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Gender Assessment

Turkish Residential Energy Efficiency Financing Facility (TuREEFF)

**Final Report**

June 2015



## Gender Assessment

June 2015

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## Acronyms

EBRD	European Bank for Reconstruction and Development
TuREEFF	Turkey Residential Energy Efficiency Financing Facility
CIF	Climate Investment Funds
CTF	Clean Technology Fund
BEP	Building Energy Performance
CATI	Computer-Assisted Telephone Interviewing
CO <sub>2</sub> eq	Carbon dioxide equivalent
DOSIDER	Association of Industrialists and Businessmen of Natural Gas Appliances
EE	Energy Efficiency/Energy Efficient
ENERGIA	International Network on Gender and Sustainable Energy
ENVERDER	Energy Efficiency Association
EPC	Energy Performance Certificate
ESCO	Energy Services Company
ESMAP	Energy Sector Management Assistance Programme
EU	European Union
FGD	Focus Group Discussion
GHG	Greenhouse Gases
IMSAD	Association of Turkish Building Materials Producers
ISKID	Air Conditioning and Refrigeration Manufacturers Association
IZODER	Association of Thermal Insulation, Waterproofing, Sound Installation and Fireproofing Material Producers, Suppliers and Installers

LEME	List of Eligible Materials and Equipment
LESI	List of Eligible Suppliers and Installers
LPG	Liquefied Petroleum Gas
MoENR	Ministry of Energy and Natural Resources
NGO	Non-governmental Organisation
NORAD	Norwegian Agency for Development Cooperation
NUTS	Nomenclature of Territorial Units for Statistics
PC	Project Consultant
PFI	Participating Financial Institution
PIU	Project Implementation Unit
PR	Public Relations
SES	Socio-economic Status
SPSS	Statistical Package for the Social Sciences
TL	Turkish Lira
ToR	Terms of Reference
TUIK	Turkish Statistical Institute
SME	Small and Medium Enterprise
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UTP	Urban Transformation Plan
YEGM	General Directorate of Renewable Energy

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## Executive Summary

The Gender Assessment for Turkish Residential Energy Efficiency Financing Facility (TuREEFF) commenced on the 4<sup>th</sup> of August 2014, with the signing of the Call of Notice (Number C29393/CTSF-2014-04-06) to provide conceptual guidance and analytical support in the implementation of TuREEFF with respect to its Gender Assessment. The objectives of the assignment were to better understand the roles of men and women in household energy management and financing in order to:

- Improve the understanding of supply and demand factors influencing household access to, and use of, finance for building level energy efficiency (EE) improvements and home appliances;
- Develop operational recommendations to enhance household access to finance for the purchase of both energy saving domestic appliances and building level EE improvements; and
- Improve the effectiveness of the Facility, by increasing the uptake of financial products for EE.

In order to accomplish the above listed objectives, comprehensive research, including the use of quantitative and qualitative methods, was conducted. A countrywide survey investigated the attitude and behaviour of households regarding decision making in the purchasing of EE home appliances and building level EE improvements, including financial preferences and levels of awareness on environmental issues and climate change.

A professional research company, Çözüm Araştırma, conducted the survey and also assisted in the organisation of the Focus Group Discussions (FGDs) conducted in Istanbul and Mersin. Other FGDs were organised and conducted by the Project Implementation Unit (PIU).

While the survey provided quantitative data for the research, FGDs ensured that we obtained qualitative data to better understand the gender dimensions of household access to, and use of, finance for residential level EE improvements. Men and women with different income levels and from urban and rural areas were represented in the FGDs.

In order to get detailed information on the supply side with respect to gender impact on the demand for EE home appliances and building level EE improvements, in-depth interviews were conducted with retailers of white goods and boilers, companies dealing with building insulation, retailers of PVC windows, construction SMEs and developers.

The review of relevant secondary data contributed to the research as an important source of information.

The findings of the research were structured and analysed under the following headings, in accordance with TuREEFF sub-project categories, in order to link the findings with TuREEFF financial solutions.

- Key findings and conclusions on gender and EE home appliances
- Key findings and conclusions on gender and building level EE improvements
- Key findings and conclusions concerning awareness on the benefits of energy saving and ways of saving.

Under these main headings the key findings and conclusions on gender and EE home appliances and building level EE improvements were further analysed in relation to the following topics.

- Influencing factors and information sources in purchasing
- Financial options to facilitate purchasing
- The intra-household decision making process and control of income for the purchase of EE home appliances and building level EE improvements and
- Key findings on awareness and information levels related to those.

In order to complete a comprehensive analysis, in addition to gender aspects, regional, educational and socio-economic status (SES) were also discussed under each topic.

The key conclusions on gender and EE home appliances are summarised below.

- Women are more interested in the function, size and design of home appliances than in their technical aspects, as these are labour-saving devices to free up women's time for other pursuits, such as leisure, education or income-earning.
- The energy efficiency level of household appliances is one of the factors influencing purchasing decisions, but is not the highest priority.
- The importance given to energy classes depends on the time and frequency of use of the home appliance.
- Information from retailers, friends and relatives are the most effective information sources used in deciding to purchase a home appliance. Women, especially from lower and middle SES, consider retailers as their main source of information significantly more than men.
- Most women and men are primarily interested in having a sufficient number of instalments in paying for higher energy class home appliances.
- For single product purchases, women and men prefer to use credit cards than to take out individual loans, since the bank fees are higher in the latter and are considered wasteful.
- The use of home appliances is widespread throughout the country, and women are their main users.
- Women generally are the ones who decide which appliances will be purchased and when, even if they do not have their own income, reflecting the intra-household division of labour.
- Husbands are more likely than their wives to pay for home appliances, but purchase them in line with their wives' preferences.
- In women-headed families, although they constituted a small proportion of the survey participants and results related to this group are not statistically significant, we have established their socio-economic profile pattern and preferences in purchasing EE home appliances. Half belong to middle SES and one in three belongs to the lower SES group. It can be concluded that and their purchasing power is relatively low. As such, they are price sensitive and similar to other middle class SES group respondents and also need financial



facilities (like reasonable instalments and special offers from the retailers) in purchasing home appliances.

The key conclusions on gender and building level EE improvements, including buying a new house having high EE certification, are as follows:

- Husbands and wives generally make joint decisions on whether or not to have insulation. However, choosing the proper insulation company is generally the husband's responsibility.
- Husbands and wives jointly make decisions on mortgages, even though mortgages are usually taken under the husband's name and responsibility.
- Women and men from higher SES stress the importance of individual loans from banks with reasonable instalments and low interest rates more than those from lower SES groups.
- Both women and men recognise the importance of insulation and PVC windows in saving energy and reducing energy bills.
- Women and men from all SES groups and educational backgrounds are generally unaware of EPC requirements.
- While women are interested in energy efficiency, such as in having a southern exposure, men tend to worry about total energy costs.

The conclusions concerning awareness on the benefits of energy saving and ways of saving can be summarised as;

- Women and men with higher incomes and education levels believe that energy should be saved to protect the environment, while women and men with lower level of incomes and education place more importance on reducing bills.
- The range of energy saving practices adopted by women is wider than those used by men, reflecting the importance of intra-household patterns of time use, where women have greater responsibilities for housework and care, and therefore labour-saving devices are important in freeing up women's time for other pursuits.

Our research indicates that EE knowledge, attitudes and practices vary significantly with gender, with men and women commonly displaying different areas of EE interest and types of behaviour.

Another important outcome of the study, especially of the FGDs, has been the identification of some non-financial barriers, mainly;

- Lack of information and/or misinformation among women and men about building level EE improvements
- Limited participation of women in the public sphere, especially in conservative communities in the country and
- Lack of interest from women in being involved in decisions on insulation.

Based on these conclusions, we have developed operational recommendations to PFIs, to enhance household access to finance in the purchase of both building level EE improvements and domestic appliances. The recommendations also identify ways in which PFIs might use communication to improve outreach and awareness raising and also recommendations to mitigate the non-financial barriers identified earlier.

The recommendations related to TuREEFF products are as follows:

- Developing an “EE package” for financing EE home appliances with relatively more favourable conditions than standard individual loans, specifically for women clients.
- Highlighting the saving aspect of TuREEFF funds for women, since they are more reluctant to take out bank loans.
- Introducing new delivery modalities, in cooperation with vendors and retailers. This recommendation suggests that the bundling of EE home appliances would be an effective way of capturing the attention of both women and men.
- Delivering the funds through vendor financing is a complementary financial recommendation to individual loans, especially for those from lower and middle SES, since their purchasing power may not be enough to allow them to access bank loans.
- Offering more instalments for payments through vendors in financing EE investments.
- Cooperating with retailers and vendors for capacity building activities is recommended as an effective way of promoting high EE home appliances, as they are considered the main source of information in purchasing decisions for those appliances by both women and men.
- Organising a “home efficiency” contest, targeting women, is recommended as an effective way of attracting the attention of women to the saving aspect of purchasing a high energy class home appliance.
- Marketing financial products for insulation primarily to men, since they usually entrusted with the responsibility of negotiating with the insulation companies.
- Stimulating the participation of women in insulation work by distributing ‘beginners’ guidance materials in branches and on the websites of PFIs, explaining the choice of materials and the insulation techniques in simple terms.
- Organising awareness raising activities on insulation, for both women and men. The findings indicate that both women and men avoid making decisions on insulation because of a lack of information and, mostly, misinformation on the correct materials to use.
- Targeting men, to make them aware of the availability of TuREEFF funds, would be an effective way of promoting the Facility, since they are the ones who usually pay energy bills.
- Using visual communication materials targeting both women and men on insulation and in purchasing a new home.
- Considering gender differences in promoting mortgages.
- Emphasising the connection between the saving and environmental aspects of EE improvements.

We also developed an implementation plan that explains the activities we suggest could be undertaken with PFIs and other stakeholders during the implementation phase.

The implementation recommendations are summarised as:

- Capacity building activities with PFIs

- Capacity building activities with vendors/retailers, business associations and NGOs, with the participation of PFIs.

The report also includes recommendations on the strategy and methodology to be used in future Assessments, in order to provide an insight into assessing the gender impact for other stakeholders on similar projects. These recommendations are to:

- Recognise, and take into account, the importance of the gender aspects of energy sector interventions in improving the effectiveness of energy efficiency financing projects.
- Include an assessment of the local history and background of energy use, at a household level, in any research.
- Conduct focused research and analysis, to identify gender-related patterns, such as differences in responsibilities between men and women in house, and constraints on the participation and voice of women in the public and private spheres.
- Research energy efficiency and environmental issues, taking into account gender-specific practical and strategic needs, and make recommendations for developing effective communication tools and capacity building activities.
- Before structuring the questionnaire, conduct a small number of FGDs, to help formulate appropriate questions.
- Conduct in-depth interviews with suppliers of energy efficient goods and services, to provide a better insight into, and analysis of, findings related to understanding the implications for women and men.
- Classify research findings in accordance with the Facility products on offer, to help develop financial recommendations for PFIs.

Based on the results of the research, we also developed recommendations for several communication and educational materials and tools to be used and events to be organised during the implementation phase, with the aim of reaching out to men and women for both building level EE improvements and EE home appliance purchases. These include promoting the Facility through targeted training, public awareness and marketing campaigns, to disseminate the findings of the study and to promote new products identified in the report.





## 1. Introduction

The European Bank for Reconstruction and Development (EBRD) is currently implementing the Turkey Residential Energy Efficiency Financing Facility (TuREEFF, or ‘the Facility’). The Facility consists of loans to Participating Financial Institutions (PFIs) in Turkey for on-lending to private sector sub-borrowers for investment in energy efficiency and small-scale renewable energy projects in the residential buildings sector.

In tandem, The Clean Technology Fund (CTF) of the Climate Investment Funds (CIF) is seeking to scale up the demonstration, deployment and transfer of low carbon technologies in renewable energy, energy efficiency and sustainable transport in middle income countries. Specifically, the CTF supports public and private sector operations in the areas of: wind, solar and geothermal power; energy efficiency (including district heating, industry, building and municipal energy efficiency); and sustainable transport (bus rapid transit, public transportation, efficient vehicles and modal shifts).<sup>1</sup> CTF’s concessional financing, channelled through partner multilateral development banks, helps attract significant co-financing from other sources by supporting first-movers, bridging financing gaps, supporting the creation of markets and being innovative in the development of financial products.

CTF Investment Plans developed by recipient countries align with national development goals and help coordinate activities across different actors in the sector. Under CTF, there are 15 approved national Investment Plans and one regional Investment Plan, with a total indicative allocation of USD 6.09 billion in CTF funding<sup>2</sup>. From among these, 77 individual projects and programmes worth USD 4.1 billion have been approved by the CTF Trust Fund Committee, with 59 projects further approved at MDB level and under implementation.<sup>3</sup> In addition, the Dedicated Private Sector Program (DPSP) has a total of USD 508.5 million in allocations to programmes in geothermal power, mini-grids, mezzanine finance, energy efficiency, solar PV and early-stage renewable energy.

CTF comprises the lion’s share<sup>4</sup> of CIF’s overall funds of USD 8.1 billion. Notably, however, external<sup>5</sup> and internal reviews of CIF have found that gender considerations have not been mainstreamed well to date across the CTF Investment Plans and projects in large-scale renewable energy. The current gender assessment on energy efficiency in Turkey aims to contribute to an enhanced understanding of key gender issues in this field. It is a part of a trio of studies on gender

<sup>1</sup> CTF has 19 participating countries, featuring 15 approved country investment plans (i.e. Chile; Colombia; Egypt; India; Indonesia; Kazakhstan; Mexico; Morocco; Nigeria; Philippines; South Africa; Thailand; Turkey; Ukraine, and Vietnam), as well as the regional investment plan of Middle East and North Africa (covering Algeria, Egypt, Jordan, Libya, Morocco and Tunisia).

<sup>2</sup> As of December 31, 2014

<sup>3</sup> These 77 projects and programmes are expected to leverage USD 37.2 billion in co-financing from governments, MDBs, private sector, bilateral agencies and other sources.

<sup>4</sup> Currently USD 5.58 billion in funding

<sup>5</sup> The CIF Gender Review (2012) found that, among the sample of 16 CTF Investment Plans reviewed, only one-quarter made reference to gender, and just 6 per cent monitored gender outcomes from the Investment Plan explicitly. This performance on gender was weaker than that of other CIF programmes.



and energy efficiency conducted by the EBRD, in Kazakhstan, Turkey and Ukraine. It is expected that the CIF will be able to draw sector-specific lessons on gender from these detailed investigations within a single sub-sector of the CTF portfolio, in order to contribute to broader gender mainstreaming efforts across CTF.

The EBRD and the CTF are working together to assess and improve the gender impact of the projects financed through the CTF. As part of the effort to improve the gender impact of the projects financed by the Fund, the CTF has allocated resources to the EBRD to enhance and measure the gender impact of CTF-funded EBRD investments.

## 1.1 Objectives of the Study

The gender assessment has three main objectives, which are:

- To improve the understanding of supply and demand factors influencing household access to and use of finance for building-level EE improvements and home appliance purchases;
- To develop operational recommendations to enhance household access to finance for the purchase of both energy-saving domestic appliances and building level EE improvements; and
- To improve the effectiveness of the Facility, by increasing the uptake of financial products for EE

all based on a better understanding of the roles of men and women in household energy management and financing.

## 1.2 Scope of the Study

The study has analysed household access to, and use of, finance for building-level EE improvements and home appliances, from a gender perspective, through a household survey study, focus group discussions (FGDs), analysis of relevant secondary data and reports and interviews with retailers, construction companies and relevant NGOs. The study identified the main challenges (both financial and non-financial) that women and men face in accessing finance for EE improvements.

The study included an analysis of supply and demand factors affecting this access of households in different income groups and social categories. This analysis has resulted in operational recommendations to PFIs, on how to enhance household access to finance for the purchase of both building-level EE improvements and domestic appliances.

In addition, the study included recommendations on the strategy and methodology followed during the implementation of the research, to provide other related parties with insights to be used in assessing gender impact in similar projects in the future.





The Gender Assessment is composed of two complementary parts: desk reviews and empirical research, including a survey, FGDs and in-depth interviews. ( For more detailed information regarding the research methodology, please refer to Annex B.)

Based on the results of the study, the PIU designed several communicational and educational materials, which will be developed during the implementation phase, to target men and women for both building-level EE improvements and EE home appliance purchases. These include promoting the Facility through targeted training and public awareness and marketing campaigns, with the aim of disseminating the findings of the study and promoting new products identified in the report. In addition, there will be an award presented to the PFI most involved in increasing the involvement of women, in the 'Energy Efficiency Excellence Awards Ceremony'.



## 2. Background

### 2.1 Turkish Residential Energy Efficiency Financing Facility (TuREEFF)

TuREEFF provides financing for sustainable energy investments at a residential level, through PFIs. The total funding is USD 350 million, which comprises an EBRD commercial loan, of up to USD 282.5 million, and CTF-funded concessional financing, of up to USD 67.5 million. In addition, the EU has provided funding for a comprehensive technical assistance programme.

TuREEFF is a financing vehicle to support the implementation of new legislation that aims to comply with the EU Building Energy Performance Directive (BEP), by providing feedback from market players to policy makers and linking residential stakeholders (homeowners, housing associations/cooperatives and housing managers) with local financing institutions and technology suppliers. Please refer to Annex A for additional information on TuREEFF.

#### 2.1.1 Eligible Sub-Projects under TuREEFF

TuREEFF is available to PFIs in Turkey for on-lending to private residential stakeholders (including individual homeowners, groups of homeowners, housing associations, condominiums and cooperatives), as well as to private service providers (including housing management companies, ESCOs and vendors of high energy-efficiency home equipment, appliances and materials). It covers three kinds of sub-project:

- **Small Investments**. These include EE home appliances and renewable energy technologies that go beyond the current market averages. Two modalities will be used:
  - **Individual Approach**. Eligible equipment and technologies are included on the List of Eligible Materials and Equipment (LEME) and on the List of Eligible Suppliers and Installers (LESI). These lists will enable an automated approach to be adopted when individuals directly purchase EE equipment and renewable energy technologies.
  - **Vendor Approach**. In this case, TuREEFF financing will go to vendors, retailers, suppliers and installers of EE products and technologies. This is an indirect channel to promote EE equipment and renewable energy technologies where the end users are individuals.
- **Assisted Investments**. Eligible Sub-projects under Assisted Investments will cover rehabilitation and reconstruction. They will provide finance for sustainable energy measures to be incorporated alongside improvements in the energy performance of the housing stock. These include two modalities:

- **Rehabilitation Investments** cover the thermal insulation of the buildings and also comprehensive refurbishment of existing buildings.
- **Reconstruction Assisted Investments**, for the demolition and reconstruction of existing buildings under the Urban Transformation Plan (UTP), where the new building will be designed to achieve a minimum energy certificate B Class or higher.
- **Mortgage** cover house loans for the purchase of new properties that have an energy performance certificate Class B or higher and/or for Green Buildings.

