

Chief Executive Officer's Report

Date: October 20, 2022
To: Board of Directors of the Toronto Atmospheric Fund
From: Chief Executive Officer

GOVERNANCE MATTERS

Board and Committee News

Please join me in thanking Councillor Mike Layton for his outstanding contributions to TAF during his twelve years as a member of the TAF Board of Directors – three full terms of Council -- including as Vice-Chair and as a member of the Grants & Programs Committee. With his knowledge of City priorities and processes, he has been a highly effective catalyst and champion for many policies and programs that TAF has advanced to help drive down carbon emissions in Toronto. Mike will definitely be missed at both the TAF and Council tables but I'm quite confident he is unlikely to be absent from the climate solutions space.

While not clear whether Council will appoint a successor before our next meeting, Antoine Belaieff's term expires this month and I don't want to miss the opportunity to convey our thanks for the guidance, support and good governance he has provided, first as a member of the Grants & Programs Committee and then during his four years on the Board and as Chair of the Committee. Antoine's encyclopedic knowledge of transportation sector solutions and on-the-ground knowledge of the players, policies and politics of the Greater Toronto and Hamilton region have been a great asset especially once TAF started serving the GTHA. Given his entrepreneurial endeavours in the transportation space, we look forward to our paths continuing to cross.

2023 Board Meeting Schedule

Once the new term of City Council begins and Council and Council Committee meeting dates are set, we will work with the Clerk to establish TAF's 2023 Board meeting schedule. TAF's Board Chair will call the first meeting of 2023 (likely early February) and the agenda will include an item with 2023 meeting dates and the Board calendar.

Risk Register

The most notable risks for this period, based on senior management's quarterly review, and our responses, are highlighted below:

- **Financial:** there is a significant capital market downturn. Current market conditions have eroded asset value gained over past year. While the fixed income portfolio is relatively defensive, the entire equities universe has been negative and TAF has not 'benefitted' from the bounce from fossil fuels since we do not hold any, although we remain confident regarding the value of renewables and efficiency which we do hold.

Adding Alternatives (infrastructure) to the portfolio will help diversify and add revenue potential to the portfolio, as will advancing Direct Investments. The portfolio will be monitored regularly, and re-balancing undertaken at the advice of the Investment Committee. The prospect of a short-term recovery is unlikely, which dampens future revenue potential and therefore ability to support internal and community activity.

- Financial: A direct investment under-performs. While all TAF's Direct Investments are in compliance, see below for some insights regarding the impact of macroeconomic conditions on the portfolio of investments and a rocky time with one investment that has now been addressed with positive prospects.
- Program: External factors affect TAF's ability to reduce carbon emissions. Higher-than-average inflation, rising interest rates and pandemic recovery are posing well-documented challenges for employers in terms of competition for qualified staff, which TAF is aiming to address through continuous improvement of our total rewards program. In addition to these factors which put upwards pressure on the cost of goods and services needed for green buildings and EV adoption, there are value-chain constraints limiting availability of key equipment including heat pumps. However, rising energy costs and carbon price can also have some upside by making retrofit business case more attractive.

Implementation of Auditor's recommendations to management

In their [letter to management](#) in the context of the 2021 audit, Welch LLP made six recommendations to improve the robustness of TAF's internal practices and streamline the audit process. Each of these is being acted upon, as follows:

- Readiness for the annual audit -- TAF is adding an Accounting Clerk to the Finance team who will take over accounts payable and receivable and support program-level accounting and reporting. This will ensure capacity to undertake relevant functions throughout the year and to support the intensive audit processes and procedures. Furthermore, the Dynamics accounting software is now operational for all functions, the Finance team has been trained, and program team users have received initial training which will continue.
- Journal entries – Once the Clerk is on board, the Accounting Manager will be available to undertake this function on a more timely basis. The policy has been established that the Director of Finance will review and approve journal entries.
- Monthly filings with supporting documentation attached – Once the Clerk is on board, the Accounting Manager will be available for this function, in collaboration with TAF's Office Coordinator.
- Timely (monthly, quarterly) review of bank and investment reconciliations with electronic signatures on reconciliations – All banking activity is being reviewed monthly including for investigation of any unknown deposits and withdrawals and journal entries and bank follow-ups are being undertaken on a timely basis. Electronic signatures will be affixed to all bank reconciliations.
- Segregation of duties in payroll process including assignment of a reviewer -- TAF's VP-Strategy & Partnerships (responsible for HR) has been assigned the responsibility of sampling payroll to detect any errors or omissions and provide a second set of eyes on this significant expense line; she will document the review and any anomalies, and follow-up on any actions needed. Furthermore, total gross

earnings are reconciled each pay period to a master gross remuneration list that is updated throughout the year as staff changes and/or compensation changes are made.

