

The ESCO Model



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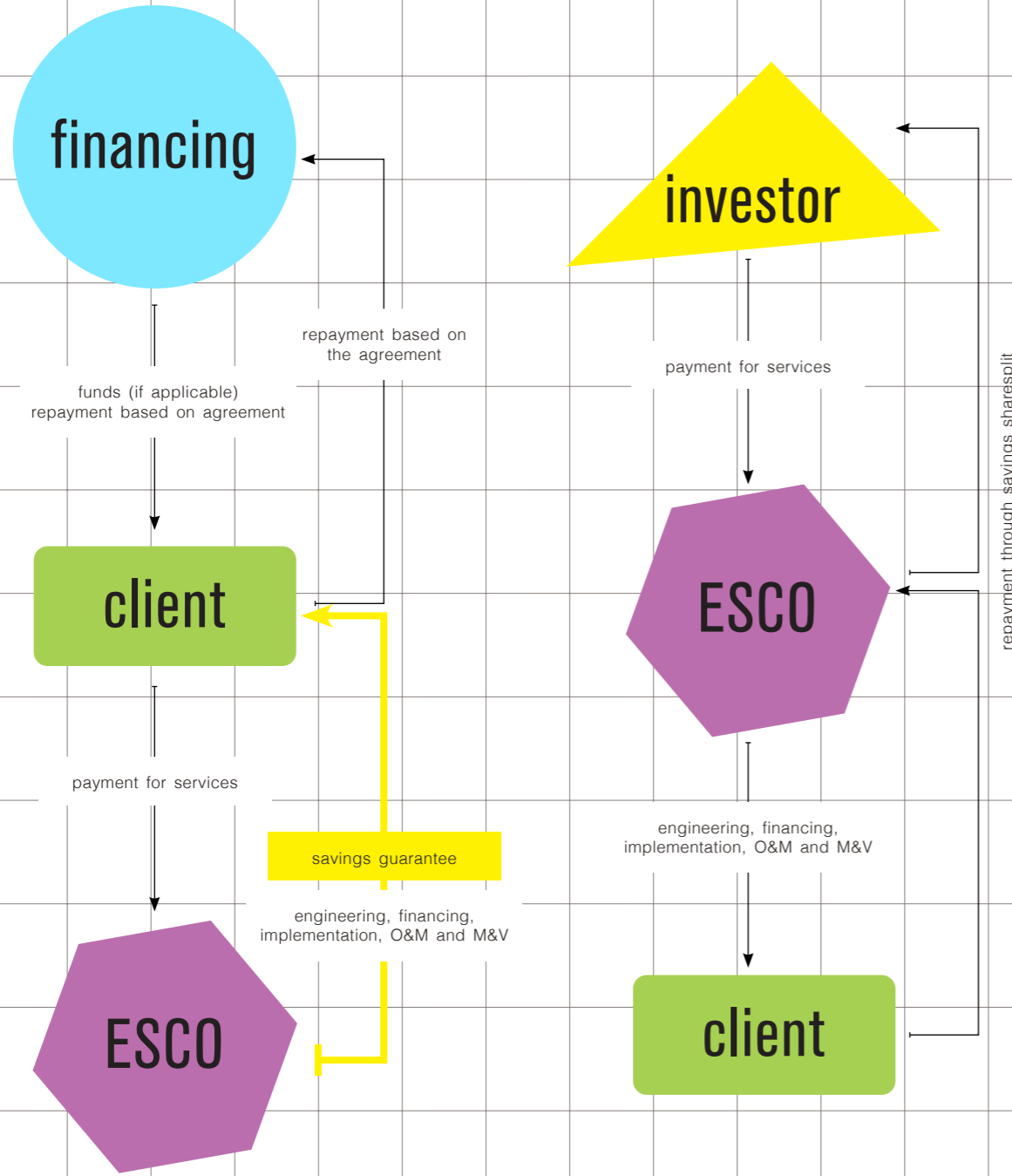
Energy Service Companies (ESCOs) and the models on which they operate are simple. Whether the model is being “paid from savings” or guaranteeing the proposed savings, the concept is very attractive. This deems the development of an energy services market one of the top demand side strategies for any policy maker to achieve energy targets. So why does the dialogue in most of the countries still revolve around scaling up the model to grasp the untapped potential of ESCOs?

We have 1000s of buildings eligible for energy retrofits and the potential is lost between customers’ lack of awareness, mistrust in the model, and the insufficient pool of capable service providers.

