

**WHITE PAPER ON THE USE OF GUARANTEED ENERGY SERVICE  
PERFORMANCE CONTRACTS (ESPC'S) TO ACHIEVE PROVINCIAL  
CARBON REDUCTION TARGETS**

**SUBMISSION TO THE ONTARIO GOVERNMENT**

**BY**

**ENERGY SERVICES ASSOCIATION OF CANADA**



**April 28, 2016**

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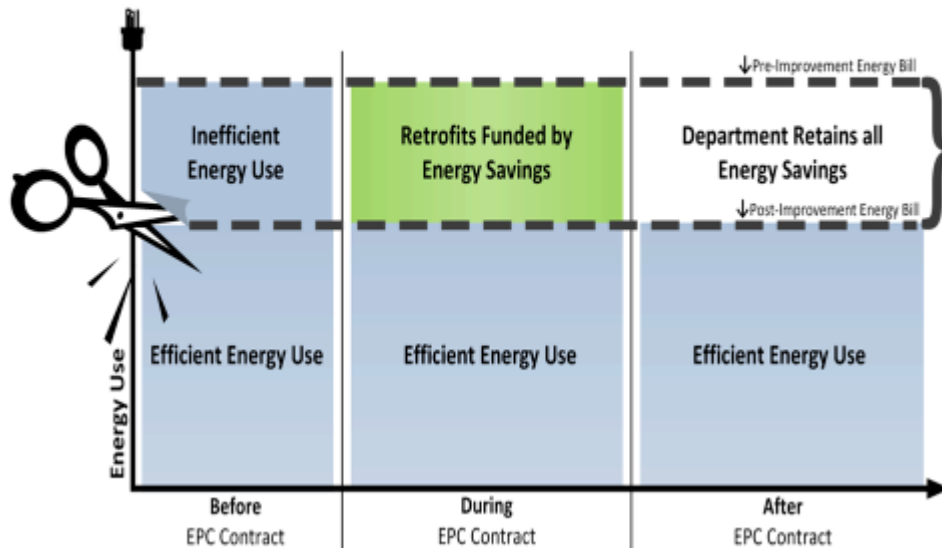
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## 1. BACKGROUND ON GUARANTEED ENERGY SERVICE PERFORMANCE CONTRACTS

Guaranteed Energy Service Performance Contracts (ESPCs) have been used in Canada for the last 30 years to use anticipated future energy savings from a retrofit project to finance the initial capital costs of the project. By doing this, they transfer the technical and financial risks associated with energy efficiency retrofit projects from the end user to a private Energy Service Company (ESCO). Under these contracts, ESCOs guarantee that the energy savings achieved over the term of the contract are sufficient to pay for entire project. In a typical ESPC contract, the ESCo will undertake a detailed feasibility, design/install/commission equipment, undertake on-site training/awareness and undertake a detailed Evaluation, Measurement & Verification (EM&V) report on a regular basis to determine if there any difference between the guaranteed and actual energy savings. The ESCO can also arrange for third party financing but as the ESCo is NOT a financial institution, they are indifferent as to whether the end user provides the required funding.

The following illustration shows how an ESPC works. The project eliminates the inefficient energy use and uses the savings generated during the term of the contract to pay for the initial project cost. At the end of the contract, the end user pays the reduced energy bills for the remainder of the life of the equipment.

### ILLUSTRATION OF HOW AN ESPC WORKS



Source: NRCan Office of Energy Efficiency (1)

It is estimated that contracts worth about \$300 million are signed every year in Canada with about 85-90% of these with public sector organizations (governments at all levels, universities/colleges, schools and hospitals). Projects typically range in size from \$1-50 million. The Canadian federal government has been actively promoting the use of ESPCs since 1991 through the Office of Energy Efficiency's "Federal Building Initiative" (2). To date, this program has led to over 70 successful projects in federal facilities, many involving multiple buildings, that have utilized over \$320 million in private sector funding and resulted in \$44 million in annual energy savings. This experience has led them to conclude that these contracts are not more expensive than traditional contracts (that do not enjoy the benefit of private sector guarantees) once the additional costs of the procurement process and the lower savings that are typically achieved are taken into account (3). The US has a similar program (Federal Energy Management Program) as do most states. The US government has estimated the market to be \$5.3 billion in 2011 and expected to grow to \$10.6 - \$15.3 billion by 2020 (4)

