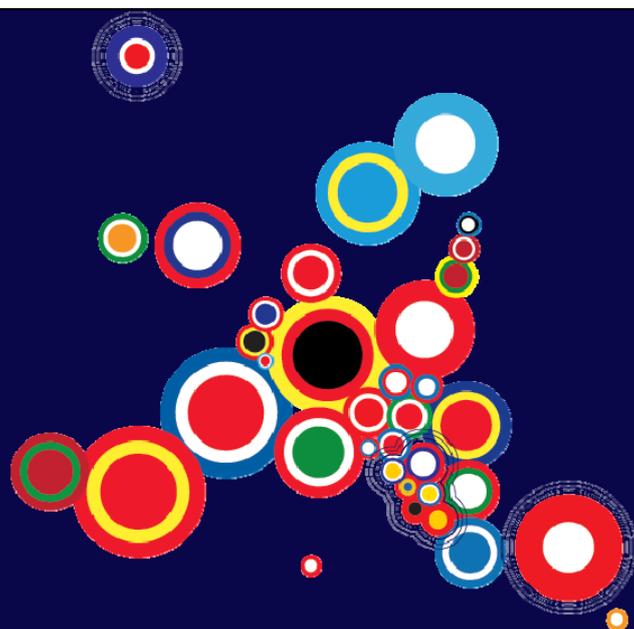




## INSTRUMENT FOR PRE-ACCESSION ASSISTANCE (IPA II) 2014-2020

### TURKEY

#### Energy Action Document 2015



#### **Action summary**

This Action promotes local applications of energy efficiency and renewable energy activities at universities and municipalities; enhancement of institutional capacity of Ministry of Energy and Natural Resources's Directorate General for Renewable Energy (DGRE) for the implementation of energy efficiency strategies; improvement of the performance based tariff mechanism for Energy Market Regulatory Authority (EMRA) as well as the development of the institutional capacity of Petroleum Pipeline Corporation (BOTAS) in terms of reliability, efficiency and operational performance of the natural gas infrastructure as well as smooth operation of network in line with EU network codes.

<b>Action Identification</b>	
<b>Action Programme Title</b>	Annual Action programme for Turkey 2015
<b>Action Title</b>	Energy
<b>Action ID</b>	IPA 2015/038-405/7/Turkey/Energy
<b>Sector Information</b>	
<b>IPA II Sector</b>	Energy
<b>DAC Sector</b>	23010
<b>Budget</b>	
<b>Total cost</b>	29,352,941 €
<b>EU contribution</b>	26,600,000 €
<b>Management and Implementation</b>	
<b>Method of implementation</b>	Indirect management
<i>Indirect management:</i> <b>National authority or other implementing body</b>	Implementing Agency: Central Finance and Contracts Unit (CFCU)  Beneficiaries: Ministry of Energy and Natural Resources (MENR), Petroleum Pipeline Corporation (BOTAS), Energy Market Regulatory Authority (EMRA)
<b>Implementation responsibilities</b>	Ms. Emine Döğer Acting Programme Authorizing Officer Central Finance and Contracts Unit Phone: +90 312 295 49 00 Fax: +90 312 286 70 72 E-mail: emine.doger@cfcu.gov.tr Address: Eskişehir Yolu 4. Km 2. Cadde (Halkbank Kampüsü) No: 63 C-Blok 06580 Söğütözü/Ankara/Türkiye
<b>Location</b>	
<b>Zone benefiting from the action</b>	Turkey
<b>Specific implementation area(s)</b>	N/A
<b>Timeline</b>	
<b>Deadline for conclusion of the Financing Agreement</b>	At the latest by 31 December 2016
<b>Contracting deadline</b>	3 years following the date of conclusion of the Financing agreement
<b>End of operational implementation period</b>	6 years following the date of conclusion of the Financing agreement.

## 1. RATIONALE

Turkey has been experiencing rapid demand growth in all segments of energy sector over the last decade. After a temporary slowdown during the global crisis, energy demand is again rapidly growing, particularly electricity demand, energizing the rebound in economic growth. In 2012, primary energy consumption of Turkey has reached 120 million toe, compared to 106 million toe in 2009 and 73.6 million toe in 2007. It is expected to reach 218 million toe in 2023 with 90% rise in primary energy demand. As a result of high growth rates, electricity consumption increase has averagely been 7-8% level for long years in Turkey. Electricity consumption realised as 255.4 billion kWh by the end of 2014. From 2002 to 2014 electricity production doubled increasing from 129 to 250.4 billion kWh. Electricity installed power, which was 31.8 MW in 2012, increased to 70.6 by the end of March 2015.

