Questions for Panel Discussions 1-3:

**Question 1:** Existing legislation and policies in your country: are they helpful or harmful for promotion of EE investments?

**Answer 1:**

A number of governmental and other organizations are involved in promoting energy efficiency especially in industry in Turkey. The General Directorate of Renewable Energy (YEGM) have been formed with reorganization of former General Directorate of Electrical Power Resources Survey and Development Administration (EIE), in November 2011. YEGM is responsible on promoting, development of measures and conducting activities on renewable energy sources and energy efficiency area.

Energy Efficiency Law was adopted on May 2 2007. This law and its secondary regulation provide the legal basis and measures to promote and support energy efficiency increases, including establishing energy service companies (ESCOs), such as developing energy management system and Efficiency Improvement Project (EIT) and Voluntary Agreement schemes to encourage energy saving investments, energy efficiency increase in building and transport sectors, not allowed to sell the electrical appliances which do not meet energy efficiency requirements and increase awareness.

As it mentioned above Government also provides financial support to efficiency-increasing projects and voluntary agreements undertaking to reduce energy intensity. In this scope, projects having energy saving in electrical energy are supported with priority. 32 of energy efficiency projects for the industry have been decided to be supported. On the other hand Voluntary Agreements have been made by 22 industrial establishments so as to reduce their energy intensity. Supports for the training, audit and consultancy services of SME’s up to the extend of 70% towards improving energy efficiency have also been provided to the enterprises. KOSGEB was assigned the task to facilitate the implementation of the Energy Efficiency Law and other activities to be carried out at the SME level.

A number of organizations provide incentives, soft loans or other support for EE, such as, TTGV. For energy efficiency projects, the Technology Development Foundation of Turkey (TTGV) can provide soft loans up to USD 1 million or up to 50% of the project budget (for a project duration of max. 1.5 years; repayment is over a 4-year period with the 1st year as grace period, while no interest is charged).

In Turkey, there is a considerable number of international finance corporations, development and cooperation agencies (such as the World Bank, European Bank of Reconstruction and Development, French Development Agency, German Bank of Development, Trade and Investment Agency of the UK, Japan Bank of International Cooperation etc.) that are either working to provide funds to the Turkish energy sector or still carrying on with preparatory work or research activities. Together with government guarantees and other guarantees, these funds from such agencies and corporations can be disbursed in the form of loans mostly through the Development Bank of Turkey and the Industrial Development Bank of Turkey for climate-friendly activities as well as investments.

Identification of measures in the energy-intensive heavy industry sector is gaining pace whereas periodic checks in other sectors -i.e. cement, iron and steel, ceramics and textiles- are still ongoing.
Projects to promote efficiency in these sectors are receivers of the World Bank support via the Industrial Development Bank of Turkey and the Development Bank of Turkey since 2009.

As can be seen above many EE Projects subsidized and supported by National and local authorities governmental institutions, national and international finance corporations.

Existing legislation and policies are helpful for promotion of EE invesments in my country. Details are given annex 1.

**Question 2 :** National and local authorities, governmental institutions: what is their impact on EE market development?

As it is known energy efficiency is not a single market: it covers measures in a diverse range of end-user sectors, end-use equipment and technologies and consists of very large numbers of small, dispersed projects with a dispersed range of decision makers. Generally, many EE technologies are proven and economic: if properly financed, the investment costs are paid back over short periods from energy cost savings. Yet, projects with compelling economic returns remain unimplemented. Major causes for this gap are the lack of EE finance and delivery mechanisms that suit the specifics of EE projects high pre-investment development and transaction costs, information failure on the side of customers, lack of customer awareness and a very high perceived risk of new more efficient technologies by both users and financiers, mistrust in energy audits, benefits initially invisible, general lack of EE finance experience within commercial financial institutions, cash flows from saving energy are not yet conventional revenues.

In order to overcome the above mentioned barriers and accelerate energy efficiency investments throughout the country, Turkey has come a long way in setting up the regulatory and institutional framework to promote energy efficiency.

