

MONEY AND POWER

New financing options for energy retrofits to existing buildings.

By Bryan Purcell

Virtually any building has the potential to be a high performance building. With the right mix of capital investments and operational improvements, reductions of 25 to 50 per cent in energy costs are feasible (using measures with a positive net present value). Every dollar in utility savings equates to over ten dollars in increased building value.

Regardless of the strong economic case for energy upgrades, investment in energy efficiency in existing buildings is still far below the level required to transform the world's existing building stock over the coming decades.

One of the critical barriers to improving energy efficiency in existing buildings is the high up-front capital costs. Few building owners have the cash to finance a deep energy retrofit, and those that do typically have to choose between these and other potential investments. A hospital, for instance, will likely use its capital reserves

for investments which will directly improve health outcomes, such as new medical equipment, while a commercial landlord may prefer to invest in acquiring a new building.

A number of new financial structures are being piloted and tested.

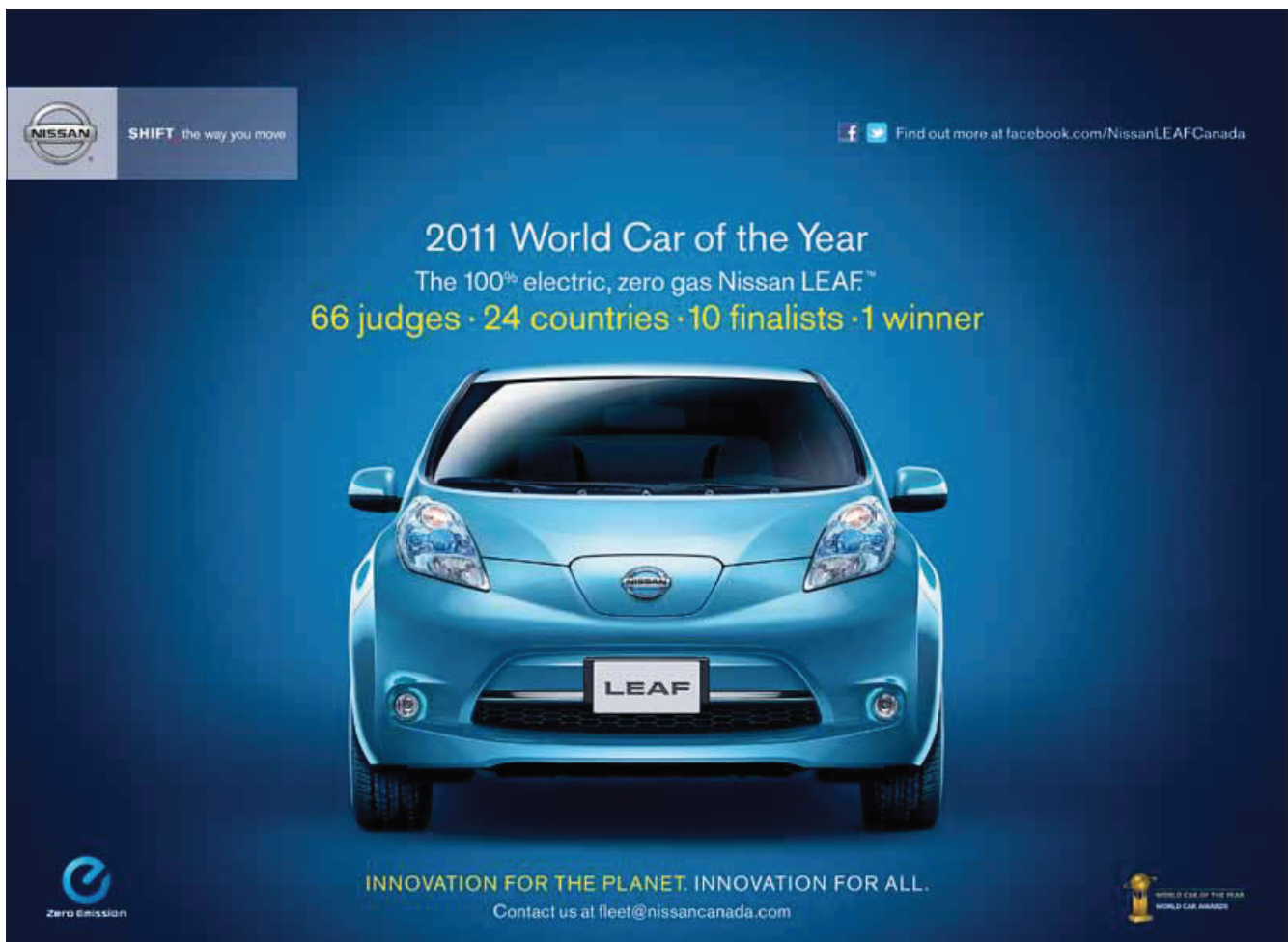
Consequently, financing is badly needed for widespread improvements in energy performance for all building sectors, including commercial, institutional, residential, and government.

Government incentive programs can help, but can't be depended on as the only source of capital for these types of projects. During a talk on building retrofits at last year's Meeting of the Minds conference in Colorado, Deutsche Bank's Mark Fulton said,

“Don't base your business model on public sector incentives.” This January, the federal government announced that it would no longer be accepting applications for funding under the ecoENERGY Retrofit program, even though the full \$400 million in funding had yet to be allocated. The sudden close of the program, two months before its official end date of March 31, 2012, means funding that was earmarked for home energy retrofits may now not be invested at all.

There are a growing number of options available for those who want to fund these projects. While no one solution is perfect, a suite of tools has been developed which can be used to meet the needs of specific projects and organizations.