- Preparation of a consolidated general ledger and trial balance and supporting schedules – With the requisite capacity in place, the team will be able to provide the trial balance and general ledger and year end, and prepare and review schedules for release to the auditor. The consolidated trial balance report is operational and the consolidated detailed general ledger will be completed by the end of October.

Endowment Agreements

TO/TAF Agreements

Staff have initiated the implementation of the governance updates recently approved by the TAF Board and City Council. This includes creation of several new TAF policies including a grants policy, a purchasing policy and a debt policy. The first two require TAF Board approval; external expertise will be secured to help develop the purchasing policy and advise management on its implementation. The latter requires City Council approval; external advice is also being secured for its development. The updated Statement of Investment Objectives and Principles (SIOP) requires an appropriate benchmark for each asset class and for each external manager; see Item TA19.10 which presents these for Board approval. The process for having the City of Toronto receive charitable contributions on TAF's behalf, as contemplated in S.10.3.2 of the updated Relationship Framework, is already in play. And the requirements for quarterly reporting and annual financial reporting are being operationalized. We aim to have implementation of all the governance updates underway or operationalized by Q1 2023 and will provide a detailed update to the Board at its February 2023 meeting.

ON/TAF/TO Transfer Payment Agreement (TPA)

As per S.3.2 of the TPA, which was signed October 2016, the parties agreed that seven years after the effective date they will initiate a review of the Agreement's provisions and determine whether any modification is required. In Q1 staff will reach out to City of Toronto and Municipal Affairs & Housing (MMAH) colleagues to determine an appropriate process and timeline; the TAF Board will be engaged in this process.

FCM/TAF/TO Funding Agreement (FA)

On August 3, 2022, as required under the FA, TAF notified FCM that the asset value had dipped below the nominal value of \$38 million, but not by more than 5% below, due exclusively to market conditions. Also as required, we indicated that the action to be taken would be to hold the current positions, undertake re-balancing based on the Investment Committee's advice, and monitor performance monthly. Updates regarding investment performance is provided elsewhere in this report.

STAFF & OPERATIONAL MATTERS

We're pleased to welcome four new TAF team members.

Kristian Knibutat joined this summer as VP Impact Investing, bringing his extensive professional experience with PricewaterhouseCoopers over the course of 35 years, including as CFO and COO, to TAF's impact investing work and our leadership team.

With his zest for innovative solutions, he's excited to make a direct contribution towards tackling carbon emissions and will surely make waves in the impact investing world.

Simran Munde, Building Environmental Researcher, is a recent graduate from the Building Science Master program from Toronto Metropolitan University. Simran supports our Retrofit Accelerator Team on projects related to improving building energy efficiency and indoor environmental quality.

Amanda Burns joins as Policy Coordinator; she holds a master's degree in International Affairs from Sciences Po Paris, and previously worked with UNESCO on climate change adaptation and disaster risk reduction in small island developing states, and more recently supporting Ukrainians fleeing the conflict. Samia Anwer also joins as Policy Coordinator; her degree is in Environment and Business from the University of Waterloo, and most recently worked at the Regional Municipality of York where she supported their environmental management system for water, wastewater, and waste management services. This expansion of policy team will allow TAF to be more aware of policy files and engaged with key stakeholders across the GTHA on all the focus areas and support cross-team collaboration inside TAF.

Also, Ekaterina Tzekova has returned from parental leave to the role of Director, Research and Innovation. Aakash Harpalani, who very capably filled in since April, is now taking on a new position as Director of Clean Energy, leading TAF's work to accelerate the decarbonization of the GTHA's energy systems, and support the electrification of the buildings, transportation, and industrial sectors within the region.

This year TAF recognized the Truth and Reconciliation Commission's call-to-action #80 to observe September 30th as a day of reflection and action to ensure we all learn, and never forget, the history and ongoing legacy of Indian Residential Schools in Canada. TAF offices were closed in observance and the EDI working group provided learning materials for staff.

STRATEGIC PROGRAMS

Accelerating Retrofits (TAF's MURB Retrofit Accelerator)

Construction is expected to begin in November on the French Quarter condominium retrofit which will be the first commercial implementation of Mitsubishi's new Climaveneta air-to-water heat pump system in Canada. Air-to-water heat pumps will play an important role in decarbonizing buildings where heating (and cooling) is distributed by water (ie: radiators). In this retrofit, the Climaveneta heat pump will be part of a hybrid system, where the gas boiler will be left in place as backup to provide peak heating needs. Despite not fully electrifying the heating, we expect heating emissions to be reduced by at least 60% by this single intervention, with additional reductions from other aspects of the retrofit. TAF is partnering [TRCA STEP](#) to analyze performance of the new system and support optimization as needed.

