PILOT ESCO GRANT SCHEME

Preparation of Guidelines for EPC Contracting for ESCOs and Case Study Development

Turkish Ministry of Energy and Natural Resources

Prepared for:

SME Energy Efficiency Project

Final

February 16, 2017
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>EE</td>
<td>Energy Efficiency</td>
</tr>
<tr>
<td>EPC</td>
<td>Energy Performance Contract</td>
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<tr>
<td>ESCO</td>
<td>Energy Service Company</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<td>EYODER</td>
<td>Energy Efficiency and Management Association</td>
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<td>GHG</td>
<td>Greenhouse Gas</td>
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<tr>
<td>IFI</td>
<td>International Financial Institution</td>
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<tr>
<td>IRR</td>
<td>Internal Rate of Return</td>
</tr>
<tr>
<td>M&amp;V</td>
<td>Measurement and Verification (of energy savings)</td>
</tr>
<tr>
<td>MENR</td>
<td>Ministry of Energy and Natural Resources of Turkey</td>
</tr>
<tr>
<td>MWh</td>
<td>Megawatt Hour</td>
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<tr>
<td>PP</td>
<td>Project Proposal</td>
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<tr>
<td>SME</td>
<td>Small and Medium-Sized Enterprise</td>
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<tr>
<td>toe</td>
<td>Tonnes Oil Equivalent</td>
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<tr>
<td>TRY</td>
<td>Turkish Lira</td>
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INTRODUCTION

The development of a mature ESCO market in the private sector in Turkey will undoubtedly underpin the volume of Energy Efficiency (EE) investment projects in the country. Unfortunately, many barriers are still present which limit the use of the ESCO model. Major barriers include the lack of knowledge about the EPC mechanism and the lack of trust in its ability to deliver good projects at an acceptable cost.

To address these gaps, it has been suggested that an incentive mechanism be developed and implemented to invite private sector SMEs to initiate Energy Performance Contracts (EPCs) with ESCOs to demonstrate the technical and financial viability of the ESCO model in Turkey.

The purpose of the proposed ESCO grant mechanism is also to showcase the success of EPC through pilot project support and to modify the behavior of market stakeholders to enable the desired market development.

To ensure that the specifics of the Turkish market are reflected, the preparation of this report was realised on consultation with the Energy Efficiency and Management Association (EYODER).
1 PROGRAM OBJECTIVES AND PERFORMANCE INDICATORS

1.1 Program Objectives

There is a large number of programs in Turkey that target existing EE financing barriers and aim to improve access to EE financing for private companies. Some of these programs are led by the Government of Turkey, others by International Financing Institutions (IFIs). One of these programs (the current World Bank SME EE Project) aims to enhance the market penetration of alternative EE financing and implementation models, such as ESCO and equipment leasing. Despite all efforts, the ESCO model has thus far not been able to achieve the expected success in the Turkish market.

While the restricted access to capital for ESCOs may be considered among the major impediments for market transformation, the lack of awareness and interest in EPC from potential private sector end users (SME clients) is also a major barrier preventing the ESCO model from establishing itself in Turkey.

The proposed ESCO grant program aims to induce SMEs and ESCOs to undertake EE investments through EPC. While the EPC model for investing in EE is still building in Turkey at this time, the various efforts made by the World Bank SME EE project will address these barriers. Complementarily, a grant program to help support initial project implementation and information dissemination has been proposed and accepted as an additional tool to attain objectives.

The major objectives of the ESCO grant mechanism are as follows:

- Provide end users (SMEs) with financial incentives to foster the development of EPC projects;
- Gather data to demonstrate the viability of small-scale EE projects under the EPC model;
- Offset the higher costs and risks associated with entering into early EPCs in Turkey;
- Enhance the sustainable development and maturation of the ESCO market by creating robust demand for ESCO services.

1.2 Program Performance Indicators

The ESCO grant scheme implementation unit at the Ministry of Energy and Natural Resources of Turkey (MENR) will collect and analyse project data to evaluate achieved results. The success of the program will be evaluated based on the following indicators:

- Number of EPC projects supported under the program and investment volume thereof;
- Number of different ESCOs engaged in EPC project development and implementation under the grant scheme.
2 PROGRAM FEATURES AND ELIGIBILITY CRITERIA

To ensure the success and long-term sustainability of results, MENR will apply a comprehensive set of eligibility criteria. To qualify for grant support, each project proposal must meet a number of requirements, generally broken down into two major groups: (1) Project specific requirements and (2) Applicant specific criteria.

