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ENERGY PERFORMANCE CONTRACTING IN THE EUROPEAN UNION: INTRODUCTION, BARRIERS AND PROSPECTS

Issue Brief

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INTRODUCTION

This paper provides an overview of some of the main barriers to performance contracting in the European Union (EU). As many readers may be unfamiliar with performance contracting, the first sections describe performance contracting, how it works, and where it is generally most applicable. This is followed by a listing of the most commonly cited barriers to performance contracting. The last section examines the prospects for the development of performance contracting in the EU.

WHAT IS PERFORMANCE CONTRACTING?

Performance contracting, also known as energy performance contracting (or EPC), is internationally recognized as a guaranteed, cost effective and scalable procurement method for reducing the operating costs and environmental impacts of buildings.

Under a performance contract, an Energy Services Company (ESCO) with technical know-how provides a comprehensive building retrofit, which can include the replacement of boilers, insulation, cooling systems, and lighting and temperature automation controls, as well as the integration of energy data management software and on-site renewable energy systems.

The ESCO takes complete "turn-key" responsibility for the project, meaning it covers all aspects of the project from start to finish: preliminary energy audits, detailed design and engineering, business case analysis, installation, commissioning, and performance measurement and verification.

Importantly, the ESCO **assumes performance risk** for the project in the form of a long-term financial guarantee to ensure that the projected energy, water, and operational cost savings materialize and are preserved over time.[1] Regular measurement and verification (M&V) of building performance allows the building owner and the ESCO to make sure savings are realized. If promised energy savings are not realized, the ESCO must pay the difference to the building owner or reduce its service or shared savings fee accordingly.

[1] For example: the ESCO guarantees it will deliver a 20% energy savings over the life of the performance contract, compared with a baseline level of energy consumption. The baseline is determined by a detailed energy audit, which factors in the average consumption of the building over a period of several years, indexed to account for a projected rise in energy prices and other factors (e.g. weather conditions, building occupancy, working hours, etc.).

HOW ARE PERFORMANCE CONTRACTS FINANCED?

The ESCO's assumption of risk and the associated guarantee provision open up numerous **options for financing** the upfront investment required to undertake the retrofit, for example:

1. Owner financing – the building owner pays;
2. ESCO financing – the energy service company pays;
3. Third party financing – a bank provides a loan;
4. A third party entity or fund pays for the investment;
5. Governments or utilities provide full or partial funding through grants, loans and/or fiscal incentives.

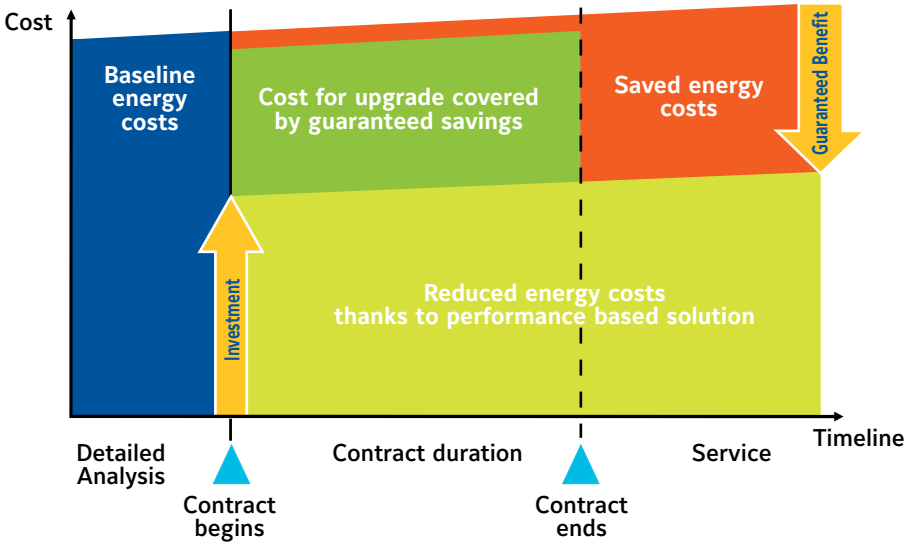
With the exception of owner financing, all of the other options mean that the **building owner is not required to make any significant upfront investments.** Rather, the cost of the ESCO's services is essentially paid for over the lifetime[2] of the project through a reduction in the building's energy, water and other operating costs.

