predictable access to the credit market for clean technologies, in order to create the market confidence needed to generate investment in clean fuels. This letter was delivered to the Minister of Environment and Climate Change in late December. While development of a federal ZEV strategy has been postponed indefinitely, we continued to advocate for a national ZEV mandate through our participation in Electric Mobility Canada.

#4: Impact Investing & Finance Innovation

2019 Objective: With a focus on low-carbon buildings and electrification of transportation, use direct investing capacity and expertise to help 'commercialize' technologies, services and approaches. Amend TAF's investment policy and continue re-balancing and diversifying in keeping with the target portfolio asset mix and risk-adjusted return expectations.

TAF Lead: Tim Stoate, VP Impact Investment

TAF Team: Tracy Haynes, Manager, Investor Partnerships (joined November 2019); Nicole Leite, Manager, Impact Investing (left in December 2019 for a one-year education leave) replaced by Iryna Halubkova. (joined January 2019).



TAF's new carbonstone

OUTCOMES

In support of the target portfolio adopted by the Investment Committee, and with the support of the committee and other colleagues in the impact investment space, we established a clearer investment thesis and 'strike-zone' to guide the acceleration of direct investments for maximum financial and environmental value creation.

2019 was a banner year for deploying our capital, with five direct investments approved – one involving co-investors, demonstrating our interest and capacity for leveraging and mobilizing capital into the low-carbon space.

With growth of our Impact Investing team, in 2020 we will focus greater attention and resources on the development and testing of innovative financing tools to address barriers and accelerate the uptake of low-carbon solutions

2019 Objective	2019 Outcome
Maximize the financial and carbon-positive impact of TAF's endowments: Prudently deploy both endowments in compliance with TAF's investment policy, maintaining separate accounts.	Quarterly reports completed by Proteus Performance Management shows compliance with TAF's Statement of Investment Objectives & Principles (SIOP), except for the Global Equity allocation which has trended slight beyond the maximum due to outstanding manager performance. This will be corrected by withdrawal from Generation in Q1. Target portfolio developed by the asset mix subcommittee and adopted by the Investment Committee focuses on: • Increasing Direct Investments to decrease market volatility exposure and increase mandate-related impact (see below) • Diversifying the Fixed Income portfolio to reduce interest rate alignment and increase mandate-related impact (see below) • Reducing manager concentration, which will be accomplished by 'dilution' with the Federal endowment
Increase direct investments to at least 30 percent of the portfolio to reduce potential market exposure and to mobilize investment in low-carbon opportunities.	Direct investments are in compliance with the asset allocations specified in the SIOP, Section 5.2. As at Nov 2019, \$8 million is invested and \$10 million is committed for a total of 37 per cent. Four proposed investments bring the total to \$24 million for a total of 50 per cent. Business Plan developed which clarifies TAF's Direct Investment thesis, services and strike zone. These are now reflected on the Impact Investing section of TAF's website to facilitate origination and screening of potential transactions.
Identify fixed income options for reducing carbon exposure and improving return.	Proteus led a process involving IC members and other experts to identify key criteria for fixed income that is less tied or not tied at all to interest rates and conducted research that identified four possible managers/products. An investment recommendation will be taken to the Board in February 2020.
Structure, finance and secure co-financing for three (3) to four (4) deep retrofit demonstration projects: Structured as Energy Savings Performance Agreements (ESPA™) or other financing mechanisms appropriate to the specific mix of short, medium and long-term payback measures including envelope cladding, window replacements and fuel-switching. All transactions will be first available to Efficiency Capital under the Warehouse Facility, or for refinancing with TAF maintaining at least 20% of each project.	One (1) deep retrofit underway (Walpole), not financed by TAF as this TCH building is suite metered and almost all savings flow directly to tenants, so there is no revenue stream for TCH to repay external financing. One (1) ESPA was approved under the warehousing line for Efficiency Capital in 2019: Woodgreen Community Housing (4 buildings). We made additional preliminary financing offers to five (5) other candidates, but none have been confirmed. Advancing design and availability of innovative financing tools for retrofits is a priority area of focus in 2020.

