EFFICIENCY CAPITAL CORP. BACKGROUNDER

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EARNING PROFITS THROUGH RETROFITS

Efficiency Capital Corp. (EC) is a first: a for-profit, energy efficiency-focused investment company incubated by Toronto Atmospheric Fund (TAF). EC provides innovative non-debt financing using a model developed by TAF to address key barriers to implementing energy-efficiency retrofits for large buildings. Building owners receive upgraded equipment and building renewal with little to no capital outlay, and EC earns a return by sharing the savings achieved by the retrofit.

Efficiency Capital is also a socially responsible enterprise: as the business grows, more condos, co-ops, apartments, commercial and institutional buildings benefit from energy-saving and carbon-reducing retrofits thanks to EC financing. In a city where buildings are the single biggest source of greenhouse gas (GHG) emissions, accelerating retrofits constitutes an important carbon-cutting breakthrough. And this is critical to achieving Toronto's pledge to cut GHG emissions to 80% below 1990 levels by 2050. Both building owners and occupants benefit, along with the entire city, through cleaner air, reduced GHG emissions and enhanced urban infrastructure.

TAF has a mandate to advance local climate solutions and bring GHG emission reduction ideas from demonstration to commercial scale,

so the launch of Efficiency Capital marks a new threshold of achievement. It also fulfills TAF's objective of attracting more private capital to drive low-carbon solutions.

A New Approach: the Energy Savings Performance Agreement

Efficiency Capital's key asset and core business driver is a unique service agreement for building owners or property managers – called the Energy Savings Performance Agreement (ESPA™) – that underwent several years of development, demonstration and de-risking at TAF, and to which Efficiency Capital now holds an exclusive licence.

The ESPA™ is equal parts engineering audit, work order and investment product. It's also EC's own best marketing tool.

That's because under the ESPA™, even large-scale energy retrofits – new lights, boilers, controls, toilets and appliances – typically worth anywhere from $500,000 to about $2 million, don't cost building owners anything. Instead, the work is financed entirely by money generated from the subsequent energy savings.

What's more, those savings are guaranteed because they are backed up by a specialized insurance policy.

Efficiency Capital calls the ESPA™ a "shared savings" platform. Typically an 8- to 10-year agreement with a minimum $250,000 retrofit value (for the insurance policy), the agreement is structured so that a building's annual utility bills (gas, electricity and water) plus their ESPA™ payments to Efficiency Capital remain the same or are slightly reduced, compared to before the retrofit. There's nothing experimental about the retrofit measures: water-saving toilets; better heating and cooling systems; and efficient lighting, motors, thermostats and insulation are all commercially available, proven products. What is different about the ESPA™ is the integrated approach.

Experience shows that when building owners have to take out a loan or tap their cash reserve to pay for upgrades, they're more likely to cherry-pick from the cheapest, easiest measures – such as replacing

lights – that generate quick but modest savings and little meaningful carbon reduction. The way the ESPA™ differs is that by integrating those quick fixes into a comprehensive, multi-measure retrofit, those early returns help carry the savings stream until the longer-term payback from the bigger equipment upgrades kicks in.

The ESPA™ combination of better equipment efficiencies, integrated retrofit design, ongoing monitoring and maintenance, drives down actual utility costs by 30% to 40%. The savings are shared: usually about 90% is paid to Efficiency Capital to recoup the investment and generate a return, and the building keeps the balance, basically earning a return without having to invest any capital. That's the essence of the business model developed by TAF and being taken to scale by Efficiency Capital.

Research by TAF and others shows that, on average, buildings are wasting 30% of the energy they use, and that inefficiency means there's money on the table which can be earned through efficiency upgrades. Each ESPA™ generates a predictable savings stream. Bundle a bunch of them together and it becomes a portfolio. Build a big enough portfolio and it becomes a recognizable asset class and a mechanism to attract massive private capital to a market with a financial *and* environmental return on investment.