This rapid growth in energy demand has required Turkey to take concrete actions in order to increase energy efficiency (EE), decrease greenhouse gas (GHG) emissions, foster security of supply and to create a sustainable energy sector and efficiently functioning liberal energy market. For this purpose, several legal and institutional reforms were initiated and are still being implemented. In this context, enhancement of the EE and renewable energy (RE) sectors are among the highest priorities of Turkey's energy policy. Turkey assigns utmost importance to the development of the energy sector in line with EU acquis, norms, targets and principles.

In addition, Turkey develops active policies through securing energy transport routes and geographic diversification of resources to reduce the possible risks related to energy security. Since Turkey's natural gas transmission system includes many variables and constraints, main transmission system needs to be strengthened in order to establish a strong and liberalized energy market. Therefore, Turkey aims at increasing the integration capability of Turkish Natural Gas Market to the European Gas Market. In this context, BOTAŞ is investing in the extension and strengthening of Supervisory Control and Data Acquisition (SCADA) system, as well as strengthening the capacity of gas network for guaranteeing the perfect operation of the network in line with the EU network codes for gas in order to improve reliability, efficiency and operational performance of the natural gas infrastructure. Enhancement of the security of supply through the conduction of preliminary needs analyses for enhancement of gas infrastructure in Turkey will ensure a transparent energy market. In line with this purpose, controlling, analysing, storing and securing data flow throughout the network is of utmost importance.

Considering 2013 figures, Turkey is one of the top natural gas consumers of Europe, ranking 4<sup>th</sup> after Germany, UK and Italy, respectively <sup>[1]</sup>. In addition to its high gas consumption, Turkey is currently situated on important natural gas transportation routes to Europe. As underlined in 2014 Turkey Progress Report under energy chapter, solid foundations are being laid for the security of supply of gas, with the adoption of the final investment decisions for the three Southern Gas Corridor projects: the Shah Deniz II field, the Trans Anatolian Pipeline (TANAP) and the Trans Adriatic Pipeline (TAP) in December 2013. These decisions ensure the interoperability and connectivity of gas markets of the EU and Turkey. Tendering for the TANAP project on the procurement and construction of the pipelines has been done and the works are scheduled for completion in 2018/19. On the other hand, licenses were granted to import 3.2 billion cubic meters of gas annually from Northern Iraq, and to export gas to Greece. In addition, two more companies were granted natural gas underground storage licenses.

On the other side, the Commission announces new strategy on energy infrastructure development to encourage adequate grid investments in electricity, gas, oil and other energy sectors. Provided the supply is stable, natural gas will continue to play a key role in the EU's energy mix in the coming years and gas can gain importance as the back-up fuel for variable electricity generation. This calls for diversified imports, both pipeline gas and Liquefied Natural Gas (LNG) terminals, while domestic gas networks are required to be increasingly interconnected as specified in EU 2020 Strategy Document. As specified in EU 2020-2030 Strategy Plan, all future scenarios suggest there will be upward pressure on energy costs in the EU. In order to be well prepared for the future needs, preserving the interoperability becomes more crucial.

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<sup>[1]</sup> BP Statistical Review of World Energy June 2014.

The market model in Turkey envisages a competitive structure where the prices are determined in line with the supply and demand conditions. Moreover, for ensuring the harmonious operation with EU internal market, Turkey considers market integration as one of the main pillars of Turkey – EU energy relations. In this regard, Energy Market Regulatory Authority (EMRA) has to develop tariff regulations in the manner that encourages the effective operation of the market participants.

## **PROBLEM AND STAKEHOLDER ANALYSIS**

In EE there is a developed legislative framework, including relevant secondary legislation. A specific EE Law was put into force in 2007. To establish a road map for the implementation, the MENR prepared an EE strategy, approved by the High Planning Council on February 20, 2012. A reduction of energy intensity by 20% per GDP until 2023, energy losses in industry and service sectors, decreasing energy demand and carbon emissions of buildings, providing 30% of total electricity production from RE, efficient use of energy in the public sector, strengthening of institutional structures, capacities and cooperation, employing advanced technologies and increasing awareness raising activities and creating other financing sources than public sources are highlighted as goals of the strategy. However, there is a need for a strong institutional capacity in the sector to coordinate the EE measures throughout the country and between the relevant public and private institutions.