TAF's new [Guide to Measurement & Verification of Heat Pump Retrofits](#) provides a straightforward yet rigorous approach for multi-unit residential building owners and property managers to assess the energy savings of heat pump retrofits. The intent of

the guide is to help make heat pump performance transparent to building owners and ensure that the systems are optimized and running as efficiently as possible.

An ambitious retrofit is planned for the Bedford Glen condominium including a geo-exchange system, heat-recovery ventilation, insulated overcladding, and a photovoltaic array. Retrofit Accelerator's support includes crafting applications for funding, including to the City's [Deep Retrofit Challenge](#); and exploring other sources; funding is the final (and most significant) barrier that needs to be overcome before the project can proceed.

Electrification of Transportation

To date [TAF's EV Station Fund](#) has conditionally approved \$1,257,000 for 21 projects to install EV charging stations in the GTHA. With further qualifying projects in the queue for the balance of the \$1.7 million available and a considerable wait list of additional projects, TAF has paused the intake process until Natural Resources Canada confirms the potential to recapitalize EV Station Fund; a decision is expected imminently. Installation has been completed on four projects and we are confident that all will be completed by the end of 2023.

The Low Carbon Cities Canada (LC3) network, in concert with the Green Municipal Fund, launched a collaborative project: a set of [priority actions](#) that municipalities can take to accelerate the adoption of zero emissions vehicles (ZEVs). These are based on extensive modelling of municipal ZEV strategies across Canada and are intended to help municipalities and community groups focus their attention and resources on the highest-impact municipal programs and policies for electrifying how people, goods and services move around. In the coming months, TAF will be working with the Toronto Region Board of Trade (through a recent TAF grant) to engage local municipalities and advocates to promote the implementation of these priority recommendations across the GTHA.

Climate Policy

The City of Pickering has finalized its Integrated Sustainability Design Standards, in line with other Durham municipalities Ajax and Whitby, aided by a TAF grant and technical/policy team support on design and implementation. Engagement with municipal and other stakeholders in Mississauga, Halton Region and Hamilton is underway in support of the initiatives to advance Green Development Standards in 2023.

In the wake of the upcoming elections, TAF will be leveraging the annual GHG emission inventory to brief Mayors and Councillors on the state of play on emission reduction, opportunities for emission reduction, how TAF can assist with the mutual of achieving mutual social, financial and environmental objectives.

The federal Clean Fuel Regulations have been released and the quantification methodologies are being finalized, which brings a close to almost six years of work, undertaken with a wide array of stakeholders. Once enacted and its credit trading markets are operating, this can be a revenue generator and significantly improve the business case for municipalities and other parties to install/operate EV charging networks.

Research & Innovation

The 2021 GTHA Carbon Emissions Inventory will be published mid-November. This year's launch will include an interactive webpage that summarizes emissions from key sectors across the region and illustrates the results and opportunities in an accessible way.

Two market development initiatives are underway related to heat pumps. The first aims to determine whether and how bulk procurement of heat pumps and/or aggregation of heat pump installations could improve quality and lower costs. The second initiative will propose a Conservation Demand Management (CDM) framework and incentives program for heat pumps in the retrofit context that could be implemented by municipalities and other entities (e.g. LDCs, IESO) in Ontario that would create demand for high-quality heat pump installations.

We are working with Toronto Community Housing Corp. (TCHC) to develop a portfolio-wide net zero strategy that will be integrated with their capital planning process. And additional projects for 2023 are being formulated in the context of the TAF/TCHC MOU for collaboration on achieving mutual social, financial and environmental objectives.

Communications & Campaigns

As the inventory will make clear, achieving carbon reductions in the building and transportation sectors will depend on electrification of space heating, water heating, and public and private transportation, which depends on having zero carbon electricity. And there are increasing concerns about the direction for Ontario's electricity system, including from cities of all sizes that require zero carbon electricity to reach their emissions targets. A [campaign](#) attracted over 50 businesses benefitting from a modern grid to sign a letter to the Minister of Energy related to the IESO's proposed procurement of new natural gas plants, and [this blog](#) responded to the Minister of Energy's recent announcements. Drawing on our recently commissioned [audience research](#) and the electricity system modelling mentioned above, we aim to support a shift in Ontario's electricity system toward safe, pragmatic, and fair solutions.

