23 $million ORIGIONAL ENDOWMENT PROVIDED IN 1991

51 $million INVESTED BY TAF SINCE INCEPTION

55 $million CITY ENERGY BILL SAVINGS FROM 4 TAF INVESTMENTS

1.9 $million TAF AVERAGE ANNUAL BUDGET

1.3 $million EXTERNAL FUNDS RAISED (2007-2010)

ANNUAL COST OF TAF TO CITY OPERATING BUDGET
Through prudent investments, TAF has covered all its operating costs, strategic contributions and lending activity since 1991.
MAKING A smart investment IN TORONTO’S FUTURE

Around the world, cities have become ground zero for action on climate change – with good reason. As large population centres with complex infrastructure, they know that the changing climate will bring great challenge and expense. Cities are already experiencing unprecedented damage from storm events and greater risks due to reliance on distant energy sources that can be disrupted by storms, natural disasters or even global political instability. Toronto, for example, receives virtually all of its electricity via just two high-voltage transmission lines.

Urban climate issues can seem daunting, but they are also an opportunity to build resilience and reduce costs by improving energy efficiency and developing innovative solutions to persistent problems like traffic congestion and smog. They are also a chance to take innovative approaches that support greater health and productivity among a city’s residents and build a city’s reputation as a great place to live, work and play.
A low-carbon economy and low-pollution cities are essential to a high quality of urban life. Cities have a unique advantage in confronting climate change since they are the optimum scale for action: large enough to enact meaningful pilots and introduce “first responder” programs, yet sufficiently close to the community to be faster and more effective than larger national governments in implementing public aspirations.

World Bank

*Cities and Climate Change: An Urgent Agenda*
Acting on Climate Change and Urban Air Quality

Toronto city council recognized the importance of acting on climate change and urban air quality 20 years ago when it established the Toronto Atmospheric Fund, the world’s first municipal climate agency. Since 1991, TAF has operated at no cost to taxpayers while investing more than $50 million in local climate solutions and helping the City itself save more than $55 million on its energy bills, all while keeping its original endowment intact.

Heading into its third decade, TAF is ready to leverage its experience, insights, and large and diverse network of partners to continue sparking effective action to improve urban air quality and reduce the threat of climate change. Achieving TAF’s mandate can also help make Toronto one of the world’s most liveable cities.
Energy efficiency is the biggest, fastest and cheapest way to reduce greenhouse gas emissions. But it is also a bit of a “Cinderella story” – underappreciated and left out of many important opportunities. TAF wants to change that by helping energy efficiency blossom to its full potential in our city. To do that, we need to focus on two key sectors that are critical for making progress toward achieving Toronto’s emission reduction goals.

Moving people and goods accounts for 43% of Toronto’s greenhouse gas emissions.
ONE-THIRD OF TORONTONIANS NOW LIVE IN HIGH RISES, WHICH, ON AVERAGE, PRODUCE 20% MORE GREENHOUSE GAS EMISSIONS PER SQUARE FOOT THAN DETACHED HOMES IN THE CITY.

Transportation
Moving people and goods accounts for 43% of Toronto’s greenhouse gas emissions. It is also a major source of smog pollutants like nitrogen oxide. Despite emission reduction commitments, transportation emissions are actually growing rapidly Canada-wide. TAF’s work to accelerate the integration of electric vehicles into fleets is gaining traction and will provide one important pathway for reversing emissions growth by reducing vehicle emissions per kilometre by up to 80%. We also aim to incubate opportunities to reduce the pollution that comes with moving goods to and from stores, offices, factories and customers all across Toronto. And given that where we live, work and play drives transportation-related emissions, we will also look closely at opportunities related to planning and urban form.

Space heating and cooling
Far too much of the valuable energy we use to heat and cool our homes, offices and factories is lost through leaky buildings and outdated equipment. We know that in many cases it is possible to reduce a building’s energy use by 30-40% with off-the-shelf technology. Such reductions can also make it easier to meet a building’s energy needs with renewable sources. Leveraging several years of work bringing together key players in Toronto’s high-rise residential sector through our TowerWise program, TAF will continue to promote action to improve the energy performance of Toronto’s aging high rises and inefficient condominiums. And applying lessons from the monitoring and performance verification work undertaken through TAF’s SolarCity program, we will increase understanding and promote best practices for geothermal energy as part of our city’s energy mix.
INCUBATING climate solutions

IDENTIFY achievable, quantifiable emission reductions

EVALUATE ideas and technologies with high potential but weak deployment

TEST new approaches and resolve financial, social and policy barriers

REPORT what we’ve learned and encourage others to take it to the next level

- Deep Lake Water Cooling
- LED Traffic Signals
- Community Power Ownership
- Electric Vehicles
- Solar Hot Water
- Energy Efficient High-Rises
The City of Toronto spends more than $200 million annually for natural gas, electricity, and transportation fuel. With existing technologies and approaches, this energy use could be cut by at least 10%. This alone would free up $20 million per year of taxpayer funds to be spent locally rather than on imported energy and help buffer the City against rising energy prices. It would also reduce greenhouse gas emissions and air pollution and create new jobs in building retrofits, new technology development and installation, and green finance. And this “lead by example” action would produce a valuable ongoing dividend – year-over-year cost savings that only grow as energy prices rise.

