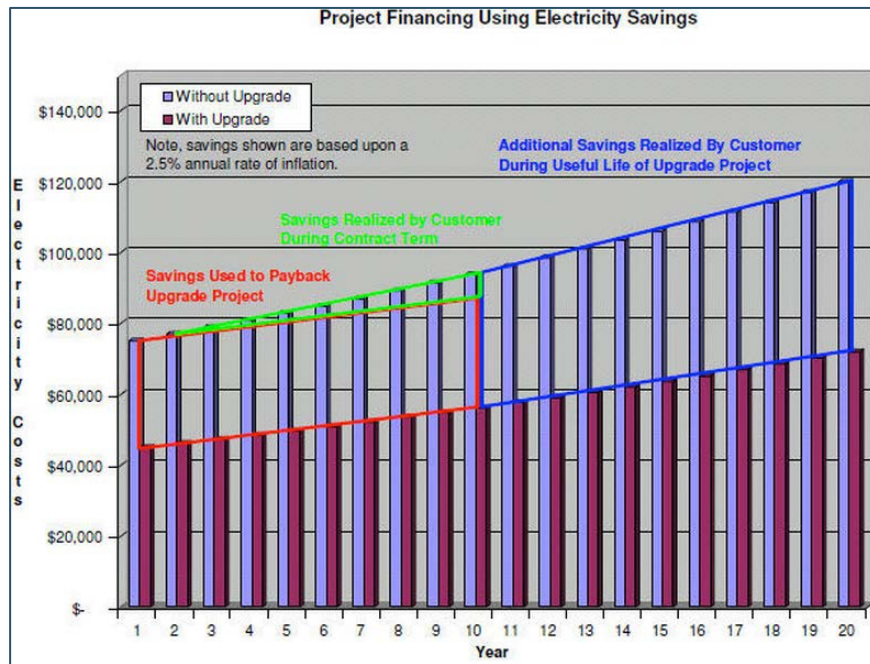


Energy Savings Performance Contracting

Description:

Energy savings performance contracting (ESPC), sometimes also referred to as utility energy service contracting (UESC) or simply performance contracting, is mainly a financing mechanism for retrofitting commercial buildings with more efficient technologies. HVAC, lighting, building controls, and water efficiency have all been common targets for upgrades offered through ESPC in the past. More recently, distributed renewable technologies such as solar and ground source heat pumps as well as procurement of hybrid vehicle fleets are seeing more funding from ESPC. New equipment is paid for over time through the utility bill savings, or other savings, generated by the measures themselves. “Performance contract” means that the savings from the performance of the energy investment is committed to repayment of the loan.

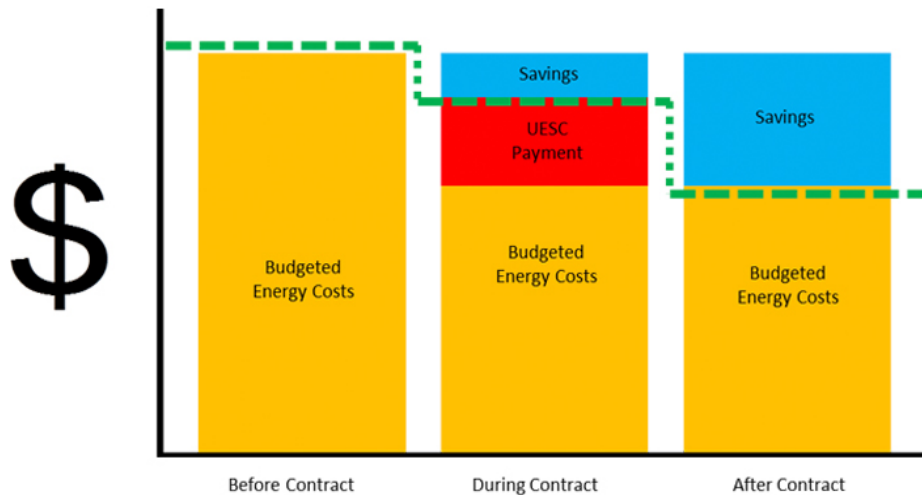
The diagram below depicts a commercial customer’s utility bills over time as a result of an ESPC. In this example, the red box represents the savings that are used to finance the upgrades. The green box is the “extra” savings to the customer (often a buffer against the performance guarantee) during the course of the contract. The blue box represents savings that the customer will incur over the useful life of the project, which is typically long after the performance guarantee has expired. A key component of an ESPC or UESC is the guarantee: The energy service company (ESCO) guarantees a certain, negotiated level of savings (red box). If the renovations of the project do not provide enough savings to cover the loan, the ESCO pays the difference.



Source: [Capitol Markets](#)

While this method of financing could be applied in many settings, the target market for investors is generally large institutions where risk is low, and the investment timeframe is generally longer than in the private sector. Therefore, ESPCs and UESCs are typically best implemented in the municipal, university, state, and hospital (MUSH) market and by federal agencies. Building owners in these sectors tend to be willing to install measures with longer payback periods and, therefore, the projects tend to generate greater retrofit savings. ESPC programs are often managed by state energy offices for in-state MUSH customers and UESC programs are offered by utilities. In most cases, a utility offers a USEC program to assist in achieving compliance with regulations.

The diagram below offers another representation of how an ESPC is financed and the long-term impacts on utility bills.