TAF is actively advancing a "multi-solving" message based on our belief that addressing climate, affordability, community benefits, equity and other 'co-benefits' in tandem is both possible and improves the change of achieving all these objectives; for instance via my [blog](#) and [interview](#) on CBC's Metro Morning in the context of the municipal elections. Staff continue to share their expertise with external key audiences, such as a Sustainability Network webinar on priority municipal ZEV policies, and a keynote address at the Hamilton Sustainable Business Expo.

Impact Investing

We have a healthy pipeline of opportunities, with three undergoing due diligence and likely to be presented to the Direct Investment Committee in early 2023.

An analysis of all current investments, building on the assessment of the direct investment portfolio that was prepared at the start of the pandemic, is being undertaken

in the context of the current macro-economic climate. Rising interest rates, higher-than average inflation, housing and rental markets, supply chain issues and other factors can have some upsides, including for potential returns, and some downsides due to higher equipment, financing costs and changing economics for private equity fund investee companies. In addition, the team is working with Efficiency Capital to ensure all ESPA-financed retrofits are performing, in compliance and maintaining excellent relationships with the buildings. Our preliminary and current view is that there are not significant additional risks to our portfolio, but further and ongoing evaluation and sensitivity analysis will be conducted internally and via our co-investors and managers.

Over the summer, one of our investments ran into cashflow difficulties and with the collaboration of the co-investors, was successful in raising a bridge round. Although not without challenges, the company's prospects seem significantly improved due to the tailwinds of the US Inflation Reduction Act which is accelerating investment in efficiency and renewables.

The Investment Committee has directed that staff and HUB/Proteus, TAF's third-party investment advisor, commence a search for an Alternatives investment manager, with a focus on infrastructure, and the objective to deploy capital into this asset class by the end of Q1 2023. A request for proposals and selection process will be put in place shortly.

Grants, including summary of completed Grants

Item TA 19.12 conveys the Grants and Programs Committee's funding recommendations for the final round of 2022 along with the meeting minutes. A summary of seven completed grants is provided below, one of which was rescinded at the grantee's request.

Toronto and Region Conservation Authority (TRCA) - *Evaluating low-carbon technologies and best practices.*

\$244,715 over 3 years, approved April 2016

The objective of this multi-year grant was to facilitate the implementation of low carbon technologies by conducting four technology pilots, and sharing the resultant data, scientific evaluation studies, tools and policy mechanisms to address barriers associated with technology adoption. To achieve the desired outcomes, TRCA conducted four projects focusing on HVAC technologies. Each technology was selected using an evaluation framework that considered its GHG reduction and deployment potential, as well as cost and other related factors. The technologies tested through this project include i) [Gas absorption heat pump](#), ii) [Multi split ductless air-source heat pump](#), iii) [Smart combined heat and power furnace](#), iv) [Variable refrigerant flow air-source heat pump retrofit](#). The rigorous technology assessments undertaken and disseminated by TRCA for each of the four pilot technologies have alleviated stakeholder concerns around their technical and financial viability. The information disseminated through this endeavour will facilitate the uptake of these technologies.

Environmental Defence Canada - *Climate Accountability in Ontario*

\$240,000 over two years, approved February 2020

The objective of this grant was to enable Environmental Defence Canada (EDC) to monitor and respond to Ontario's climate-related legislation, projects, and announcements. EDC developed articles and reports that analyzed the impact of the government's climate policy decisions on Ontario's carbon emissions, which were made available to a wide range of community leaders and stakeholder organizations and media. EDC collaborated with civil society organizations and municipal leaders with regard to projects in the Greater Toronto and Hamilton Area with potential for creating significant, incremental carbon emissions, namely [Highway 413](#) and [gas plants in Peel, Halton Hills and Toronto Portlands](#), and developed public education materials regarding the emissions associated with increased use of natural gas for electricity generation.