Invest and/or co-invest in two (2) to three (3) companies with proven but pre-scale technologies and/or services that demonstrate the ability to generate buildings and transportation-related emissions reductions in the GTHA and financial return on investment through commercialization in Canada.	Five (5) investments underway on proven, pre-scale companies: • Two (2) approved and advanced: BerQ (renewable natural gas) and ClearAS (low-carbon wastewater treatment). • One (1) approved which will advance when they raise additional capital: One Planet Living Fund (net-zero buildings). • Two (2) conditionally approved (renewable and bio-energy).
Develop and demonstrate innovative, barrier busting financing tools: First, leverage TAF's non-debt retrofit financing experience into performance-based financing for conversion of light-duty fleet vehicles to electric or other non-fossil fuels. Second, pilot deep retrofit "step loan" that combines short, medium and long-term financing into one loan with separate maturities that match the life and return on the asset being financing with the goal of minimizing transaction time and costs and facilitating financing of the long payback assets such as cladding.	Not completed in 2019. Need to undertake further research and consultation to develop the right structure/offering. Few existing models to learn from in this space. Priority for 2020. Step loan completed in 2019. We are confident that this kind of project will work but have not yet found an appropriate project/proponent. Priority area of focus in 2020.
Use our 'enterprise grant' model -- which sets performance milestones for repayment -- to help remove barriers for emerging social enterprises.	An appropriate project did not present itself this year.
Mobilize capital for low-carbon solutions: Bring vetted/viable transactions to potential co-investors including public funds, private funds, foundations and others, with TAF maintaining at least 20% invested, and support others in deploying capital into low-carbon solutions.	TAF led the syndication of BerQ financing with two (2) community foundations providing subordinated debt alongside TAF and a senior debt lender, leveraging TAF's investment 1:5. In keeping with the Business Plan which emphasizes syndication as a strategy for mobilizing more capital and sharing the tasks of investment diligence and risk, we added a Manager, Investment Partnerships, whose role and priority is to scale up our collaborative investment relationships.

#5: Region-wide Grantmaking and Capacity Building

2019 Objective: Cultivate high-impact grants, loans and capacity building initiatives to support high-impact climate work in the GTHA.

TAF Lead: Ian Klesmer, Director Strategy & Grants

TAF Team: Diana Yoon, Communications & Regional Outreach Coordinator (on leave from June to October 2019); Ryan O'Connor, Grants Manager (joined November 2019); Juan Sotes, Carbon & Co-Benefits Quantification Manager; and Fatima Crerar VP Strategy & Partnerships (joined November 2019).



Speaking in support of one of our granted projects

OUTCOMES

As they say, a stitch in time, saves nine. As both a grantmaker and a manager of internal programs, we have come to appreciate the critical importance of careful program design. Taking the time at the concept stage to clearly define a program's intended impact, and to outline the strategies needed to realize that impact, can avoid serious and time-consuming challenges down the road. This was the thinking behind TAF's new capacity building offering in 2019: effective program design and evaluation. Two cohorts of local climate practitioners participated in two workshops interspersed with personal coaching from a program design expert. Participant feedback – including from our own TowerWise team, who explored the 'retrofit delivery centre' concept – was overwhelmingly positive.

Some of TAF's most notable regional successes to-date have emerged from working directly with our peers – whether as an advisor on a local climate initiative, as a supporter of a critical capacity building opportunity, or as a source of new and actionable information such as TAF's regional carbon emissions inventory. A corollary benefit to these activities is that they surface new groups who appreciate TAF's value and are more likely to collaborate with us to achieve mutual strategic objectives.

Since receiving the Province of Ontario endowment in 2017, we now see ourselves, and are seen, as a truly regional climate agency. TAF staff across all teams have been consciously working to reach key policy- and decision-makers and community groups throughout the GTHA, in order to increase our ability to invest in, provide grants to, and influence policy throughout the six GTHA regions. The work has paid off. Whether through innovative grants or TowerWise work in Hamilton, policy support in Mississauga and Peel, investments throughout the GTHA, or an emissions inventory that caught the imagination of politicians in Durham, we have broadly succeeded in transforming ourselves from a City of Toronto agency to a regional agency. Of course, more work needs to, and will, be done over the years to maintain our regional perspective but we will be working from a strong foundation.