### 2.1.2 The Expected Contribution of the Assessment to TuREEFF

This Assessment is expected to contribute to TuREEFF by improving the effectiveness of each type of EE investment eligible under TuREEFF as follows;

- **Small investments**
  - **Individual (Direct) Approach.** Since the target group of this approach is individuals, PFIs could develop gender specific individual loans to improve the uptake of EE household equipment and renewable energy technologies.
  - **Vendor approach.** In this case, the target group of the PFIs will be the retailers/vendors of eligible EE equipment and renewable energy technologies. These companies will act as indirect channels in reaching out to individuals. They will be the beneficiaries of the loan products but, at the same time, they commit to cooperating with PFIs in developing activities to improve awareness among individuals. PFIs could support these vendors/retailers through disseminating relevant findings from the Gender Assessment, to enable them to develop more effective awareness raising activities, taking into account gender specific needs.
- **Assisted investments**
  - **Rehabilitation Investments.** These types of investments mainly cover insulation for existing buildings. The financial products are targeted at individuals. Understanding gender-based differences allows PFIs to better analyse their customer base, to originate projects under TuREEFF, while also helping them to develop financial products that meet the expectations of those customers. In many cases, the PFIs need to cooperate with related NGOs and business associations, who can act as marketing channels. As such, it is expected that, also in this case, the dissemination of the pertinent parts of the Assessment could contribute to increased cooperation between PFIs and these organisations.
  - **Reconstruction Assisted Investments.** The target group for this financial solution will be construction SMEs. The Assessment is expected to contribute to the origination of projects under this category through sharing information with these

companies to enable them to better structure their marketing and awareness raising activities, in order to capture potential customers of both genders.

- **Mortgage loans**

Under this category of investment the PFIs will disburse loans to individuals. However, construction companies and developers will be the main points of contact in promoting this product. Therefore, as in the case of the Reconstruction Assisted Investment (explained above), taking gender findings into account should help those companies to develop more effective marketing strategies to improve the uptake of high energy class homes.

Therefore the Gender Assessment would help PFIs to

- Offer tailor-made financial solutions to their customers
- Generate a solid pipeline and
- Develop more effective marketing strategies to promote the Facility.

The Project Consultants (PC) of TuREEFF are expected to perform more generic marketing activities, to steer the market towards increasing the sale of high energy class equipment and more EE buildings. These activities do not target disbursement directly but focus more on stimulating the market through awareness raising activities.

Understanding and analysing gender-based differences related to TuREEFF products will enable the PC to better structure marketing activities in promoting the Facility, in terms of project origination. At the same time, identifying areas to be improved will help the PC to develop targeted awareness raising activities.

This subject is covered in more detail in section 4.3 Recommendations on Strategy and Methodology for Similar Projects.

## **2.2 Energy Use in Turkey**

### **2.2.1 Energy Use at the Residential Level**

The residential sector constitutes 29% of Turkey's total primary energy consumption as of 2011<sup>6</sup>. Energy consumption in the building sector is responsible for 10% of total CO<sub>2</sub>eq emissions, to the tune of 22.4 million toe (tons of oil equivalent), according to 2009 data<sup>7</sup>.

Among the sources of energy used in the building sector, coal (lignite and hard coal) has the highest share, at 27%. Coal is followed by natural gas (24%) and electricity (24%), while only 8% of the primary energy used comes from renewable energy sources (geothermal, solar and animal & vegetation waste)<sup>8</sup>.

<sup>6</sup> Ministry of Energy and Natural Resources, Blue Book 2011, World Energy Outlook 2012.

<sup>7</sup> Ministry of Environment and Urbanization, National climate change action plan 2011-2023.

<sup>8</sup> Ministry of Energy and Natural Resources (2011).

The residential market has an energy saving potential of 30%, which corresponds to 7% of Turkey's total energy consumption in 2011, according to World Bank data.<sup>9</sup>

## 2.2.2 Consumer Behaviour in the Residential Sector in Relation to Energy Efficiency

According to a market study conducted by the General Directorate of Renewable Energy of the Ministry of Energy and Natural Resources (MoENR) in 2010, 98% of consumers consider EE very important (65%) or important (33.4%). More than 70% were willing to increase EE in their homes, given the right price and incentives, although 29% of these would rather do nothing to improve EE in their dwellings. This study reveals that, while consumers have a positive attitude towards EE, they do not always take action on the matter.

The graphs below show these results:

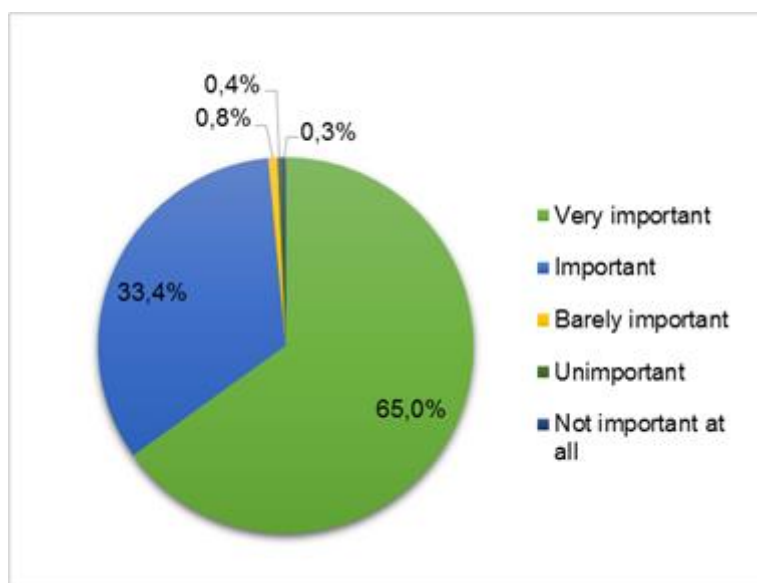
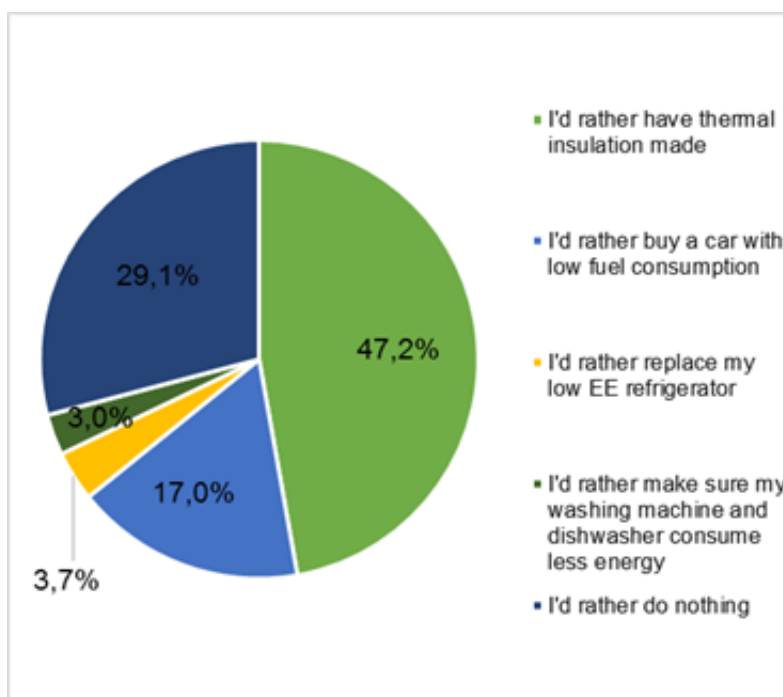


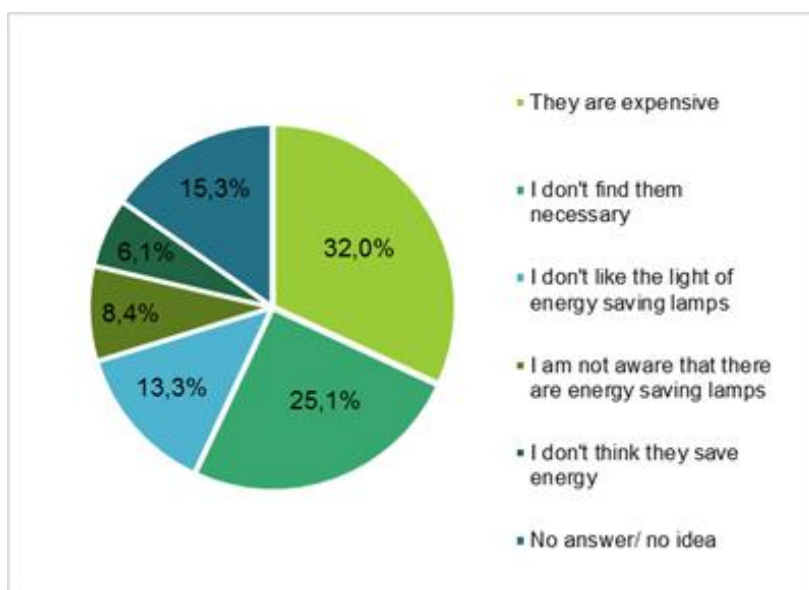
Figure 2-1: To what extent it is important for the respondents to use energy efficiently

<sup>9</sup> World Bank Report "Tapping the potential for Energy Savings in Turkey" January 2011

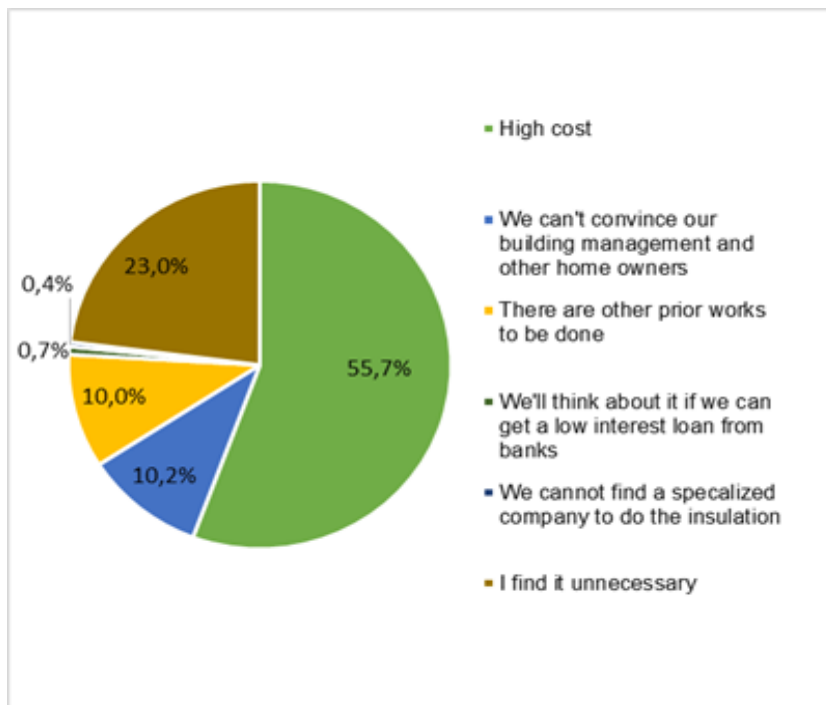


**Figure 2-2: What respondents would do first to increase energy efficiency at their dwellings if they could afford it**

Initial investment cost and lack of awareness on EE products constitute the main barriers to decisions on improving EE. Moreover, the study reveals that, even though consumers know that using EE products contributes to household income by reducing expenses, financial obstacles prevent them from taking the necessary steps.

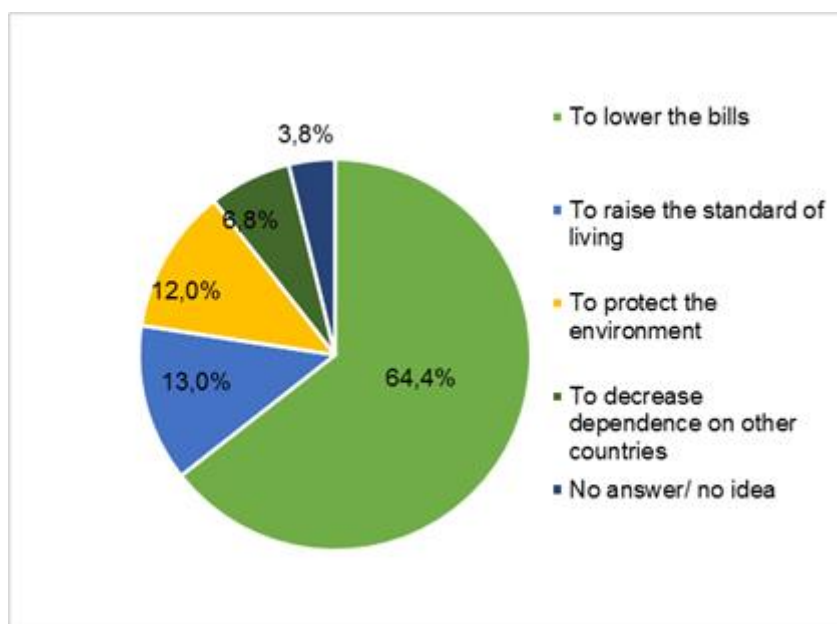


**Figure 2-3: The reasons why respondents don't use energy saving bulbs**



**Figure 2-4: The reason for not investing in thermal insulation**

While 64% of respondents believed that EE products should be used to lower energy bills (thus showing their awareness of the connection between EE and financial savings), 13% thought that EE products should be used to raise their standard of living. Only 12% of respondents believed that EE products should be used primarily to protect the environment.





**Figure 2-5: The reasons for using EE products according to respondents**

## 2.2.3 Relevant Factors Affecting Residential Level Energy Consumption

Residential level energy consumption includes both consumption from home appliances and consumption at the building level:

### 2.2.3.1 Home Appliances

- Heating accounts for 46% of the total energy consumption of residential buildings. Water heating is 30% of total heating demand.
- Hard coal and lignite are the most common fuels used in heating residential buildings, with a 27% share of the total. Given that coal has the highest GHG emission levels, contributing to climate change the most, a transition to fuels with lower carbon emissions is needed.
- Considering natural gas boilers, there are 8.3 million residential subscribers and 1.4 million dwellings with central heating systems, in approximately 100,000 buildings in Turkey, according to DOSIDER.<sup>10</sup> The penetration of natural gas use is almost 50% in Turkey. Nevertheless, existing natural gas boilers are mostly of a basic or poor EE type in the country. The market penetration for condensing boilers increased from 5% to 35% between 2008 and 2012.
- EU labelling directives were adopted in Turkey in 2011. As a result, minimum energy efficiency criteria for household appliances (except for split unit air conditioners and electrical ovens) have been brought in line with EU standards.
- The figure below shows the distribution of efficiency levels for selected home appliances.

<sup>10</sup> DOSIDER: Association of Industrialists and Businessmen of Natural Gas Appliances Retrieved in April 2014 from <http://www.dosider.org/>



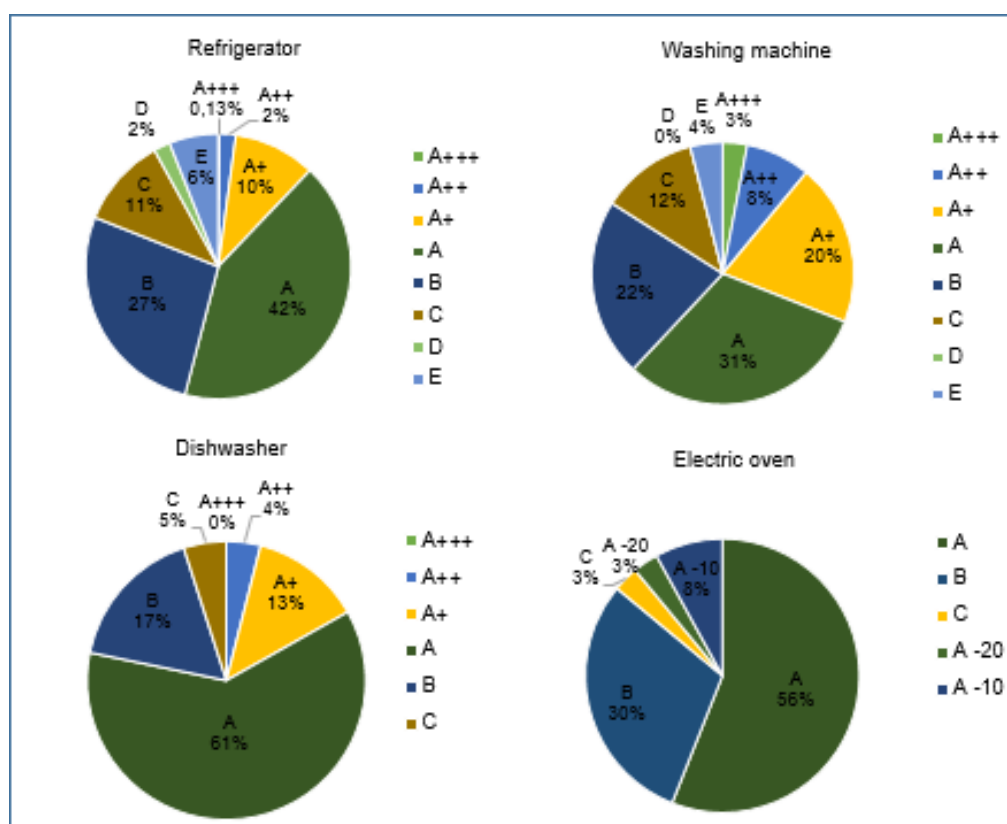


Figure 2-6: Breakdown of home appliance stock by efficiency level<sup>11</sup>

### 2.2.3.2 Building Level Factors

- 84% of the 7.6 million buildings in Turkey are located in urban areas<sup>12</sup>.
- Only 63% of apartment buildings in Turkey have construction permits; and only 33% have building usage permits<sup>13</sup>. Therefore, shanty-houses constitute a significant percentage of the housing stock.
- With regard to the age of residential buildings in Turkey, only 12% were constructed since 2000<sup>14</sup>. 51% of buildings were constructed between 1980 and 2000<sup>15</sup>.
- In addition, as there were no mandatory insulation standards (such as TS 825) until July 2000, around 88% of existing buildings have poor thermal insulation<sup>16</sup>. This indicates a high potential for the insulation market in the residential sector.
- With the amendments to the BEP regulation in 2010, new energy requirements were introduced on comfort temperature, comfort relative humidity, insulation and windows; and minimum values were set, for each regional climate.

<sup>11</sup> Source: Market penetration study of household equipment, MWH 2014

<sup>12</sup> TUIK (Turkish Statistical Institute), Population and Housing Census 2011.

<sup>13</sup> *ibid.*

<sup>14</sup> TUIK Building Census (2011)

<sup>15</sup> TUIK, Building Census 1923-2000 (2011)

<sup>16</sup> TS825 in compliance with ISO 9164 and EN832.

- The existing BEP regulation sets the minimum energy certification requirement for new buildings as level C<sup>17</sup>. At the same time, all existing buildings have to obtain an Energy Performance Certificate (EPC) by 2017. Existing buildings are defined as structures that received construction permission before 2011. There are no minimum energy class certification requirements for existing buildings and, as such, they can be lower than class C. Beyond 2017, EPCs will need to be presented during the entire building purchase process - sale and rental.
- Another relevant law, the Law on Transformation of Areas subject to Disaster Risks (2012), envisages urban transformation through refurbishment or demolition & reconstruction<sup>18</sup>. Since several parts of Anatolia are earthquake-prone, the Turkish government has enacted this legislation to address buildings that are not earthquake resistant in earthquake-prone regions. Since the new law was introduced, the reconstruction of around 100,000 housing units has commenced<sup>19</sup>. Urban transformation in Turkey has been taking place through the demolition of existing buildings and the construction of new ones in their place. Turkey is currently experiencing a rapid transformation in this respect.

