Energy Contracting
Successful energy services business models

- ESC – Energy Supply Contracting
- EPC – Energy Performance Contracting

www.eu-esco.org
Energy Contracting – the comprehensive energy service concept

Energy Contracting is a service that helps to make buildings more efficient. It facilitates a significant improvement in a building’s energy efficiency, benefiting both the owner and the environment.

The concept of energy contracting is a method and financial mechanism to support building refurbishment. Energy consumption is reduced by new intelligent building systems and the resulting savings pay for the costs of the renewal. In addition to this, the entire project cycle costs are minimized. Renewable energy solutions can also be added to the contracting concept. They guarantee further reductions in primary energy use for a long period and accelerate the return on investment.

Contracting is an extensive energy service, provided by an Energy Service Company (ESCO). The ESCO guarantees savings that cover all implied costs. It accepts the operational risks for contracts with durations generally above 5 years and normal time spans of 10-15 years. The ESCO typically offers customized energy contracting packages that contain planning, operation, and maintenance elements. In addition, it also manages energy purchasing and financing of the various projects.

Energy Supply Contracting (ESC) focuses on energy supply

Energy Supply Contracting is the efficient supply of energy. The contracting partner provides products such as heat, chilling, compressed air or electricity. The subject of the contract is not the energy value, like for example litres of oil, but the utility value – billed in Euros per volume items of heat, steam or compressed air.

Financing, engineering design, planning, constructing, operation and maintenance of energy production plants as well as management of energy distribution are often all included in the complete service package.

The ESC is a service primarily used in the commercial and industrial sectors, however residential dwellings may also be included for reductions in primary energy use for a long period and accelerate the return on investment. The business model encompasses the entire process from the purchasing of fuel to the delivery and invoicing of energy. CHP plants and renewable energy solutions frequently are also included in energy supply contracts.

The benefits of ESC are a significant boost in efficiency, clear and optimized operational costs, more supply assurance and the usage of the most recent safety standards. The customer no longer needs to worry about their energy supply concerns and, in addition there is an increase in environmental performance. The focus of the ESC service model is on the efficiency of the energy supply with the aim to bring the efficiency to its maximum while at the same time providing security of supply.
The energy service value chain

Energy services achieve economical and environmental benefits. Renewable energy solutions such as biomass, wind and solar energy are usually considered in the contracting approach. The energy service value chain shows two different basic models of energy contracting:

- Energy Supply Contracting (ESC)
- Energy Performance Contracting (EPC)

The principal difference is that EPC goes beyond ESC. Whereas ESC is based on a business model that guarantees energy supply; EPC is a business model for energy savings. The goal is to avoid wasting energy and to invest the savings in energy efficiency.

Energy Performance Contracting (EPC) aims for energy savings

The application span of Energy Performance Contracting involves the entire building – as one incorporated energy consuming unit.

It is a type of long term contractual agreement where the customer benefits from new or upgraded energy equipment and the ESCO’s remuneration is directly tied to the savings achieved by the reduced energy consumption. The cost of investment is paid back from the savings, and in case the ESCO fails to achieve that, they must cover the difference between the actual and the guaranteed costs.

More than a funding model, an EPC is a programme of practical engineered energy efficiency measures that are implemented in buildings to deliver real energy savings such as HVAC, lighting, controls and building fabric improvements. In addition, to ensure the building is used in the most efficient way, building occupants receive training on energy efficiency practices. The intention is to keep the total energy consumption to a minimum – by way of demand side energy efficiency methods.

To ensure promised energy savings have been achieved over the contract duration, a procedure termed “measurement and verification” is used. Adhering to an internationally recognized protocol such as the International Performance Measurement and Verification Protocol (IPMVP), customers can be assured that guaranteed savings have actually been delivered despite changes to the climate, the building and its use over time.

The procedure is subject to the EPC contract, regulating the partnership between the ESCO and the customer. The contract regulates general issues such as property rights, usage of the systems and partnership duration. Furthermore it stipulates the amount and structure of the investment, its implementation, how it is controlled as well as the maintenance of the energy saving measures which have been taken. It particularly determines the extent and distribution of the annual savings.

The key benefits include risk transfer, the ability to modernise a building’s energy infrastructure without necessarily having the funds and accessing external expertise. The key focus is on saving energy at the point of use first, before optimizing the supply of that energy.