Pembina Institute - *Coalition for Clean Fuels and a Clean Fuel Standard*

\$175,000 over two years, approved May 2020

This grant enabled Pembina Institute to continue to coordinate stakeholder input to the development of the Clean Fuel Standard (CFS). Pembina deployed a multi-pronged [advocacy campaign](#) supported by policy research and analysis to inform the final design of the CFS and supported a wide range of external stakeholders (including TAF) through the CFS Advocates Coalition which included regular engagement with federal decision-makers and responses to multiple consultations. It also supported Pembina's participation as a member of Environment and Climate Change Canada's Technical Working Group and its Fuel Lifecycle Analysis Model Stakeholder Technical Advisory Committee (STAC). Because the analysis found that the draft regulations would disproportionately incentivize 'cleaner' crude oil, gasoline and diesel and at-best reduce only one-quarter of lifecycle transportation GHG emissions, to the exclusion of 'net-zero' solutions readily available today, the coalition advocated for two key amendments to the draft regulation: 1) increasing the target to at least 20% or 30% reduction below 2016 levels by 2030; and 2) closing compliance crediting options available to fossil fuel providers. However, the regulations published in June 2022 will only reduce the carbon intensity of liquid fossil fuels used in Canada by approximately 15% below 2016 levels by 2030 and Pembina's analysis indicates that the regulations would disproportionately impact lower-income households. Pembina will continue to engage in consultative processes, call for the policy to consider societal impacts and curb any significant implications on vulnerable population groups, and educate various entities that can benefit from leveraging the new credit systems to build out low-carbon and zero-emission vehicle infrastructure in Canada.

Passive Buildings Canada - *Benchmarking Materials Emissions for Low-Rise Housing*

\$90,620 over 12 months, approved November 2020

The purpose of this grant was to support Passive Buildings Canada in studying data from over 500 part 9 residential buildings built between 2017 and 2020 in the GTHA, and benchmarking emissions from the materials used in their construction. The study created the largest ever data set of embodied carbon information in residential buildings and identified which materials/assemblies within each building are responsible for the

most emissions. [The report](#) identified opportunities for significant reductions by comparing options for each material, and demonstrated that a limited number of available, affordable, and code-compliant material substitutions could result in reducing emissions by 50 to 75 percent. The study provided policymakers, developers, builders, and homeowners with insights about choices they can make to reduce GHG emissions in the homes they build or renovate. The report and its findings were well received by the industry and other stakeholders. Key successes include the City of Toronto using the report to consider an [embodied carbon cap in version 4 of the Toronto Green Standards](#) and developing a reporting methodology based on PBC's study. Additionally, two Ontario developers have approached the project team to have their home designs modeled according to the study methodology and to develop new designs in line with national emission reduction targets. Other Canadian and US cities have also contacted PBC to discuss the possibility of repeating the study for homes in their jurisdiction.

Sustainable Buildings Canada - *Compass Energy Modelling Reviews for Municipalities*

\$114,824 over 12 months, approved November 2020

The purpose of this grant was to enable Sustainable Buildings Canada update its [free web-based Compass platform](#) and enable non-technical staff at municipalities to perform high-level reviews of energy models and enforce energy performance requirements within their Green Development Standards (GDS). SBC developed the tool by conducting beta-testing and training workshops with representatives from six municipalities (Ajax, Aurora, Halton Hills, Kitchener, Milton, and Ottawa). The final version of the tool has been [presented](#) to the municipalities of the Clean Air Council, and the tool has been released to a wider audience through a webinar. The tool also serves as a platform to educate municipal planning departments on building performance features and is ultimately expected to lead to improved GDS and municipal codes focused on reducing energy use or GHG emissions. Implementing GDS in the municipal planning and approval process will also enable design teams to consider sustainability and energy performance features earlier in their project design.

City of Toronto (City Planning) - *Benchmarking Construction Materials Upfront Embodied Emissions for Part 3 Buildings in the GTHA*

\$150,320 over 12 months, approved April 2021

This grant supported the City of Toronto in conducting a first-of-its-kind survey of embodied carbon emissions of Part 3 buildings in the GTHA. Self-reported project data for 41 Ontario-based part 3 buildings was collected and analyzed to inform the benchmarking across three building types. Based on the results of the survey, the grantee developed [a primer](#) containing a set of policy recommendations for municipal governments in Ontario to manage the embodied carbon of new construction approved in their jurisdictions. One of the recommendations on introducing a limit on embodied carbon intensity which reduces over time has been submitted to the City for updating version 4 of the Toronto Green Standard. In addition to the benchmarking, the project team also calculated the embodied carbon for two City owned buildings (300 Progress Ave- Toronto Police Services, and 60 Starview Lane- Western North York Community Centre) and provide recommendations to reduce it. The findings generated through this

project are expected to inform the development of embodied carbon requirements for municipal green development standards across the GTHA, educate building industry stakeholders across municipalities on embodied carbon reduction strategies, and support them in meeting embodied-carbon related requirements.

City of Toronto - *Identifying, Evaluating and Recommending Incentives to Support Uptake of Electric Vehicles*

\$50,000 over 10 months, approved July 2022, rescinded September 2022.

The objective of this project was to undertake a study that identified suitable incentives to accelerate the uptake of electric vehicles in Toronto and to recommend their adoption to City Council. The grantee found resources within its divisional budget to initiate the study independently, and the grant was rescinded at the City's request.

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SIGNATURE

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