Lack of Awareness

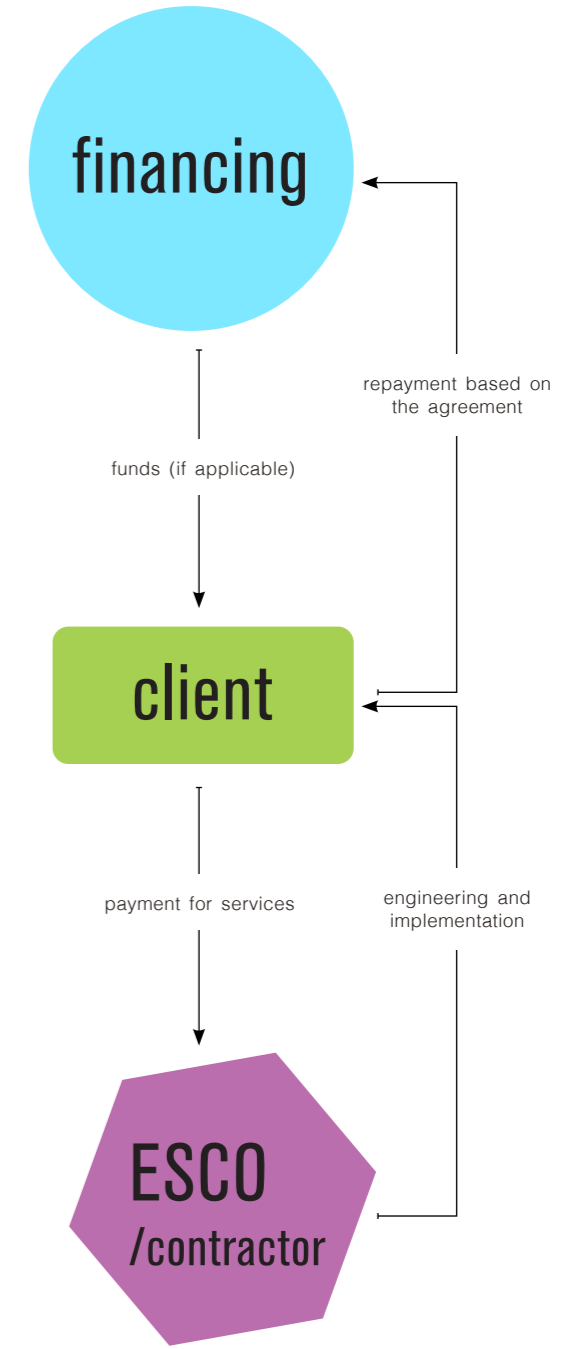
It is becoming more common to hear about organizations that set targets for energy or carbon reduction. Some of those adopt a comprehensive culture of energy management assigning an internal champion or team who is held accountable for successful execution of energy efficiency projects. The majority, unfortunately, do not follow the same path leaving an important gap in the market to fill by educating customers about the importance of energy efficiency adoption both financially and out of environmental awareness.

On a separate yet connect note, in order to improve anything, two basic questions are ought to be asked: “How are we doing?” and “How do we know?” When it comes to improving buildings energy performance, one has to assess how the building is doing and how its performance compares to other similar buildings - the benchmark. One of the most common barriers facing the energy retrofit market is the lack of accountable information and benchmarks to assist energy experts and consultants in creating a clear-cut financial case to demonstrate that investing in energy reduction measures can provide profitable growth. A few governments in the region are starting to take the lead in this field.