## 2.3 Gender and Energy Efficiency

### 2.3.1 Overview

In order to improve energy efficiency, it is important to understand household demand for energy, and its important gender dimensions. Women and men have different roles and responsibilities within the household, and this affects their demand and use of energy efficient appliances and home improvements. There are distinct gender gaps related to the use of energy, which reinforce the need to take a gendered approach in analysing household demand for EE appliances and building improvements, as this will allow for better targeting and marketing of financial products for EE, thereby improving the effectiveness of TuREEFF.

For example,

- Men and women use energy for different purposes and use different sources of energy, according to the intra-household gender division of labour. Women play a critical role in managing the household and, as such, they are important users of household energy (for cooking, cleaning, and household heating). Targeting women can therefore accelerate the adoption of EE equipment, especially in food preparation and laundry. In the EU, a study<sup>20</sup> found that these large appliances used about half of household electricity, while small

<sup>17</sup> Energy Performance Certificate shows the building's energy performance just like in the white goods Energy Class within the range of letters A to G. "A" class represents highly efficient buildings where "G" is for the lowest energy efficiency class. A building is classified as "C" class it means the building assures the minimum structural and insulation requirements

<sup>18</sup> Regulation on the Implementation of Law of Transformation of Areas under the Disaster Risks and other relevant secondary regulations

<sup>19</sup> Ministry of Environment and Urbanization. (2012)

<sup>20</sup> Schultz, I. and Stiess, I. 2009. Gender aspects of sustainable consumption strategies and instruments. EUROPP, Policies to promote sustainable consumption patterns. Institute for Social-Ecological Research.

appliances, like televisions and computers, consumed about 35 percent, with the rest used for lighting (about 20 percent).

- Intra-household decision-making tends to reflect traditional gender roles. Men are often the main breadwinners in the family, and have an important decision-making role in the allocation of the household budget. Therefore, designing and marketing financial products that incorporate the interests of both men (financial aspects) and women (design, size and efficiency of appliances) will be more likely to increase the uptake of residential EE improvements and of EE appliances in the home.
- On the gender nature of intra-household decision-making, Mader and Schneebaum (2013)<sup>21</sup> found that women and men across Europe play different roles in the process, which are often in line with traditional gender roles<sup>22</sup>. In short, household purchasing decisions are made in line with gender roles. Women can be observed making decisions on daily expenditure and purchases for children whereas men generally make the financial decisions, such as on borrowing and saving. Therefore, contrary to the commonly held view, women have far from a passive role regarding household decisions, even when conforming to traditional gender roles. Women thus tend to be in a key position when it comes to the purchase and use of EE appliances.
- Concerning durable goods, results point to a greater role for women in decision-making. The conclusions of Mader and Schneebaum (2013) highlighted traditional gender roles in household purchasing and financial decisions. Even though, in general, women have lower income and educational levels than men, particularly in rural areas of Turkey, and hence less bargaining power, they seem to be more involved in decisions regarding the “house”, probably because the home is traditionally seen as the woman’s domain. Therefore, in Turkey, despite lower educational levels and lower rates of participation in the workforce, Turkish women are expected to play an effective role in deciding on home related purchases.
- Surveys show that women might be more mindful of environmental and sustainability issues than men and that they respond differently to men when it comes to incentives and options for EE purchases and behavioural change. In Europe, recent studies<sup>23</sup> have shown that women tend to be more receptive to energy conservation (in terms of purchases and behaviour) than men, while men are more interested in technical improvements, like insulation.

<sup>21</sup> Mader, K. and Schneebaum, A. (2013). The gendered nature of intra-household decision making in and across Europe. Paper presented in European Sociological Association Annual Conference.

<sup>22</sup> Turkey was not included in this study, but it is useful for background and comparison purposes.

<sup>23</sup> [Equalclimate.org/en/energy\\_cites\\_many\\_recent\\_studies\\_including](http://Equalclimate.org/en/energy_cites_many_recent_studies_including); OECD. 2008. Gender and Sustainable Development. Maximising the economic, social and environmental role of women. [www.oecd.org/dataoecd/58/1/40881538.pdf](http://www.oecd.org/dataoecd/58/1/40881538.pdf); Rätty, R. & Carlsson-Kanyama, A. 2009. Comparing energy use by gender, age and income in some European countries. Swedish defence research agency, FOI-R-2800; Rätty, R. & Carlsson-Kanyama, A. 2010. Energy consumption by gender in some European countries. Energy Policy. 38 (2010). (646-649); Schultz, I. & Stiehs, I. 2009. Gender aspects of sustainable consumption strategies and instruments. EUOPPP, Policies to promote sustainable consumption patterns. Institute for Social-Ecological Research (ISOE).

- Studies undertaken by the European Commission<sup>24</sup> show that women want more information about EE to help them implement changes in their behaviour and in their homes, while men are more interested in technological and financial measures and instruments. National surveys conducted in Germany support these findings.
- It is important to take into account gender needs in strategies to mitigate climate change. The fact that women are often more willing to make changes in their own behaviour, in order to reduce their climate impact, while men are often focused on more technical solutions, is often ignored in the design of strategies for sustainable energy consumption. These strategies often focus only on women's responsibility for saving energy, forgetting the role that men can play in purchasing decisions, especially for residential improvements.

### 2.3.2 Previous Studies on Gender and Energy Efficiency

In Turkey, there have been four recent important studies on households and EE. These are important in understanding men's and women's attitudes and behaviour towards energy efficiency. They are:

- **The Survey for Household EE**, conducted by the General Directorate of Renewable Energy, of the Ministry of Energy and Natural Resources (2010).
- **The Energy Lady Project**, conducted jointly by the Ministry of Energy and Natural Resources and the Ministry of Family and Social Policies (2012).
- **TUIK Survey on Gender Differences in Housework and Intra-Household Decision Making**, conducted by the Turkish Statistical Institute in 2006, as part of a survey on households.
- **The EE and Thermal Insulation Perception Survey**, conducted by the Sustainability Academy in 2013.

The main findings of these studies are described below:

#### 1. The Survey for Household EE

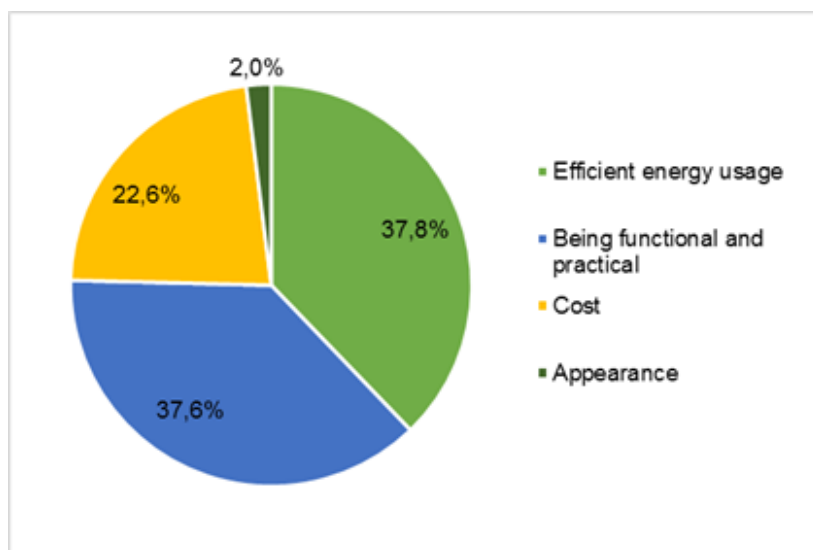
The purpose of this survey was to determine the EE awareness level of Turkish consumers. It was conducted between June 16 and July 4, 2010, and involved interviewing 2,531 people in 26 provinces in Turkey. Although the survey did not have a specific gender focus, some relevant conclusions emerge.

- Very few women (16%) and men (20.6%) were aware of the EE studies carried out by the Ministry of Energy and Natural Resources. Only about 14.2% of housewives were aware of these surveys, reflecting a need to enhance awareness-raising activities, including among women, and housewives in particular. Most people received their information on energy efficiency studies from the television (57.8%) or newspapers (23.1%).
- Both men (60.9%) and women (66.8%) considered that the main reason to use energy efficiently was to lower bills. About 13% considered it was to raise living standards, and 12% to protect the environment, with roughly similar percentages for women and men.

<sup>24</sup> European Institute for Gender Equality: Review of the Implementation in the EU of area K of the Beijing Platform for Action: Women and the Environment – Gender Equality and Climate Change. 2012.

More than 98% of those interviewed considered that using energy efficiently was very important (65%) or important (33.4%).

- Other information of high importance to women was related to white goods, which are used primarily by women in the home, in line with the gender division of labour within households. The two appliances with the highest electricity consumption are washing machines and refrigerators:
  - About 51.5% of refrigerators were of Energy Class A. Considering that only about 40% of refrigerators are aged between 1 and 5 years, and an additional 33% between 6 and 10 years, there is considerable scope for the purchase of new EE refrigerators in the next few years.
  - Regarding washing machines, about 47% were of Energy Class A, with about 39% were 1-5 years old, with an additional 35% 6-10 years old, again showing considerable demand prospects for EE washing machines.
  - EE was considered very important when buying white goods, as seen in the graph below. The graph shows that using energy efficiently and being functional are the two most important aspects considered by consumers when buying white goods. These aspects need to be highlighted, especially to women, as they are the main users of these appliances.
- Only about 54% of participants indicated that they wanted their building to have an EPC, revealing its Energy Consumption and Energy Efficiency Class. This is probably an indication that people do not have sufficient information about EPCs.
- Regarding building level EE improvements, men were the main decision-makers when purchasing thermal insulation.

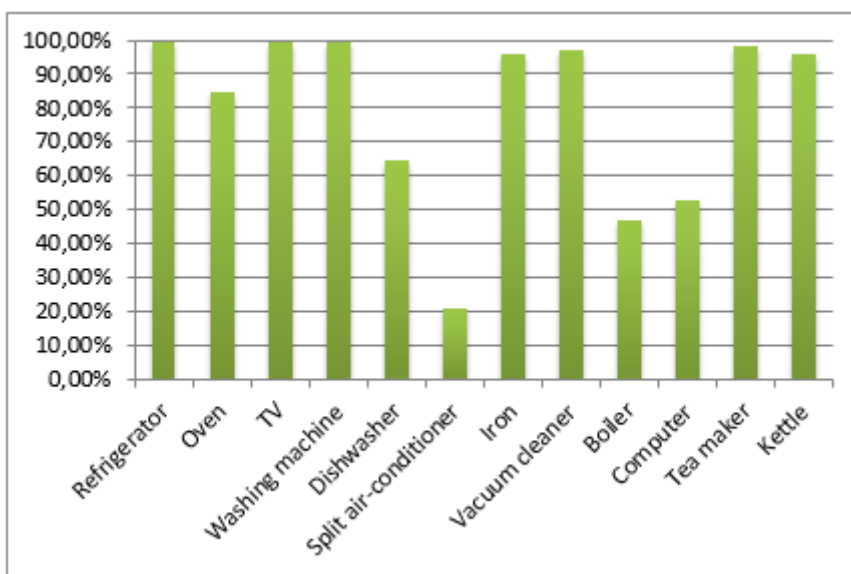


**Figure 2-7: Factors affecting the purchase of white goods**

## 2. The Energy Lady Project

The Energy Lady Project conducted a survey in 2012 in 20 Turkish provinces, in order to identify energy consuming appliances used in the home, the proportion of homes using these appliances, the level of awareness concerning the use of these appliances and the level of awareness of building EE. Almost 80% of the participants interviewed were housewives, given that women were targeted as the main users of white goods.

Turkish households have a high level of appliance usage, as can be seen below.



**Figure 2-8: Appliances used in Turkish homes**



The survey yielded several important results, including:

**Table 2-1: Findings of Energy Lady Project**

Women were adequately aware regarding:	Women showed a lack of awareness regarding:	What needs to be done?
<ul style="list-style-type: none"> <li>• Heating systems</li> <li>• Hot water usage and water and electricity costs</li> <li>• The effectiveness of insulation (women tend to mimic their neighbours' good practice regarding insulation.)</li> <li>• The use of TV and electrical adaptors, and battery chargers</li> <li>• The use of EE lightbulbs</li> </ul>	<ul style="list-style-type: none"> <li>• Heating costs</li> <li>• The energy used by electrical home appliances (more than 70% of respondents were unaware of energy consumption)</li> <li>• The energy used by washing machines, especially the need to use cooler water to wash clothes</li> <li>• The use of dishwashers, since many of them wash their dishes by hand</li> </ul>	<ul style="list-style-type: none"> <li>• Policies are needed to stimulate greater use of insulation (87% of the participants reported that they did not have wall insulation)</li> <li>• The main way to reinforce the efficient use of energy at a residential level is to promote the use of EE appliances</li> <li>• There is a need to raise awareness, to change habits in the use of electricity. Changing habits, such as washing clothes at lower temperatures, changing the times at which appliances are used or unplugging appliances, will be effective.</li> </ul>

- The Energy Lady study also suggested that by just undertaking energy saving measures at home, savings of up to approximately 4 billion TL could be achieved annually nationwide.

### 3. TUIK Survey on Gender Differences in Housework and Intra-household Decision Making

The Turkish Statistical Institute conducted a national survey on households and family structure in 2006. The findings are as follows:

#### Gender differences in housework

- On the matter of **daily shopping**, in 37.7% of households women took on the daily shopping chore, while in 33.3% of the households this work was done by men. In 26.8% of households, daily shopping was done jointly. In 1.3% of households, this work was done by a relative who was not the member of the household. In 0.3% of households, this work was done by someone in return for payment. In 0.6% of households, this work was not done at all.

- As far as **cooking** is concerned, households where only women did the cooking predominated, with 87.1%. In 2% of households, only men cooked meals. In the remaining 9% of households, cooking was done jointly by the wife and husband. In 0.8% of households, this work was done by an outside relative. In 0.4% of them, the work was performed by an assistant and in 0.2% no cooking took place at all. 0.5% constituted “no answer” responses.
- Concerning the work of **preparing the meal table**, the households where women do this work was 74.1% whereas those in which men prepared meal tables constituted 2.4%. Moreover, the households where both women and men prepared the table was 22.6%. In 0.6% of households this work was done by a relative. In 0.2% of them, the work was done by assistants. In 0.1% of the households, a meal table was not prepared.
- Regarding **ironing**, households where women did this job accounted for 84.3% of the total, whereas those where men did it were 2.2%. In 9.5% of households, both women and men ironed. In 1.1% of the homes surveyed, an outside relative performed this chore. In 0.9% of households, someone did the ironing in return for payment. The rest is covered by households where ironing was not done in the home.
- For **minor repair and fixing jobs**, households where men did this work predominated, constituting 68.4% of the total. In 6.7% of households women did the fixing. In addition, in 6.4% of households this work was done jointly. In 13.5% of homes, this work was done by a handyman and in 4% of cases by an outside relative. Finally, in 1.2% of the households surveyed this work was not done at all.

#### Intra-household decision-making

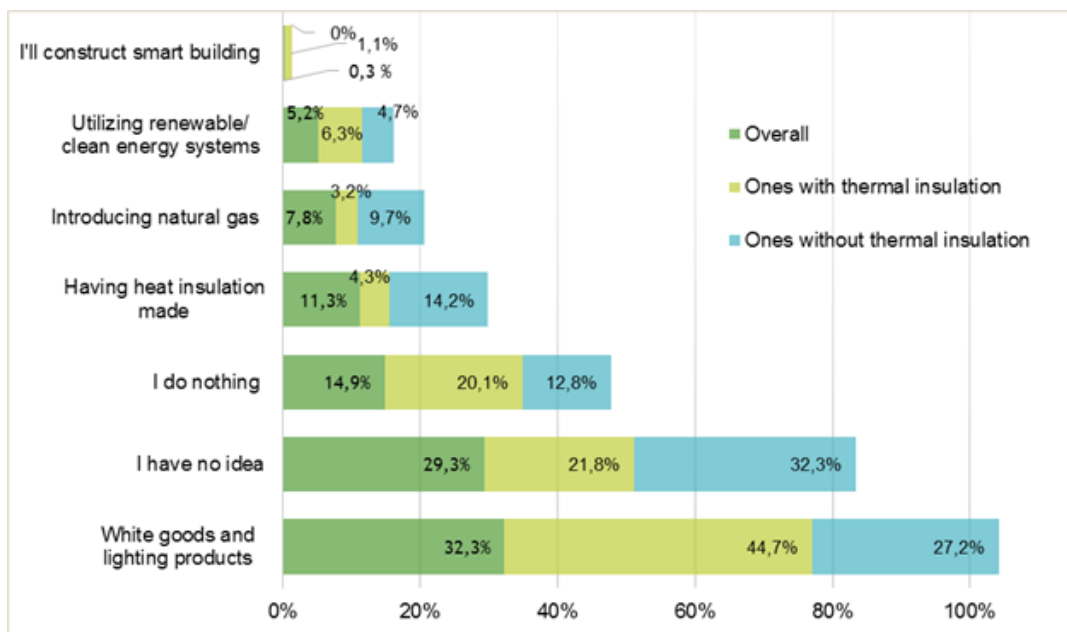
- On the subject of **shopping**, in 57.3% of the households surveyed women and men decided jointly. While the households where only women made shopping decisions constituted 22.7%, this rate was 20.1% for those where only men decided.
- When it came to **choosing a house to purchase**, in 53.8% of households this decision was made jointly by the husband and wife. In 17.1% of households the decision was made only by women while in 29.1% it was made by men only.
- Concerning **housekeeping** decisions (general organisation of matters regarding the house), the highest rate (44.8%) points to households where decisions were made by women. This rate was followed by 41.7%, indicating households where housekeeping decisions were made jointly. The remaining 13.5% was the rate of households in which men made these kinds of decisions.

#### 4. The EE and Thermal Insulation Perception Survey:

This survey was conducted by the Sustainability Academy between May 10 and June 14, 2013, with 1,203 consumers interviewed in 16 provinces in Turkey. About half of the surveyed population was men and about half women. Its main purpose was to understand how individuals perceived the relationship between EE and thermal insulation in buildings, how insulation behaved and what were people’s expectations regarding insulation. Although the study did not have a specific gender focus, some important observations are important for TuREEFF.