In the last few years, ESPCs have started to be used to finance non-energy related deferred maintenance priorities by extending the term of the contract. The additional capital for non-energy related projects is generated by extending the loan period beyond the simple payback of the energy aspects. In this way, energy savings are being used to finance projects such as roof repair/replacement, elevator/washroom upgrades, parking lots, etc. This ability to reduce deferred maintenance back-logs without additional tax-payer support is increasingly important as public accounting standards gravitate to more disclosure of deferred maintenance liabilities for provincial governments.

There are ten active ESCos in Canada offering ESPCs, 90% of whom are members of the Energy Services Association of Canada (Ainsworth, Airtron/Direct Energy, Ameresco, Energere, Honeywell, Johnson Controls, MCW Custom Energy Solutions, Siemens and Trane).

## 2. THE BUSINESS CASE FOR ESPC'S

Energy efficiency projects have three main benefits which are referred to as the 3 E's (5):

- **Employment** – Energy efficiency projects are labour intensive, unlike many energy supply technologies that are capital intensive. A recent macroeconomic study commissioned by NRCan found that under a high scenario, 305,000 jobs could be added to the workforce by 2030 (6). As many of these jobs are construction-related, they occur at a very local level.
- **Economy** – Energy efficiency is cost effective; the same NRCan study estimated an increase in GDP of over \$500 billion by 2030 (7).
- **Environment** – As 81% of Canada's greenhouse gas emissions come from the production and use of energy (8), energy efficiency has been widely recognized as a key to reducing

these emissions. A recent example is the Canadian Energy Strategy developed by the Council of the Federation which identified energy efficiency as the first of ten initiatives that need to be undertaken (9)

While there are a variety of approaches that can be used to achieve important energy savings, ESPCs have a number of distinct benefits, including the following:

- **Comprehensive** – ESPC projects tend to include a larger number of measures as part of a comprehensive program rather than typical upgrades which tend to be fragmented. With the fragmented approach, often the most cost effective measures are undertaken on their own which means it becomes more difficult to justify other measures after these have been completed. By looking at an asset or portfolio of assets as a system, greater efficiencies can be developed than with a piecemeal approach to upgrades.
- **Turnkey** – Under ESPCs, there is one contract with the ESCO who is responsible for managing all the activities related to the capital work. This single-source of responsibility avoids finger-pointing that is common when there are multiple contracts.
- **Releases Pressure on Capital** – As ESPCs can use private funding sources, limited capital resources can be used for other priorities.
- **Guaranteed Savings** – All ESPCs come with a performance guarantee which is backed up by a comprehensive EM&V program
- **Addresses Existing Buildings** – As Canada adds 1-1.5% to its building stock each year, the vast majority of buildings in 10, 20 and even 30 years will be older. ESPCs were created to improve the energy efficiency of existing buildings.

While the initial purpose of these contracts was to reduce costs, they are now being used to also improve the environmental performance of existing buildings particularly by reducing the direct and indirect greenhouse gas emissions (GHG) of the facility.

The contributions that ESPCs can make to reducing man-made GHG emissions are important for two reasons.

1. **Contribution to Government GHG Reduction Targets** – The federal government and most provinces have set GHG reduction targets for 2020, 2030 and 2050 and it is clear that these targets will not be met with current measures. In Ontario, where data is available for every public sector building, total GHG emissions from these buildings in 2014 was 4.2 Mt (10). Under an aggressive but achievable assumption that these emissions could be reduced by 40%, resulting savings would be 1.7 Mt which is 11% of Ontario's gap in meeting its 2020 target of 155 Mt.

- 2. Leadership by Example** – In addition to the actual GHG savings, reducing emissions in the public sector is important as it shows leadership by government-controlled organizations. Having its own “House in Order” is particularly important as governments at all levels ask homeowners, drivers and private companies to assist them in achieving their GHG national and provincial reduction targets.