2019 Objective	2019 Outcome
Connect with key stakeholders and local leaders: Attend, present and/or co-sponsor 15-20 events to promote TAF's services.	TAF staff attended 49 regional events on topics such as community energy planning, urban freight, and deep retrofits - more than a 60 per cent increase from 2018 (30 events). More staff from the TowerWise, Impact Investing, and Policy teams travelled across the GTHA to learn from regional stakeholders, build TAF profile and share our expertise.
Meet with local practitioners in each of Hamilton, Halton, Peel, York, Toronto and Durham to cultivate projects and partnerships. Present TAF's value proposition to senior decision-makers and thought-leaders from around the region including elected officials, municipal staff, representatives of community organizations and institutions, investors, and others.	We met with multiple local practitioners from each regional and single-tier municipality across the GTHA – including representatives from government, community groups and the business community. A grant to the Hamilton Chamber of Commerce, our involvement in developing Mississauga's first Climate Action Plan and new partnership leads to scale TowerWise to other GTHA regions are direct outcomes of this activity in 2019. TAF's CEO spoke to GTHA regional chairs and elected officials to reinforce TAF's value proposition in the region and explain how Low-Carbon Cities Canada will enable TAF to deepen its regional impact. In Mississauga, TAF staff deputed at the Peel Regional Council in September in support of the TAF-funded off-peak delivery pilot and helped shared the City of Mississauga's first climate change plan.
Strengthen local capacity: Continue to support capacity building for effective project selection, design and delivery through TAF's social innovation skills fund. Retain an expert consultant to provide specialized advice to prospective and existing grantees in the areas of program design and evaluation.	We offered dedicated workshops and individualized coaching calls to train over 50 climate practitioners from 28 organizations in effective program design and evaluation with partnership of two expert consulting firms, Envision Synergy and Social Impact Advisors. Positive participant feedback, as well as observed improvements in Nov 2019 Grant application cycle indicates TAF should continue to offer skills development activities. Proposed future areas of focus include collective impact (i.e. working strategically with different sectors on a common agenda); scaling solutions; effective communications; and leadership development.

Publish an updated regional carbon emissions inventory report based on data from 2016 and 2017 to support GTHA municipal and community practitioners in identifying high-impact initiatives.	TAF published its updated carbon emissions inventory for the GTHA in December 2019, using updated marginal emissions factors (MEFs) and an updated methodology. The inventory was supported by a communications and distribution plan designed to maximize the impact of our research findings and drive regional collaboration. It was covered by most major GTHA media outlets, including a front-page story in the Toronto Star, large coverage in the Hamilton Spectator, radio and TV coverage from CBC Toronto, and stories in local and trade press, and even National Public Radio. Over 1,000 recipients opened targeted regional-specific emails containing our key inventory results, and for some audience segments (like municipal staffers in Peel and Durham) between 10 and 50 per cent of recipients clicked through to view the report. The day of the inventory release, our website received the second highest traffic rate for a single day in 2019, and we received nearly 10,000 impressions across our social channels. Response from policy- and decision-makers has already been positive and widespread through the GTHA. Distribution through multiple channels will continue in 2020.
Support a portfolio of initiatives throughout the GTHA: Continue to build an active grant portfolio with ten (10) to fourteen (14) initiatives occurring within at least four (4) regional or single-tier municipalities and totaling \$750K in grants, internal projects and loans.	TAF funded or continued to fund a total of fourteen (14) regional projects with a total value of \$1,755,230. These initiatives are either led by organizations based outside of Toronto or are considered "region wide" because they involve stakeholders from at least two different municipalities. TAF's current portfolio includes organizations based in four (4) regional/single-tier municipalities (Hamilton, York, Peel, and Toronto). Five (5) new regional grant applications with proponents based outside of Toronto are slated to be considered by the Grants Committee in January 2020.

#6: Leveraging Co-Benefits to Build Strategic Partnerships

2019 Objective: Support best practices in climate communications to broaden relevance of key climate actions. Enhance professional partnership brokering capacity in the GTHA. Create strategic partnerships and/or collaborations to incubate the Workforce for High-Performance Buildings campaign.

TAF Lead: Mary Pickering, VP Strategy & Partnerships

TAF Team Members: Bryan Purcell, VP Programs & Policy, and Ian Klesmer, Director Strategy & Grants



Meeting with our LC3 partners

OUTCOMES

Securing \$350 million for urban climate action across Canada, including an additional \$40 million for TAF's endowment is a long-lasting, game-changing win for us. Further, our experience and model has been key to the development of the Low-Carbon Cities Canada network and operating model, led by Mary who is on secondment to FCM until early 2021.

Incubating the Partnership Brokering Association has shown value in building capacity within the sector, including for our grantees; however resources required to sustain this activity versus our strategic directions and priorities, makes it clear it is time to transition this activity to a new partner.

Based on learnings and collaborations over the past year, it's inarguable that there's strategic value and public benefit to integrating co-benefits (i.e. social outcomes) into our climate action work. This will be activated in 2020 by including social outcomes in our Key Performance Indicators (KPIs) for TAF as well as all LC3 network organizations.