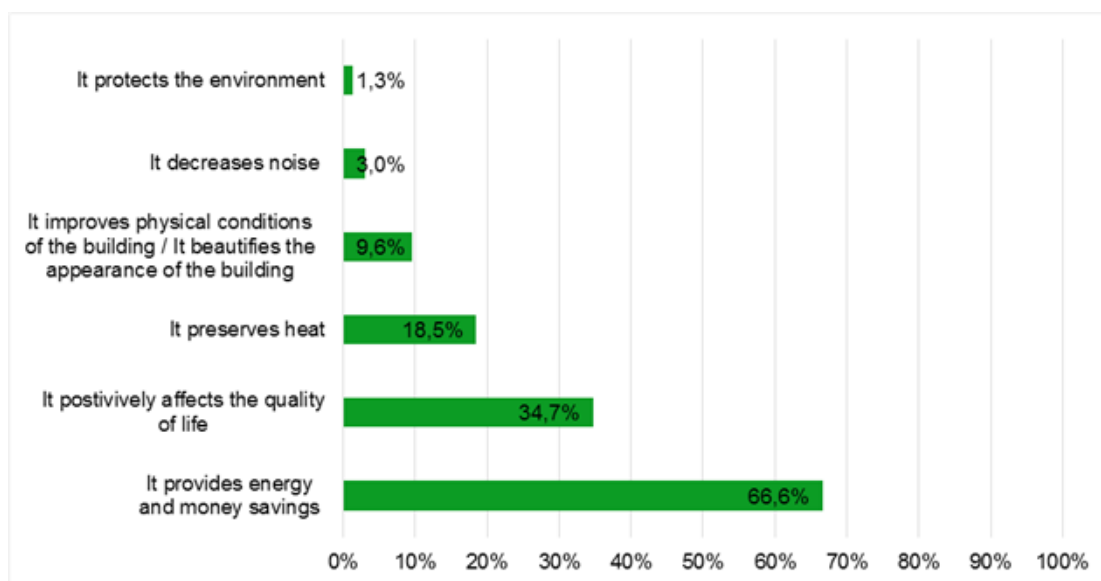


- More than 75% of the energy consumed in the buildings was for heating and cooling purposes. However, one out of every three householders did not know what to do to increase EE.



**Figure 2-9: What respondents would do to improve residential level energy efficiency**

- About one in two respondents did not know the relationship between EE and thermal insulation and about 71% of the surveyed participants had no thermal insulation. However, 9 out of every 10 persons considered that thermal insulation was important or very important in their dwellings and 35% considered that thermal insulation improved the quality of life.
- Almost 47% of the participants thought that insulation paid for itself in 1-2 years, and 1% in 2-5 years. 4.5% of the respondents believed that insulation made no difference to energy consumption and 17.5% stated that they had no idea about insulation.



**Figure 2-10: Reasons for recommending thermal insulation to others**

- The main obstacles to the use of thermal insulation were the lack of clear information regarding products and companies (38.2%), and the high costs & lack of funds (37.8%). This highlights the importance of information and adequate financial instruments in the effort to increase the demand for insulation.

In conclusion, further research is needed on the gender differences in household demand for EE products. Both improved financial assistance and more information on the efficient use of energy can be useful measures in improving domestic EE, and there are some indications that men are more interested in financial assistance while women appreciate better information on the efficient use of energy, in line with the different roles and responsibilities of men and women within households. Thus, increasing the use of EE appliances and improving the EE of homes would benefit from addressing both sets of considerations: financial instruments and information availability.

This knowledge will be useful in improving the products offered as part of TuREEFF, especially regarding the design and targeting of financial products, the marketing of appliances, developing financial instruments for residential building improvements, designing information campaigns and building capacity. The effectiveness of these products will be improved by taking gender differences into account and understanding the factors that men and women consider important when purchasing white goods, building insulation or other building improvements, using this understanding in designing and targeting financial and outreach products.

## 3. Gender and Finance for Energy Efficiency in Turkey

### 3.1 Key Findings and Conclusions on Gender and Home Appliances

Almost all households had refrigerators (99.4%), washing machines (98.8%), and dishwashers (82.1%). In rural areas, however, the FGDs showed that the use of dishwashers was infrequent. About 13.7% used split air conditioners, mostly in warm climate regions, for cooling, and heating purposes by those who have no alternative.

#### 3.1.1 Key Findings on Gender and EE Home Appliances

##### 3.1.1.1 Influencing factors in purchasing EE home appliances

#### Key findings

- The survey indicated that the most important influencing factors in purchasing for both women and men were quality, brand and price. In addition, the EE level of products and consumers' previous experience of a brand or dealer were other important factors for both women and men. Survey results indicated that the quality of white goods equally influenced men and women. In general, we can conclude that influencing factors in purchasing were quite similar for women and men.
- According to qualitative findings, brand is the most important factor in purchasing white goods, with quality and price the next most important. The FGDs showed that women paid more attention than men to the size and design (including functionality, colour and appearance) of white goods. In addition, FGDs also showed a relatively high preference for EE appliances among high-income and educated groups of women and men. No gender difference was observed in FGDs on a preference for EE appliances. Technical specifications mostly influenced men's decisions. This reflects the different patterns of time use within the households, where women have more responsibility for housework and care. Thus the size, design, and efficiency of appliances have a direct impact on releasing some of the time constraints on women.
- Qualitative findings from the interviews also revealed with retailers back up the findings from the FGD and survey: Women were mainly concerned with the size or capacity of refrigerators and washing machines. Secondary issues were quality, guarantee period and service & maintenance network availability. Price was a consideration after these issues were solved, although men often tried to influence their wives into buying the least expensive product. When people believed that the brand they chose had the highest quality, they remained loyal to this brand, even if it was more expensive than others.
- Qualitative data obtained from retailers pointed out that EE was also a concern in purchasing. Labelling was noticed by clients but it did not seem to be of primary importance. The survey indicated that as educational levels increased, so too did the effect of energy classes on the decision to purchase home appliances, for both women and men.

## Key findings by sub-segments

- **Gender:** In accordance with the intra-household division of labour and patterns of time-use, the proportion of women who stated that the quality of appliances was “very important” (78.4%) was higher than that for men (73%). Moreover, women attributed slightly more importance to EE class products than men. Energy classes affected the decision of men and women in purchasing home appliances. According to the survey, around 90% of both women and men expressed this sentiment. When it came to split unit air conditioners, 82.4% of women and 84.2% of men said energy class affected their purchasing decision.
- **Education:** The survey indicated that as educational levels increased, so too did the effect of energy classes on the decision to purchase home appliances, for both women and men. However, university graduate women were affected by energy classes of home appliances significantly more than men with the same level of education (96% for women and 89% for men).
- **SES:** Detailed survey analysis showed that the EE class of products had less influence on people from the lowest socio-economic group (DE). As for the difference between men and women in this regard, results of the lowest socio-economic group reflected that, especially for split air conditioner and washing machine EE class of the products was less influencing factor on women than men (for split air conditioner 79% for women, 84% for men, for washing machine 86.6% for women 90.7% for men).
- **Region:** In Eastern Anatolia and the Black sea Region, EE class of the products had less influences on the customers in purchasing.

### 3.1.1.2 Information sources used in purchasing EE home appliances

#### Key findings

- According to the FGDs findings, advice from vendors, relatives or friends, the social environment, research on the Internet, special offers, other incentives provided by retailers and sales campaigns were all found to influence the household purchasing of home appliances for women and men.
- The findings of the survey on information channels were quite similar to FGDs findings and no difference was observed between women and men, in that the ranking of important influential channels was the same for both (advice from vendors, relatives, friends and searching on the Internet). In addition, fewer than half of both women and men considered that advertisements and reduced prices on the Internet affected their purchasing decisions.

#### Key findings by sub-segments

- **Gender:** In purchasing home appliances, men and women used information from a number of sources in order to make a purchasing decision. The most prevalent information sources were retailers (84.6% for women and 76.1% for men) and friends and relatives who had previous experience (38.2% for women and 40.53% for men). Women relied more heavily

than men on retailers for information, reflecting their generally lower levels of participation in the public sphere and more restricted social networks. In addition, reliance on retailers' knowledge was taken into account by both women and men significantly more than all other sources of information.

- **Education and SES:** Women and men from higher education and SES levels relied less on information from retailers than those with lower levels of education and from lower SESs, reflecting the higher participation of women from higher socio-economic levels in the public sphere and their wider social networks. While 92.2% of women and 88.8% of men from DE SES used information from retailers, 76.1% of women and 59.2% of men from A SES do so.
- **Region:** Retailers were the most frequent information sources in all regions, however in the Aegean, South-East and East parts of the country retailers were being credited more frequently as a source of information. The percentage of people from the Aegean region who obtained information from the TV (36.7%) was significantly higher than those who live in Eastern Anatolia (9.1%) and the Black Sea region (7.4%). Internet use, as an information source, was lower in Eastern Anatolia (3.4%) and the Black Sea region (6.4%) than that of the Mediterranean (23%). In the Aegean and South-East Anatolia regions written materials, like brochures and leaflets, were preferred in 35-40% of cases, compared with other regions.

### 3.1.1.3 Financial options to facilitate purchasing EE home appliances

#### Key findings

- Even though EE products were more expensive than less energy-efficient appliances, there were several factors that could positively influence the decision to purchase the EE option. The survey indicated that an offer of reasonable instalments by retailers was the most important factor (62.8%). Lower VAT followed this option (59.4%). In decision-making, engaging payment conditions offered by dealers are quite important, especially for low-income consumers who are not able to pay up front in cash. Survey findings showed that special payment options by dealers motivated more than half of the respondents to buy EE appliances. In addition, more than one-third of respondents mentioned price discounts and deferred payment (for 2-3 months) as important and a good option for people who were willing to buy, but could not afford to do so immediately. Low-interest loans were mentioned by 25.1% of respondents. In addition, 15% of those surveyed mentioned that if they had received their relatives' monetary support, they would have readily purchased EE products.
- During the FGDs, the most common financial option observed in all groups was again special payment arrangements between buyers and retailers, which provided adequate instalments.
- We also asked retailers about their experience of the preference financial options in the purchase of white goods. The findings were clustered around other findings, in the purchase of white goods, which were:
  - Credit card instalments, of up to 9 months (of most importance in big cities)

- Cash
  - Financial options provided by retailers (can be tailor-made if the buyer is known)
  - Individual loans from banks.
- Moreover, during the interviews conducted with retailers of home appliances, retailers proposed the following financial solutions to increase the uptake of these goods:
- Incentives provided to retailers for higher EE class white goods (such as advantageous taxation)
  - Low bank credit interest for retailers, to enable them to promote more EE white goods
  - Low interest and operationally easier individual loan mechanisms, where retailers would cooperate with banks in collecting the necessary documentation from purchasers and support the banks in the follow-up process
  - Easing of retailers' payment conditions by manufacturers, in order to promote higher EE products. Also, manufacturers could be more supportive, through advertisements, in raising awareness levels in households regarding EE white goods.

### Key findings by sub-segments

- **Gender:** There was no significant difference between men and women regarding the factors that impact on purchasing EE products. However, survey results showed that a lower VAT rate is of more concern to men than to women. For 58.2% of men and 50.2% of the women, a lower VAT rate was seen as an effective decision making factor in purchasing EE products<sup>25</sup>. In addition, there was a slight difference between women and men in their response to “reduced price for second product” sales campaigns. For 46.5% of men this was an important factor whereas only 43.5% of women found this factor influenced them in purchasing EE products. Low-interest loans were a concern of 30% of men and 22% of women. Men (39%) were also more interested in retailers' price discount options than women (35%). For the remaining factors no significant gender differences were observed.
- According to survey and FGDs results; more instalments and price reductions in second product campaigns exerted more influence on decisions to purchase EE products by women than by men. Additionally, FGDs showed that, men tended to be the ones who used credit from banks or retailers. Credit card ownership & use and bank account holders among women were quite low, especially in rural areas, where almost none of the women had a credit card.
- **Education:** The survey results show that education had no significant effect regarding preferences for financial options.
- **SES:** Low-income groups would prefer EE products only if the product were affordable; attractive payment conditions offered by dealers were quite important for low-income

<sup>25</sup> This question was asked in a scale between 1-5 and averaged (very influential-absolutely not influential)



women and men who could not afford to pay cash up front. Low interest for instalments were higher for women and men from C1 and C2 SES levels than those from A, B and DE SES levels. The findings of the FGDs supported this result. Financial options offered by retailers, like discount campaigns, were found to be more important in decisions to purchase EE products in the C1 (40.5%) and DE (36.4%) SES groups than in the A SES group (29.4%).

- **Region:** Preference for reasonable instalments from retailers was the favourite option in all regions, although relatively lower in the Mediterranean and Central Anatolia regions than in others. Price discounts followed as the second preference in all regions. Low-interest loans was least favourably viewed as an incentive to buy in the Black Sea region (9.9%) but highest in the Aegean region (41.7%).

### 3.1.1.4 Intra-household decision making process and control of income for the purchase of EE appliances

#### Key findings

- FGDs did not reveal gender differences in terms of intra-household financial decision making processes and the control of money. Women were involved in the decision process even if they did not have their own income.
- FGDs provided an insight into the nature of decision making regarding the purchasing of home appliances. Family member participation varied for each product category, depending on what was being done or decided on, in accordance with the household gender division of labour, where women are usually directly responsible for household management and the use of appliances. Thus, while men were the primary decision makers in purchasing air conditioners and natural gas boilers, women played a dominant role in the type, size and other features of refrigerators, washing machines and dishwashers, within budgetary constraints decided by husbands.
- As another qualitative finding; many retailers considered that women were their most important clients in the purchase of white goods. Even if the husband and wife visited the shop together, the woman generally made the purchasing decision. If the husband visited the shop alone, either his wife had already told him what to buy or he would call his wife before completing the purchase. The only exception was with natural gas boilers. It was assumed that, due to the highly technical nature of these items, women were not involved in negotiations.
- Similar to the findings obtained from interviews with the retailers, women in the FGDs said that they shared their household decision making with their husbands. Even if women did not accompany their husbands shopping, due to social constraints, like in rural areas in Erzurum, they described what they wanted and their husbands made the purchase. Women who had no income also participated in financial decisions regarding home appliances. However, according to the survey results, mainly men's income sources were used for the payment of the home appliance purchases.

## Key findings by sub-segments

- **Gender:** Survey results indicated that the percentage of women who decide on daily expenses was 20% while the percentage of men was 43% and joint decision making was 33%. The main breadwinner (generally the man/husband) paid the bills and expenses (monthly instalments for white goods, electricity, water and other expenses). If both spouses had an income, they spent the money jointly. Payment orders to the bank were common for regular income earners. Responsibilities for financial matters were shared equally.
- Regarding using income sources there is a significant difference between men and women. For instance, in paying for refrigerators 10.5% of women paid from their own resources, against 69.5% of men. The percentage of joint use of income sources was 18%. These percentages were very similar for other home appliances. The survey findings suggested that the employment status of women influenced intra-household financial decision, in a positive manner. According to cross analysis, the rate of participation in major investments decisions for working women was higher (44%) than for non-working women (37%). The rate of women who took financial decisions alone was also higher among working women (21%) than non-working (18%) women. This finding support the other gender related studies that income earning has a positive effect on women's status within the family.
- Survey results also indicated that the higher the price of goods and services, the higher the likelihood that men paid for them. For example, men paid for about 70% of refrigerators, washing machines and dishwashers, but for about 80% of more expensive items, such as natural gas boilers or building insulation.
- It was clear from the FGDs that, regarding the repayment of loans, husbands made the payments from their own financial resources, as they were generally the main breadwinners. Survey results showed that men were usually responsible for paying electricity and water bills (74.5% and 68.9% respectively).
- **Education:** Educational level was also a factor that had an impact on joint decision making for household expenses. The higher the level of education the higher the frequency of joint decision making for big investments.
- **SES:** Families belonging to higher or middle-income groups made joint household decisions more often than families in lower income groups.
- **Region:** The higher percentage of the families who make joint decisions in purchasing EE home appliances belonged to the Aegean and Marmara regions. On the other hand, the lower percentage of joint decision making in families belonged to the Eastern Anatolia and Black Sea regions. This may stem from on women's status in these traditional and conservative regions.

### 3.1.1.5 Key findings on awareness and information levels regarding home appliances

The majority of the respondents were aware of the energy classes of the home appliances (82.2%).

## Key findings by sub-segments



- **Gender:** The majority of both women and men were aware of the energy classes of home appliances. According to the survey, awareness levels of women and men were very close (81.7% for women and 82.9% for men). Respondents were also asked about the energy classes of their home appliances. Awareness among men of the energy this was higher than among women. Similar to the survey results, the majority of the FGD participants were aware of the energy classes of home appliances, both from rural and urban areas. However the FGDs revealed that the majority of people who are not aware of the energy class of their appliances live in rural areas.
- In the survey, around 90% of women and men stated that they preferred EE home appliances (except for split air conditioners: 83%).
- **Education:** Among the illiterate and non-school graduates the awareness level of the energy classes of home appliances was significantly lower than for people from higher educational levels.
- **SES:** Analysis of this finding by socio-economic status (SES) revealed that the awareness level of women and men who belonged to the A (highest) SES group was higher (85.3%) than those who belonged to the DE (lower) SES group (74.3%).
- **Region:** Awareness levels of EE class home appliances was lowest for split air conditioners and highest for refrigerators, in all regions. Awareness levels of different EE products varied according the regions.

### 3.1.2 Conclusions Concerning Gender and Home Appliances

#### 3.1.2.1 Influencing factors in purchasing home appliances

- Women are more interested in the function, size and design of home appliances than in their technical aspects, as these are labour-saving devices that may free up women's time for other pursuits, such as leisure, education or income-earning activities. Similarly they tend to avoid participating in the decision making processes of purchasing natural gas boilers, which seem technically more complex to them than other home appliances.
- The energy efficiency level of household appliances is one of the factors influencing purchasing decisions, but is not the highest priority. The most important factors in purchasing home appliances are similar for women and men, being quality, brand and price. Whenever people were specifically asked, both women and men stressed the importance of energy classes, in high percentages. As education levels increase the importance given to the energy class of home appliances increases for both women and men. However, among university graduates, women significantly reported attaching higher importance to energy class than men having the same educational background.
- The importance given to energy classes depends on the time and frequency of use of the home appliance. The energy classes for appliances used more frequently and for longer are given more importance by women and men. As such, the energy classes of refrigerators, washing machines and dishwashers count more than the energy class of split air conditioners.
- More than 80% of women and men are aware of the energy classes of home appliances.

### 3.1.2.2 Information sources in purchasing home appliances

- Information from retailers and friends and relatives are the most effective information sources used in deciding to purchase a home appliance. Women consider retailers as their main source of information significantly more than men. This reflects the generally smaller social networks that women have, as well as social norms, which often restrict the participation of women in the public spheres. Reliance on information provided by retailers is lower for women and men from higher SESs and educational levels than those from lower SESs and educational levels, as both men and women from higher SES have wider social networks.

### 3.1.2.3 Financial options to facilitate purchasing home appliances

- Most women and men are primarily interested in having a sufficient number of instalments in paying for higher energy class home appliances. Interest in instalments is higher for women and men from middle SES levels than for those from higher SES levels.
- For single product purchases, women and men prefer to use credit cards to individual loans, since the bank fees are higher in the latter and are considered wasteful. Women are more sceptical about getting individual loans from banks than men.

### 3.1.2.4 Intra-household decision making and control of income for the purchase of home appliances

- The use of home appliances is widespread throughout the country, and women are their main users.
- Women generally are the ones who decide which appliances will be purchased and when, even if they do not have their own income, reflecting the intra-household division of labour.
- In households, husbands are more likely than their wives to pay for home appliances and to purchase them in line with their wives' preferences.

## 3.2 Key Findings and Conclusions on Gender and Building Level EE Improvements and Mortgages

### 3.2.1 Key Findings on Gender and Building Level EE Improvements and Mortgages

#### 3.2.1.1 Influencing factors in deciding having insulation

##### Key findings

- Survey results suggested that the most influential factors in the decision making on building insulation are advice from friends and relatives (35.7%) and information given by installers (34.3%). One of the most important finding is that one in five respondents were dependent on other people's decisions, such as other tenant and building managers in multi-family apartments. According to information obtained from the FGDs, since individual façade insulation is not allowed for multi-unit apartment blocks, the decision on insulating the

building needed to be made jointly by all occupants. In some cases, this created problems, given the reluctance of some residents, preventing others from having it. Also, the owners of apartments where tenants lived tended to be reluctant to purchase insulation or they were not readily contactable to participate in the decision.