EPC-Guaranteed Model

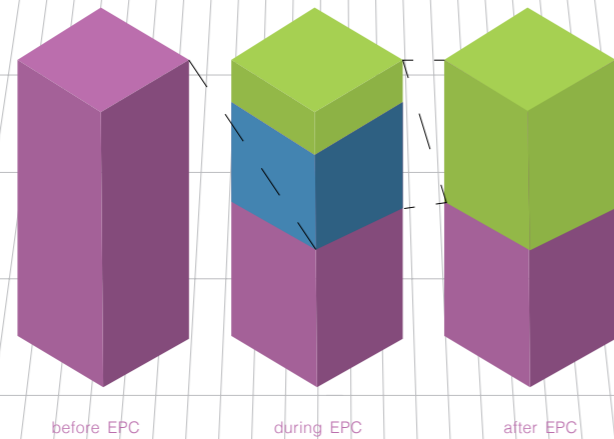
EPC-Shared Savings



Non-EPC Model

SHARED SAVINGS EPC MODEL

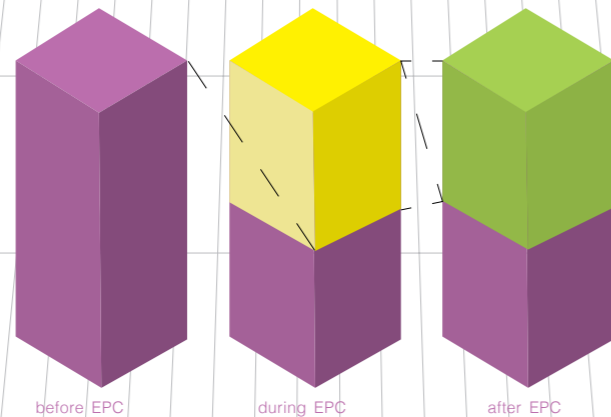
annual utility cost savings



■ energy savings
 ■ ESCO share
 ■ after EPC savings

GUARANTEED SAVINGS EPC MODEL

annual utility cost savings



■ energy savings
 ■ guaranteed savings
 ■ after EPC savings

Mistrust in the Model

In other instances customers have heard of cases in which a project simply did not deliver results or, even worse, projects that have entered into embroiling litigation with ESCOs. This barrier is often harder to overcome.

The first most prominent reason for customers' mistrust is ending up with financial indicators that do not meet the initial study that was based on simplistic calculations. For performance guarantee, a retrofit proposal should include, in addition to supply, the costs associated with project management, installation, commissioning, operation, maintenance, and measurement & verification (M&V). The payback periods with such an approach are much more realistic than the simple payback method.

Second is misplacement of technologies. While a lighting retrofit is pretty straight forward whether in residential, commercial or industrial sectors, an HVAC retrofit requires a significant amount of technical expertise for selecting, installing, commissioning and operating the equipment. It is not a one solution fits all measure. Furthermore, the end user needs and behavior plays a great role in the success of the implemented measures. Think water conservation measures in labor camps or in ablution rooms in mosques for example.

The third and most controversial factor is the determination of the actual savings achieved. Implementing a simple yet rigorous M&V protocol, that is agreed on from the get go, and that is verified by an independent 3rd party is vital. The international Performance Measurement and Verification Protocol is a well adopted tool to ensure the transparency and accuracy of energy savings reporting.

Another factor is the perceived complexity of retrofits. It is important to realize that an energy performance contract can be as little or as much as a customer wants it to be. ESCOs differ in their project staging philosophies, customer services, financing capabilities, technical capabilities, and implementation approaches. Furthermore, retrofit projects ought to be customized in scope and terms based on the customer's targets and the physical characteristics of the building. One customer may choose to undergo the no-cost energy savings measures in-house to avoid "wasted" savings and skewed payback periods and limit ESCO involvement for the cost-intensive measures. Other customers may opt for a full ESCO model for all measures due to the quantity or complexity of the building(s).

The options are unlimited and performance contracting is a concept not a template. It can be adjusted to meet the needs of each project and customer. Having to deal with such diverse proposals and options could be overwhelming to customers and may compromise the launch and success of retrofit projects.

All of those barriers can be overcome by hiring a non-biased, third party, technical consultant that can simplify the process, streamline it, and ensure the success of the project. A consultant would typically set savings expectations, manage the tendering process, and help the customer with selecting the most feasible proposal both technically and financially. The consultant may also supervise the implementation of the retrofit project and engage as the 3rd party M&V professional.

Capable ESCOs

Key policy mechanisms necessary to enable a sustainable and successful ESCO market are largely missing in many countries. For one, the absence of funding support for energy efficiency projects that is dedicated and programmatic is a disabling hurdle that very few ESCOs are able to overcome. In the US, a combination of federal and state-level legislation, commitments, and enablers has led to a billion dollar energy services market. The estimated industry's revenue in 2017 was \$7.6 billion as reported by Lawrence Berkeley National Laboratory in a report funded by the US Department of Energy. In many developing nations, ESCOs are being largely supported by pilot projects and a very few were able to gain traction and sustain funding. This led to a small pool of capable ESCOs against a much larger pool of eligible buildings and a huge potential of untapped projects.

Concluding Thoughts

Whether you are looking to learn more about retrofits, have had or heard of past failed projects, or simply want to move forward with your retrofit project, hiring an independent and non-biased energy consultant will elevate the uncertainty involved by simplifying the process and aiding you with decision making.

The ESCO model will continue to grasp the attention of investors, customers and professionals for its great potential to generate revenue while stirring immense interest among researchers and policy makers to generate mechanisms that overcome its complexity tackling all elements and dimensions. ■