Mobilizing Private Capital for Low-Carbon Solutions

Adam Spence, Associate Director at MaRS Centre for Impact Investing and CEO, Social Venture Connexion (SVX), likes the way TAF thinks about the big picture. "The most interesting feature of TAF's initiative is the determination and ability to achieve scale, both in terms of positive and demonstrable environmental impact and mobilizing private capital towards public good," says Spence.

In fact, leveraging its own modest assets to attract larger pools of private capital – by creating and demonstrating ways to make money through investment in low-carbon solutions – is one of TAF's core objectives. That's because public funds alone will never be sufficient to take the necessary climate solutions to scale.

Making it a priority to mobilize private capital for climate impact started with the hiring of TAF's VP of Impact Investment, Tim Stoate, in 2008. Tim's two decades of experience as a professional lender gave him valuable insight into the private markets. His entrepreneurial sensibilities fuelled the creation and scaling of all of TAF's financial innovations. The blue-chip team of investment professionals who volunteer on TAF's Investment Committee has provided prudent, expert advice on the ESPA™ structure, and how to leverage its innovative, market-opening potential.

This impressive team, along with access to superb intelligence from building owners, developers, property managers, real estate lawyers, engineers, utilities, accountants and others convened regularly by TAF through its TowerWise Energy Efficiency Action Committee, helped TAF generate a strong understanding of what was preventing investment in energy efficiency in Toronto's large buildings. The agency then spent several years developing the Energy Saving Performance Agreement, using its own endowment funds to test the financing market with clients in Toronto. ESPA™ financing agreements with Robert Cooke Co-Operative Homes (see case study, below), Harbourfront Centre, the YMCA of Greater Toronto, Toronto Community Housing and others provided real-world evidence that the business model was viable.

These successful case studies gave EC co-founder and President Mike Vinokur and his investors the confidence to work with TAF and launch the new company.

Efficiency Capital plans to finance $100 million in energy-efficiency retrofits in its first five years. Unlike TAF, whose focus is primarily on the Toronto region, Efficiency Capital's market encompasses all of North America. EC has begun building a network of strategic partners, including a strategic partnership with Econoler, a world-renowned consulting firm specializing in energy efficiency programs, to service the market in Quebec and the Maritimes.

The market potential for cost-effective retrofits is estimated at $1 billion in the GTA alone, $10 billion Canada-wide, and at least $100 billion in the U.S.

Efficiency Capital President Mike Vinokur and his investors are providing the initial equity needed to finance EC's ramp-up, building on TAF's work developing the ESPA™ and demonstrating the value proposition. EC also can access to up to $2 million from TAF as "subordinated debt" for specific ESPA™ projects, and may also purchase ESPA™ projects originated by TAF. In addition, Vinokur is actively recruiting other investors who are looking for a viable, impact investing opportunity.

For his part, Mike Vinokur is relishing the task of creating a profitable company while accelerating a climate solution. "It's rare that you get an opportunity to actually make money and make the world a better place all at the same time. For us to win the exclusive use of TAF's ESPA™, we had to promise that, notwithstanding being a for-profit organization, we will also advance the GHG-reduction mandate. They were very clear: it's not one or the other, it's both."

Taking Innovations to Scale

TAF has been paying special attention to energy efficiency for many years, with a special focus on creating innovative approaches to financing. In 2007, with the condo boom underway, TAF worked with development company Tridel to create the innovative Green Condo Loan. This product financed the incremental cost of including energy efficient systems in new buildings without affecting the sticker price, lowering operating costs and fees for condo owners. This initiative showed that a modest increase in up-front construction costs can dramatically reduce energy waste and carbon emissions over the lifetime of a building. This discovery contributed to the introduction of higher energy performance standards for all new buildings in the City of Toronto. The Toronto Green Standard, introduced in 2010, has successfully taken the innovation to scale.

