MENR IPA12 / CS04

Consultancy Services For Energy Efficiency

Report on Training of MENR Staff
(Deliverable 8)
Summary

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# Table of contents

SUMMARY .......................................................................................................................... 2

TABLE OF FIGURES ........................................................................................................ 4

1 PROJECT OVERVIEW ..................................................................................................... 5

  1.1 INTRODUCTION ........................................................................................................ 5
  1.2 BACKGROUND .......................................................................................................... 5
  1.3 OBJECTIVES ........................................................................................................... 6
  1.4 SCOPE OF WORK ...................................................................................................... 6

2 TRAINING OF TRAINERS (TOT) FOR THE MINISTRY PERSONNEL .............................. 8

  2.1 AIM OF THE TOT ..................................................................................................... 8
  2.2 SCOPE OF THE TOT ................................................................................................ 8
  2.3 IMPLEMENTATION OF THE TOT ........................................................................... 11
    2.3.1 Training in General .......................................................................................... 12
    2.3.2 Content of the Training .................................................................................... 12
    2.3.3 Methods Used .................................................................................................. 13
    2.3.4 Training Materials .......................................................................................... 13
    2.3.5 Duration of the Training .................................................................................. 14
    2.3.6 Trainers ........................................................................................................... 14

3 RESULTS AND CONCLUSION ....................................................................................... 16
Table of Figures

Figure 2-1 Photographs from the Training.................................................................................................................. - 11 -
Figure 2-2: Evaluation of the Training in General...................................................................................................... - 12 -
Figure 2-3: Evaluation of the Content of the Training................................................................................................. - 13 -
Figure 2-4: Evaluation of the Methods Used ................................................................................................................ - 13 -
Figure 2-5: Evaluation of the Training Materials ......................................................................................................... - 14 -
Figure 2-6: Evaluation of the Duration of the Training ................................................................................................. - 14 -
Figure 2-7: Evaluation of the Trainers .......................................................................................................................... - 15 -
1 PROJECT OVERVIEW

1.1 Introduction

This is the Report on the Deliverable 18 (Web-based Project Application Tool) of the “Consultancy Services for the Energy Efficiency Component” (The Project) - one of the four components - of the “Energy Sector Technical Assistance project”.

The Energy Sector Technical Assistance project is financed under EU’s 2012 IPA program to Turkey. The overall management and supervision of EU 2012 IPA is undertaken by a Project Steering Committee which is headed by a MENR Department Head and consists of representatives from the MENR, Ministry for EU Affairs, Treasury, Delegation of the European Union to Turkey and the World Bank. The execution of this project is led by the MENR and administered by the WB.

Other relevant institutions such as ESCOs and/or Turkish banks implementing IFC/EBRD/EIB/AFD/KfW and other IFI’s providing funds, credit lines and/or energy related NGOs and/or other corporations may participate in the Steering Committee meetings by invitation of the MENR.

It is envisioned that this project will be substantially scaled up under IPA 2013 and continued under the IPA2 2014-2020 period.

Key stakeholders for this project are MENR (EE is under jurisdiction of Directorate General for Renewable Energy [DGRE]), ESCOs, IFIs and industrial enterprises and associations.

The project is carried out by MWH Turkey (Leader) in a Joint Venture with EXERGIA, Expertise France and ESCON. The project’s commencement date was October 8th 2015 and its duration is 18 months.

1.2 Background

The Turkish economy is considered to be energy intensive, when compared with several comparable countries, and this will increase with further industrial growth and urbanization. The Government’s updated energy strategy and Turkey’s Ninth Development Plan (2007-13) both aim at ensuring security of the country’s energy supply, while keeping environmental effects to a minimum. The Government is particularly focused on the promotion of sustainable energy investments, in particular the development of renewable energy resources, with which Turkey is well-endowed, and the scaling up of energy efficiency investments in various parts of the economy – industry (which accounts for about 40 percent of total energy consumption), municipal facilities, public and residential buildings, appliances and equipment, lighting, etc.

Turkey still requires to reduce its high energy intensity by focusing on the following:

- Cutting down CO₂ emissions and decreasing the carbon footprint
- Replacing fossil fuels with renewable energy
- Decreasing power transmission losses in the national grid
- Reducing the amount of energy imported
- Promoting waste to energy – a paradigm shift from waste being just something to get rid of to being a resource
- Improving industrial and residential energy efficiency.
Security of the energy supply and, especially, electricity, is one of the main challenges that the current government faces in establishing a “self-sustainable/sufficient” nation with respect to energy.

1.3 Objectives

The main objectives of the project are:

- Ensuring market development and scale-up for EE in the industrial and building sectors;
- Supporting for commercial lending for EE in these sectors;
- Developing an ESCO industry in Turkey, to help package, finance and implement EE projects; and
- Enhancing the policy and institutional framework in line with the EU acquis.