2019 Objective	2019 Outcome
Deepen understanding of co-benefits: Continue to work with City of Toronto divisions and agencies, community stakeholders, academics and others to better understand and quantify the benefits of increasing building energy performance and electrifying transportation in the spheres of public health, local economic development, social equity, and resilience.	TAF participated actively in a review of a three City of Toronto co-benefits studies, specifically on economic development, social equity and public health, however more effort is still required to make clear linkages between specific climate actions and social outcomes and how to evaluate and measure performance accordingly. Three (3) grant investments were made in support of this objective: • To Canadian Green Building Council (see Workforce below) • To Environmental Defense to work with health agencies on air pollution reduction and associated public health benefits of switching to EVs • To Toronto Environmental Alliance to engage with social sector players on climate actions that also address needs in Toronto's priority neighbourhoods

Incubate partnership brokering (PB) capacity: Help improve local partnership management capacity by hosting Partnership Brokering Association training opportunities in the GTHA. Deliver two (2) four-day training workshops to support training for forty (40) people, and four (4) community of practice events. Build the community of practice from thirty (30) to sixty (60) members. Support the development of one (1) or two (2) accredited trainers in the Toronto area to fill the gap in local training capacity.	Delivered one (1) four-day workshop in April 2019 to eighteen (18) participants (including ten (10) from GTHA climate sectors). Three (3) new trainers from Toronto have now been developed. Delivered two (2) Community of Practice meetings -- one featuring Canadian author and partnership leader Adam Kahane; one hosted by Evergreen – involving a total of one hundred (100) people from across the GTHA. The Community of Practice list almost tripled to 81 members. A new website was launched to promote partnership broker training and mentorship opportunities in the GTHA. Provided partnership broker consulting for the Region of Peel to support their Community Climate Action Partnership.
Develop a low-carbon buildings workforce campaign: Support and collaborate with key stakeholders, including CAGBC, the Toronto Community Benefits Network, labour groups, Board of Trade, developers and others in exploring a workforce development strategy to ensure readiness to meet the demand for improved energy performance in larger buildings. Promote an understanding of the multiple social, economic and other benefits of building this workforce which is key to achieving our mid- and long-term carbon reduction objectives.	Provided CaGBC with funding to incubate a GTHA-wide campaign to ensure workforce readiness for green/low-carbon building objectives. Key campaign elements will include convening and mobilizing interested stakeholders, presenting and communicating multiple benefits, advocating for policy reform and program implementation.
Low-Carbon Cities Canada (LC3): If successful, support the engagement of a national support organization, negotiation of funding agreements, roll-out of capital to six partner centres, and enhancement of TAF's endowment and capacity.	Huge outcome from two years of incubation: Federal government committed \$350 million for the LC3 initiative, including \$40 million to enhance TAF's endowment. TAF has provided significant leadership in the negotiation of funding agreements with Federation of Canadian Municipalities, in collaboration with the other six LC3 centres. TAF's VP, Strategy & Partnerships was put on special assignment to FCM to support LC3 rollout without drawing on TAF resources. Initial use of federal funds to increase TAF capacity to scale: • Manager, Investor Partnerships (new position, see above) • Manager, Climate Policy (new position) • Grants Manager (replacing promotion to new position of Director, Strategy & Grants)

#7: Communications and Fundraising

2019 Objectives: Raise TAF's profile across the region as a low-carbon solutions leader. Effectively tell our stories, share knowledge and mobilize strategic support and funding from key stakeholders.

TAF Lead: Estelle Taylor, Communications Manager for Julie Leach, Communications Manager (on leave – February 2019 to February 2020)

TAF Team Members: Diana Yoon, Communications and Outreach Coordinator (on leave June – October 2019) and Katrina Brain, hired as Communications Coordinator in September 2019.



Speaking on CBC about the emissions inventory

OUTCOMES

This year we significantly increased our audience and engagement levels. Despite staff changes in 2019, the communications team was successful in reaching more critical audiences across the region and increasing their engagement with our content around our key program, policy, and impact investing work.

Quantification isn't just for carbon emissions. The top reason for the profile and engagement success was the adoption of a new analytics recordkeeping system created in-house, which helped the team better understand our social and digital audiences, and then directing our time, message and money accordingly.

Also contributing to the 2019 success was a more integrated approach with other teams, and increased strategic communications support at the start of a project – enabling early discussions around the intended audience and what output and message would work best for that audience.