TAF initially assumed scale-up for the ESPA™ would be achieved by demonstrating the profitability of this model and allowing "copy cats" to spread it throughout the marketplace. Then Tim Stoate and TAF's Investment Committee realized that there was enough innovation and intellectual property (IP) wrapped up in the ESPA™ to attract investors,

earn some return on time and resources, and plow that return back into TAF's mandate-related work.

TAF Investment Committee member Matthew Leibowitz, a Partner at Plaza Ventures and a member of the TAF Investment Committee during the development of the ESPA helped to identify the opportunity. "There is certainly a gap in the market in terms of the kinds of investors that can provide performance-based, retrofit financing funding to institutions, landlords and property managers," says Leibowitz. "TAF saw an opportunity to capitalize on its innovation and IP."

Seizing on the idea, TAF began a search for a third-party owner/operator that was committed to the carbon-reduction mandate, knowledgeable about the real estate market, and who possessed the business and financial acumen to drive the business plan. TAF considered about a dozen candidates before inking a deal with Mike Vinokur, who appreciated the opportunity for blending financial returns and carbon reduction, improving both sustainability and affordability in the real estate sector.

Removing Barriers and Educating the Market

Vinokur readily acknowledges that energy efficiency investing isn't new. Energy service companies (known as ESCOs) have been promoting retrofits, upgrades and promising savings for decades. But what sold his group on TAF's ESPA™ are the significant differences between a traditional ESCO and the ESPA™ model: the financing arrangement, the shared savings approach and the third-party performance guarantee.

These features are not well understood by the market and this puts the onus on Efficiency Capital to explain what the ESPA™ has to offer. The ESPA™ resolves the two key barriers that have discouraged building owners and property managers from investing in energy efficiency retrofits, namely, a lack of access to capital and a lack of confidence that energy efficiency will deliver promised savings.

Many building owners are not interested in taking on debt to finance retrofits. This is especially true for condominium boards who must seek owner approval to borrow, co-operative and community

housing organizations with debt limits, and public organizations that are capital constrained. The ESPA™ puts no debt on the building's balance sheet. Instead, TAF and Efficiency Capital own the installed equipment until the ESPA™ contract expires, at which time the landlord has various options with regard to ownership of all the installed equipment within their property.

When retrofits fail to achieve projected savings, it is usually due to a combination of poor planning, over-estimated savings, insufficient oversight by building management during the retrofit itself, and a lack of meaningful ongoing monitoring and maintenance.

As specialists in this business, TAF and Efficiency Capital are confident that with an excellent retrofit plan, a properly structured ESPA™ agreement and a great engineering team implementing the work, the savings will come. To lock in the confidence of building owners, the ESPA requires the engineer to cover their work with retrofit insurance, which backstops the savings/revenue stream from the project should savings not flow as estimated. This way, all retrofit performance risk is removed from the building owner, while savings are guaranteed.

"Listening carefully to stakeholders and specifically addressing the clients' needs is critical to building a successful new financing tool," says TAF's Tim Stoate. "It takes a lot of persistence and the ability to undertake a trial and error process until all the elements come together."

The Critical Role of Insurance

The insurance policy has been a game-changer. Until TAF's Stoate learned about an energy savings insurance policy offered by Energi Insurance Services Inc. of Peabody, Massachusetts, the ESPA's saving stream couldn't be guaranteed ("by a third party"). As with any innovation, Energi and TAF built on previous models to tailor the policy, working with the engineering community to build the value proposition for their business. Creating an insurance project to support a climate investment was an interesting experience for Energi's Senior VP Kevin Kaminski as well. "There are other financing entities focused on retrofits," notes Kaminski, "but none of them have, shall I say, a moral duty to the environment, versus just a fiduciary duty to their investors."

The insurance is a key element of the ESPA that de-risks the investment, and builds alignment between all the parties to the transaction. Only pre-qualified engineering firms can participate, and having to buy an insurance policy makes the engineers' retrofit plans more robust and conservative. They don't want to over-estimate savings because they pay the premium and are on the hook for the deductible if an insurance claim is made. It certainly protects the investor, who does not come up short if savings are below the projected amount, and this is why the insurance policy is also a useful marketing tool to help EC capital raise capital.