- The survey showed that the factors that affect the selection of the company were reliability, reputation, price and quality of work. Almost the same level of importance was attributed to these factors by people who had not yet installed insulation. These issues were also raised in the FGDs.
- Qualitative findings, indicating how the general decision making process was applied in practice, was obtained from retailers: Building managers usually requested an estimate of the total cost of insulation for the building; although sometimes insulation companies approached building managers with an offer. If women were present in building management meetings they tended not to ask questions about the process or about technical issues. However, a few companies mentioned the involvement of women in decision-making. Almost all building managers were men or the installation companies chose a male homeowner to deal with the process.

### Key findings by sub-segments

- **Gender:** The most influencing factors in deciding to install insulation for women were: information obtained from friends and relatives (36.3%) followed by information given by installers (32.5%), and advice and information from others in their neighbourhood who already had insulation (22.6%). For men, the greatest influencing factor was information given by installers (36.6%) followed by information obtained from friends and relatives (35.5%). The third influencing factor was advice and information from others in their neighbourhood who already had insulation (30%). The results showed that both men and women attributed importance to information from friends and relatives, as well as to installers' opinions. Interestingly, information from neighbours with insulation influenced men more than women.
- Overall, the findings were similar for women and men. Women and men survey respondents who already had insulation were asked about the most important factors that influenced their decision in selecting insulation companies. The results were similar to the qualitative findings revealed from the FGDs. The most important factors for both women and men were reliability of the company (64.5% for women and 61.5% for men) followed by price for women (58.7%) and the insulation company's reputation for men (50.6%). The third factors were quality of installation for women (53.9%) and price for men (48.6%). The quality of installation was found to be an effective factor also for men (48.3%). Interestingly, women mentioned price more than men, despite men being the main funders.
- Retailers mentioned that, in single-family houses, both men and women were involved in decision-making regarding home insulation. Women usually made the decisions on colour and other decorative aspects, after the insulation process was finished.
- **Education:** Education is not an influencing factor regarding preferred information sources in decision making. For all levels of education the most prominent influencing factors were

information given by installers (companies) and information obtained from friends and relatives who have previous experience.

- **SES:** According to our analysis of the survey results, quality of workmanship and materials were more important for women and men from higher SESs than for lower and middle SES respondents. Specifically, 53% of respondents belonging to socio-economic group A stated that workmanship was important. This rate was 37.5% for the DE SES. For one-third of socio-economic group A respondents the quality of the insulation material was important while this rate was 21% for DE SES participants.
- According to cross analysis, for insulation, price was considered less important for women and men in higher socio-economic groups than those in lower socio-economic groups: For 42.1% of respondents from SES A, price was important whereas this percentage was 52.3% for SES B, 57.7% for C1 and 56.9% for C2 & DE SES respondents.
- **Region:** In cooler regions, like the Black Sea, Central Anatolia and Eastern Anatolia, where the price is the factor of lower importance (42.6%, 47.3%, 42.6% respectively), more importance is given to factors like the reliability of the company (average 68%) and the quality of the material (average 64%), due to the need for insulation against the cold and energy efficiency in winter. On the other hand, because insulation is perceived as being more of a cold protection measure, in warm regions, like Mediterranean, Aegean, Southeast and Marmara, people were more sensitive to price (53%, 71%, 61%, 62% of respondents in these regions, respectively, stated that price was the most important factor for insulation). Regarding financial options, there was no notable difference between the regions.

**According to findings derived from FGDs:**

**Women with high levels of education and incomes, living in detached houses, generally participated in the company visits and in the decision on the choice of material, reflecting their higher participation in the public sphere and higher decision-making experience.**

**Proximity to a newly insulated house was a decision making factor, as neighbours tended to copy what was in place in nearby buildings.**

### 3.2.1.2 Intra-household Decision Making Process and Control of Income

#### Key findings

- According to the survey findings, large investment decisions, such as purchasing cars, houses and land, tended to be made by men alone (49%), while 37.2% of husbands and wives made this decision jointly. In 13.8% of cases, women made major investment decisions alone. Financial decisions on children's education, daily expenses and financial support for grown-up children were made jointly by husbands and wives in 40.1%, 34.2% and 51.6% of households respectively. The reason why women's participation in income

expenses decisions was low probably reflects the fact that the number of working women among the survey respondents was very low.

The following table summarises the control of income regarding the types of expenses:

**Table 3-1: Control of Income**

Expense types	Women	Men	Jointly
Daily expenses	20.3%	45.5%	34.2%
Expenses for children's education	15.9%	44 %	40.1%
Financial support for grown-up children	10.7%	37.7%	51.6%
Large investments	13.8%	49%	37.2%

- Survey findings also suggested that the employment status of women influenced intra-household financial decision making in a positive manner. According to cross analysis, the rate of participation in major investment decisions for working women was higher (44%) than for non-working women (37%). The rate of women who took financial decisions alone was also higher among working women (21%) than non-working (18%) women. The main breadwinner (generally the man/husband) paid the bills and expenses (monthly instalments for white goods, electricity, water and other expenses). If both spouses had an income, they spent the money jointly. Payment orders to the bank were common for regular income earners. Responsibilities for financial matters were shared equally.
- FGD findings also indicated that husbands and wives made joint decisions on whether or not to get insulation. Financial issues and choosing the proper insulation company were mostly the responsibility of men. For building insulation, as for the purchasing of white goods, if both spouses earned money, payment was made jointly. Women from high-income and education levels participated in the company visit and material choice if they lived in an individual house.
- In general, husbands and wives jointly decided on purchasing goods, investments in the home and taking out an individual loan or mortgage. Nevertheless, in cross analysis it was observed that age was a factor in joint decision making, namely elderly couples made important decisions together more often than early age groups did (18+ was 26%, 50-54 38% and 55-59 50%).

### Key findings by sub-segments

- **SES:** Compared with lower income groups, husbands and wives belonging to higher or middle-income groups tended to take more joint household decisions. For instance, large



joint investment decision making was 49% among families belong to the A SES, and this proportion decreased to 27% for spouses in the DE SES.

- **Education:** Education level was a factor that had an impact on joint decision making for household expenses. The higher the level of education the higher the frequency of joint decision making for big investments. For instance, among the illiterate and primary school graduates the percentage of joint decision making was 28.5% whereas this increased to 45.6%, 35.8% and 40% among vocational high school, graduate and postgraduate respondents respectively.
- **Region:** Although there is no a significant difference by region in big investments, the highest rate of joint decision making was in the Aegean region, followed by Eastern Anatolia. In joint decision making for daily expenses there was a significant difference between the Aegean and other regions. For instance, this was highest, with 45.2%, for the Aegean region and lowest, with 25.5%, for the Black Sea region.

### 3.2.1.3 Preference of financial options to facilitate having insulation

#### Key findings

- Respondents were asked which financial instruments they would like to use if they were to install insulation in the future. Most would prefer to use their own financial resources or to avail of bank credit. More than one-fifth of respondents tended to use individual loans from banks while 23% would want to finance insulation by using special payment/instalment conditions provided by the insulation companies. Qualitative findings were consistent with research findings.
- According to the retailers' experience, the most common financial instruments used were:
  - Promissory note payment agreements between the installation company and the homeowners, with a payment period of 18-24 months
  - Some households preferred cash payments
  - Credit card instalments (up to 9 months)
  - Individual loans from banks.

#### Key findings by sub-segments

- **Gender:** Respondents were asked what financial sources/products, and under whose name, they would purchase insulation in the future. The proportion of men who intended to use individual loans was 62%, whereas this proportion was only 12.6% for women. Payment in reasonable instalments to the installers was much more preferred by men (69%) than women (8.3%). The proportion of men (59.3%) who preferred to pay in cash or to borrow money from relatives was also considerably higher than for women (9.8%). About one-fifth of couples preferred to use joint financial sources and apply for consumer loans.
- **SES:** Regarding financial options to facilitate having insulation, reasonable instalments from banks were more important for women and men who belonged to the A SES than for those from other SES groups. Furthermore, men attributed more importance to a

reasonable bank loan rate than women did (5.2% of women, 8.4% of men). The survey revealed that low-interest consumer loans motivated more members of high SESs (6.6%) than those from low SESs (2.8%) for installing insulation.

- **Education:** Education was not the factor affecting the preference of financial options.
- **Region:** As for the educational factor, preference of the financial sources were not significant by regional analyses.

### 3.2.1.4 Mortgages

#### Key findings

- From FGDs we learned that few participants (7%) had experience of mortgages or home loans<sup>26</sup>
- In getting a bank loan, spouses jointly decided which house to buy and, in some cases, they made a joint financial commitment. Houses were purchased either with cash (own resources) or with a mortgage loan.
- The survey indicated that, regardless of whether residences were purchased with cash or mortgage loans, men were mostly responsible for the financing (for about 75% of mortgages and 80% of cash purchases). When women were solely responsible, they represented about 15% of mortgage holders and 7.6% of payments in cash.

#### Key findings by sub-segments

- **Gender:** Suppliers did not find gender-based differences in the decision-making processes involved in purchasing a new house.

### 3.2.1.5 Key findings on awareness and information levels regarding insulation and EE class of the houses being purchased

- **Gender:** Almost all respondents, regardless of gender, thought that having insulation and PVC windows was important or very important for energy saving in their building (90.4% for PVC and 94.1% for insulation). According to the survey, most women and men were unaware that Energy Performance Certificates (EPCs) were mandatory for all buildings by 2017 (88.5% of women and 80.5% of men were unaware). Women were less aware of EPC requirements than men. In FGDs it was clear that almost all women and men had been misinformed on this requirement, as they believed that insulation was a legal requirement and needed to be in place by 2015 or 2017.
- Among survey respondents who were familiar with EPCs, 29.4% of women and 40.2% of men thought that having an EPC was important or very important in purchasing a house,

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<sup>26</sup> In Turkey, mortgages started to become a financial instrument only after 2007 when the legal ground was established. By 2014, only 35% of individual loans were mortgages. A recent study showed that 40% of the houses are financed through mortgages. However, in the past, a mortgage was not an option for financing houses.



whereas 16.5% of women and 13.2% of men did not consider an EPC as an influencing factor. EPCs influenced men more than women.

- In FGDs, both women and men had a positive attitude towards insulation and believed it important in saving energy. Especially in Istanbul, awareness and information levels on insulation were relatively high.
- In FGDs, both women and men considered insulation significant and highly effective in saving energy and combatting the cold. However, most of the women and men we interviewed in Mersin believed that homes in hot climates did not require insulation. Women and men who believed that insulation was necessary argued that insulation was required to decrease natural gas usage in winter and increase cooling efficiency in summer.
- The findings from the survey and the FGDs indicated that better communication was needed on EPCs, the importance of insulation and its effects on lowering energy consumption. They indicated that insulation and its effect on energy bills had not yet become a marketing strategy for construction companies.
- The installation companies could improve the dissemination of good practice by using hoardings to cover the buildings during the installation process to promote their products or the process. This approach already generated positive effects for one of the companies interviewed.
- According to suppliers, purchasers of new houses were not concerned about EE in their decision-making process. They made their decisions based on location, size and other aspects. Awareness levels regarding the energy class of buildings (which is a relatively new concept) were very low.
- However, if a high-energy class building were offered, especially when promoted with an offer of a mortgage with special advantages, people would choose it, highlighting the importance of adequate financial instruments in promoting EE.
- In choosing a new house, they found that women were generally keen that the apartment had a southern exposure, thus benefitting more from daylight and sunlight. Women also preferred that the apartment not be located on the entrance floor or on the top floor, so as to be less affected by outside temperatures.
- These findings indicated the need to pay more attention to gender needs and gender gaps as women had a latent concern for energy efficiency that could be better targeted in the provision of energy efficient building improvements and for new home purchases.
- **Education:** Results indicate that the higher the education level, the better informed people were about EPCs.
- **SES:** Similar to education, SES was also a factor related to information and awareness levels of EE buildings. Information levels were highest among people who belonged to the A SES (27.3%) and lowest among people from the DE SES (7.4%),
- **Region:** Householders (mostly men) were aware of the need for insulation, but their awareness of the importance of the quality of the materials and of the implementation process was low, especially given their focus on costs. However, it was found, from the FGDs, that those living in warm areas were unaware that insulation was important for effective cooling as well. As a city with a warm climate, people in Mersin had EE windows

for sound insulation and renovation purposes rather than for energy saving. According to the survey findings, regarding EPC, there was a significant difference between the regions. Awareness was highest in the Aegean region (39.2%) and lowest in Eastern Anatolia (3.4%) and the Black Sea regions (5.3%).

### **3.2.2 Conclusions for Building-level Energy Efficiency Improvements and New Construction (Mortgage Loans):**

#### **3.2.2.1 Factors influencing the decision to have insulation**

- Regarding the decision to have insulation, information obtained from friends and relatives was more influencing for women whereas information provided by installers is more influencing for men.
- Proximity to a newly insulated house is another influencing factor in the decision to have insulation, as neighbours tend to imitate what is in place in nearby apartment buildings. This factor influences men more than women.

#### **3.2.2.2 Intra-household decision making processes and control of income for building level improvements**

- Husbands and wives generally make joint decisions on whether or not to have insulation. However, choosing the proper insulation company is generally the husband's responsibility. In addition, building managers are usually men, or a male homeowner is asked to lead the insulation purchasing process.
- Women with high incomes and levels of education, living in detached houses, generally participate in the company visits and in the decision on the choice of material.
- Husbands and wives jointly make decisions on mortgages, even though mortgages are usually taken under the husband's name and responsibility. As age and SES levels increase, spouses tend to take joint decisions more on whether or not to get a mortgage.

#### **3.2.2.3 Preferences of financial options to facilitate having insulation**

- Women and men from higher SESs express the importance of individual loans from banks with reasonable instalments and low interest rates more than those from lower SES groups. Furthermore, men attribute more importance to a favourable individual loan than women, regardless of SES.

#### **3.2.2.4 Awareness in building level energy saving**

- Both women and men recognise the importance of insulation and PVC windows in saving energy and reducing energy bills. Nevertheless, both think that insulation is unnecessary in warmer climates.
- Both women and men from all SES groups and educational backgrounds are generally unaware of EPC requirements. Among those who are aware of this requirement, men significantly pay more attention to EPCs than women in purchasing a new house.

- While women are interested in energy efficiency aspects, such as a southern exposure, men tend to worry about total energy costs.

### 3.3 Key Findings and Conclusions Concerning Awareness on the Benefits of Energy Saving and Ways of Saving

#### 3.3.1 Key Findings on Awareness on the Benefits of Energy Saving and Ways of Saving

##### **Key Findings**

- In the survey and FGDs both women and men were mainly concerned with EE for financial reasons. Saving the environment and protecting natural resources followed in importance for both women and men.
- Awareness and behaviour regarding energy saving varied by educational and social class background. Some of the women and men participating in the FGDs with higher education and income levels immediately expressed their view that energy saving was to protect the environment and to save the planet.
- However, those participants who were not aware of the potential to reduce their electricity bills did not believe that EE home appliances consumed less energy, and they found them overly expensive.
- FGDs showed that, in general, the primary driver in saving energy was to reduce bills for both women and men. Since women generally manage the household income, they take more measures than men to reduce the consumption of electric energy. Few women and men in FGDs had seen any EE campaigns on TV and the only thing they remembered was to turn the light off when it was not needed.

##### **Key findings by sub-sections**

- **Gender:** Moreover, according to the survey, the majority of both women and men reported not seeing energy saving campaigns – about two-thirds of women and 60% of men were unaware of any campaigns.
- As survey respondents, 79.6% of women and 80.1% of men said that they took measures to save energy at home. The most frequently mentioned measures were found to be the same for women and men. Two-thirds turned lights off when not needed (71% for women and 64.8% for men); more than half used EE light bulbs (52.4% for women and 56.7% for men), and almost half purchased EE white goods (46.7% for women and 48.3% for men). However, while the use of EE light bulbs was fairly common, the number of FGD participants who used LED bulbs was quite low, on account of their high initial cost. The ranking of measures taken were the same for women and men. Nevertheless, it was observed that women were keener on turning lights off than men.
- The range of energy saving practices used by women was wider than those used by men; the most common measures taken by women to reduce their energy bills, and to consume less energy are as shown in the table below.

**Table 3-2: Measures Taken to Save Energy at Home (by Gender)**

Measures taken by women to save energy in their homes	Measures taken by men to save energy in their homes
<ul style="list-style-type: none"> <li>• Using EE light bulbs</li> <li>• Turning off the lights when exiting a room.</li> <li>• Keeping appliances unplugged when not being used.</li> <li>• Replacing old refrigerators with more efficient ones.</li> <li>• Using electrical appliances in line with the smart clock schedule. For example, running the washing machine and the dishwasher after 22:00.</li> <li>• Piling up clothes for ironing, and ironing everything at once.</li> <li>• Getting A class energy level home appliances (A+ or higher level).</li> <li>• Running washing machines and dishwashers at full capacity.</li> <li>• Energy efficiency awareness level was sometimes reinforced by religious beliefs relating to the prohibition of wastefulness.</li> </ul>	<ul style="list-style-type: none"> <li>• Using EE light bulbs.</li> <li>• Turning off the lights when exiting a room.</li> <li>• Keeping appliances unplugged when not being used.</li> <li>• Avoiding unnecessary use of appliances.</li> <li>• Buying an energy-efficient natural gas boiler.</li> </ul>

- FGD respondents' attitudes towards EE white goods were, in general, very positive, regardless of gender. As they operate for 24 hours a day, energy-efficient refrigerators were preferred. Washing machines were also used quite frequently, therefore, energy-efficient ones were preferred, too.

**The range of energy saving practices adopted by women was wider than that used by men.**

- According to the survey both women and men were aware of global climate change (70.8% for women and 74.4% for men). Men's awareness was slightly higher, despite the fact that no notable gender difference was observed in FGDs on this matter.
- Many FGD participants, regardless of gender, were aware that energy saving and environmental protection were strongly connected. In Erzurum, participants were concerned with dramatic climate changes in recent years and the disappearance of springs, and considered that their duty was to protect resources for future generations.
- **Education:** Education had a positive impact on awareness of global climate change and energy saving practices.
- **SES:** The higher the SES, the higher the level of awareness. About global climate change, the highest awareness level belonged to A SES (88.8%) and the lowest to DE SES (57.7%).
- **Region:** Awareness of global climate change was highest in the Aegean and Marmara regions and lowest in the Southeast and Mediterranean regions. Regarding household level energy saving practices, there was no significant difference between regions.

### 3.3.2 Conclusions Concerning Awareness of the Benefits of Energy Saving

- Women and men with higher incomes and educational levels believed that energy should be saved to protect the environment, while women and men with lower level of incomes and education placed more importance on reducing bills.
- The range of energy saving practices adopted by women was wider than those used by men, reflecting the importance of intra-household patterns of time use, where women have greater responsibilities for housework and care, and therefore labour-saving devices are important for freeing women's time for other pursuits.
- Both women and men were aware that energy saving and environmental protection are interconnected. But this is not given priority among other choices.
- Both men and women are concerned about protecting the environment for future generations but they do not have any clear idea about how to do it.