2019 objective	2019 outcome
Expand TAF's social media presence: Grow combined Facebook, Twitter, LinkedIn by 40% through promoted content, email subscriber list by 25% through in-person networking, digital advertising campaign, and leveraging partner lists. Develop engaging social media content that highlights our unique role: our credibility and evidence-based approach; our diverse and inclusive partnerships; and our work seeking climate actions that achieve multiple community benefits.	E-NEWS: More directed, more effective. Audience numbers held steady (3,000) as did strong open rate (30%). Click rate: Up 22% over last year, and most popular link in each monthly e-news was clicked by 67% more people than last year. WEBSITE: Audience engaging with more content. Monthly page views: up 20%. LINKEDIN: All-around improvement. Audience grew 86%, average post impressions grew 36%, and engagement per post grew 40%. TWITTER: Targeted message improvements. We focused this year on TAF activities, moving away from broader posting. Impressions, audience numbers and engagement held steady (impressions up 13%) despite cutting all advertising on this channel. FACEBOOK: Closed due to poor response and lack of alignment. Impressions declined considerably once we stopped paying to boost posts. Key TAF messages that resonated with all other digital audiences stopped resonating with Facebook. Conclusion: not a core TAF audience.

Website refresh: Redesign the homepage and general navigation to emphasize current updates, drive subscribership to the blog and newsletter, and incorporate brand messaging, regional content, and more human narratives. Publish 30-35 blogs to promote priority topics: TowerWise demonstrations, heat pumps, policy, technology, impact investing, TransformTO, and regional work.	Website refresh, including new homepage, was completed in April 2019. Increased promotion of the e-newsletter did not result in an increase in subscriber numbers, but a pop-up subscription window has. Blogs: Published 35 blogs this year. Blogs covered our key priority topics and a new blog style adopted offering 'behind the scene' information, for instance our series about an in-progress retrofit proved popular, as did blogs about heat pumps. However, analysis indicates blogs are not being read by many people, even with paid promotion (average readership = 498, median readership = 385) so more effort was dedicated to a series of social posts; this will be monitored in 2020.
Choose the right messengers to share stories: Share positive, inspiring success stories to build TAF's profile with key audiences like the finance sector, building sector, community groups, cities, utilities and government agencies. Experiment with diverse messengers sharing our stories to help grow our relationships with diverse stakeholders beyond the usual suspects. Consider co-funding market research to establish a baseline for public opinion in the GTHA; experiment and track which narratives and framing are most impactful to inspire support for climate action.	The establishment of a new analytics tracking system helped us to understand where people live, what industries they are in and what messages resonate most with them. TAF is a member of the EcoAnalytics research project to increase understanding of public sentiment around climate change issues. TAF-initiated/controlled messaging was supplemented by some non-TAF voices: • Faces of Climate Action was created in 2019 as a digital showcase of some of our partners and allies, with their perspectives around working with us. • The carbon emissions inventory included quotes from stakeholders across the region in support of a regional inventory • Grantees wrote and shared various blogs
Amp up earned media: Secure twenty (20) media mentions and three (3) op-eds featuring TAF's work by building relationships with media contacts outside Toronto, industry publications outside of the environmental sphere, and financial publications.	Earned over thirty (30+) media mentions and one (1) op-ed. As mentioned in program and policy sections, notable coverage came from: • TAF's grant to the Hamilton Chamber of Commerce regarding how to reduce Hamilton industrial emissions • The launch of LC3 • Announcement of federal funding for our deep retrofit project with a news conference at a TCHC retrofit site • Launch of the carbon emissions inventory Social media proved a good way to share some stories even if traditional media didn't pick up on them. For example, press releases about two direct investments received very little traditional media coverage but were seen, widely shared and commented on online by thousands. TAF's media contacts database was expanded significantly.

Sharing program-related knowledge and insights: Demonstrate TAF's value and share knowledge by sharing insights, lessons learned, and scale-up recommendations to key audiences, drawing from our high volume of programmatic content. Create accessible and digestible content to "popularize" findings from reports, case studies, and annual carbon emissions inventories from Toronto and the region. Channels will include contributions to industry and academic publications, case studies, our 80x50 blog and e-news, conferences and events, short videos, as well as social and earned media.	Program-related knowledge and insights were widely shared on digital and social channels, as noted in previous sections. More photographs were used on social this year to show our participation at key regional events and to offer insider 'TAF at work' progress shots. We had a photography intern in the summer and found professional photographers as well.
Fundraising & Stewardship: Advance funding requests to support priority activities and provide accountability and insights to our supporters.	The communications team supported funder relations by crafting and maintaining relevant funder acknowledgements on program webpages and materials, organizing announcement of the Government of Canada/FCM deep retrofit funding, and organizing announcement of the LC3 funding with the federal government and Federation of Canadian Municipalities.

#8: Governance, Operations & Organizational Development

2019 Objective: Ensure excellent and efficient operations and governance, including funder stewardship and accountability.

TAF lead: Julia Langer, CEO

TAF Team Members: Fatima Crerar, VP, Strategy and Partnerships (joined November 2019); Jason Wong, Director of Finance (left in December 2019); Chris Vincent, Accountant; Ian Klesmer, Director Strategy & Grants; Jaime Klein, Operations Lead.