The benefits of using ESPCs have become even larger in the last few years as governments at all levels grapple with annual deficits that put severe limitations on the availability of funds to undertake the necessary improvements to public buildings to reduce GHG emissions, address deferred maintenance priorities and reduce operating costs. Larry Summers, the former US Treasury Secretary, has noted that infrastructure investment programs such as ESPCs reduce debt-to-GDP ratios because they grow the economy and that deferred maintenance/unfunded liabilities are just as much a burden on future generations as debt (11).

### **3. ENERGY WASTE FUNDED GOOD DEBT, NOT TAXPAYER FUNDED BAD DEBT**

There are two main accounting treatments that are used to record the financial transactions associated with an ESPC. The first is that it is not recognized as debt but as the financing of a receivable from the ESCO based on the reduced energy bills that the end user will be paying. The second is that it is treated as debt and thus the entire transaction goes onto the end users financial statements in the year the installation was completed. While the federal FBI program and many public sector entities have used accounting opinions that the ESPC does not need to be recorded as debt, other public sector end users have been told that it must be treated as debt.

This White Paper does not try to resolve the markets’ difference in approaching the accounting treatment. Instead, it focusses on the fact that even if the ESPC is considered debt, it is a very different form of debt than other traditional tax-payer funded debt incurred by provincial governments and their related public sector organizations.

One of the important features of ESPCs is that the public sector payments against debt are paid off through the savings that are realized and guaranteed by the ESCOs. This means that even if, for any reason, the projected energy savings are not achieved, the ESCo is obligated to pay the difference between what was saved and what was guaranteed. This is very different from other financial obligations taken on by provinces as they are guaranteed by the government or “self insured” and, ultimately, paid back by tax-payers. Thus ESPCs can be considered as “good debt” as the obligations are paid from the energy that was saved and are guaranteed by a private ESCo. By comparison, other debt obligations taken by provincial governments can be considered “bad debt” as they must be paid by taxpayers. This distinction is made very clear in the recent article by a well-known expert in project finance, Stuart Galloway of Espirito Corp. in his article

“Good Debt: Bad Debt: demystifying the notion that all debt is bad in the space of public infrastructure” (12). This article is included as Appendix A of this White Paper.

There are a number of examples where the principal of treating ESPCs as good debt have been put into practice. In Alberta, the Capital Borrowing Regulation 188/98 under the School Act states that a board may borrow funds “to meet capital expenditures to refit a school building for energy conservation if the cost of retrofitting is guaranteed by the supplier in writing to be recoverable by the board from savings in energy costs in not more than 20 years” (13). Although this regulation does not specifically reference ESPCs, such contracts are and have been the most common way in which school boards have met the provision. The effect of this regulation is that borrowing for energy conservation retrofits of schools is actively encouraged.

In the US, all 50 states not only authorize the use of ESPCs but each has identified a lead management agency to promote their widespread adoption (14). As noted in Section 4, although many do not make specific reference to ESPCs as representing good debt, all are actively encouraging their use by public bodies.

#### 4. BEST PRACTICES IN OTHER JURISDICTIONS

As noted in section 1, ESPCs have been used successfully for over 30 years, mainly for public sector buildings. Over this period of time, there have been many examples of successful government initiatives at both the national and sub national level. The following are examples of best practices from some of these jurisdictions

- **Canada’s Federal Building Initiative Program** – This program actively encourages federal departments and agencies to use ESPCs to reduce their GHGs as well as their costs. They provide a step by step guide (15), assist in providing facilitation services, consultation about energy audits, provide model documents (RFPs, contracts), organize regular “Community of Practices” meetings to share best practices, maintain an updated “Qualified Bidders Lists” and assist with employee engagement programs.
- **Green Buildings BC Retrofit Program** – This program was launched in 1996 and was designed to promote energy reduction in B.C.’s provincial building stock. The program was successful in assisting school districts, universities and colleges in undertaking energy reduction programs. While this particular program is not in existence today, it had a positive effect on climate change and energy reduction during its existence.
- **BC Housing** – From 2009-2012, energy and infrastructure improvements were made in 5,000 social housing residences in over 300 buildings; total project cost was \$120 million. In addition to saving \$3.3 million/year, GHG emissions were reduced by 5,000 tonnes with significant reduction in deferred maintenance backlog.