2.1 Program Features

The ESCO grant program aims at supporting smaller-scale EPC projects which are not covered or are being frequently overlooked by existing financial support mechanisms due to their modest investment. The ongoing World Bank (WB) SME EE Project, launched through three local partner banks (Vakif Bank, Halk Bank and Ziraat Bank), allows partner banks to incentivize medium sized EE projects in SMEs. Therefore, the focus of this grant scheme is on relatively smaller projects that are often overlooked by the banks due to higher administrative costs. The main features of the ESCO grant mechanism are as follows:

› Total allocated grant volume of the first program window should be enough to support 40 pilot projects¹ under the maximum grant amount limitations set forth below. Depending on results and existing market demand, MENR can decide to launch a second window, shifting the focus of the program in desired direction by adapting the eligibility criteria;
› Maximum grant amount of up to 20 percent² of eligible project costs (not to exceed TRY 170,000);
› The grant amount is calculated and payable in TRY, regardless of the currency in which project costs are incurred;
› Only one project per SME qualifies for grant support under this scheme;
› Not more than 2 grant supported projects to be executed by the same ESCO
› The grant covers all related investment costs of the EPC project, as well as costs incurred preparing the energy audit, as long as the latter is part of the final project price in the ESCO contract.

¹ We suggest this demonstration program to support only 40 projects in order to avoid creating market dependency on grants. The international practice shows that, generally, EPC projects are financially viable and do not require additional support. The barrier that the proposed ESCO grant program is addressing is the need of demonstration of the ESCO model and not the lack of financial viability of EPC based projects. It is reasonably expected that the generation of a portfolio of 40 successful ESCO projects in Turkey and the dissemination of the results achieved should be a strong information barrier removal factor.
² It is, however, worthy to note that higher grant portion (as a % of total project cost) will likely increase the interest and accelerate the implementation of the demo projects which is the main goal of the program. It is therefore advisable for MENR to evaluate the 20% level (through some market research) and then finally decide if the grant % should be increased for this pilot phase.
The proposed indicative features of the ESCO grant program are based on the following assumptions and principles:

› Limiting the cost of the program for MENR. The proposed total programme volume is up to TRY 6,8 million (app. USD 2 million), which should not be too burdensome for the budget of the Ministry, while in the same time will give the ESCO grant program enough space to demonstrate the viability of the EPC based projects in Turkey;

› Maximizing the impact of the program. The 20% cap on the grant component will result in leverage ratio of 4x on the allocated public resources, mobilizing influx of serious amount of private sector money to the ESCO market;

› Creating enough examples in different industries and regions to create the necessary momentum in the market and increase the overall awareness among the stakeholders, while ensuring quick implementation of the support mechanism. It can be reasonably expected that 40 successful projects will generate enough evidence of the viability of the EPC business model and will create interest among the local companies to engage in such transactions. At the same time, the expected number of supported projects is low enough to allow MENR for quick review, approval and disbursement of grants.

› Supporting small and medium sized EE projects (up to TRY 850 000). Provided that larger companies and projects have easier access to financing in Turkey, the ESCO grant support mechanism will focus on smaller scale projects.

› Encouraging greater number of ESCOs and SMEs to participate in the program. The cap for maximum number of projects developed by single SME or executed by single ESCO aims at attracting greater number of participants to engage in EPC transactions.

The proposed ESCO grant support mechanism structure is tentative only and is subject to budget availability and final approval by MENR. It will be up to the Ministry to approve budget for enacting such demonstration programs for the future fiscal years.

2.2 Project Specific Eligibility Criteria

MENR will award grants to projects that comply with the following requirements:

› The project proposal is based on a valid and accepted detailed energy audit, prepared by a duly certified energy auditor;

› The project will be implemented by an ESCO under EPC. All ESCO models (incl. shared savings, guaranteed savings, verified savings, chauffage (supply side), etc.) are deemed eligible for support under this grant mechanism;

› The energy audit stipulates that the project is expected to achieve at least a 20 percent reduction in either total energy consumption, or per unit of output as measured on an annual basis;

› At least 50 percent of the EPC payment to the ESCO is tied to proven energy savings through a verification test;

› The project should apply proven energy saving technologies;
The energy audit stipulates that the project has a relatively short simple payback period (up to five years);
The project complies with all applicable environmental and planning laws, regulations and permits in all material respects;
The project developer and the ESCO declare their irrevocable agreement to provide/share basic data on the nature of the EE investment and EPC for dissemination purposes;