## 4. Recommendations

### 4.1 Recommendations for PFIs Related to TuREEFF Funds

#### 4.1.1 Recommendations for Gender and Home Appliances

- **Developing an “EE package” for financing EE home appliances with relatively more favourable conditions than the standard individual loans, specifically for women clients.** The Gender Assessment proved that women decided on the purchasing of home appliances. Therefore any financial solution from the PFIs to support women to increase the uptake of EE home appliances will eventually move the market towards higher EE products. The favourable financial conditions could be generated by not charging additional fees on top of the interest on the loan or by offering a slightly better interest rate for the individual loans designed for women.
- **Highlighting the saving aspect of TuREEFF funds for women.** In relation to the previous recommendation, women could be captured by highlighting the “saving” aspect of loans, when promoting loans related to EE home appliances, as women, especially from lower and middle SES groups, tend not to be comfortable with individual loans. Women might consider individual loans attractive only if they realise they are indeed saving.
- **Introducing new delivery modalities, in cooperation with vendors and retailers.** The bundling of high-energy class appliances could be an effective delivery mechanism to increase their uptake rather than just promoting single products. The Assessment showed that for single product purchases, both women and men prefer credit card usage rather than applying for an individual loan. Given that the demand for home appliances comes mostly from women, these financial packages for high efficient home appliances could be announced through campaigns like “wedding packages” “women’s day celebration packages” or “Mother’s Day celebration packages“, to capture women’s attention, since they are the ones who decide on the timing of the purchase of home appliances.
- **Delivering the funds through vendor financing.** Accessing individual loans is closely related to the affordability and creditworthiness of the applicants, regardless of their gender. The scoring criteria of the banks are strictly regulated by the Banking Code. Thus, only women and men who have a good score would be able to access individual loans from PFIs. In such cases, vendor financing stands out as a complementary financial product to individual loans. The study indicated that women and men from lower and middle SES groups pay more attention to financial options offered by retailers than those from higher SES groups. Moreover, both women and men, from all socio-economic groups, consider retailers as their primary point of contact and cooperation as sources of information. As women are generally the ones who decide which appliance will be purchased and when, targeting women through retailers would be an effective way of improving the uptake of EE appliances.



- o **Offering more instalments for payments through vendors in financing EE investments.** Where TuREEFF funds will be available for retailers of home appliances with relatively more favourable conditions than for standard commercial loans, retailers will be able to provide longer payment terms/more instalments or 2-3 months deferred payment options for women and men who prefer financing offered by retailers. These longer repayment terms would be effective in stimulating the purchase of higher energy class appliances (which also tend to be more expensive) for those who are from middle and lower SESs. Even though EE products are more expensive than less energy efficient appliances, more instalments could positively influence women's and men's purchasing decisions.
- o **Cooperating with retailers and vendors for capacity building activities.** Since retailers are also effective in disseminating information to individuals, they could be major stakeholders in capacity building activities to raise awareness of EE labelling of white goods. Retailers could take an active role in emphasising the importance of EE in reducing energy bills through communicating with women and men from lower and middle SES groups, while emphasising the positive environmental impact EE home appliances have in communicating with women and men from higher SES groups. When the vendor agreements between PFIs and retailers are designed, PFIs should include these gender differences as a part of capacity building activities, which retailers are required to develop. Capacity building and awareness raising activities, which are normally targeted at men in conservative communities, are important avenues to reach out to women, whose participation in the public sphere is limited. This fact surfaced as one of the important non-financial barriers during the study.
- o **Organising a “home efficiency“ contest targeting women.** The study showed that even though women are the ones who decide to purchase home appliances, their primary concern is not the EE of the appliance and also they are not the ones who usually pay the energy bills. Therefore awareness raising activities targeting women should be oriented to focus on the saving aspect of high EE appliances. Organising a competition by the PFIs on targeting women would be an effective way of raising awareness of this issue. The competition could be based on proven energy consumption reduction, which can be calculated as a percentage of the initial invoice. The contestants demonstrating the highest saving ratio at the end of a fixed period could be awarded high efficiency class home appliances. The stories of how this improvement is achieved could then be used in case studies for further awareness raising activities.

#### 4.1.2 Recommendations related to building level EE improvements

- o **Marketing financial products for insulation primarily to men,** highlighting the technical aspects and their energy saving potential, would be an effective way of promoting



TuREEFF funds. Husbands and wives generally make joint decisions on whether or not to have insulation. However, choosing the proper insulation company is usually the responsibility of the husband. In addition, building managers are usually men, or a male homeowner is asked to lead the process of purchasing insulation.

- **Stimulating the participation of women in insulation work by distributing guidance materials in branches and on the web-sites of the PFIs.** The Gender Assessment showed that the limited involvement of women was due to their inexperience in insulation and also their perception that such implementations could be hard to handle. This fact stands out as another non-financial barrier, preventing women from getting involved in the insulation work in their buildings. Distributing by the loan officers of a “building manager guide” through branches and publishing step by step guidance on their web-sites, which explains how to organise insulation work and at the same time gives easy to follow information on choosing the insulation materials, would be an effective way of increasing demand from women for this type of investment.
- **Organising awareness raising activities regarding insulation for both women and men.** Related to the previous discussion, the study also showed that for both women and men, the lack of information and misinformation about insulation materials and the implementation process caused confusion in their perception of insulation and stood out as another non-financial barrier to any improvement in the market. Therefore where the PFIs aim to promote individual loans under TuREEFF for home EE improvements, they should also make leaflets/brochures available with informative that gives brief, easy to follow information on materials and the correct implementation process, to increase awareness in this regard.
- **Targeting men, to inform them of the availability of TuREEFF funds.** Since household energy bills are mostly paid by men, banks could email or text clients who pay their energy bills through their bank accounts, informing them of the availability of financing for home improvements. In addition, men attribute more importance to a favourable individual loan than women do, regardless of SES. Therefore, this could be an inexpensive, well-targeted and effective way of presenting the availability of TuREEFF loans.
- **Using visual communication materials targeting both women and men for insulation and new house purchases.** Whenever TuREEFF finance is used for insulation or for mortgages provided for high energy class buildings, a banner should be prominently displayed on the construction site, indicating the name of the PFI together with the installer’s or construction company’s name. This could be an effective way of disseminating information about the Facility and generating additional demand from neighbours or passers-by. Proximity to insulation in use is one of the most important factors in decision making, as neighbours tend to imitate what is in place in nearby buildings. This factor influences men more than women.
- **Considering gender differences in promoting mortgages.** Since mortgages are joint decisions of women and men in households, advertisements or information campaigns

about the availability of financing for high EE level new construction should target both women and men. Men can be targeted by emphasising lower energy costs, while women should be targeted by emphasising higher comfort levels, due to better insulation and lower GHG emissions.

- **Emphasising the connection between saving and environmental aspects of EE improvements.** As a general recommendation for both home appliances and building level improvements, we recommend that the connection between the saving aspect of residential level EE improvements and their environmental effect should be highlighted through developing marketing and awareness raising materials and events.

## 4.2 Implementation Steps for Recommendations

The recommendations detailed above can help in the project origination phase for PFIs, which means developing an eligible pipeline of Sub-projects. Likewise, the dissemination of research findings to related parties, like vendors, installers, construction companies and NGOs, through generic and massive communication and information tools, can also improve awareness, which in turn will have a positive impact on project origination.

The following recommendations have been structured mainly in two categories;

### 4.2.1 Capacity Building Activities with PFIs

- Arranging meetings with the participation of Retail and Commercial Product Development Departments, in order to develop ways of positioning the financial recommendations among PFIs' existing products. The first step would be to organise a capacity building meeting with the PFIs' product development units of retail, SME and commercial business units to discuss and elaborate on ways to implement the findings by incorporating these into their existing financial products, to make them "gender sensitive" which means;
  - Developing an "EE package" for women as individual loans with the Retail Banking Unit and elaborating the ways how to structure this in the best effective way to this end.
  - As a complementary financial instrument, cooperation in structuring the "vendor loan" with the SME and Commercial Banking Unit to develop recommendations to the retailers in transferring the financial advantages to women and men.
  - A similar approach could be followed for the awareness raising activities through retailers. Under the "vendor loan" scheme, retailers commit to develop awareness raising activities aimed at improving the uptake high EE appliances. The findings of the Assessment will be used to develop more effective strategies to this end based on the perception of women and men, specifically emphasizing the role of women in deciding to purchase EE appliances.
- Among TuREEFF marketing activities, co-marketing activities with PFIs constitute an important part. The TuREEFF marketing team is developing several marketing materials to promote the Facility. These materials include sector specific leaflets, informative billboards

for retailers etc. In designing and implementing these activities, Gender Assessment findings will be used to help to promote the Facility.

- Capacity building activities, through branch and regional level meetings, will target the loan officers in branches who are in direct communication with clients. Along with routine TuREEFF branch visits, presenting the findings on gender, regional and SES aspects the Gender Assessments would provide the loan officers with a deeper insight into the perception of residential level EE improvements, thus improving the project origination process.

#### **4.2.2 Capacity Building Activities with Vendors/Retailers and NGOs, with the Participation of PFIs**

The gender assessment provided us with detailed information about differences in gender perception in the purchase of EE home appliances and building level EE improvements and also the gender needs of the financial options available. Dissemination of these findings to relevant stakeholders, like manufacturers and retailers of home appliances and business associations, would enable them to develop more effective marketing and delivery mechanisms to improve the uptake of those products and services.

- One workshop would be with IZODER (Association of Thermal Insulation, Waterproofing, Sound Installation and Fireproofing Material Producers, Suppliers and Installers) to discuss with them the findings on gender differences in insulation purchases and to develop ways of using these findings to increase demand from both women and men they are in contact with on installing insulation. Specifically, the ways to prepare the ground for increasing women's participation in the insulation decision making process could be elaborated by the insulation companies themselves. In the previous section on recommendations, a "building manager guide" is suggested as an effective way of overcoming the confusion in women's and men's perception, due to misinformation and lack of information about insulation work, specifically on insulation materials. The outcomes of this workshop would help to better structure the "building manager guide" to be more effective.
- A similar workshop would be organised with DOSIDER (Natural Gas Equipment Manufacturers Association) to disseminate the findings on gender differences in purchasing boilers, where women are less involved in the decision making process and to discuss ways to increase their involvement.
- Another way of using the findings could be through creating case studies with selected retailers and insulation companies, to assess the impact of the study before and after the implementation of the recommendations.

### **4.3 Recommendations on Strategy and Methodology for Similar Projects**

Gender Assessment in the TuREEFF project has been designed to analyse the interaction between gender and the other two main aspects of the project, namely,

- ✓ technical & legal, and
  - ✓ financial
- for residential level EE improvements.

In order to combine these aspects in such a way as to provide functional results, in accordance with the purpose of the Assessment, a comprehensive methodology has been developed and implemented.

We have prepared the following strategic and methodological recommendations to provide a better understanding for similar projects that aim at taking into account gender needs and gender perceptions.

- **Recognising and taking into account the gender aspects of energy sector interventions are important in improving the effectiveness of EE financing projects.** Given that women and men play different roles in the use and financing of energy efficiency improvements in households (including not only EE appliances but also building improvements, such as insulation), integrating a gender perspective into the project will allow for a better understanding of household demand for EE products and will improve project effectiveness and sustainability.
- **Effective research should include an assessment of the history and background of energy use, at a household level, in the area where this assessment is conducted.** Comprehensive desk research should be conducted, to assess the general socio-economic structure of the project area and to understand the opportunities in the strengths, as well as the limitations, of the project target groups.
- **Focused research and analysis are important in identifying gender related patterns.** A review of secondary data provides a baseline with which to compare the research results. Further analysis of each aspect helps to identify critical gender gaps, which are then used to structure the research. For example, previous market studies on white goods provided a baseline for the gender assessment of TuREEFF. This information, and further analysis regarding gender and financial aspects of household uptake of white goods, were later used to better structure the research.
- **Gender-related energy efficiency and environmental issues should be included in the research, to develop recommendations on effective communication tools, as part of capacity building activities.** In addition to the financial targets of SEFFs, improvements in the awareness of EE and environmental issues are integral parts of these programmes. Therefore, questions targeted at revealing the level of awareness of these issues among women and men should be included in the research. The findings could be used to develop recommendations to all stakeholders on improving awareness.
- **Before structuring the questionnaire, conducting a few FGDs helps in formulating appropriate questions.** Because of the complexity of the assessment, it is helpful to receive feedback from women and men before structuring the questionnaire. The best way

of receiving this information is to conduct FGDs, to check if questions are appropriate and understandable.

- o **Conducting in-depth interviews with suppliers of energy efficient goods and services provides a better insight with which to analyse findings related to differences in use and attitudes between men and women users.** In addition to demand factors in residential level energy efficiency, supply factors should also be investigated. The information gathered from in-depth interviews provides complementary information, with respect to gender-based differences, for each specific type of residential level energy efficiency improvement.
- o **Research findings should be classified in accordance with the Facility products on offer, to help develop financial recommendations for PFIs.** Due to the complexity of the assessment, comprehensive research is needed. This research utilises several information sources, resulting in multiple findings with respect to the impact of gender differences, for all aspects of the assessment. Grouping the findings according to each specific Component of the Facility helps to develop financial recommendations to PFIs in a target oriented way.

## 5. Final Remarks

The main purpose of this Gender Assessment is to assist in the implementation of TuREEFF by providing recommendations based on our research findings, in order to improve the uptake of its financial products, by taking into account the roles and interests of men and women in shaping household demand for EE appliances and home improvements. We have already provided financial recommendations, as well as recommendations for outreach and awareness raising, but we are ready to make further use the results of the gender analysis, as required throughout TuREEFF's assistance to PFIs during the life of the project.

Residential level energy efficiency improvements have positive impacts on the overall quality of life in households. The major impact is the improved comfort level in the home, especially for women, since they tend to spend more time at home. Widespread implementation of residential EE improvements will eventually contribute to a reduction in GHG emissions and thus help to address global climate change.

If TuREEFF is successful in increasing the demand for finance for EE appliances and buildings by incorporating gender considerations into the design of the financial products offered by PFIs and in the awareness raising and in building capacity, the increased demand for such products will be sustainable beyond the life of the project, as householders achieve their energy saving and environmental goals. Widespread investment in EE appliances and home improvements will also have a demonstration effect, stimulating demand among friends, relatives and neighbours of householders who feel they are benefitting from such improvements.



## Annex A – TuREEFF

Turkey Residential Energy Efficiency Financing Facility (TuREEFF) is designed to provide financing for sustainable energy investments at a residential level, through Participating Financial Institutions (PFIs). The total fund is USD 350 million, which is a combination of the EBRD's commercial loan, of up to USD 282.5 million, with a limited amount of donor-funded concessional financing, of up to USD 67.5 million, from the Clean Technology Fund (CTF). In addition, the EU has provided funding for a comprehensive technical assistance programme.

TuREEFF is intended to become a financing vehicle, supporting the practical implementation of the New Building Energy Efficiency legislation and transposing the EU Energy Performance of Building Directive (recast) in Turkey, by providing feedback from market players to policy makers and linking residential stakeholders (homeowners, housing associations/cooperatives and housing managers) with local financing institutions and technology suppliers.

### 1. Objectives of TuREEFF

The major objectives of TuREEFF are;

- Increasing residential level energy efficiency awareness
- Contributing to the energy security of the country, by improving the energy efficiency of the most energy consuming sector, which is the Residential Sector
- Increasing the involvement of the private sector in financing energy efficiency investments
- Providing support for the practical implementation of new building energy efficiency legislation and to transpose the EU Energy Performance of Buildings Directive (recast) into Turkish legislation
- Supporting the practical implementation of the EU labelling directive and EU Eco-design directive into Turkish legislation
- Contributing to meeting Turkey's energy needs in an environmentally sustainable manner, by reducing the reliance on fossil fuels and thereby supporting a clean energy transition by reducing GHG emissions.

### 2. Eligible Sub-Projects under TuREEFF

TuREEFF is available to **commercial banks in Turkey (PFIs)** for on-lending to private residential stakeholders, including individual homeowners, groups of homeowners, housing associations, condominiums and cooperatives, as well as to private service providers, including housing management companies, ESCOs and vendors of high energy-efficient home equipment, appliances and materials.

Eligible sub-projects are classified in three main categories;

- **Small Investments**

Small investments under TuREEFF cover investments in energy efficient home appliances and renewable energy technologies that go beyond current market averages.





A detailed technical assessment had been conducted by the PC to identify these technologies and items of equipment and a LEME-List of Eligible Materials and Equipment and a LESI-List of Eligible Suppliers and Installers have been developed.

In the implementation of small investment sub-projects the following approaches will be followed;

- LEME-LESI Automated Approach

Where individuals will be direct beneficiaries in purchasing energy efficient equipment and renewable energy technologies.

- Vendor Approach

Vendors, retailers, suppliers and installers of energy efficient products and technologies will be the beneficiaries of TuREEFF financing. This is an indirect channel to promote the marketing of energy efficient equipment and renewable energy technologies, where the end users are individuals.

- **Assisted Investments**

Eligible sub-projects under Assisted Investments are designed to provide finance for sustainable energy measures to be incorporated alongside improvements in the energy performance of the housing stock, namely rehabilitation and reconstruction.

For technical eligibility assessment purposes, assisted investments are sub-categorised in two parts as:

- Rehabilitation Investments

This type of investments cover comprehensive refurbishment of existing buildings, including thermal insulation.

- Reconstruction Assisted Investments.

These sub-components are specifically designed for the demolition and the reconstruction of existing buildings under the Urban Transformation Plan (UTP), where the new building will be designed to achieve a minimum B Class energy certificate or higher.

- **Mortgages**

Loans as mortgages for the purchase of new properties that have a Class B energy performance certificate or higher and/or Green Buildings.

## Annex B – Methodology of the Research

We designed the current study in accordance with the previously stated aims of the Gender Assessment. The study on gender and energy efficiency comprises two main complementary parts: a desk review and empirical research. The empirical research consists of three complementary parts: a survey, focus group discussions (FGDs), and in-depth interviews. While the survey required quantitative analysis, FGDs and in-depth interviews were subject to qualitative analysis.

### 1. Review of secondary data and reports

In order to assess the general socio-economic structure of the project area, which is the whole country, and to understand the opportunities as well as the limitations and strengths of the project target groups, comprehensive desk research was conducted. During the study, data obtained from public institutions, relevant reports issued by universities and NGOs, industry-specific reports, reports of financial institutions and related documents available on the web were reviewed. Secondary data was used to identify critical gender gaps in the energy sector, in order to design the survey questionnaire and the focus groups. This information provided a baseline with which to compare the primary data results collected.

During the desk research, statistics on existing national economic indicators at a regional level, such as employment and unemployment rates, labour force participation, poverty rates, education indicators, access to financial resources and their use by gender were used as the socio-economic background references for final interpretation of the research findings. Apart from these resources, worldwide practice in addressing gender concerns within energy project frameworks, communication strategies and methodological approaches was reviewed.

