

Performance Contracting: Achieving energy, sustainability, and infrastructure improvement goals while leaving capital funds intact

White Paper

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Executive Summary

In the face of reduced budgets, aging infrastructure, and volatile energy prices, today's organizations must find creative ways to reduce energy and operating costs without impacting capital budgets. By partnering with an energy services company (ESCO) for a performance contract, organizations are in a unique position to satisfy these business goals while achieving sustainability objectives. Selecting the right ESCO is critical to the success of a performance contracting project.

Understanding the challenges of today's marketplace

Today's communities, schools, businesses, and organizations are no strangers to the economic crisis and the toll it has taken. Since 2008, they have faced an ever-increasing lack of financial resources, which typically leads to a series of responses:

- Laying off portions of the workforce
- Reducing budgets, particularly for building infrastructure maintenance and improvements
- Asking remaining workers to "do more with less"

In addition to financial constraints, energy prices today are volatile, increasing modestly in some areas and dramatically in others. Energy prices have reached historic highs and are expected to remain so for the near future. Rapid energy price fluctuation, if not proactively managed, could affect long-term performance, and such unpredictability is another drain on already tight budgets.

Amid these challenges, organizations still find themselves focused on sustainability and energy efficiency improvements—in terms of "greening" their business, but also as a means to reduce energy and operating costs.

Lack of capital hurting infrastructure and sustainability

Buildings - and the systems that keep them running (such as HVAC [heating, ventilation, and air conditioning], lighting, building controls, water, fire, and security) - are aging. For example, in the U.S., most schools were built before 1970. Consider that the average useful life of a chiller or boiler is 40 years: in a pre-1970 school, the equipment has surpassed its useful life, but the district lacks the capital to replace it. Added to that, technology has advanced significantly, creating equipment that is more energy-efficient and cost-effective than 40 years ago.

Organizations find themselves trapped in a vicious cycle where reduced maintenance budgets put additional stress on already aging equipment, causing equipment to break down more frequently and run less efficiently. This cycle costs the business more to respond to "break and fix" repairs, wasting money from budgets that have no room for waste, and representing the most expensive way to replace equipment—on an emergency basis.

Business and organizational leaders are also committed to sustainability practices, including waste reduction, water and electric conservation, greenhouse gas emissions reduction, renewable energy generation, and so on. However, the lack of capital is an obstacle here, too; companies struggle to find room in their already strapped budgets to make sustainability improvements that will ultimately help reduce costs.

Doing more with less

For schools, municipalities, businesses, and other organizations, tight operating budgets make it difficult to achieve business goals. The challenge today is to do more with less, and find creative opportunities to:

- Reduce energy and operational costs
- Realize sustainability objectives
- Improve infrastructure

Opportunities exist to help today's companies and organizations achieve these goals. A lack of capital no longer needs to stand in the way of infrastructure and sustainability improvements.

Making changes through performance contracting

Performance contracting offers a unique opportunity to achieve business, energy, and sustainability goals without having an impact on capital budgets. Performance contracting is a means of:

- Procurement: a methodology for financing capital improvement projects
- Restoration: a mechanism for infrastructure and technology upgrades and modernization
- Partnering: a relationship of shared risk and mutual accountability with an energy services company (ESCO)

Rather than using a traditional "low-bid," procurement methodology, performance contracting is a value-based procurement process that allows the implementation of various facility improvement measures (FIMs). The FIMs result in reduced utility consumption and operational expenses, and when those savings are translated from energy units (kWh, etc.) into dollars, they should meet or exceed the cost of the project; in effect, the project pays for itself over time.

Performance contracts are an excellent solution for building owners who do not have the capital or the expertise to identify and implement energy-saving and sustainable FIMs. By partnering with an ESCO, organizations can access this expertise and implement guaranteed performance-based solutions.