1.4 Scope of Work

This project will be executed under two main tasks below as defined by the ToR:

1. Market Development in the Industrial and Building Sectors
2. Capacity Building for Commercial Energy Efficiency Lending Market

The tasks to implement under these two main tasks are:

Task A. Policy Support to Ensure Effective Implementation of the EE Strategy
Task B. Energy Efficiency Market Study
Task C. Preparation and Implementation of Marketing and Awareness Activities
Task D. Development of Training Programs (for ESCOs)
Task E. Development of ESCO Model Contracts
Task F. Development of Energy Efficient Materials & Equipment (ENEVEL) Tool
Task G. Energy Efficiency Project Origination & Energy Auditing
Task H. Training and Capacity Building for Commercial Banks
Task I. Preparation of Guidelines for Stakeholders
Task J. Defining and Assessing the Feasibility of New Banking Products and Financing Modalities
Task K. Support SMEs in Project Financing
Task M. Support for Energy Efficiency Awareness and Visibility Actions
Task N. Development of Environmental and Social Brief Note
Task O. Gender Consideration

The following results are expected through realization of this study:

- Supporting and enhancing the effective implementation of the measures stated in Energy Efficiency Strategy Paper.
• Improving project preparation capacity in energy efficiency and developing capacity for Commercial Energy Efficiency Lending Market.
2 TRAINING OF TRAINERS (ToT) FOR THE MINISTRY PERSONNEL

2.1 Aim of the ToT

A training of trainers programme (ToT) was planned to be developed for the MENR/DGRE during the inception phase. This programme will aim to present necessary information for prospective trainers to be able to promote EE in industry and commercial building sectors following the completion of the project. The training programme for the MENR aims to train staff in managing sustainable energy issues and mitigating risk in the preparation and implementation of EE measures for the industry and building sectors. In the Inception Report, the ToT programme was planned to be organised for 25 participants in Ankara and the training session was planned to last one day and assumed to be held in MENR’s building.

2.2 Scope of the ToT

The content and format of the training was decided to be clarified after formal Training Needs Assessment (TNA) process to be hold by national and international experts of the JV. The main steps of TNA could be defined in the Inception Report as:

- Initial meeting(s) with relevant MENR staff,
- Monitoring current performance using techniques such as observation, interviews and/or questionnaires,
- Anticipating future shortfalls or problems/needs,
- Identifying the type and level of training required and analysing how this can best be provided,
- Agreement of priority training needs and the style, type and duration of the training,
- Development of general and tailored training materials,
- Planning the agenda as per the date for 1-day training, participant profiles (25 trainees), and logistics in Ankara with MENR.

The Consultant discussed the details of the Training of Trainers (ToT) for MENR staff with the MENR/DGRE during the meeting held on 24th of August, 2016 in the DGRE building. During the meeting a fast Training Need Assessment was carried out and 6 possible topics were offered to be covered in the ToT, as:

1. EE policy development in Europe: Presentation (with examples) the parallel history of EE policy and EE market development in EU and the interrelations between them, and how Turkey benefits from this experience (this is a brief- comprehensive version of the presentation of the introductory training for ESCOs)

2. Designing, decision making and monitoring a State support programme: Presentation of the logic, steps and techniques on how to design, decide, implement, monitor and evaluate a State supported intervention for EE, based on EU methodologies and guidelines (with examples).
3. Financial and economic cost-benefit analysis: This could be a separate topic (if there is need for this) or to be incorporated briefly in the previous topic (in order to understand certain techniques for designing a State programme)


5. ESCO market development: How ESCO markets developed internationally, ESCO models, Measurement and Verification Protocol, requirements for the ESCO development in Turkey

6. Financing EE with focus on the role of banks

During the TNA, 3rd and 6th topics were evaluated as the most useful by DGRE and advised to be covered during the training. DGRE also demanded 2 days of ToT instead of 1 day. The first day of the training was considered to be more theoretical and the second day can to be more practical. Upon request of the DGRE, some real EE projects within the context of financial and economic analysis was decided to be studied during the ToT. The training was also decided to cover building an excel tool including formulas, definitions, relations, etc. and using it to evaluate a EE project financially.

After previous steps, the scope of the ToT defined as “financial and economic cost-benefit analysis” and “financing EE with focus on the role of banks”. The following agenda was prepared by the Consultant and agreed by DGRE:
### Table 2-1: 1st Day Agenda of the ToT

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 10:00 - 11:15 | Opening speeches  
**ToT-1: Introduction – Project overview**  
*Brief presentation of the project; how the project addresses the barriers to EE financing by targeting all key market players; Trainings organised by the project (in which Ministry staff may participate)*  
**ToT-2: Energy Efficiency Investments – Key characteristics** |
| 11:15 - 11:30 | Coffee Break                                                                                                                           |
| 11:30 - 13:00 | **ToT-3: Basic Investment Appraisal techniques**  
*Time value of money, techniques, evaluation indicators, profitability vs attractiveness, etc.* |
| 13:00 - 14:15 | Lunch Break                                                                                                                             |
| 14:15 - 16:00 | **ToT-4: Specific topics in Investment Appraisal**  
*VAT, pre-tax and post-tax evaluation, inflation, etc.*  
**ToT-5: Financial / Economic Analysis for different stakeholders**  
*Stakeholders views and expectations, financial vs economic analysis, etc.*  
Discussion |