[2] Performance contract payback periods range between 3 to 20 years, depending on the scale of the project and cost/ greenhouse gas emission reduction objectives.

HOW DOES PERFORMANCE CONTRACTING WORK IN PRACTICE?

Consider this scenario: a building owner signs a 12 year EPC with an ESCO. A lending agency lends the owner the money to pay the ESCO for its services. This loan is paid back, with interest, over 12 years through energy savings. Once the 12 years have expired, the owner has paid back the loan and continues to benefit indefinitely from lower building energy consumption and cost savings.

Figure 1. Performance Contracting at a Glance



This image provides a basic idea of how performance contracting works. In practice, there are several different types of contracts available on the market today.

Please refer to the website of the Institute for Building Efficiency www.institutebe.com for more information on performance contracting, in particular the page dedicated specifically to the topic: http://www.institutebe.com/Existing-Building-Retrofits/Energy-Performance-Contracting.aspx

WHO USES PERFORMANCE CONTRACTS?

Performance contracting is particularly applicable when significant building efficiency improvements are sought but investment capital is limited. For example: large public and government buildings, hospitals, schools and universities with inefficient buildings with older equipment and infrastructure. Due to the generally stable, long-term occupancy levels of these kinds of properties, a performance contract with a 10-year or longer payback period can be attractive.

Commercial and industrial facilities also use performance contracts. Commercial operators may require shorter paybacks on investments (1-2 years) and this may limit the scope of private sector performance contracts. However financing models exist to account for shorter term payback needs.

BARRIERS TO PERFORMANCE CONTRACTING IN EUROPE

Performance contracting has been used in the EU since the 1980s. However the market remains underdeveloped, notably in comparison with the United States. According to practitioners' testimonies and available literature on the topic, there are several key barriers that must be addressed before the market for performance contracting will be widely used in Europe:

Lack of Awareness

Unlike in the United States, there is a low level of awareness of performance contracting in both the private and public sectors of most European countries (Germany being a notable exception). At the EU level the situation is not significantly different: only a handful of EU civil servants and politicians are aware of performance contracting.

Lack of Policies and Support Mechanisms

Not surprisingly, this lack of awareness is reflected in a low level of market development and in a lack of specific policies and government-backed support mechanisms designed to promote performance contracting while removing any impediments to successful projects.

Public and Private Sector Capacity Constraints

Unfortunately, even in cases where awareness about performance contracting is high and where support policies and mechanisms exist, public and private building owners may simply not have the technical capacity and/or skill set to seek out qualified ESCOs in order to secure a performance contract.

Lack of Common Definitions and Harmonized Processes

Performance contracts may be understood in different ways from one European country to the next, and definitions and contract types can vary widely even within countries.

While nation-specific approaches to performance contracting may be appropriate in order to account for local differences and circumstances, the lack of common definitions and harmonized processes hinders the development of standards and best practices, creating uncertainty and confusion in the marketplace. The EU's Energy Services Directive (2006) attempts to provide clarity and guidance for the development of a transparent EU-wide market for energy services. However, most of the provisions of that directive are not legally binding, and member states differ widely in terms of the rules governing energy services and, as a result, performance contracting.

Prohibitive Public Procurement and Budget Rules

In many European countries, public authorities are not allowed to leverage financing based on future guaranteed energy savings. National authorities may also impose lending limits on local bodieswhich leaves capital-strapped administrations little room to pay for the up-front costs of performance contracting.

In addition, administrative annual budgets are often allocated based on the spending of previous years. This "use it or lose it" allocation structure undermines the incentive to save energy and reduce expenditures through performance contracts or other means.