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Within the scope of the legislation, in the field of energy efficiency, training, audit, consultancy and project services are being expanded throughout the country by giving authorization to universities with certain qualifications, chambers of electrical and mechanical engineers, and energy efficiency consulting companies (EVDs).

Energy management is an obligation in buildings and businesses having area over a certain size. TS EN ISO 50 001 Standard for Energy Management System is formed and realized appropriate to user manual and conditions standards. There are already over 4500 certified energy managers in Turkey. Government provides financial support to efficiency-increasing projects and voluntary agreements undertaking to reduce energy intensity. In this scope, projects having energy saving in electrical energy are supported with priority. 32 of energy efficiency projects for the industry have been decided to be supported. On the other hand Voluntary Agreements have been made by 22 industrial establishments so as to reduce their energy intensity. Supports for the training, audit and consultancy services of SME’s up to the extend of 70% towards improving energy efficiency have also been provided to the enterprises.
Building Energy Identification Certificate is started to be given since January 2011 under the “Regulation on Energy Performance in Building” Energy Performance Certificate (EPC) will not be granted to the new buildings having less then “D” class. Furthermore, central heating system will be compulsory for new buildings having area of more than 2000m².

On the other hand the arrangements directed to limitation of usage and sales of the products using energy inefficiently have been enforced consistently with the European Union legislation and politics. In accordance with the Energy Efficiency Law; the arrangements related to boilers, burners, individual heaters, boilers, electrical motors, air conditioners, electrical household appliances and household lamps should be made but the arrangements related to household and official electrical and electronic equipment, simple set-top boxes, lamps, lighting equipment, external power supplies, circulating pumps, televisions, household cooling equipment, household washing machines, household dishwashers have been enforced until now.

The Energy Efficiency Strategy Paper have been published in the Official Gazette of February 25, 2012 and enforced with the decision of High Planning Council dated February 20, 2012 with the decision number 2012/1 for the purpose of setting up a clear and certain future plan and coordinating between the public, private sectors and non governmental organizations for increasing the effectivity of the energy efficiency studies carried out until now. It is targeted with the Paper that amount of energy consumed per gross domestic product (GDP) of Turkey in the year 2023 (energy intensity) will be decreased to at least 20% of the value of the year 2011.

All the related legislation are given annex 2.

**Question 3 :** What incentive mechanisms have been introduced recently to promote financing of EE projects in your country? Are they working?

The Regulation on Increasing Efficiency in Energy Resources and Energy (EE regulation) was issued by Ministry of Energy and Natural Resources (MENR) in October 2008, and changed with the new regulation namely “Increasing Efficiency in Energy Resources and Energy Use”, issued in October 2011 numbered 28097 on Official Gazette dated 27th October 2011.

New Regulation provides financial support to efficiency-increasing projects and voluntary agreements undertaking to reduce energy intensity.

Efficiency increasing projects details are given as below:

- Maximum Payback Period: 5 years
- Maximum project cost: 1.000.000 TL (~400.000 Euro)
- Maximum support: up to 30 % of project cost

Voluntary agreement details are given as below:

- Agreement: reducing energy intensity 10 % on average in 3 years
- Maximum support: 20 % of the energy costs not to exceed 200.000 TL (~80.000 Euro)
**Question 4:** What needs to be done to make large-scale EE investments a reality? Your proposals for next steps.

*Büyük ölçekli enerji verimliliği yatırımlarının gerçekleştirilebilmesi için nelere ihtiyaç duyulmaktadır? Bir sonraki aşama için önerileriniz nedir?*

Turkey is a country having different dynamics with its young population and increasing infrastructure of production and technology. In Turkey, as a developing country, the energy usage has been increased faster than the Europe average due to the increasing population and prosperity level and industrialization. While Turkish economy has enlarged 8.9% in the year 2010, the foreign dependency in energy has been reached to the level of 74%. Until 2020 the annual increase in electricity demand has been expected to realize as 6.7% according to low scenario and also as 7.5% according to the high scenario. The energy sector investment need will have been in the level of 130 billion $ in the next 15 years. On the other hand, Turkey has high energy intensity by comparing the other OECD countries and significant energy efficiency potential in the sectors still remained to be recovered.