As for building owners, the advantages of an ESPA™-financed retrofit include an opportunity to lower operating costs without dipping into capital budgets and reserves. Energy savings can then be deployed for other building renewal purposes. Replacing aging equipment as part of the retrofit also reduces downtime along with repair and maintenance costs. In addition, a more comfortable building with a lower carbon footprint has strong appeal to occupants and property buyers.

"TAF's whole idea is to eliminate barriers," says Derek Finn, engineer and owner of Finn Projects. Finn is one of the engineers working to design and implement ESPA™ projects. "The energy audit shows what to do. The expertise to implement the plan is pre-qualified. And, of course, there's project financing, which is fantastic for building owners because it's a zero-dollar outlay and they get all this work done." Finn emphasizes that building owners can use the ESPA™ to improve building quality overall, noting that the approach "is not just energy efficiency, it's really building renewal."

Helder Melo, Chief Operations Officer at Harbourfront Centre and one of TAF's first ESPA™ clients, agrees, and also highlights the particular benefits of the approach for non-profits. "As a not-for-profit, we need to get as much performance from our resources for as long as possible. When TAF's financing came along, it gave us the opportunity to do more, which is very attractive to us, especially since we're paying TAF back based on the savings generated by the retrofit," says Melo. "To us it was a no-brainer."

Creating a Low-Carbon Investment Vehicle

Although Efficiency Capital is still a start-up, Vinokur fully expects other competitors to join EC in the market before long – he'd even welcome it. Right now, there's more than enough business to go around, and new competitors further validate the overall business model – while helping address the urgent matter of climate change by tackling energy waste in buildings – a primary source of GHGs in most urban areas.

"Reducing energy waste is profitable and it is the biggest, fastest opportunity to tackle climate change in cities," says TAF CEO Julia Langer. "Efficiency Capital is launching at the perfect time as governments, citizens and businesses get serious about creating a low-carbon economy."

While there are daily stories about carbon risk and calls for pension funds, endowments and capital managers to divest from carbon-intensive holdings, not much is said about where to re-invest. That's the opportunity Efficiency Capital and the ESPA™ model represent, offering a low-carbon way to invest and realize triple-bottom line returns. As this new asset class gains recognition, it will capture the interest of bigger investors, including pension and mutual funds. Efficiency Capital is exploring several vehicles that will allow debt and equity participation in the projects that it develops.

The creation of Efficiency Capital is strongly aligned with key elements of TAF's current strategic plan: "Keep Exploring – the path to the 2050 emission reduction target will require transformational change."

What is the creation of Efficiency Capital if not that?

Efficiency Capital Corporation launched in April 2015. For more information about the company, or about its relationship with Toronto Atmospheric Fund, please contact Julia Langer at jlanger@taf.ca.

CASE STUDY: ROBERT COOKE CO-OPERATIVE HOMES

Toronto Atmospheric Fund signed an ESPA contract with west-Toronto non-profit housing co-op, Robert Cooke Co-operative Homes, in 2013. This project offers a snapshot of the benefits of ESPA-financed retrofits.

Robert Cooke Co-op is a 13-storey residential building with 123 co-op apartments. The property manager is Ontario Property Management Group Inc. The retrofit, supervised by Finn Projects, cost $740,000 and included:

- New building heating and domestic hot water heating system
- New ventilation system
- New toilets, showerheads and faucets
- New energy-efficient stoves and fridges and toilets, and
- New energy-efficient lighting in all hallways

The multi-measure energy efficiency retrofit was completed in early 2014, with capital costs covered by the ESPA. The project will reduce overall greenhouse gas emissions from the building by 27%, and is currently exceeding cost savings estimates, generating $85,719 in 2014 compared to estimated savings of $47,213.