Understanding how performance contracting works financially

Two common misconceptions are that 1) performance contracts are shared savings arrangements between the ESCO and the customer, and 2) performance contracting is more expensive than low-bid procurement solutions. In fact, customers keep all of the utility and operational savings realized by the performance contracting project, and pricing negotiated through performance contracts is comparable to pricing obtainable through competitive, or low-bid, procurement processes. The distinctive advantage of a performance contract is that utility and operational savings are guaranteed by the ESCO, whereas no such guarantee is typically available through traditional procurement processes.

Through the performance contract, the organization enters into a financing arrangement (either a capital or municipal lease or a bond) and makes payments over time. These payments should be less than the savings achieved by the project, either calculated year by year or over the course of the contract's term. If the savings fall short of the guarantee, the ESCO pays the difference to the customer.



Performance contracting delivers facility improvements

In a typical facility, as much as 33% of the energy used is unnecessary: a result of inefficient design, poorly functioning equipment, and/or outdated energy infrastructure technologies. Prior to starting a performance contract, the ESCO will conduct a complete facility audit, looking for opportunities to reduce energy and operating costs.

The result of the audit are FIMs. These measures will reduce energy usage and/or operating costs, and in some cases must meet other criteria, including financial payback periods, return on investment, and so on.

Under a performance contract, FIMs can include upgrades or improvements to:

- Building controls systems
- Weatherization and building envelope
- HVAC equipment
- Lighting systems and lighting controls
- Renewable energy generation
- Waste management
- Water conservation

Under a performance contract, FIMs help create facility operating efficiencies, increase property values, make interior environments healthier, and improve community and shareholder relations.

Ensuring performance contracts deliver results

Because performance contracts guarantee energy and operational savings to the organization, ESCOs take great care to ensure that performance contracts deliver results. Throughout the term of the guarantee, measurement and verification (M&V) processes will measure energy usage and verify savings to ensure the project is a success.

Partnering with an ESCO

Government entities, educational institutions, healthcare facilities, privately-held companies, and corporations alike need a strategic partner and plan to achieve energy, sustainability, and business goals. Through performance contracting, these goals become more achievable while leaving capital funds intact.

Today's organizations have several options for partnering with an ESCO:

- **Integrators:** Sometimes called "pure-play" ESCOs, these firms are typically comprised of energy engineers and construction managers located in major metropolitan areas. Integrators must rely on other partners for installation expertise and local service capabilities to make performance contracting effective.
- **Utility service companies:** Aligned with utility companies, ESCOs offer local resources and an understanding of energy billing, but like pure-play ESCOs, must rely on third parties for the installation and service expertise to implement effective performance contracts.

- **Equipment-related manufacturers:** These ESCOs combine engineering expertise, local support services, and performance contracting experience with equipment manufacturing. This combination means that these ESCOs can install their own equipment, saving customers one level of markup and installation service cost. In addition, equipment-related manufacturers are more in touch with current and emerging technologies, thanks to their extensive research and development processes.

Selecting the right ESCO for performance contracting

When selecting an ESCO for a potential performance contracting project, organizations should look for an equipment-related manufacturer that:

- Integrates a wide variety of FIMs through broad solutions offerings, including HVAC, lighting, traffic and street lighting, building automation, and water conservation, in addition to emerging and renewable energy resources;
- Offers local service capabilities supported by a global network of engineering and technology expertise;
- Manufactures best-in-class products and equipment to help deliver greater energy and operational savings and sustainability practices; and
- Provides single source accountability and shared risk with professional energy management solutions.

The right ESCO will formulate, design, and implement customized solutions that help today's organizations achieve business and sustainability goals—reduced operating and energy expenses, realization of sustainability objectives, and improved building infrastructure—while delivering the added value of new, energy-efficient, and environmentally-responsible equipment.



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¹Siemens Industry, Inc., McGraw-Hill Construction. 2009 Greening of Corporate America: The pathway to sustainability - from strategy to action. McGraw Hill Construction, 2009.

²Oak Ridge National Laboratory. Evaluation of Federal Energy Savings Performance Contracting—Methodology for Comparing Processes and Costs of ESPC and Appropriations-Funded Energy Projects. Department of Energy, 2003.