- **Alberta Capital Borrowing Regulation 188/98** - As noted in Section 4, this regulation states that a board may borrow funds “to meet capital expenditures to refit a school building for energy conservation if the cost of retrofitting is guaranteed by the supplier in writing to be recoverable by the board from savings in energy costs in not more than 20 years. Schools boards who undertook ESPCs over this period include Edmonton Public School, Calgary Board of Education, Elk Island Public Schools, Elk Island Catholic Schools and Parkland School Division.
- **Toronto Community Housing Programs** – Building Renewal Program (2005-10) and Building Energy Retrofit Program (2009-12), \$170 million invested to improve over 13,000 suites in both hi rise and town house blocks
- **Federal Energy Management Program (US)** – Since 1975, this program has actively promoted the broad use of ESPCs and has resulted in a decrease in the federal government’s energy intensity of its building by 45%.
- **US States Success Stories** – The independent, US Based Energy Services Coalition has identified the following six states as leaders in promoting ESPCs:
  - Massachusetts (authorized 3 agencies to develop guidelines has resulted in 65 projects worth \$458 mil)
  - Washington (self funded program with 13 staff and 129 projects worth over \$200 mil)
  - Hawaii (provide expert technical assistance as part of state plan for ee to be 30% by 2030)
  - Colorado (strong support from legislature & governor who recognized ESPCs as best way to fund energy improvements)
  - Pennsylvania (proactively oversees projects & consults on local projects with 44 projects underway totally \$449 mil)
  - Utah (state administrators made it priority with \$165 mil in projects completed or underway) (16).

A summary of these state success stories is included in Appendix B.

## 5. OPPORTUNITY TO USE ESPCS TO PROVIDE MATCHING PORTION OF \$80 BILLION IN FEDERAL GRANTS

In the most recent federal budget, the federal government committed to invest \$120 billion over the next 10 years, to be spent equally on transit, green infrastructure and social housing with the condition that provinces provide the remaining funding. That budget also included \$574 million over 2 years for energy and water efficiency retrofits and renovations to existing social housing



units, up to \$2 billion over 3 years to post-secondary schools to reduce GHG emissions as well as funding for first nations, all of which require provincial matching funds (17).

There is thus a great opportunity to use ESPCs to provide the matching provincial funds for these various programs. As noted in section 3, even if these contracts are treated as debt, they are guaranteed by the ESCO and thus represent “good debt”.

For those provinces with carbon pricing programs; there is also the opportunity to set aside some of the proceeds from carbon tax revenue or sale of permits to be earmarked for ESPCs with terms attached.

## 6. POLICY RECOMMENDATIONS

Based on an assessment of the best practices in other jurisdictions, the following are the policy recommendations for provincial governments.

1. **Authorization that ESPCs can be used by public sector buildings** – Although ESPCs have been successfully used in every province, no provincial government has publically acknowledged that government departments and the public sectors they control (Broader Public Sector or BPS) can use these contracts. The US based National Association of State Energy Officials (NASEO) recently noted in a report that every state in the US has provided such authorization (18). Such authorization is also clear at the federal level in Canada and is promoted by NRCan’s Federal Building Initiative (FBI) program.
2. **Encourage governments/BPS to use ESPCs** – This is not only common at the federal and in every state in the US (18) but also at the federal level in Canada through the Federal Building Initiative.
3. **Identify lead management agency to promote use of ESPCs** – The NASEO report also notes that every state in the US has identified a lead agency to promote broader use of ESPCs (18). NRCan’s FBI program has this responsibility for all government federal departments.
4. **Empower lead agency with staff to promote ESPCs** – As noted in Section 4, the US based Energy Services Coalition has identified six leading states where lead agencies assist with the financing as well as general support for ESPCs.
5. **Use ESPCs to provide funding to match federal programs** – As noted in section 5, there is currently a particular opportunity to use ESPCs to provide the provincial portion of the matching grants for energy efficiency retrofits to green infrastructure and social housing.