Financing Constraints

European governments, almost without exception, are facing high budget deficits. Under pressure to cut spending, they must deal with rising energy costs and are exposed to fossil fuel price fluctuations. Many of these same governments are not aware that performance contracting can save money, enhance energy security, and be implemented even–and indeed, to greatest advantage–in times of budgetary austerity. Meanwhile, credit markets remain constrained because of the ongoing financial crisis, and lending institutions may be reluctant to offer performance contract financing despite ESCO performance guarantee provisions. Unfamiliarity with and lack of clarity about performance contracting exacerbate these kinds of financing constraints.

Market Failures

In commercial settings, improving efficiency may raise the value of a building and thus increase the property tax burden on the owner. Equally, reduced energy costs may benefit tenants rather than owners of commercial buildings, reducing the incentive for owners to invest in efficiency measures.

Private sectors decision makers are also under pressure to realize rapid (2 to 3 year maximum) returns on investment. They may shy away from more long-term and comprehensive performance contracts, undermining the potential to reduce the operating costs and environmental footprints of their facilities.

LOOKING AHEAD – PROSPECTS FOR PERFORMANCE CONTRACTING IN EUROPE

Despite these and other barriers, several factors suggest performance contracting is set to gain significant traction in the EU.

Comprehensive Climate Legislation Adopted

In December 2008, the EU's 27 member states adopted an ambitious suite of laws designed to drive down EU CO2 emissions 20% by 2020. Emissions trading, 20% more renewable energy use and a 20% improvement in energy efficiency are central to these CO2 reduction plans. Meanwhile comprehensive EU buildings legislation, featuring a target of "nearly" zero energy public buildings by 2020, entered into force in July 2010. The European Commission is further expected to launch new actions and policy proposals to increase energy efficiency during the remainder of 2010 and in 2011, in line with a new "EU 2020" Strategy for economic revival that emphasizes resource efficiency and greenhouse gas reductions in buildings and other energy consuming sectors.

Driving this legislative agenda is the political will to increase energy security, produce thousands of "green jobs," and secure European leadership in a global low carbon industrial transformation. While recession and budgetary austerity may pose implementation challenges, the political will to address climate change remains intact at the EU level and in many national capitals. In addition, the EU's CO_2 reduction targets and many related measures are binding and enforceable under EU law.

Cost Effective Solutions in Demand

In this context, and particularly in times of economic contraction and budgetary constraints, national governments will be on the lookout for ways to cut costs while meeting their legal obligations to reduce CO2 emissions. Performance contracting could be particularly attractive to governments in this respect, as it would allow them to simultaneously cut costs, create jobs, increase energy supply security, and comply with climate legislation without putting extra pressure on already strained budgets.

Other Developments and Trends

European, national and regional policy makers have already taken some concrete steps to promote performance contracting and other procurement measures designed to increase energy efficiency.

The EU-funded European Local Energy Assistance (ELENA) facility, for example, was created in September 2009. It provides 15 million Euros worth of technical assistance to help regional and municipal authorities procure large scale energy efficiency and renewable energy projects. France recently identified performance contracting as a central component of its second "Grenelle" package of environmental laws. In Germany, one of the few European countries where performance contracting has developed, energy agencies have played a central role both as neutral interlocutors with ESCOs and as providers of technical expertise, helping public authorities source performance contracts. At the same time, performance contracting is gaining visibility in the EU banking sector as a viable and attractive third party financing vehicle.

Internationally, particularly in the United States, China, Brazil and other leading developing nations, performance contracting is gaining increasing attention as a cost-effective strategy for stimulating economic growth while conserving scarce resources. It is reasonable to believe that EU leaders, who are eagerly on the lookout for economic growth opportunities while staying internationally competitive, would support policies and funding instruments to enable greater use of performance contracting.

The Institute for Building Efficiency is an initiative of Johnson Controls providing information and analysis of technologies, policies, and practices for efficient, high performance buildings and smart energy systems around the world. The Institute leverages the company's 125 years of global experience providing energy efficient solutions for buildings to support and complement the efforts of nonprofit organizations and industry associations. The Institute focuses on practical solutions that are innovative, cost-effective and scalable.

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