### Table 2-2: 2nd Day Agenda of the ToT

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
</table>
| 10:00 - 11:15 | **ToT-6: Financing Energy Efficiency**  
*ESCO and bank financing; the role of ESCOs and banks, types of financing modalities (credit lines, revolving funds, third party financing, etc.)* |
| 11:15 - 11:30 | Coffee Break                                                                                                                           |
| 11:30 - 13:00 | **ToT-7: Using MS excel to develop an Investment Appraisal model**  
*(Group exercise)*  
**ToT-8: Presentation of excel-based Investment Appraisal models**  
*Group exercises: Short case study given to groups of 3-4 persons to develop investment cost, financial analysis and financing options - group discussion* |
| 13:00 - 14:15 | Lunch Break                                                                                                                             |
| 14:15 - 16:00 | **ToT-8 continuation**  
Discussion |
2.3 Implementation of the ToT

The Training of Trainers was implemented in DGRE Building, Ankara on 26th-27th of January, 2017 by 3 Energy Efficiency and Financing experts, as:

1) George Georgocostas
2) Tzannetos Minas
3) George Apostolidis

25 DGRE experts attended to the training. During the training all contents given in the Agenda were covered successfully. Many aspects of “Energy Efficiency Investments”, “Appraisal techniques”, “Financial / Economic Analysis for different stakeholders”, and “Financing Energy Efficiency” were discussed in detail and “excel-based Investment Appraisal models” were created and used.

![Photographs from the Training](image)

**Figure 2-1 Photographs from the Training**

After the training, a questionnaire was used to gather information from the attendee to evaluate the ToT. The attendee were asked to evaluate the following aspects of the training:

a) Training in general
b) Content of the training
c) Methods used
d) Training materials
e) Duration of the training
f) Trainers

The attendees were asked to rate these aspects of the training on a scale of 1-5: (1) poor, (2) fair, (3) good, (4) very good, and (5) excellent and following results were reached:
2.3.1 Training in General
Statistical evaluation of the questionnaire shows that 54% of the respondent has evaluated the training in general as very good, while 46% of them were evaluating the ToT as excellent. The result were depicted in Figure 2-2.

![Figure 2-2: Evaluation of the Training in General](image)

2.3.2 Content of the Training
Similar to the results for training in general, statistical evaluation of the questionnaire shows that 54% of the respondent has evaluated the content of the training in general as very good, while 46% of them were evaluating the content as excellent. The result were depicted in Figure 2-3.

![Figure 2-3: Evaluation of the Training Content](image)
2.3.3 Methods Used

Statistical evaluation of the questionnaire shows that 38% of the respondent has evaluated the method used as very good, while 62% of them were evaluating the methods as excellent. The result were depicted in Figure 2-4.

![Figure 2-4: Evaluation of the Methods Used](image)

2.3.4 Training Materials

Similar to the results for training in general and content of the training, statistical evaluation of the questionnaire shows that 54% of the respondent has evaluated the training materials as very good, while 46% of them were evaluating the materials as excellent. The result were depicted in Figure 2-5.
2.3.5 Duration of the Training

Statistical evaluation of the questionnaire shows that 15% of the respondent has evaluated the duration of the training as good, while 54% of them were evaluating the duration as very good, and 31% of them as excellent. The result were depicted in Figure 2-6.

2.3.6 Trainers

Statistical evaluation of the questionnaire shows that 38% of the respondent has evaluated the trainers as very good, while 62% of them were evaluating the duration as excellent. The result were depicted in Figure 2-7.
Figure 2-7: Evaluation of the Trainers
3 RESULTS AND CONCLUSION

The Consultant, in close collaboration with DGRE, prepared an agenda for a tailor-made training. During the training, many aspects of “Energy Efficiency Investments”, “Appraisal techniques”, “Financial / Economic Analysis for different stakeholders”, and “Financing Energy Efficiency” were discussed in detail and “excel-based Investment Appraisal models” were created and used. Statistical evaluation of the questionnaire shows that 54% of the respondent has evaluated the training in general as very good, while 46% of them were evaluating the ToT as excellent. The Consultant believes in that the training was in line with expectations of MENR staff and achieved the goal defined in the section 2.1. The report is hereby submitted as a successfully completion of the “Deliverable-8: Training of Trainers for MENR Staff.”
ANNEX I
ATTANDENCE SHEET OF THE TRAINING
ANNEX II
TRAINING EVALUATION FORMS
ANNEX III
TRAINING MATERIALS
“The contents of this publication are the sole responsibility of MWH JV and can in no way be taken to reflect the views of the European Union”