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## **APPENDIX A**

***“Good Debt: Bad Debt: demystifying the notion that all debt is bad in the space of public infrastructure”***

# **Good Debt: Bad Debt - Energy Performance Contracts**

Jul 17, 2015

## **Demystifying the notion that all debt is bad; in the space of Public Sector Infrastructure and Energy Performance Contracts.**

Debt for all industry, private and public sectors is an essential, accepted form of good business particularly for big ticket items such as infrastructure, which is the direction of this paper. Good Debt assists in the generation of income and (generally) increases the net worth of the responsible entity.

This discussion paper outlines the burgeoning crisis facing us all in the public sector infrastructure space, as it relates to an ever-mounting deficit in backlog maintenance of assets. The paper then reinvents an existing solution to address this problem, building upon the existing tried and trusted delivery mechanisms to align more closely with today’s needs and drivers for public accountability and increased efficiencies in spending within the public sector.

The recommendations are drawn from direct observations and advisory studies across the public sector and promotes joint working practices and ventures between public and private entities, so that together we can appropriately allocate risk and share in the prevention of a crisis that if not addressed soon, we will be handing to the generations to come.

### **Good Debt, Bad Debt**

There are many definitions outlining what Good Debt and Bad Debt are, so I have adapted from a few and very briefly:

- Good Debt – Is that which increases net worth and/or helps to generate value.
- Bad Debt – in contrast, is that which does not increase wealth and/or is used to purchase goods or services that have no lasting value.

For many public sector bodies the incurrence of debt is considered irresponsible, exposing tax payers to unnecessary risk. That is not to say that public bodies don’t incur debt .... They do.

What I am observing is that many public entities build-in an overly cautious risk factor to approaching their debt ratio limits, with an absolute limit placed no matter how just the cause.

## **Debt Ratio**

Debt cannot be considered in isolation and it is prudent when looking at good and bad debt to also have regards to debt ratio – how credit financing compares to assets, calculated by dividing total liabilities by total assets – and this really depends upon the context within which it is analyzed. I would offer that to incur Good Debt in the prevention of the deterioration and therefore depreciation of an asset is at the very least contributing to maintaining a good debt ratio for an entity.

If a private sector entity were to have no debt on its books, in other words a debt ratio of zero, it would be considered that operations for the entity were not financed at all through borrowing, which in-turn limits the total return that can be realized by that entity and a poor investment for potential shareholders. If we were to consider that in the public sector, the tax payer is the shareholder, however in the instance of public sector does not have the choice as to whether or not to invest.

Public bodies are for the most part established entities and some believe should operate in a way that pushes the liabilities side of their ledgers, greater leveraging their borrowing capacity and maximizing their return to shareholders (the taxpayer). One way of accomplishing this is by incurring Good Debt.

## **The Opportunity**

Now that I have established my starting principle of what is considered Good Debt - when debt is incurred to prevent the declining value of an asset and even better when the value of the asset in fact increases - I come to the second purpose of this paper.

We are in the age where the public sector is increasingly being asked to do more with less, to find efficiencies and to utilize existing resources more effectively. Federal funding of programs is limited, often in decline and when available does not always match the priorities of local or regional government. These reasons become the drivers for devising smarter ways of financing public assets, particularly when considering the ever-increasing funding gap in backlog maintenance and lifecycle replacements within the realm of the public sector portfolio.

*This presents us with an opportunity.* A colleague of mine uses the phrase “current solution current results – new solution, new results”; and the current solution has led to a significant backlog of maintenance across the public sector, as well as year-on-year shortfalls in funding. We need a new solution.

The assertion of year-on-year increasing backlog is not something derived from conjecture specifically, but by considering many diverse elements across the public sector infrastructure and asset management; education, municipalities, affordable housing etc. and have identified increasing backlog maintenance, to be without exception, a common problem facing all. A number of private and public sector individuals have therefore set our minds to finding a solution that can in part address this issue.