Some of the initial reports and publications identified as relevant are as follows:

- Basic statistics of TUIK
- Market Survey by YEGM
- Sustainability Academy EE and thermal insulation perception study
- “Energy Lady” project findings of the Ministry of Energy and Natural Resources of Turkey, Reports of academics, UNIDO, UNDP, the World Bank, ENERGIA, the Asian Development Bank, the EU, NORAD and ESMAP, as appropriate.

## 2. Quantitative research/survey

The countrywide survey investigated the behaviour and attitude of men and women on many interrelated topics, ranging from energy consumption practices at a residential level to their awareness of climate change and environmental protection through the efficient use of energy.

### 2.1 Designing the survey and sampling process

The population relevant to this study is the adult population of Turkey, namely men and women who are 18 years old or older. The Cozum Research Company adopted a routine procedure for sampling used in countrywide survey research. Accordingly, the sample size was 1542 and the unit of analysis was the individual. The current sample size ensures the findings are within a 95% confidence interval; and with a 0.025 margin of error. Stratified random sampling was used. Stratification was done in accordance with geographical regions and provinces. Interviewers applied the survey to individuals from 26 provinces, representing the leading provinces of the NUTS 2 (Nomenclature of Territorial Units for Statistics) categories. The table below shows the distribution of respondents according to geographical region. Respondents from the most populated Marmara region constitute a majority (39.4%); followed by Central Anatolia (17.1%), and Aegean regions (12.9%).

**Table 2-1: Regional Distribution of Respondents**

Region	Number of respondents	Percentage
Mediterranean	175	11.3
Eastern Anatolia	88	5.7
Aegean	199	12.9
Southeastern Anatolia	114	7.4
Central Anatolia	264	17.1
Black Sea	94	6.1
Marmara	608	39.4
Base	1542	100

Since the research sample represents the adult population, with respondents from all geographical regions and from as many as 26 provinces, the four climate regions of the country are also represented.

Within the scope of the research, men and women, from both rural and urban areas, were included. The research sample was selected based on age, gender, and socio-economic level,

reflecting the make-up of these variables in the total population of the country. 58% of respondents are women, 42% of them are men. This difference is acceptable considering the particular focus of the current research.

The tables below show the distribution of respondents according to their age, gender, marital status, and income levels. Concerning income levels, a majority of respondents reported earning between 1,000 and 2,000 TL a month, which is in line with the population average of 1,519 TL<sup>27</sup>.

As far as marital status is concerned, around 74% of respondents are married whereas around 26% of respondents are single (never married, divorced or widowed). According to the 2013 census, among the population over 15, while 36% of people are single (never married, divorced, or widowed), 64% are married.

Among those who were single during the survey, 3.6% were female headed families. Due to the small proportion of the representation, results about this group are not statistically significant. However can give an approach about their socio economic profile which mentioned with some detailed analyses below.

**Table 2-2: Gender Distribution of Respondents**

Gender	Number of respondents	Percentage
Women	898	58.2
Men	644	41.8
Base	1542	100

**Table 2-3: Age Distribution of Respondents**

Age	Number of respondents	Percentage
18-24	193	12.5
25-29	132	8.6
30-34	162	10.5
35-39	199	12.9
40-44	193	12.5

<sup>27</sup> TUIK Structure of Earning Survey 2010

45-49	181	11.7
50-54	181	11.7
55-59	121	7.8
60+	180	11.7
Base	1542	100

**Table 2-4: Age Distribution of Respondents by Gender**

Age	Women (%)	Men (%)
18-24	11.2	14.3
25-29	8.9	8.1
30-34	9.0	12.6
35-39	13.4	12.4
40-44	14.5	9.6
45-49	12.6	10.6
50-54	11.2	12.4
55-59	7.8	7.9
60+	11.4	12.1
Base	898	644

As seen in the table below nearly one in three of woman-headed of households were over 60.

**Table 2-5 Age Distribution of Woman-Headed of Households**

Age	Frequency	(%)
18-24	6	10.7

25-29	2	3.6
30-34	4	7.1
35-39	6	10.7
40-44	3	5.4
45-49	5	8.9
50-54	4	7.1
55-59	8	14.3
60+	18	32.1
Base	56	100.0

**Table 2-6: Income Distribution of Respondents**

Monthly income (TL)	Number of respondents	Percentage
Less than 1000	138	8.9
1001-2000	576	37.4
2001-3000	331	21.5
3001-4000	159	10.3
4001-5000	78	5.1
5001-6000	19	1.2
6001-7000	14	0.9
7001-8000	5	0.3

8001-9000	8	0.5
9001-10.000	5	0.3
10.000+	17	1.1
No answer	192	12.5
Base	1542	100

17.9% of those belongs to A and B, 37.5% C1, 12.5% C2 and 32.1 DE SES groups. 44.6% of the woman-headed households have 330-660 € per month. 16.1% of those earn less than 330€ per month.

**Table 2-7 Income Distribution of the Woman-Headed Households**

Monthly income (TL)	Number of respondents	Percentage
Less than 1000	9	16.1
1001-2000	25	44.6
2001-3000	6	10.7
3001-4000	8	14.3
4001-5000	0	0.0
5001-6000	1	1.8
6001-7000	0	0.0
7001-8000	0	0.0



8001-9000	0	0.0
9001-10.000	0	0.0
10.000+	0	0.0
No answer	7	12.5
Base	56	100.0

## 2.2 Implementation tool of the survey-structured questionnaire

We prepared the survey questionnaire in three steps. As the first step, a questionnaire was prepared based on the initial findings and insights gained from three preliminary FGDs conducted in Istanbul. The first three FGDs consisted of one men, one women and one mixed gender group.

After finalisation of the draft questionnaire, Cozum Research Company conducted a pilot survey with 10 people randomly selected from the three most populated cities, namely Istanbul, Ankara and Izmir.

As the third and last step, we reviewed the questionnaire again, according to verbal feedback from the Company on the pilot study. As a result of this process, the survey questionnaire took its final form.

The questionnaire aimed to:

- Provide an understanding of intra-household patterns of decision making, regarding household renovation and domestic appliance acquisition, including a differentiated analysis of women's and men's roles in the decision making process;
- Assess intra-household patterns of use and control of income, relevant for the process of investment in household renovation and domestic appliance acquisition, including providing a sense of the differences related to household characteristics;
- Identify household dynamics, in relation to approaching commercial banks in general and for energy efficient products in particular, in order to identify which member of the household would be responsible for contacting banks in the context of the operation of the Facility;
- Assess the most common methods used by householders to finance energy efficient investments (both at a building level and for EE home appliances - credit cards, loans, cash, borrowing from relatives, etc.) and whether these differ according to the gender of the household member, and to understand the intra-household decision making process for the choice of the financial method to use;

- Identify supply side factors potentially influencing householders' uptake of energy efficiency financial products, including:
  - Conducting targeted sensitivity analysis to identify whether changing the conditions of financial products would improve householders' uptake of financial products for energy efficiency and whether or not sensitivity varied according to the gender of the household member;
  - Conducting sensitivity analysis to identify whether changes in delivery strategies for financial products (communication, marketing, customer oriented delivery strategies, type of information provided in the campaigns etc.) influenced the uptake of financial products and whether such sensitivity varies according to the gender of the household member (based, for example, on women's higher sensitivity to environmental matters as shown by previous research).

In order to achieve the above objectives, the questionnaire is composed of seven consecutive sections, as follows:

**Section 1: General profile of respondents:**

- demographic characteristics of the householders such as,
  - age
  - gender
  - marital status
  - occupation
  - dwelling status
  - education
  - household size and housing type.

**Section 2: Financial background of respondents:**

- socio-economic status: occupation, income sources, disposable income, affordability and ownership of home appliances
- affordability of different socio-economic segments
- financial possibilities and obstacles in purchasing home appliances.

**Section 3: Gendered use of household energy**

- the use of home appliances by men and women in the household
- intra-household decision making processes in the acquisition of home appliances
- gendered differences in awareness of EE.

**Section 4: Intra-household purchasing and financial decision-making mechanisms**

- women's and men's involvement in household financial decision making mechanisms (spending, decision making processes in short-term and long-term financial planning, such as saving money, investments, etc.)
- decision making in making EE related investments and benefiting from financial instruments by gender
- non-financial obstacles encountered by women and men
- suggestions regarding financial solutions.

#### **Section 5: Energy efficiency awareness levels**

- the factors influencing of home appliance purchasing behaviour,
- awareness levels regarding the importance of energy saving at a building level.

#### **Section 6: Influential communication tools for energy efficiency**

- main information sources
- the most commonly used communication tools in energy saving campaigns.

#### **Section 7: Sensitivity analysis of financial products and delivery mechanisms**

- impact of financial facilities
- delivery mechanisms on improving household uptake of residential level energy efficiency improvements.

### **2.3 Organization and execution of the survey**

Survey interviews were conducted using the CATI technique (Computer-Assisted Telephone Interviewing) in the Company's call centre. With this technique, instant data entry was possible and audio recordings were available to be listened to by project experts afterwards. We verified that the Company had adequate technical infrastructure and database facilities to execute this task nationwide.

Local experts, along with the Company expert, trained the interviewers for a day. During the training session, we informed the interviewers of the aims of the survey and the procedure and the approach to be used during the interviews. It should be mentioned that all the interviewers had proven experience in the CATI technique, which helped provide a pleasant communication experience for respondents, which was crucial in collecting reliable information.

Before starting the survey research, pre-testing of the questionnaire in a pilot study was crucial, as mentioned above. The aim of the pilot survey was to confirm that the questions were clear and could be understood easily by respondents, that the interviewers could use the form without issues, and that the answers contained all the required options.



During the interviews, in accordance with our quality standards, the senior expert of the Company supervised 10% of all interviews. Project experts supervised the survey research process, through access to data on the survey software program and to audio records of the surveys.

### 3. Qualitative Research

The survey was complemented by qualitative empirical research. The qualitative field research of the study had two components: focus group discussions (FGDs) with individuals; and one on one in-depth interviews with vendors from several sectors. While focus group meetings carried out with groups of women and men provided a complementary perspective on the demand for energy efficient products and household decision making, together with the survey research, the in-depth interviews with several vendors showed us the supply side of the picture.

#### 3.1 Focus Group Discussions (FGDs)

FGDs complement the survey on household decision making in the access to energy efficient products and implementation, through providing a closer look at the matter.

#### 3.2 Designing the FGDs and sampling process

We conducted 17 FGDs in three provinces and talked to 139 individuals in total from August to October, 2014. FGDs took place in three provinces: Istanbul, Mersin and Erzurum. FGDs were conducted in both rural and urban areas, except in the case of Istanbul, which is predominantly urban. We selected the provinces according to socio-economic development levels and climate zones. In other words, we made sure that the provinces selected reflected a combination of income levels and climate zones. Istanbul is the most populated province of Turkey with most of its residents originally migrants from all parts of Turkey. Istanbul, which is the top province in terms of socio-economic development levels, is also in the second temperature climate zone.

**Table 3-1: Focus Group Composition**

Design of Focus Groups Discussions	Men		Women		Mixed gender
	Urban	Rural	Urban	Rural	
Istanbul	2	-	2	-	1
Mersin	2	1	2	1	-
Erzurum	2	1	2	1	-
<b>Total</b>	<b>6</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>1</b>

Concerning the other two provinces, we selected the provinces from the hottest and coldest regions of Turkey. While Erzurum belongs to the fourth and coldest climate zone, Mersin belongs to the hottest one. The average temperature in Erzurum is between 31<sup>o</sup>C and -21<sup>o</sup>C, in Mersin, between 36<sup>o</sup>C and 0<sup>o</sup>C and in Istanbul, between 33<sup>o</sup>C and -3<sup>o</sup>C. As far as the socio-economic development levels are concerned, while Erzurum is 35<sup>th</sup>, Mersin is 13<sup>th</sup> among 81 provinces. We

conducted 5 FGDs in Istanbul and 6 FGDs each in Erzurum and Mersin. The table below provides a summary of the distribution of FGDs in terms of provinces.

We followed two procedures in the recruitment of focus group participants. Concerning all focus groups in Istanbul and two focus groups in Mersin (urban-upper middle income- women and men groups), the Company carried out the recruitment by contacting people on their database. The Company adopted accidental sampling. In Mersin and Erzurum, groups were recruited in cooperation with local persons who were able to contact the desired participants. Meetings were organised in several locations. All the meetings conducted in Istanbul were held in the Çözüm Research Company office, whereas in other cities, they were held in cafés or participants' homes. All focus groups were moderated by the project experts.

Focus groups were divided by characteristics in order to make them as homogenous as possible and were composed of 6 to 11 participants. Most groups comprised only men and women participants, while one focus group had a mixed composition. Groups were composed of participants from similar socio-economic backgrounds in order to ensure a comfortable discussion setting. The average duration of the meetings was approximately an hour. The following table shows the distribution of FGDs according to gender, location and socio-economic status.

**Table 3-2: Participant Composition of FGDs**

Design of Focus Groups Discussions	Men			Women		
	Urban		Rural	Urban		Rural
	Upper Middle income	Lower - Middle income		Upper Middle income	Lower - Middle income	
Province	Number of participants					
Istanbul	12	8	-	12	8	-
Mersin	7	6	11	8	8	9
Erzurum	7	8	7	11	7	10
<b>Total</b>	<b>26</b>	<b>22</b>	<b>18</b>	<b>31</b>	<b>23</b>	<b>19</b>

As far as the general profile of the focus group participants is concerned, 52.5% of participants were women and 47.5% of them were men. Moreover, 73.4% of participants were from urban areas while 26.6% were from rural areas. Concerning the distribution of participants in terms of location, about 36% of participants were from Erzurum, 35% were from Mersin and almost 29% of participants were from Istanbul. Furthermore, among the focus group participants in the urban areas, 41% belonged to the upper-middle income level and around 32% were from lower-middle



income levels. Since rural regions are rather homogenous in terms of income and educational levels, rural FGDs were not identified according to income levels. Nevertheless, in the context of Turkey, rural regions can be considered to belong to the lower-middle income level.

**Table 3-3: Urban/Rural Distribution**

Location: Urban/Rural	Number of participants	Percentage
Urban	102	73
Rural	37	26
Base	139	100

**Table 3-4: Income Level**

Level of income	Number of participants	Percentage
Upper-middle	57	41
Lower-middle	45	32.4
Not applicable	37	26.6
Base	139	100

Concerning the ratio of home ownership, 80% of participants were homeowners, while 20% were tenants or residents of public or private lodgings. According to population statistics gathered by TUIK in 2011, the homeownership ratio in the country is 67.3%.

**Table 3-5: Dwelling Status of Participants**

Dwelling status	Number of participants	Percentage
Own house	111	79.9
Tenant	24	17.3
Private lodging (belongs to the company the participant works at)	2	1.4
Public housing	2	1.4
Base	139	100

### 3.3 Focus Group Guidelines

The discussion topics of focus groups can be grouped under six headings:

Utilised energy sources and home appliances

- Energy sources used
- Purpose for use of energy
- The most energy consuming appliances
- Appliances owned/used by participants

Decision making process in purchasing home appliances

- Factors that influence the purchase of home appliances
- Who purchases – decision-making processes
- Communication channels effective in the purchase of home appliances

Financing of energy use and home appliances

- Who pays the energy bills?
- Who pays for home appliances?
- Payment options

Decision making and financing of insulation

- Existence of insulation
- What are the major concerns of the participants on insulation
- How significant is insulation perceived by participants
- Payment options

General comments on mortgages

- General perception of mortgage options and their use

Awareness concerning residential level energy efficiency

- Ways of saving energy in the household
- Awareness of energy saving
- Environment and energy efficiency.

We organised the focus group discussion guidelines around three topics, namely home appliances, insulation and mortgages, and two perspectives, energy efficiency and gender.

The purchase of each type of product was investigated in four main dimensions;

- What factors were effective in deciding which particular product to purchase?
- Which members of the household were effective in the purchasing decision? and
- How they finance or would like to finance the purchase of the product.
- Moreover, apart from the topic of purchasing products, FGDs investigated awareness of the connection between environmental protection and the efficient use of energy.

### 3.4 Methodology of In-depth Interviews

In order to identify and elaborate on the gender impact of householders' approach to deciding and purchasing EE home appliances and building level improvements, a group of interviews were held with the suppliers of white goods and natural gas boilers, PVC windows retailers, building insulation companies and construction SMEs.

Through these interviews, we have tried to gain a detailed insight into the roles of women and men in purchasing these goods and services.

The white goods retailers were selected in order to encompass a broader and varied client base as much as possible. Therefore, we interviewed 10 from downtown locations and 10 from the outskirts of Istanbul. In order to capture the differences among the sales strategies and delivery mechanisms of different "brands", the biggest 3 white goods manufacturers' retailers were interviewed.

The retailers of natural gas boilers were interviewed as a sub-category of home appliances, as the sale of this appliance needs technical involvement from retailer's side. We have interviewed 5 retailers from Istanbul.

Interviews of PVC window installers were performed with 5 companies, which are the retailers of major manufacturers.

We conducted interviews with insulation companies who are the members of IZODER Association of Thermal Insulation, Waterproofing, Sound Insulation and Fireproofing Material Producers, Suppliers and Installers. The companies interviewed were chosen from various cities representing different climate zones.

In order to have a better understanding of the approach to having a higher class EE house, a group of construction SMEs and big developers were interviewed.

### 3.5 Guidelines of In-Depth Interviews

The discussion topics are categorised under topics

- Their observations on any gender impact of household approaches to these appliances and services
- Their perception on intra-household decision making factors
- Financial instruments used and obstacles observed in purchasing these appliances and services and suggestions to improve those
- Awareness level of households regarding the EE of appliances and building level EE improvements and suggestions for awareness raising



## Annex C – Survey Findings

Sent separately



**European Bank**  
for Reconstruction and Development



**CLIMATE  
INVESTMENT  
FUNDS**





## **Annex D – Findings of Focus Group Discussions**

Sent separately

## Annex E – Summary of Interviews Conducted

As a part of the qualitative analysis of the research, in-depth interviews were performed with retailers of home appliances, companies dealing with building insulation and PVC window installations, construction SMEs and developers. Through this analysis we targeted to have a deeper perspective from the supply side regarding the gender impacts on related markets.

### 1. Insulation Companies

#### Project origination

- The building management asks for an offer.
- Sometimes insulation companies also approach a building which needs insulation with an offer.

#### Gender impact on project origination

- Almost all companies state that either all the building managers are men or they choose a male homeowner to deal with the process.
- For single houses where homeowners can decide by themselves, couples are both involved where the colour of the painting and other decorative parts is applied after the insulation process is finished, and decisions are generally taken by the women in the family.
- In cases where the insulation companies are participating in building management meetings to present their offer, they notice that women are result-oriented or not well-informed, expressing their willingness to live in a warmer or cooler house while paying less but not asking questions about the process or any technical issue.

#### Observations on influencing factors on households

- Price is the major concern (almost all, expect relatively developed high income level parts in Istanbul the quality preference is among the priorities).
- The previous performance of the insulation companies is the major concern of the households in deciding the insulation company they will work with. The homeowners are asking a lot about the completed works and sometime investigate more by visiting those if they are close.
- The quality of the materials used in insulation is not among the major concerns, especially if it hikes the price upwards. Most of the installation companies state that a few years ago quality was much more important but now, everyone is focused on price.