The simplest and most conventional financing option is mortgage financing, which depends on the borrower's Debt Service Coverage Ratio (DSCR)—the ratio between net operating income and interest/



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principal payments. Unfortunately, most financial institutions won't take future energy savings into account when calculating the DSCR; consequently, cash-poor or highly leveraged clients may not be able to raise sufficient capital through a mortgage, even if the expected energy savings will cover the loan repayment costs.

Another option available is a "green loan" (or lease). In this structure, the energy efficient equipment itself is used as security, preserving the owner's ability to borrow money against their property in the future, and usually coming at the cost of higher interest rates. The amount still depends on the DSCR, but lenders will usually take the expected energy savings into account. Typically, the amortization schedule is designed such that the energy savings are equal to or greater than the loan payments, thus it may be possible for the owner to realize immediate improvements in income.

Borrowers who prioritize risk mitigation may prefer a financing structure which integrates a performance guarantee. Energy Service Companies (ESCOs) package energy retrofit design, implementation, maintenance, and financing. The ESCO pays for the capital improvements, and recoups its costs as well as its profit by keeping the energy savings through the term of the agreement. Building owners need not worry about a shortfall in energy savings, since any such shortfall should be absorbed by the ESCO. This type of approach preserves the building owner's equity and borrowing capability, while mitigating risk, and can cover all of the retrofit costs. However, the effective interest rate is usually higher than with other financing structures, since the ESCO takes on significant risk and administrative costs. Furthermore, ESCOs will typically only take on very large projects, such as hospitals or major industrial facilities.

Until recently, ESCOs were the only option for combining a performance guarantee with project financing. However, a new insurance product has expanded the options for building owners who want guaranteed energy savings. Energy Savings Warranty insurance (offered by Energi of Canada through select insurance brokers) allows any qualified engineering firm to insure the projected energy savings from a retrofit project. Backstopped by the insurance policy, these firms can provide an energy savings guarantee to their clients—or their lenders. The cost of the insurance is between two to five per cent of the total insured energy savings, allowing lenders, engineering firms, and building owners to undertake ambitious retrofits

with guaranteed savings.

For example, the Toronto Atmospheric Fund (TAF), an arm's-length agency of the City of Toronto, can provide 100 per cent financing for retrofit projects which qualify for Energy Savings Warranty insurance. Similar to a green loan, the energy efficient equipment is used as security. Energy savings are measured and verified, and the building owner repays the financing by passing on 75 per cent of the verified energy savings to TAF. If there is a shortfall in the savings, the building owner's payments are reduced proportionately, and the difference is covered by the insurance policy.

This type of financing structure aligns the interests of the building owner, who keeps part of the savings from day one; the engineering firm, which must cover the deductible on any insurance claim; and the lender, who wants to protect the investment.

New models to come

Looking a little further ahead, a number of new financial structures are being piloted and tested in select jurisdictions, and may soon be available across Canada. In particular, on-utility bill financing and property tax based financing show promise.

The advertisement features a photograph of a construction site with heavy machinery, including an excavator and a large tracked vehicle, working on a dirt and rock site under a clear blue sky. The Aecon logo is prominently displayed in the upper left corner of the image. Below the photo, a red diagonal banner contains the headline: "IF YOU'RE GOING TO BUILD IT TO LAST, WHY NOT START WITH EXPERIENCE 100 YEARS IN THE MAKING?". Below this banner, there is a block of text describing Aecon's long history and expertise in various infrastructure sectors. At the bottom left, there is a circular award logo for "BEST EMPLOYERS IN CANADA 2012" and the website "aecon.com". At the bottom right, a list of industry sectors is provided: // MINING, // TRANSPORTATION, // POWER, // UTILITIES, // SOCIAL INFRASTRUCTURE, and // OIL & GAS.

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Experiments in on-utility bill financing programs date back over a decade. In some cases, the utility acts as the lender, in other cases the utility partners with lenders to deliver the program. Financing is repaid through a surcharge on the utility bill, typically equal to or less than the energy savings. Non-payment on the debt incurs cut-off of utility service, which provides limited security to lenders. Since the financing is tied to the meter rather than the owner, building owners may have the option of selling the building without full repayment, transferring the debt (along with the savings) to the new owner. This kind of financing does not encumber the owner's equity, but may come at a cost as it is less

secure than a mortgage. It is typically only available for projects that conserve the type of energy delivered by the utility, which can discourage holistic, multi-measure retrofits. Since utilities are highly regulated entities, this type of program often requires regulatory changes or approvals at the provincial level.

Another relatively recent innovation is property tax-based financing, often referred to as PACE or PAPER financing. In this model, local governments or their designated partners provide 100 per cent financing for energy upgrades. The loan is secured by a special property tax lien, and the lender benefits from senior lien status. In some cases, the loan payments are actually collected as a surcharge on the property tax bill, in other

cases, the property tax lien is only used to recover any payments in arrears in the case of borrower default. In either case, the property tax lien is the really the best security a lender could ask for, which allows for lower interest rates and long-term amortization schedules. The building owner retains the flexibility to borrow against their property for future investments, and the loan may be transferable along with the property in the case of sale before repayment. However, because it requires both municipal involvement and provincial authorization, its dissemination across Canada is likely to be slow and uneven.

Finance is a critical tool for unlocking the potential for radical improvement in the energy performance of Canada's building stock. A variety of financing options are available today, which should be able to meet the needs of most building owners. Hopefully, even more options will be available in the near-term future, as energy prices rise and governments get serious about reducing emissions. ♣

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A recent study found that low performance buildings use up to five times more energy per square metre than high performance buildings of the same typology and age class. Visit towerwise.ca/case_studies for case studies of building retrofits.

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