OUTCOMES

In the midst of challenge, there is also opportunity. Seven TAF colleagues were on leave at some point throughout the year, there was an influx of new staff who covered these leaves, and the team also grew. While disruptive, this change also provided an opportunity to inject fresh perspectives, different ways of working, and new energy into the staff and its culture. The growth and transition created fertile ground for exploring how TAF can more proactively support staff's professional growth and development; promote equity, diversity and inclusion; and foster a more social work environment. Supporting the mission-critical role played by our volunteer Board of Directors and Committee Members, and engaging with City colleagues on key governance matters continues to be a priority with progress on some key fronts including amendments to the investment policy (pending Council approval) and enabling remote participation in Board meetings.



2019 objective	2019 outcome
Provide diligent and robust support for governance, decision-making, compliance and stewardship: Provide TAF's board and committees with timely and relevant information, advice, logistics and best-practice tools and approaches to support their decision-making, strategic guidance and financial oversight. Ensure that all decisions are compliant and aligned with City of Toronto and Province of Ontario requirements, Recruit expert committee members with an eye on regional representation, diversity and alignment with Strategic Directions.	Timely and accurate materials for four (4) Board meetings delivered, three (3) Grant and Programs Committee (G&PC) meetings, seven (7) Investment Committee meetings. Implemented remote participation. Presented un-qualified financial audit. Certified compliance with all requirements. Three (3) new Board members appointed and Council approval for an additional member who is not a Toronto resident. Excellent diversity and breadth of expertise. Two (2) new G&PC member (Nicola Crawhall and Laurel Atkinson) and one (1) new IC member (Stephen Simpson).

Update key governance documents: Changes including TAF's enhanced endowment, regional mandate, regulatory requirements and investment best practices must be reflected in the TAF/City of Toronto Relationship Framework (RF), the Statement of Investment Objectives & Principles (SIOP), and TAF's Operating By-Law.	SIOP amendments approved by Board along with request for Council approval, reflecting the advice of the Investment Committee and an ad hoc committee convened to propose the target portfolio. Relationship Framework and By-law amendments being discussed with City colleagues. We are leading the negotiation of a Term Sheet to serve as basis of FCM/LC3 Funding Agreements, informed by TAF's RF, SIOP and ON Transfer Payment Agreement.
Understanding the Pathway to Scale: Deepen TAF's understanding of how to position proven urban climate solutions for full-scale adoption, starting with making connections with thought-leaders and experienced practitioners who are currently advancing solutions to full scale in various sectors. The aim is to determine what is needed in relation to scaling up urban climate solutions; develop a suitable pre-scale role for TAF that builds on current strengths; and identify the capacity and other gaps we will need to fill in order to effectively implement the new Strategic Directions.	Established a special project to advance understanding of the best practices and approaches, metrics and other practical ways to integrate scaling into TAF's work. An RFQ, scoped with input from the advisory group, received 9 responses. Rotman team will complete the research in Q1 2020. A dedicated advisory group will support this work including representatives from TAF Board members, foundation colleagues, academics, cleantech practitioners.
Support organizational excellence: Provide staff with mentoring and relevant professional development opportunities that will enhance their performance. Foster a collaborative organizational culture; an internal team will focus attention on equity, diversity and inclusion.	Improvements to the total rewards package were introduced based on staff feedback. TAF launched a new professional development plan and process which will provide financial support and time in support staff's knowledge, skills and career needs and goals. TAF's internal EDI (equity, diversity and inclusion) team continued delivering activities that strengthen TAF's culture and thinking, including regular surveys, a training session and most recently draft Commitments to be 'Equal by 30'. The TAF social committee continues to be active, planning events and activities that strengthen team connections.
Be a learning organization. Use the new Theory of Change and KPIs, brand framework, Strategic Directions and tools such as TAF's Developmental Evaluation Guide to ensure that program design and analysis of activities and results - including failures -- lead to valuable lessons for TAF and our affiliates.	With staff and external facilitation, we co-designed and undertook two full-team, full-day meetings: the first focused on drawing out lessons from 2018's work and learning from "failure"; the second focused on team-building and on the concept of TAF's new focus on scale.

Key Performance Indicators: 2019

TAF follows the carbon. This requires understanding the sources of emissions in the GTHA and directing our resources to curtail them.