Source: [Southwest Gas UESC Program](#)

Discussion of the Policy:

Availability of private sector funding for ESPCs and UESCs is not generally a barrier - there is sufficient capital waiting to lend to quality projects. Perhaps the biggest barrier against new programs is statutory and executive clarity regarding how the savings generated by projects will be treated. State agencies generally want to retain the savings from a project without being allocated a lower utility bill budget in subsequent years. Ambiguity surrounding this issue has created difficulty for some states. For example, Arkansas' former Governor Mike Beebe issued an Executive Order in 2007 calling for ESPCs in state infrastructure, which was later codified in statute in 2009. In 2013, he signed legislation clarifying that state agencies may retain the savings from a project undertaken through an ESPC. This type of statutory clarification is key to a successful program.

Financing may be required by the state to sufficiently staff a robust program. While the staffing needs are not expansive, the commitment of personnel to assist in the implementation of a good ESPC program is essential. This is because contracts can be very technical and usually beyond the scope of facilities managers. Engineering consultants to assist facilities managers and represent their interests is a critical component of a successful program. While some of these costs can be rolled into a contract, the administrative burden and upfront costs are generally covered by the state.

Furthermore, states should see a good ESPC program as a public resource - not limited simply to state owned facilities, but also as a tool for local governments, school districts, and universities. This will require staffing, management, and marketing resources that a state program can provide.

In addition, a performance contract starts first with an investment grade audit. These audits can be very expensive. The costs of the audits could be incorporated into an ESPC, but the upfront costs may need to be covered by the state (some ESCOs may provide the audit free of charge in certain circumstances). A revolving fund for financing audits may be a policy component states want to consider.

The investment audit will identify a range of investments and their payback from energy savings. There will be a tendency to want to cherry pick the highest payback items and only pursue those. A performance contract should consider the investment as a whole - some retrofits will subsidize others to create a product package that will pay for itself in savings. In this way, the facility can avoid costly future replacements of energy equipment that are not included in a performance contract, but perhaps have a lower payback threshold than other investments.

A state may want to set a goal, for example, reducing energy usage in state buildings by 20% by a certain date, and specify that the goal be tied to performance contract audits for all state buildings. Alternatively, a state may want to specify that all school districts need to perform performance contract audits on all school buildings. The state government could then tie that directive to the state's performance contracting program.

Example State Programs:

Energy Services Coalition - Race to the Top Performance Contracting Impacts - State Comparison

Energy Services Coalition - Race to the Top						
State Submit Query Submit Query	Population Submit Query Submit Query	Performance Contracting Submit Query Submit Query	Dollars per Capita Submit Query Submit Query	Job Years Created Submit Query Submit Query	Source Energy Saved Submit Query Submit Query	Tons Carbon Avoided Submit Query Submit Query
Hawaii	1,360,301	\$507,133,904.00	\$372.81	5,512	4,208,197	72,284
Washington	6,724,540	\$1,424,458,811.00	\$211.83	15,483	11,820,159	203,035
Delaware	897,934	\$184,776,551.00	\$205.78	2,008	1,533,275	26,337
Kentucky	4,339,367	\$750,000,000.00	\$172.84	8,152	6,223,500	106,901
Massachusetts	6,547,629	\$1,027,848,634.00	\$156.98	11,172	8,529,088	146,504
Mississippi	2,967,297	\$383,468,992.00	\$129.23	4,168	3,182,025	54,658
Ohio	11,536,504	\$1,441,526,667.00	\$124.95	15,669	11,961,788	205,468
Colorado	5,029,196	\$574,452,035.00	\$114.22	6,244	4,766,803	81,879
Kansas	2,853,118	\$284,751,861.00	\$99.80	3,095	2,362,870	40,587
Virginia	8,001,024	\$767,846,616.00	\$95.97	8,346	6,371,591	109,445

Source: [Energy Services Coalition](#)

State ESPC Programs:

- State of Colorado:
<https://www.colorado.gov/pacific/energyoffice/energy-performance-contracting>
- State of Hawaii:
<http://energy.hawaii.gov/energy-performance-contracting>
- State of Massachusetts:
<https://www.mass.gov/service-details/energy-projects>
- State of Ohio
<https://ofcc.ohio.gov/Services-Programs/Energy-Services>

Key Components:

- Designated state program manager - typically a state energy office representative.
- Clear legislative authorization to retain savings and support from the Governor's Office.
- Dedicated program funding (can be generated through the projects themselves).
- Prequalified ESCO list.
- Model state contracting documents.
- Third party technical assistance for state agency support and ESCO oversight.
- Project results or savings tracking.

More Information:

- Construction Financial Management Association, Demystifying Energy Saving Performance Contracts:
<https://www.cfma.org/resources/content.cfm?ItemNumber=3789>
- Department of Energy, Energy Savings Performance Contracts for Federal Agencies:
<http://energy.gov/eere/femp/energy-savings-performance-contracts>
- Energy Services Coalition (ESC), Ten Best Practices for a Model ESPC Program:
<http://www.energyservicescoalition.org/resources/tools>
- Federal Energy Management Program (Federal technical assistance lead on ESPCs and UESCs):
<http://energy.gov/eere/femp/about-federal-energy-management-program>
- National Conference of State Legislatures, State Energy Savings Performance Contracting:
<http://www.ncsl.org/research/energy/state-energy-savings-performance-contracting.aspx>