TAF has already helped the City shave $55 million off its energy bills through improved energy efficiency. The example the City can set by further improving its energy performance can be used to leverage greater energy efficiency activity among residents and businesses city-wide, helping us tap a truly massive potential to reduce costs, reduce pollution and increase productivity.
We know from experience that it often takes a multi-pronged approach – one that mixes and matches policy, finance, technology, and behaviour – to make good ideas come to life and achieve greenhouse gas reductions. That’s why TAF employs three interconnected programs:

To assess the real-world performance of electric vehicles, TAF’s FleetWise EV300 program helps corporate and municipal partners integrate and monitor zero emission electric cars and trucks in their fleets. We’ve also funded research on infrastructure needs and policy alignment for electric vehicles.
Incubating Climate Solutions

TAF excels in identifying new or better approaches and technologies, such as solar water heating or advanced lighting, and working with partners to test them in a real-world setting to assess performance, barriers, and readiness for market. Pilot programs can teach us a lot about what works and what needs further refinement. Because these pilots often have an early stage element, whether it is a new financing approach or a relatively untested technology, we expect to encounter a few bumps along the road. The journey is worth it, however, when we arrive at informed conclusions that help position new concepts for further development and that allow others to avoid costly detours and delays in developing larger scale programs.

With roughly 30% of Toronto’s greenhouse gas emissions coming from heating our buildings, TAF is interested in geothermal as an alternative source of energy. How can it be more widely deployed in a dense urban environment? How can it be financed? What is the appropriate regulatory regime? TAF will look at how to make the most of the geothermal opportunity.
Buildings account for 75% of natural gas-related emissions in Toronto, but the business of financing building retrofits is still new, especially for traditional lenders. TAF is exploring the concept of energy efficiency retrofit performance guarantees as a way of building the financial sector confidence needed to accelerate the flow of private capital into building retrofits.

Mobilizing Financial Capital

TAF’s investment activity is driven by a double bottom line: We seek to invest in solutions that can deliver emission reductions while generating a healthy revenue stream. But there is another element to our impact investing program: Developing fiscally rewarding new approaches that can help to overcome financial disincentives to energy efficiency. In the process of developing such new financing approaches, we look for ways to leverage our investment by interesting traditional lenders in a new finance structure or by developing co-financing packages. Meanwhile, we use our experience in financial innovation to assist and set an example for others in the foundation and institutional sphere who are growing increasingly interested in mission-based and low-carbon investing.
Mobilizing Social Capital

Social innovation refers to new ideas that help to address existing social, cultural, economic and environmental challenges for the benefit of both people and the planet. A true social innovation is systems-changing – it permanently alters perceptions, behaviour and structures. Increasingly, social innovation is happening through multi-sectoral collaborations where different perspectives collide to spark new ways of thinking. Over the next four years, TAF will be working with Toronto’s Centre for Social Innovation, the Toronto Community Foundation and others to engage new audiences and stimulate new “game-changing” ideas that address climate change at the local level. We’ll be bringing diverse groups like academics, business representatives, policy-makers, investors and inventors together with community leaders and City staff using some new approaches and tools to shake out new ways to reduce emissions and improve life for Torontonians.
Few things move ahead at TAF without the involvement of partners.

We can’t effectively support energy efficiency in multi-residential buildings without involving groups like the Canadian Condominium Institute and the Greater Toronto Apartment Association. We can’t tap into real-world knowledge about electric vehicle performance without working with City of Toronto Fleet Services and more than a dozen other fleet partners, including the Greater Toronto Airport Authority and Autoshare, that are willing to share data and first-hand experiences. And we can’t create new finance approaches without partnering with private sector companies like GEMCO and Tridel, who share TAF’s focus on achieving emission reductions and are looking for ways to advance their innovative ideas.
OVER THE NEXT FOUR YEARS, TAF WILL KEEP ITS DOOR WIDE OPEN TO THOSE WHO CAN TAKE PROVEN SOLUTIONS TO THE NEXT LEVEL, AND OUR EAR TO THE GROUND LISTENING FOR THE NEXT BIG IDEA. SO CALL US, DROP BY, SEND AN EMAIL AND LET US KNOW HOW WE CAN WORK TOGETHER TO CONTINUE THE TRADITION OF INNOVATION AND CLIMATE SOLUTIONS THAT BEGAN IN TORONTO 20 YEARS AGO.

get in touch!

VISIT our website: www.toronto.ca/taf for information on TAF’s finance and funding activities, pilot programs, links to project websites and to SUBSCRIBE to our e-newsletter, The Atmospheric. READ our blog at torontoatmosphericfund.wordpress.com and CALL or EMAIL our staff to discuss how we can collaborate.
TAF was established in 1991 by the City of Toronto with a mandate to help the City reduce greenhouse gas and air polluting emissions. Inspired by the world’s first international climate policy conference, which took place in Toronto in 1988, City leaders decided to dedicate a portion of the proceeds from the sale of the Langstaff Jail Farm to create a fund to support innovative climate solutions in Toronto.

Over the past two decades, TAF has provided seed funding and financing for ideas like deep lake water cooling, LED traffic signals, car sharing, energy efficient appliance leasing, and home energy efficiency incentives. We’ve put concepts like hybrid taxis, LED lighting, urban wind power and solar pool heating to the test. TAF carries out this work using the income earned from its endowment investments and funds invested by partners. **TAF draws no money from city taxpayers** in fact, TAF provides annual financial support to City departments for energy efficiency and clean energy. TAF’s successes are due in large part to its **deeply committed board and committee members** who have **decades of experience** in financial and project management, investing, and community mobilization. **Our partners** from businesses, community organizations and City departments and agencies to utilities, building owners and other levels of government enrich our work by **sharing their knowledge**, experience and resources. A heartfelt thank you to everyone who has helped make TAF the **internationally recognized innovator** it is today.