We have built a strong, transparent quantification practice to assess the potential impact of all our grants, investments and projects and how they contribute to a carbon-neutral GTHA. Nevertheless, improving our tools, metrics and sources of information is a never-ending process in the face of:

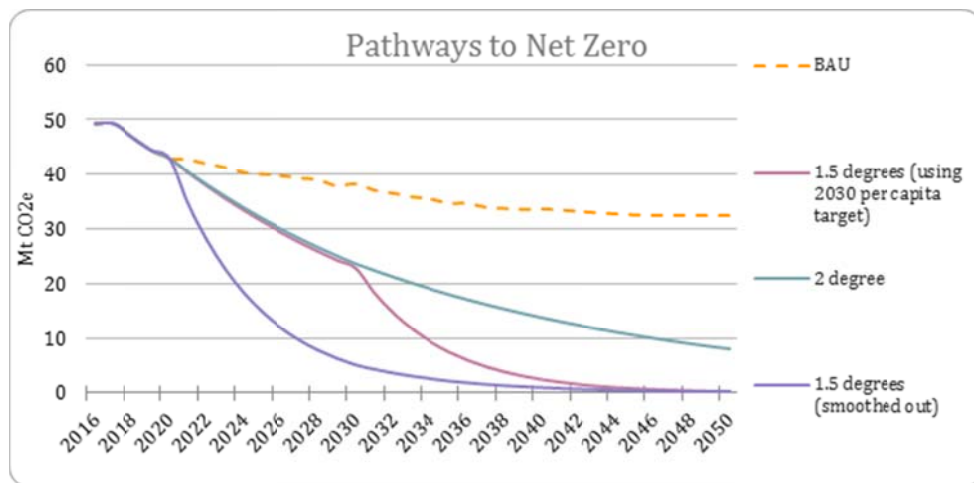
- Less than optimal availability and quality of data
- Evolving quantification methodologies
- Changing emissions factors, as the science of climate change mitigation advances
- A risk of double-counting the same sources of emissions and emission-reductions

Acknowledging these limitations, we have a credible and robust approach to evaluate our performance in 2019. The key conclusions are outlined below.

Carbon emissions in the GTHA are not declining quickly enough

The results of [our latest inventory](#) reflect the magnitude of the challenge. The region emitted 49.2 million tonnes of carbon dioxide equivalents (CO₂eq) in 2017¹, basically the same as 2016 (down -0.04%). It's worth remembering that emissions stayed static while the region's population grew. It's complicated to allocate emission reductions to specific initiatives, and even the influence of the weather could have been the main mitigating factor that year.

Despite efforts undertaken by multiple governments and other entities across the GTHA to mitigate emissions, the pace of action is not nearly enough to achieve 2050 carbon reduction targets.



¹ The most recent year for which data is available

TAF continues to support high-impact carbon-reduction initiatives

To estimate the combined impact of the initiatives funded and undertaken by TAF in 2019, cumulative direct and potential carbon reductions from all activities are outlined in the table below. Please see the [TAF's carbon emissions quantification methodology](#) for definitions and methods used for these calculations.

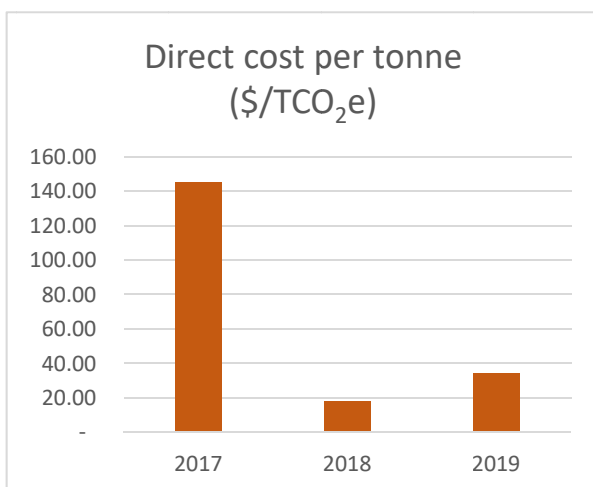
Direct Emissions Reductions (tCO ₂ eq)	Direct Cost per Direct Tonne (\$/tCO ₂ eq)	Potential Emissions Reductions (tCO ₂ eq)	Total Project Cost per Potential Tonne (\$/tCO ₂ eq)
112,237	34.30	11,256,160	0.99

The **direct** emissions reductions estimated for 2019 are mainly (98%) the result of one initiative, TAF's impact investment in the BerQ renewable natural gas project which will create RNG from food waste. The balance comes from TAF's TowerWise program (one new retrofit site initiated in 2019). The overall value is similar to 2018, and significantly higher than 2017, when only internal projects accounted for direct emissions reductions.