## **A Potential Solution**

The solution that we have identified is supported through the access of Good Debt by the public sector – debt that “increases net worth and/or helps to generate value”, in this case the asset or portfolio of assets held by the public entity. We do this by building upon a tried and proven model, leveraging the asset portfolios to make them work more effectively, efficiently and economically. Thereby transferring infrastructure debt to financial debt – infrastructure debt is an ever increasing burden on the taxpayer, or a Bad Debt, whereas financial debt in this case is a decreasing liability over time, or a Good Debt.

*So how does it work in practice?* We are already working with a number of public entities, using money that is already being spent in a more efficient manner to free-up additional capital that can be allocated to support core programs within the public sector entity.

Firstly, through the implementation of an energy efficiency replacement program, it is possible to quantify through benchmarking and capture through performance measures, considerable savings on the current cost of utility payments. A portion of these savings are redirected into the asset portfolio to address backlog maintenance and energy upgrades to the fabric of the buildings – in turn generating additional savings. Both the program and quantum of savings is guaranteed (underwritten) by the private sector, guaranteeing a rate of return on revenue for the public sector.

Additionally, working with a private sector performance contracting firm we can blend low cost public sector debt with that of private sector debt, largely from institutional investors, at a ratio of 3 and sometimes 4 to 1. The debt is serviced over a period of approximately 20 years, optimizing the balance of debt repayment with cyclical returns on asset investment. The debt service period will be shorter or longer as appropriate to the individual entity and its specific asset portfolio needs.

A substantial portion of the finance is directed into making the assets more energy efficient. Notably, this program is not limited to the scopes of previous projects, such as lighting retrofits and HVAC systems, but more complete solutions around the fabric of the assets themselves and what takes place inside those assets, given the now larger pool of capital to draw upon. For example when we consider a school and a lighting retrofit from conventional T8 lighting to a “smart grid LED lighting system” several outcomes are produced, lower energy cost that creates new capital to fund the retrofit, increased asset value and the reduction of deferred maintenance lighting renewal, better lighting quality to support the learning environment, smart connection

technology to modulate light level, manage climate control of space and provide in space security data as to occupied unoccupied use of space.....a quantum increase in connected value to the owner.

## The Results

We have coined the phrase  $2+2=5$  to illustrate this point. By incorporating Good Debt into our model we are in fact able to deliver more and produce higher savings for the public entity, which can be employed in reducing backlog maintenance liability, undertake lifecycle replacements and fund much needed capital programs.

Two key important factors regarding public sector risk:

- The debt service costs associated with the incremental debt (principal and interest) are already built into the public entity's operating budget as it would come from avoided utility costs; and
- The risks associated with ensuring that the debt is retired from operating savings within the prescribed term is transferred to the private sector by mandating capital upset cost and savings performance guarantees.

In addition, the benefits are not just the obvious ones such as addressing backlog maintenance, lowering utility bills and reduction in carbon emissions, although these are important. There are many additional, not immediately apparent benefits such as; reduction in emergency repairs, less downtime of the assets, the transference of risk and considerable more job opportunities across the program.

It is known that fiscal debt is a key consideration for the rating agencies when considering a public entity, but they will also take into consideration capital programs, deferred maintenance and future capital planning. The rating agencies will also differentiate between tax or discounted supported debt and that of self-supported debt. Interestingly, there is a conversation to be had with the ratings agencies and their approach to infrastructure debt over fiscal debt. There must come a point where a public entity will be downgraded if its assets become so poorly maintained as they affect the liabilities for the organization? To follow through on that thread, the raising of good debt to maintain the value of capital assets, arguably should not adversely affect their rating of an entity when considered over the longer term? I predict that when it comes to the materiality around infrastructure debt and fiscal performance, deferred maintenance will play an increasingly larger factor going forward.

Above all, the intrinsic capital value of the asset is protected and retained for longer and our generational inheritance enhanced. This has the overall effect of increasing the public entity's ability to maintain a good debt ratio without placing additional burden on taxpayers.