#### Financial Instruments used for insulation

- Payment bills between the installation company and homeowners are among the major financial instruments used. The payment period may go up to 18-24 months.
- (in relatively high income level parts of the cities this choice is more relevant whereas the others are offering this option to clients but also complain about the default on payments as a major financial threat )



- Payment with credit cards ( up to 9 instalments)
- Some homeowners prefer cash payment. The building managements collect money in advance and start the insulation after they accumulate the money needed.
- Sometimes individual loans from Banks. From the companies' side, the system is preferred especially for larger buildings and sites where there are more than one building.

### **Financial obstacles observed**

- Credit card usage is limited and 9 instalments is not enough for insulation payments.
- In relatively high income level parts of the cities, the option to pay bills between the installation companies and the homeowners is a good financial option, whereas many were offered to clients they complain that many default on their payments as a major financial threat.
- Bank procedures for individual loans usually take a long time, which sometimes causes delays in the implementation.
- Since the cost of the installation is the major concern for homeowners, the installation companies are trying to offer more instalment periods to clients. However their payment period in purchasing materials is not that high. The delay between collection and payment causes a financial burden on the installation company.

### **Suggested financial improvements**

- Longer payment terms for households, provided by banks, is important in supporting the sale of insulation services, as this may positively affect the affordability of the homeowners
- In this way, the financial burden on installation companies would be alleviated.

### **Awareness levels related to insulation**

- The householders (mostly men) are aware that insulation is a necessity.
- However, the perception of those who live in cities in warmer climate zones is that insulation is unimportant for effectively cooling as well and they therefore ignore the need for insulating their houses.
- In terms of the quality of the materials, awareness is very low.
- Misinformation about insulation materials is another problem.
- The quality of the" insulation implementation" also appears as a problem, as the price focused preference is the major concern.

### **Suggestions for awareness raising**

- Support from installation material manufacturers, in terms of more advertising is important in emphasising the quality of the materials
- As homeowners refer to best practice when deciding on an insulation company the visibility of good practice should be improved and further supported by the installation companies by means of promotional materials, like banners used to cover buildings during the installation process. One of the companies applied this technique and succeeded in expanding its business.

## 2. PVC Retailers

### Project origination

- Clients approach them. They talk about their needs, and then salespeople propose the right products for their needs.

### Gender impact on project origination

- Both women and men visit the showrooms. Women constitute the majority among the people who come to them. After women decide on the options, they say they should go back and talk to their husbands.

### Observations on influencing factors on households

- Quality of the material. People consider that they will use the windows for a long time and want to have a high quality product as long as they can afford it.
- Price is a major concern. However this is considered together with quality.
- Energy efficiency a major concern.
- Whereas men in households are concerned more about the materials, women are interested in the quality of the accessories.

### Financial instruments

- Cash (half at the beginning and the other half on completion).
- Credit card instalments (up to 9 months).
- If the buyer is known by the seller (neighbourhood companies) then customised financial solutions are applied.

### Financial obstacles observed

- Some clients find comfort windows too expensive, therefore most of the time, they prefer regular PVC windows.
- Most of the clients have high incomes. Therefore, they are usually able to afford the products. This does not prevent them from bargaining in the final stages.

### Suggested financial solutions

- Low interest bank credit for installers to promote energy efficient PVC windows might be a good option.
- There can be a financial option, such as bank credit through the manufacturing company. The producer should take the initiative, if there will be a campaign to improve the purchasing mechanism.
- The manufacturing company could ease the installing company's payment conditions in order to promote energy efficient products. The manufacturer should make a discount to the installer so that the installer can provide an affordable service for those products.

### Awareness levels related to EE aspects of PVC windows and suggestions for improvement

- The majority of clients are concerned with "saving money" so they take the energy efficiency of the products into account.

### Suggestion for awareness raising

- Most referred to manufacturing companies to support more through advertisements. Widespread advertisement campaigns have a positive effect in "touching the people".
- Word of mouth is a very effective way of disseminating the good experiences that people have had in purchasing high energy efficient windows, especially the women members of households, who speak of their satisfaction to their neighbours and friends.

## 3. Retailers of Home Appliances

### Gender impact of household approaches to home appliances

- Clients visiting the showrooms.
- Mostly after they search the manufacturers' website and other on-line shopping sites.
- However there are those who are already using the same brand's product, who come without any prior search.
- Some are second generation buyers, who purchase from the same shop.
- This is a women's issue, as many of them stated
- Even if they visit the shops together, the woman member of the family decides which one is bought regarding white goods.
- If the husband in the household is visiting the shop, it means he has already been informed by his wife or, in most cases, he needs to call his wife before deciding on white goods.
- Since technical details should be taken into account in purchasing natural gas boilers, men in households usually take the lead in negotiating with retailers

### Observations on influencing factors on household decision

- The practical needs, like a larger storage place for refrigerators or a larger capacity for washing machines, are the major factors, especially for women in households.
- Quality, guarantee period provided by the manufacturers and availability of a widespread service & maintenance network are secondary issues mentioned by many retailers.
- Among the goods which meet the above mentioned criteria, price comes as one of the major concerns. The cheapest one is chosen.
- It has been observed in many cases that men in households try to influence women and try to convince them to choose the cheapest item and just reduce the importance of some of the above criteria if these increase prices.
- Energy efficiency is one of the concerns as well. Labelling of white goods is mostly understood. EE is noticed by clients but not asked about or elaborated on deeply.

### Financial instruments

- Credit card instalments (up to 9 months) nearly half of the total sales in big cities, relatively low in small cities.
- Cash
- Financial options provided by the retailers, sometimes tailored-made if the buyer is known.
- Installed payments to retailers.
- Individual loans from banks, organised and monitored by manufacturers.

### Observed financial obstacle

- If the price difference is too much between higher energy class white goods and those having market level energy classes, then they choose the cheaper one.
- The retailers admit that they do not prioritize high priced goods since they fear that they may lose the sale.

### Suggested financial solutions

- There must be a kind of incentive mechanism for higher energy class white goods, which could be advantageous taxation.
- Low interest bank credit for the retailers that would enable them to promote higher energy class white goods.
- Low interest and easy individual loan mechanisms, where retailers would cooperate with the banks in collecting the necessary documents from the individuals for the credit application and support the banks in following up the process.
- The manufacturing company could ease the retailer's payment conditions in order to promote higher energy efficient products.

### Awareness levels related to the EE of home appliances and suggestions for improvement

- Energy labelling is a widely known subject yet it needs to be promoted more.

### Suggestions for improvement

- Most of them wanted manufacturing companies to support more through advertisements. Widespread advertising campaigns have a positive effect in "touching the people".

## 4. Construction SMEs and Developers

### Gender impact of household approaches to house purchasing

- No specific gender impact has been observed regarding approaching construction SMEs or developers.

### Observations on influencing factors on household decisions

- The location, size and other facilities are the major concerns.
- The EE class of the building has almost no impact on choosing a house

### Awareness levels related to the EE class of buildings and suggestions for improvement

- Awareness related to EE classes of buildings is very low among men and women. However it has been observed that women are generally interested in the position of the dwelling and prefer to be located in the southern part of the building, so that the outside temperature will not have a negative impact.

## Annex F – Information & Communication Tools and Events

The following capacity building/awareness raising and marketing tools, materials and events are suggested in the implementation phase.

- Website applications and other social media tools

The website of the Facility has already been prepared and launched. Being one of the mass information and communication channels, the information disseminated through the website will be very effective in improving the effectiveness of the Facility. A brief presentation of Gender Assessment will be prepared and published on the website as a first step. During the implementation phase website and other social media tools like Facebook and Twitter will be used

- for the announcement of events organised within this context
- to disseminate the written material developed, like leaflets, brochures, guides etc.
- to link the Facility's website and the websites of the PFIs, to give information about financial campaigns and awareness raising activities developed by them.

- Development of “**homeowner's guide**” on the website

The “homeowner's guide” on the website will be designed as an informative tool that explains what to do to save energy in the home. The advice and information will improve awareness at a household level. A house animation will be used as a visual on the homeowner's guide. Information related to each specific part of the house will be embedded in the system and will appear on the screen when the user clicks that part. For example, clicking on a window will show: ***“if you cannot afford to replace your old windows you can at least improve your window's sealing”***

- Development of “**building manager guide**”

As a part of the technical assistance work, the PC will help the PFIs to develop marketing and awareness raising materials. In this context, as recommended in the “recommendations section” of the report, developing a “building manager guide” will help to clarify the confusion in the minds of women and men about insulation materials and implementation techniques and, at the same time, have a positive effect on women's involvement in insulation. The findings of the Gender Assessment will help in structuring the guide, by tackling the gender and regional differences in the perception of insulation work. The guide will be available in branches of the PFIs, to be distributed to potential clients and it will also be published on the websites of the PFIs and on TuREEFF's website.

- Development of brochures, leaflets, etc.

Generic and co-branded written materials will be designed as communication and educational tools to help the Facility disseminate information on some specific issues addressed by the Assessment. Sectors and issues to be covered by these brochures will be selected from the findings of the study (for example, brochures could cover themes such as the labelling of white goods or insulation materials). These materials will be developed in cooperation with the PFIs and will be used as



supportive marketing and awareness raising materials for vendors under the “vendor loan scheme”, to be shared with women and men who are negotiating with them.

Similarly, for the promotion of loans under TuREEFF, a banner is suggested as an effective way to publicise the availability of the Facility. Since households tend to obtain information about insulation through seeing good practice in their neighbourhood, inserting the TuREEFF and related PFI’s logos on a building banner could have a positive effect on insulation works financed under the Facility. Such a banner would emphasise the importance of the insulation material quality, while informing people about the existence of a financial option, TuREEFF, for insulation costs.

- Organisation of Gender-sensitive campaigns

One of the most important and effective communication tools for the success of the Facility will be contributing a gender sensitive approach to the campaigns developed by vendors and PFIs. In this respect, we recommend that a “**home efficiency contest**” among the existing and potential women clients of the PFIs will help to improve awareness on the “saving” aspect of EE home appliances among women. The structure and organisation of the contest will be developed out in cooperation with the PFIs.

- Organisation of workshops and seminars

In the implementation of the Facility a number of workshops and seminars will be organised with relevant stakeholders and with the participation of the PFIs, as a part of capacity building and awareness raising activities. Where appropriate, the findings of the Assessment will be a part of these events, through discussing the gender impact on the relevant subject (such as a workshop with IZODER about how to improve women’s involvement in insulation investments).

- PR activities under TuREEFF

A generic PR plan will be designed to promote TuREEFF activities. Under the generic PR activities the findings of the Gender Assessment will be disseminated through, mostly, written and, when possible, visual media channels. Developing gender-specific PR recommendations for PFIs will be another communication tool for the Gender Assessment.

- Case studies

Another way of using the findings could be through creating case studies with selected retailers and insulation companies, to assess the impact of the study before and after the implementation of the recommendations. These case studies can be published on the Facility website and also in the presentations in the workshops and seminars which will be organised in the implementation phase.

- Developing recommendations for an “excellence award ceremony for best practice in gender implementation among PFIs”

As a part of the Assignment, an excellence award will be organised, to reward best practice in the gender implementation among the PFIs through the final phases of the Facility.



## Annex G – Gender Facts in Turkey

The following facts on gender have been retrieved from the latest TUIK databases.

**Table 1-1: Gender Facts in Turkey**

	Women	Men	Average
Literacy rate	93.3 %	98.7 %	96.02 %
Rate of high school graduates <sup>28</sup>	14.4 %	22.2 %	18.2 %
Rate of university graduates	10.7 %	15.1 %	12.9 %
Rate of computer use	39.8 %	60.2 %	53.5 %
Average age of first marriage	23.6	26.8	25.4
Rate of labour force participation in urban areas	28 %	71.6 %	49.6 %
Rate of labour force participation in rural areas	36 %	71.2 %	53.6 %
Unemployment rate	11.9 %	8.7 %	9 %
Annual wages and earnings (TL)	19,728 <sup>29</sup>	19,683	19,694
Monthly wages and earnings (TL)	1,519	1,510	1,512
Real estate ownership rate	35 % <sup>30</sup>	65 %	67.3% <sup>31</sup>
Poverty rate in urban areas	9.3 %	8.5 %	8.86 %
Poverty rate in rural areas	40.2 %	37.1 %	38.7 %
Life expectation	79.3	74.8	76.3
Household size <sup>32</sup>	<b>Nuclear family</b>	<b>Extended family</b>	<b>Single person household</b>
	80.7 %	13 %	6 %

<sup>28</sup> Indicates the final educational institution

<sup>29</sup> The fact that women's average wages and earnings are higher than that of men is probably because many women prefer not to work in low paid jobs and many of them also do not participate in the workforce at all, as mentioned previously.

<sup>30</sup> The ratio of women and men among real estate owners.

<sup>31</sup> The ratio of those who own real estate in the population.

<sup>32</sup> The remaining 0.3 % consists of households composed of cohabiting workers or students.



## Annex H – Visuals of the Research



**Figure 1-1: An FGD with women in Istanbul**



**Figure 1-2: An FGD with men in Istanbul**



**Figure 1-3: An FGD with men in downtown Erzurum**



**Figure 1-4: An FGD with women in rural Mersin**

## Annex I – Glossary

### Climate change

Changes in the Earth's weather, including changes in temperature, wind patterns and rainfall, especially the increase in the temperature of the earth's atmosphere that is caused by the increase of particular gases, especially carbon dioxide, generally due to human interference.

### Climate change mitigation

Efforts to reduce or prevent emission of greenhouse gases. Mitigation can mean using new technologies and renewable energies, making older equipment more energy efficient, or changing management practices or consumer behavior. It can be as complex as a plan for a new city, or as simple as improvements to a cook stove design.

### Energy efficiency

Energy efficiency is a way of managing and restraining the growth in energy consumption. Something is more energy efficient if it delivers more services for the same energy input, or the same services for less energy input.

### Energy Performance Certificate (EPC)

A European Union (EU) initiative as part of the drive to improve energy efficiency across the EU member countries. An EPC provides two key pieces of information:

- The energy efficiency of a property
- The environmental impact of a property.

The EPC provides a rating of a property's energy efficiency and displays this as a graph, similar to those found on kitchen appliances. Ratings come on a scale of A-G, with A being the best rating. This means that homeowners and occupiers can compare the energy efficiency of different properties in a similar way to comparing the energy performance of fridges or

freezers.

### **Focus group**

A group of interacting individuals having some common interest or characteristics, brought together by a moderator, who uses the group and its interaction as a way to gain information about a specific or focused issue.

### **Gender**

The concept of gender refers to the social, behavioural and cultural attributes, expectations and norms associated with being a woman or a man, as well as the relationships between women and men and girls and boys, the relations between women and those between men. These attributes, expectations, norms and relationships are socially constructed and are learned through socialization processes. They are context/time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies, there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision-making opportunities.

### **Gender analysis**

The systematic gathering and examination of information on gender differences and social relations in order to identify, understand and redress potential inequalities based on gender. It focuses on understanding and documenting the differences in gender roles, activities, needs, and opportunities in a given context, based on the disaggregation of quantitative data by gender. It highlights the different roles and learned behavior of men and women based on gender attributes.

### **Gender-based differences**

Differences between women and men regarding their perceptions, attitudes, and behaviors concerning social phenomena on the basis of their different roles in a

particular society.

## **Gender needs**

Shared and prioritized needs identified by women that arise from their common experience as a gender. They include practical gender needs and strategic gender needs.

Practical gender needs relate to women's traditional gender roles and responsibilities and are derived from their concrete life experiences. For example, when asked what they need, women usually focus on immediate practical needs for food, water, shelter, health, and so on.

Strategic gender needs generally address issues of equity and empowerment of women. The focus is on systemic factors that discriminate against women. This includes measuring the access of women, as a group compared with men, to resources and benefits, including laws and policies (such as owning property).

## **Gender sensitivity**

Gender sensitivity encompasses the ability to acknowledge and highlight existing gender differences, issues and inequalities and incorporate these into strategies and actions.



## References

1. Carlsson-Kanyama, A. (2010). Energy consumption by gender in some European countries. *Energy Policy*. p. 38.
2. CTF Final Report, ECONOLER (January 2013). Impact Assessment of Clean Technology Fund in Renewable Energy and Energy Efficiency Market in Turkey.
3. DOSIDER (2014). Association of Industrialists and Businessmen of Natural Gas Appliances Retrieved in 13 October 2014 from <http://www.dosider.org/>
4. ENVER (2012). The Energy Lady Survey. Retrieved in October 2015 from <http://enerijhanim.com/en/anketsonucu/the-results-of-energy-ladies-survey/3>
5. European Institute for Gender Equality (2012): Review of the Implementation in the EU of area K of the Beijing Platform for Action Women and the Environment – Gender Equality and Climate Change.
6. Mader, K. and Schneebaum, A. (2013). The gendered nature of intra-household decision making in and across Europe. Paper presented in European Sociological Association Annual Conference.
7. Ministry of Environment and Urbanization (2012). National climate change action plan 2011-2023. Retrieved in October 2014 from [http://www.csb.gov.tr/db/iklim/editoridosya/IDEP\\_ENG.pdf](http://www.csb.gov.tr/db/iklim/editoridosya/IDEP_ENG.pdf).
8. Ministry of Environment and Urbanization (2012). Regulation on the Implementation of Law of Transformation of Areas under the Disaster Risks.
9. MWH (2014). Market penetration study of household equipment.
10. OECD (2008). [Equalclimate.org/en/energy](http://www.equalclimate.org/en/energy) cites many recent studies, including: Gender and Sustainable Development. Maximising the economic, social and environmental role of women. Retrieved in October 2014 from [www.oecd.org/dataoecd/58/1/40881538.pdf](http://www.oecd.org/dataoecd/58/1/40881538.pdf).
11. Rätty, R. & Carlsson-Kanyama, A. (2009). Comparing energy use by gender, age and income in some European countries. Swedish defence research agency.
12. Schultz, I. and Stiess, I. (2009). Gender aspects of sustainable consumption strategies and instruments. EUPOPP, Policies to promote sustainable consumption patterns. Institute for Social-Ecological Research (ISOE), (646-649).
13. Sustainability Academy (2013). The EE and Thermal Insulation Perception Survey. Retrieved in October 2014 from [http://surdurulebilirlikakademisi.com/Site/wp-content/uploads/2014/08/enerji\\_verimlilikisi\\_yalitim\\_sonuclari.pdf](http://surdurulebilirlikakademisi.com/Site/wp-content/uploads/2014/08/enerji_verimlilikisi_yalitim_sonuclari.pdf)
14. TUIK (2000). Building census 1923-2000.
15. TUIK (2006). Family Structure Survey.
16. TUIK (2010). Structure of earning survey.
17. TUIK (2011). Population and Housing Census
18. TUIK (2013). General Population Census.
19. UNEP (2015) Climate change Mitigation. Retrieved in October 2014 from <http://www.unep.org/climatechange/mitigation/>



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for Reconstruction and Development



20. World Bank Report (January 2011). "Tapping the potential for energy savings in Turkey"



***TuREEFF Office***

[www.tureeff.org](http://www.tureeff.org)

*Asmadalı Sokak No: 27*

*Koşuyolu, Kadıköy,*

*34718 İstanbul, TURKEY*

*Tel: +90 216 340 0020*

*Fax: +90 216 339 2444*

*E-mail: [info@tureeff.org](mailto:info@tureeff.org)*