

# The worry-free way to energy retrofits

## Transferring the technical and financial risks to energy service companies

Public sector organizations across North America have been using performance-based solutions such as Energy Performance Contracts (EPCs) to undertake their energy efficiency upgrades for the last 25 years. The federal government has used them since 1992 to attract \$320 million in private sector financing to upgrade the energy efficiency of their buildings. Today, these buildings are saving about \$43 million per year. Many of the municipalities, schools, universities and schools (the MUSH sector) across Canada have undertaken similar projects.

Some of the reasons these institutions are improving the energy efficiency of their buildings are obvious – saving money and the environment. But there are other important benefits with employment being one of the biggest – energy efficiency projects are labour intensive and the vast majority of this labour is local. Politicians love this but so do most other people as almost everyone today has a relative or knows a friend who is looking for meaningful employment. I refer to these three benefits as the three E's of energy conservation: Employment, Economy and Environment.

There are many other reasons why property managers and their tenants are investigating energy conservation as part of their progress to going green. A recent survey by McGraw-Hill found that companies that are going green reported 93 per cent greater ability to attract talent, 81 per cent saw greater employee retention, 87 per cent saw an improvement in workplace productivity, 75 per cent improvement in employee health and 100 per cent saw an increase in goodwill/brand equity. A recent Harvard Business School article found that "High Sustainability" companies significantly outperform their counterparts over the long term, both in terms of stock price and performance.

So with all these benefits, why is there still so much untapped energy efficiency that can be cost effectively achieved? One of the main reasons is capital availability. Fully 42 per cent of respondents in an industry survey identified this as the top barrier to capturing potential energy savings, double the second most cited barrier.

One solution is to use an Energy Performance Contract. This is an agreement between a building owner and an energy service company (ESCO) whereby the ESCO takes full responsibility for identifying, financing, implementing, commissioning and verifying the energy efficiency project. This is done by guaranteeing that the energy savings will be sufficient to finance the cost of the project over the life of the contract. In this way, the technical and financial risk of the project is transferred from the building owner to the ESCO.

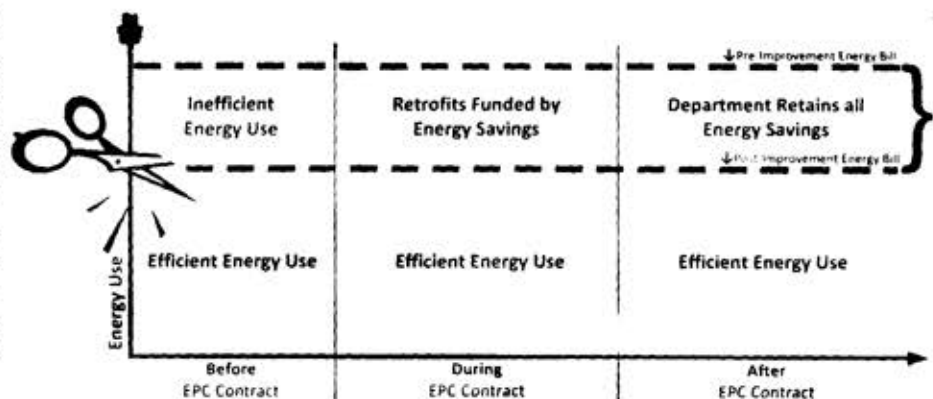
The figure below is an illustration of how this works. Before the contract, the owner is paying more than they should for their energy use. During the contract, the energy savings realized are used to pay the capital cost of the energy efficiency project. At the end of the project, the owner pays the reduced energy bills.

In addition to transferring risk, this type of contract has many advantages over the more traditional fee-based model. In addition to reducing pressure on capital funding allocations, it is a turnkey approach with one contract managing many activities. It is also less expensive than alternative financing models when all the staff/management costs are included.

EPCs can be structured in many ways to suit the specific needs of the client. Interestingly, it is also used to at least partially address the deferred maintenance backlog faced by many property owners. In this type of arrangement, the energy savings from the EPC can also be used to fund non-energy deferred maintenance priorities such as roofs, parking areas, etc. This is typically achieved by extending the terms of the EPC contract.

There are thousands of successful EPC projects across North America. Although most of them are for institutions in the public sector, there is a growing use of this solution in the private sector.

One of the most high-profile examples is the Empire State Building. The energy-efficiency upgrade is part of a \$500-million building retrofit. The initial \$20-million energy retrofit



Source: Office of Energy Efficiency, NRCan, Ottawa