## Interested in finding out more?

We are currently already engaged with a number of public sector entities delivering this pathfinder initiative. If you would like to explore how to do more with less, reduce your backlog maintenance liabilities, leverage available funding and transfer risk in the most efficient manner, contact:

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## **APPENDIX B**

### **“State Success Stories – Energy Savings Performance Contracting Programs”**

**The Commonwealth of Massachusetts** committed to performance contracting in a big way in 1986 when the legislature authorized three different agencies to develop guidelines for their particular sectors of state government facilities, public housing and local governments. 1) The state’s energy office, the Department of Energy Resources (DOER) has a broad role across all sectors, following its motto of “creating a greener energy future for the commonwealth.” Under the Green Communities Program, DOER helps local governments implement performance contracting projects. 2) The Division of Capital Asset Management (DCAM) manages and oversees most state agency and higher education projects. The E-Team (Energy Efficiency and Sustainable Buildings Group) helps facilities achieve optimum levels of energy and water use and implement renewable energy projects. 3) The Department of Housing and Community Development oversees capital energy projects in public housing. “Performance contracting is a very mature industry in Massachusetts and there is a lot of activity in all three sectors,” said Eileen McHugh, Municipal Energy Programs Coordinator, DOER. Between the three oversight agencies, 65 performance contracting projects totaling \$458 million have been completed with many more getting underway. “The Commonwealth is always striving to be a leader in energy efficiency and renewable energy, continually looking for innovative ways to approach energy efficiency projects and financing and to apply innovative technologies to provide deeper savings,” said Jenna Ide, Deputy Director of DCAM’s E-Team. See:

<http://www.energyservicescoalition.org/espccasestudies/Massachusetts.pdf> for full story.

**The State of Washington** was one of the first states, if not the first, to develop a program to use performance contracting in the state. Now in its 26th year (since 1984), it is a well-managed, well-respected, self-funded program, with a team of 13 technical assistance consultants and 14 pre-qualified ESCOs working with state agencies, higher education institutions, public schools and local governments. With 129 projects completed totaling over \$200 million, and with over \$90 million in avoided costs to date, it has the attention of the governor who believes energy efficiency is the way to meet an aggressive carbon reduction target - 15% below 2005 levels by 2020. The program also has the attention of the legislature which tasked the program to leverage state funds to jump-start projects and create jobs to stimulate the local economy. The program started in the Department of General Administration (GA), Division of Engineering and Architectural Services, after an energy audit of state buildings revealed substantial retrofit opportunities and proposed performance contracting as a funding solution. The program continues under GA today with a broader scope that includes not only state agencies but schools and local governments. The Department of Commerce houses the Energy Policy Office which works closely with GA especially on schools and local government initiatives, while Washington State University delves into energy-related research. All three energy divisions coordinate and

provide support to each other to advance energy efficiency in the state. House Bill 5854 said: “The legislature finds that energy efficiency is the cheapest, quickest, and cleanest way to meet rising energy needs, confront climate change, and boost our economy. More than thirty percent of Washington's greenhouse gas emissions come from energy use in buildings. Making homes, businesses, and public institutions more energy efficient will save money, create good local jobs, enhance energy security, and reduce pollution that causes global warming.” See: <http://www.energyservicescoalition.org/esc/casestudies/Washington.pdf> for full story.

**The State of Hawaii** has been leading the surge on performance contracting since the late 1980s, making waves in all levels of government throughout the islands. The Hawaii State Energy Office in the Department of Business, Economic Development and Tourism's (DBEDT) has generously provided long-time expert technical assistance to building managers of all state and local government sectors. Along with tools, resources and ongoing support, DBEDT has brought performance contracting from an unfamiliar practice to an institutionalized solution to meet energy, environmental and budget goals. Results keep rolling in – over \$102 million in projects in a university, two state agencies, two counties, a city/county and healthcare facilities, with another estimated \$15 million soon to get underway in a second-phase state agency contract, a likely \$35 million project now in negotiations with the state's public housing authority, and more state projects lining up. “Government facilities have long faced rising energy prices and need to replace outdated equipment, but other funding priorities, such as health and safety, often leave energy efficiency retrofits unfunded. That's why DBEDT encouraged state and local governments to incorporate performance contracting as a way to finance their upgrades, and why we established guidelines for using this unfamiliar approach,” said Elizabeth Raman, DBEDT – Hawaii State Energy Office. “Buildings represent one of the largest energy efficiency opportunities and the State will continue to work with business and government agencies to encourage performance contracting opportunities,” said Theodore Peck, Energy Administrator, DBEDT - Hawaii State Energy Office. “Our goal is to build a clean energy future as part of the state's Hawaii Clean Energy Initiative.” Governor Lingle launched the Hawaii Clean Energy Initiative, in partnership with the U.S. Department of Energy, aiming for 70 percent of Hawaii's energy to come from clean sources by 2030 (40 percent from renewable energy and 30 percent through energy efficient measures). See: <http://www.energyservicescoalition.org/esc/casestudies/Hawaii.pdf> for full story.