2.3 Client Specific Eligibility Criteria

Applicants must meet the following criteria:

- Meet the small and medium-sized enterprise (SME) definition. For the purpose of this ESCO grant mechanism, SME means a small or medium enterprise that has less than EUR 50,000,000 (equivalent in TRY) in sales, and employs fewer than 250 employees;
- Privately owned (at least 51 percent in shareholder capital) legal entities, duly incorporated and registered in accordance with Turkish legislation;
- Minimum two years of continuous operations;
- Enterprises from all economic subsectors are eligible for grant support.
3 PROJECT APPLICATION AND ASSESSMENT CYCLE

MENR will ensure that the grant mechanism supports financially viable and technically scalable EPC projects that exemplify the sustainability of the ESCO model and encourage the private sector to engage in such investments on a larger scale. All supported projects must comply with the eligibility criteria outlined in Section 2 herein, Program Features and Eligibility Criteria.

The following are the procedural steps required for implementing the grant mechanism cycle. These steps have been organised into separate phases, including grant window announcement, application submission and initial screening, project appraisal and approval, financial closure and disbursement, etc. The procedure is in line with the specifics of the verified savings ESCO option, but can easily be adapted for either the guaranteed or shared savings ESCO options.

The entire project cycle is presented below in the form of a checklist which includes an overview of the separate phases and steps to be completed.

Table 1: Project Cycle Checklist

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Execution</th>
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<tbody>
<tr>
<td>Grant Window Announcement</td>
<td></td>
<td></td>
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<tr>
<td>(1) Project Identification</td>
<td>Public announcement of upcoming project application window openings</td>
<td>MENR</td>
</tr>
<tr>
<td></td>
<td>Carrying out public information campaigns to promote grant program and the upcoming application window</td>
<td>MENR</td>
</tr>
<tr>
<td>Grant Application Submission</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) Submission of Project Proposals</td>
<td>Project developers (ESCOs or clients) prepare or assign preparation of detailed energy audit</td>
<td>ESCOs or end beneficiaries</td>
</tr>
<tr>
<td></td>
<td>Project developers submit project proposal (PP) forms (including the detailed energy audit report)</td>
<td>ESCOs or their clients – the end beneficiaries</td>
</tr>
<tr>
<td>Project Application Appraisal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(3) Project Appraisal</td>
<td>Performing technical feasibility assessment (does the project meet the technical eligibility criteria?)</td>
<td>MENR</td>
</tr>
<tr>
<td></td>
<td>Performing business feasibility assessment (does the project sponsor meet the client specific eligibility criteria as set out in section 2.3)</td>
<td>MENR</td>
</tr>
<tr>
<td>Approval of the Grant Application</td>
<td></td>
<td></td>
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<tr>
<td>(5) Project Approval</td>
<td>Approving the project for grant support</td>
<td>MENR</td>
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<tr>
<td></td>
<td>Issuing a grant approval confirmation letter to the applicant (including all conditions that have to be met prior to grant disbursement)</td>
<td>MENR</td>
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### Project Implementation and M&V

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6) Project Implementation and M&amp;V</td>
<td>Signing of the EPC contract, including the grant component in the payment schedule</td>
<td>ESCO and the client</td>
</tr>
<tr>
<td></td>
<td>Physical implementation of project works</td>
<td>ESCO</td>
</tr>
<tr>
<td></td>
<td>Acceptance of the works</td>
<td>The client</td>
</tr>
<tr>
<td></td>
<td>Payment of pre-agreed portion of project cost (e.g. 50%) upon completion and acceptance of the works</td>
<td>The client</td>
</tr>
<tr>
<td></td>
<td>M&amp;V of achieved results. Preparation of the M&amp;V report. Submission of the M&amp;V report and request for grant payment from MENR</td>
<td>ESCO and the client</td>
</tr>
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### Financial Closure and Grant Payment

<table>
<thead>
<tr>
<th>Phase</th>
<th>Activity</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td>(6) Financial Closure and Disbursement of Grant</td>
<td>Approval of the M&amp;V report and grant payment confirmation</td>
<td>MENR</td>
</tr>
<tr>
<td></td>
<td>Based on the findings of the M&amp;V report and MENR confirmation, the ESCO issues an invoice to the client for the remaining 50% of project costs, minus the grant amount. A separate invoice for the grant amount is issued to MENR</td>
<td>ESCO</td>
</tr>
<tr>
<td></td>
<td>Payment of the grant amount</td>
<td>MENR</td>
</tr>
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### 3.1 Step One – Grant Window Announcement

This phase begins with the establishment of objectives and main eligibility criteria of upcoming ESCO project grant windows.