In this frame we need more collaboration with international finance corporations.
Incentives for industrial establishments by General Directorate of Renewable Energy as follows:

Efficiency Increasing Projects

- Maximum Payback Period: 5 years
- Maximum project cost: 1,000,000 TL (~400,000 Euro)
- Maximum support: up to 30% of project cost
- in 2009:
  - 56 industrial plants have been applied with 72 EE Projects
  - 17 Projects have been supporting of 12 industrial establishments
- in 2010:
  - 24 industrial plants have been applied with 27 EE Projects
  - 15 Projects have been supporting of 13 industrial establishments

Voluntary Agreement

- Agreement: reducing energy intensity 10% on average in 3 years
- Maximum support: 20% of the energy costs not to exceed 200,000 TL (~80,000 Euro)
- in 2009:
  - 24 industrial plants have been applied.
  - 11 industrial establishments made voluntary agreement.
- in 2010:
  - 11 industrial plants have been applied.
  - 11 industrial establishments made voluntary agreement.

Incentives for the SME’s by KOSGEB (Small and Medium Enterprises Development Organization) as follows:

- Energy Manager Training: up to 3,000 TL (~1,200 Euro)
- Pre-Audit: up to 2,000 TL (~800 Euro)
- Energy Audit: up to 20,000 TL (~8,000 Euro)
- Consulting services for efficiency improvement project: up to 5,000 TL (~2,000 Euro)
Incentives for industry by TTGV (Technology Development Foundation of Turkey) as follows:

**Technology Development (R&D) Projects**
- **Project Period**: Maximum 2 years
- **Maximum support**: 1 Million US$, %50 of project budget
- **Repayment Period**: 1 year grace period of 4 years (Interest-free)
- **Source**: Undersecretariat of Foreign Trade
- ~ 104 R&D Projects (EE + RE)
- ~ 35 Million $

**Environment Supports**
- a) **Energy Efficiency Supports**
- b) **Environmental Technology (Clean Production ) Supports**
- c) **Renewable Energy Supports**
  - **Project Period**: Maximum 2 years
  - **Maximum support**: 1 Million US$, %50 of project budget
  - **Repayment Period**: 1 year grace period of 4 years (Interest-free)
  - ~ 76.5 million kWh/year energy saving
  - ~ 25.5 million kWh/year electricity production
  - ~ 41,385 ton/year CO2 saving

**Supports of Undersecretariat of Treasury**

**Energy Efficiency Projects**
- customs tax exemption
- VAT exemptions

**Cogeneration**
- Minimum annual average efficiency % 80

**Supports of Development Bank of Turkey**

**Financing of Energy Efficiency**
- **Type of investment**: Minimum 20% energy saving or at least 50% of economic gain created by energy efficiency in energy consumption
- **Type of support**: Long-term (2-5 years including a grace period of 10-15 years) and low-interest loans
- **Source**: World Bank
  - IBRD - International Bank for Reconstruction and Development
  - EIB - The European Investment Bank
  - AFD - French Development Agency
  - CEB - Council of Europe Development Bank
  - IDB - Islamic Development Bank
**Supports of Industrial Development Bank of Turkey**

**Financing of Energy Efficiency**

- **Type of investments**
  Process improvement, modernization or production capacity expansion investments in energy efficiency of Private sector with minimum 20% energy saving or at least 50% of economic gain created by energy efficiency in energy consumption and 20% CO2 saving

- **Type of support**
  Long-term loans

- **Source**
  IBRD - International Bank for Reconstruction and Development
  EIB - The European Investment Bank
  AFD - French Development Agency
  KfW - German Development Bank
  CEB - Council of Europe Development Bank
  IDB - Islamic Development Bank
Annex 2

Laws:

- Energy Efficiency Law, Law No: 5627, Official Gazette: 02.05.2007/26510.

Regulations:

- Increasing Efficiency in Energy Resources and Energy Use, Official Gazette Date / No: 27.10.2011/28097.
- Supports of Small and Medium Enterprises Development Organization (KOSGEB), Official Gazette Date / No: 15.06.2010/25795