**The State of Colorado** initiated an energy performance contracting program in 1988 that evolved into what is now a major part of the governor's New Energy Economy. Managed by the Governor's Energy Office (GEO), the Commercial and Public Buildings Program on Performance Contracting has demonstrated the effectiveness of ESC's recommended Best Practices, from strong legislative and gubernatorial support, to pre-qualified ESCOs with pre-approved contracts, to a successful public-private partnership with its ESC state chapter. Energy performance contracting has become recognized in Colorado as the best way to fund energy-saving improvements in buildings, modernize facilities, reduce the use of energy resources, and reduce

the demand on the state's budget to operate public facilities. The program has provided technical assistance to projects totaling over \$252 million in capital investment. Joel Asrael, GEO's Commercial Buildings Program Manager, said: "We have 181 projects in the program now, in stages from ESCO selection through monitoring and verification, and 13 ESCOs are prequalified to provide services." Projects span the state and local government sectors including state agencies, higher education institutions, school districts, municipalities, counties and special districts. "We're proud of the program's success as it puts us on the path to reach the state's goal to cut energy use by 20% by 2020 and to 'lead by example' through our Greening Government program." See:

<http://www.energyservicescoalition.org/escp/casestudies/Colorado.pdf> for full story.

***The Commonwealth of Pennsylvania*** turns energy challenges into innovative program approaches to advance performance contracting. The Department of General Services (DGS) Energy Management Office pro-actively oversees performance contracting projects for Commonwealth agencies and also consults on local government projects. Through the legislated Guaranteed Energy Savings Act (GESA) performance contracting program, DGS has developed sound procurement and contracting processes, come up with strategies to embrace new industry trends, designed new approaches for under-served customers, and met seemingly impossible goals with aggressive deadlines. "We're using performance contracts to establish long-term savings opportunities through more efficient buildings," said Bruce Stultz, Director of Energy Management, DGS. DGS is linked with the state energy office (the Department of Environmental Protection) through the bridge office of the Governor's Green Government Council, essentially serving as the state energy office's arm for building-related program services. Performance contracting gained acceptance as a way to get projects going and capture deep energy savings. To date, DGS has 44 projects underway totaling \$449 million in facility upgrades and is working on local government projects as well. With a recent 20% hike in utility rates, the energy-saving measures are heading off a utility budget deficit. See:

<http://www.energyservicescoalition.org/escp/casestudies/Pennsylvania.pdf> for full story.

***The State of Utah*** accelerated performance contracting activity from quite slow to racing speed in less than a year. There was not much happening in performance contracting in Utah - with the exception of an ongoing mega-project at the University of Utah which has added phase after phase since its early start in 1998 soon to grow to \$63.5 million. In 2006, the state administration made performance contracting a priority to reach aggressive goals laid down by the governor and the legislature for state facilities. "Once the state embraced performance contracting, it took off," said John Harrington who came on-board as the State Energy Manager with the Division of Facilities Construction and Management (DFCM), hired to apply his ESCO background to help gain acceptance for the use of performance contracting in state facilities. About \$57 million in projects are now getting underway in higher education institutions and state departments. Utah's State Energy Program looks to state facilities to lead by example so that local governments will follow and that strategy is proving it's effective. To date \$165 million

in projects have been completed or are underway in state and local governments. Below are a number of challenges that faced the state and the effective program solutions that make Utah a success story in performance contracting. See:

<http://www.energyservicescoalition.org/esp/casestudies/Utah.pdf> for full story.