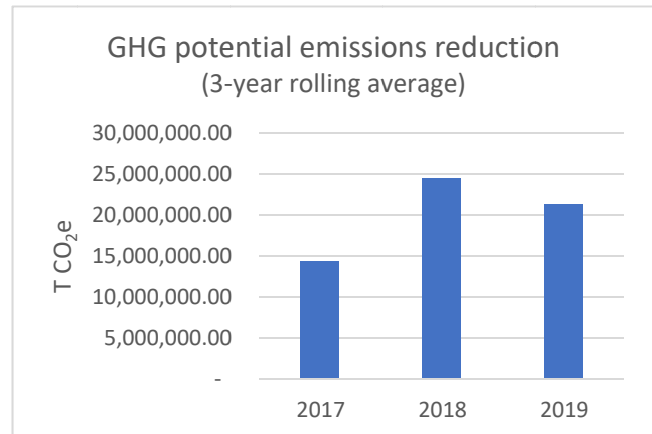
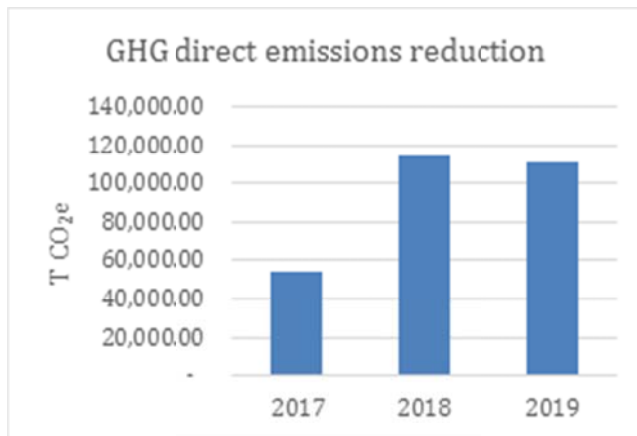
The cost per tonne of direct emissions reductions for 2019 is \$34.30/tCO₂eq. The small sample size available each year to estimate direct emissions generates high variability in these results. Only three projects had direct reductions in 2017 with \$145/tCO₂eq (all of them internal projects, which tend towards higher cost per tonne because they are designed to target scale-up potential), and two projects in 2018 with \$18/tCO₂eq. Those changes are more related to the specific characteristics of each project, rather than our current ability to identify projects with low costs per direct tonne reduced.

The **potential** emissions reductions from work initiated in 2019 is 11,256,160 tCO₂eq, achieved through four quantifiable grants and two impact investments. For context, potential reductions in 2018 was 37.5MtCO₂eq, but one single project accounted for 16M, and another two for 5.5M each. 2017 was closer to this year (15M). It's also worth considering that many grants approved in 2019 were deemed non-quantifiable. Non-quantifiable projects can often contribute to significant carbon impacts – they are simply not feasible to estimate at the outset.

The potential cost per tonne is 0.99 \$/tCO₂eq, slightly higher than previous years (0.61 in 2017 and 0.88 in 2018), although the same concerns expressed for the direct cost per tonne metric apply here.



The following graphs show direct and potential GHG reductions over recent years. Potential emissions reductions are presented as a three-year rolling average to provide a more meaningful trend. Most of TAF's projects are multi-year, but the associated potential is only added in one year, and a rolling average provides a clearer sense of the impacts associated with TAF's current body of work. We don't have enough historic data to apply the same methodology to our direct emissions reductions although we may do so in future reports.



Financial capital mobilized in 2019

In addition to the carbon reductions we achieve, we also track and report the capital we mobilize towards low-carbon solutions. This includes TAF direct investments, grants and program spending, as well as external contributions and co-financing. In 2019 we have worked on improving our financial KPI, changing the accounting from the financial amount executed over the year to the total approved value, in order to reflect the financial capital mobilized.

We consider an investment within the year when the first draw of the investment is executed, and allocate the full amount expected to invest over the lifetime of the project, as well as co-investment if the information is available. **In 2019, TAF mobilized \$14,908,607 for low-carbon solutions in the GTHA** – 50 per cent impact investments, 29 per cent internal projects, 21 per cent grants.

We also raise funds from other organizations to advance our climate projects. In 2019 we raised \$4,665,769 from external sources including:

- Canada Mortgage and Housing Corporation: \$150,000 for a deep retrofit project
- TCH: \$2,000,000 for a deep retrofit project; \$2,515,769 for second phases of current projects

Note some of these funds are also counted in our total capital mobilized KPI.

Of largest significance is the capital raised in 2019 for our total endowment. By the end of Q2 2020 TAF's endowment is expected to grow by an additional \$40 million through a contribution from the Government of Canada, as part of LC3. However, since the final agreement for TAF to receive the funds has not been signed, these funds have not been included in this year's report.



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