To ensure proactive identification of potentially eligible projects, the MENR team is responsible for inviting project developers (ESCOs and final beneficiaries – facility owners) to apply for program support. As part of this phase, the MENR team will perform the following tasks:

- Announce publicly upcoming project application window openings;
- Conduct public information campaigns to promote the ESCO grant program and the upcoming application window.

### 3.2 Step Two - Grant Application Submission

Once a grant application window is launched through a call for proposals, MENR will assign the submitted PPs to its team of experts for review and further development. Every MENR expert will then take ownership of a number of PPs, assume responsibility for their processing throughout all phases of the grant program cycle, and will act as contact person for the project developers who have submitted the respective application. The PP form will be provided to applicants, along with comprehensive instructions on how to fill it out.
3.3  **Step Three - Project Application Appraisal**

During the grant application appraisal, the MENR team evaluates the feasibility of the project from technical and financial perspective. The project should be evaluated as feasible in each of the assessment areas before MENR proceeds with grant support and financing.

3.3.1  **Technical Feasibility Assessment**

The purpose of the technical feasibility assessment is to establish not only whether the project meets the eligibility criteria of the grant program, but also if it will achieve the estimated green impact and if it is designed and engineered in compliance with generally accepted technical standards and norms.

3.3.2  **Business Feasibility Assessment**

The purpose of the business feasibility assessment is to determine whether the applicant meets the client specific eligibility criteria as set out in section 2.3 of this document. The MENR experts will also verify whether the proposed project meets the financial performance criteria of the grant program (minimum and maximum investment amounts, cap for maximum number of projects executed by the same ESCO, etc.).

3.4  **Step Four – Approval of the Grant Application**

Upon reviewing and assessing all submitted project proposals, MENR will:

› Approve projects that meet the grant program eligibility criteria;
› Reject all projects that do not comply with the grant program general principles and eligibility criteria;
› The applications will be reviewed and evaluated on a first come-first serve basis. Eligible project proposals submitted after the depletion of the program budget would be included in a reserve list and invited to participate in the next call for proposals. Shall one of the initially approved projects fail to get properly implemented, the respective grant amount will be awarded to a project from the reserve list, again on first-come-first-serve basis.

All applicants (including rejected proposals) will be notified of MENR’s final decision.

The whole project application submission, revision and approval process should ideally take around 3 weeks.
3.5 Step Five – Project Implementation, Measurement and Verification of Achieved Results

Upon receiving MENR approval, the parties will go ahead and sign an EPC contract, including the grant component as part of the repayment plan. The applying clients and their partnering ESCOs will be encouraged to use the EPC templates, developed under World Bank’s Preparation of Guidelines for Energy Performance Contracting for ESCOs in Turkey project. Project implementation is the sole responsibility of the ESCO, closely monitored by the client. Subject to successful completion of project works, the client accepts project delivery and pays a pre-agreed upon share of the project cost (e.g. 50 percent). Once project works are fully implemented and accepted, both parties will monitor, measure and verify achieved results for a certain period of time (between one and six months). To carry out M&V activities, the parties will apply an M&V Plan initially agreed upon and annexed to the EPC contract.

Based on the collected data, the ESCO and client will conjointly prepare a project M&V report. This report will include details on project performance from a financial and technical point of view and will be submitted to MENR for review.

It is understood that the grant agreement will indicate that i) if the application was false, ii) if it was not implemented within a certain period, iii) if criteria were later not met, the grant will be repaid/cancelled. MENR will therefore have the possibility to realize a post-review of the whole project, to ensure no collusion between the client and ESCO has been found. The post review will also enable MENR to increase its own learning of the project that will enable a better documentation/dissemination of the project.

3.6 Step Six – Financial Closure and Grant Payment

After reviewing and accepting the findings of the M&V report, MENR will confirm the grant support to the ESCO and client. Upon receipt of this confirmation, the ESCO issues an invoice to MENR for the grant amount and another invoice to the client for the unpaid balance amount up to total project cost. MENR will transfer the payment to the ESCO within a reasonable period (e.g. 30 or 45 days) upon receiving the invoice.