Currently, a new EE Law and an amendment to National Purchasing Law are being discussed in the Energy Commission of the National Assembly of Turkey. Turkey has significant potential for EE improvements throughout the economy. Considering the 2009 level of energy consumptions, industry sector has 4.6 million toe, buildings sector 7.1 million toe and transport sector 4.8 million toe of savings potential. This would correspond to a total of USD 18 billion savings per year.

Turkey has a considerable potential in RE sources. The December 2014 breakdown of electricity generation by resources is as follows: Hydraulic 40.4 Twh (48%), Wind 8.4 Twh (3.4%), Geothermal and other renewables 3.5 Twh (1.4%). Even though there is considerable progress in RE sector, local and regional use of RE sources and energy efficient technologies are lagging behind compared to the improvements in national electricity generation applications. At the local level, it is necessary to increase the use of RE beyond national electricity generation.

The Action promotes local applications of EE and RE activities at universities and municipalities as well as enhancement of institutional capacity of MENR's DGRE for the implementation of EE strategies. Pilot RE and EE applications in municipal services and buildings go hand in hand with the R&D work of the universities. Pilot projects are expected to constitute leverage for dynamism in sustainable energy sector as well as increasing employment at the local level. Within the scope of the EU's 2020 and 2030 targets and Turkey's 2023 targets, alignment with the EU practices at municipal services and buildings in sustainable energy applications, and attainment of European standards at universities in R&D methods and applications are aimed. Coordinated and coherent action in RE and EE practices through pilot projects at municipalities and universities will increase the awareness and feasibility of such activities at the local level. Within the context of the subsidiarity principle, effective and efficient implementation of RE utilization and EE measures could be possible with increased awareness and pilot applications at the local institutions. Universities mainly need support for R&D activities in RES utilization technologies and EE applications whereas municipalities seek expertise and pilot applications in RES and energy efficient technologies in their services such as waste and landfill, drinking water supply and treatment of wastewater facilities and public transportation.

Concerning the EE strategy, an ambitious and coordinated action plan still needs to be established for its effective implementation. A project financed by EBRD was initiated in 2014 for the development of National EE Action Plan. It is planned to be published in 2015. Closely linked to this, EE data collection and analysis is an area that needs to be developed. Insufficient data represents one of the major barriers towards development of proper policies and investment priorities for improving EE, as well as encouraging investments, and should be treated as a priority target. Energy intensity benchmarking per sector has not been established yet except for cement sector. Within the context of an EU twinning project titled "Improvement of EE in Turkey", carried out in the period 2005-2007, in collaboration with CEREN and ENERDATA, a methodology on definition of EE indicators, assessment of energy saving potentials in end-

use sectors and modeling was developed. The Med-Pro software programme that makes projections on EE was provided. Baseline and EE projections were studied in macro, industry, building, transportation and services sectors. These projections need to be updated and extended.

Regarding EE in buildings sector, the main beneficiary of the project “Improving the EE in the Buildings” (IPA 2011) is the Ministry of Environment and Urbanization and the project started in April 2015. The project purpose is to improve EE in buildings through better design of new buildings and retrofit of the existing ones. The project aims to improve the existing legislation according to EU norms and directives, to determine the criteria for EE for new and existing buildings, to organize training programmes for local architects and engineers, to retrofit two existing buildings to improve the EE. As a result, the project expects to save 10% in energy consumption for five years. To complement this project, the 2015 Action foresees activities aiming to improve the EE in municipal buildings, to develop audit and retrofitting programmes, feasibility studies and action plans and technical studies regarding street lighting, to implement pilot projects regarding the efficiency of wastewater facilities and to enhance the donor coordination for funding the municipality projects via the international financial institutions (IFIs).

The Electricity market Law and the Natural Gas Market Law in 2001 have marked a significant initial step towards the liberalization of the Turkish electricity and natural gas markets. For the last 14 years, the main objectives of the liberalisation process were regulatory capacity building, regulatory infrastructure setting and market buildings in electricity and natural gas markets. During this period, Turkish electricity and natural gas markets achieved significant progress. Now there is a strong need for a new regulatory approach that should focus more on consumers, innovation and sustainability. With regard to the internal energy market development of Turkey in line with the practices of the European Union, improvement of tariff mechanism and development of an effective market monitoring in energy market is of utmost importance. Tariff regulation is made by EMRA, aiming to encourage the effective operation of the legal persons operating in the fields where a competitive structure is not possible due to natural monopolistic qualifications and to prevent excessive return. EMRA regulates connection and use of system tariffs, transmission tariff, wholesale tariff, distribution tariffs and retail tariffs applicable to non-eligible consumers. Implementing a market monitoring mechanism that will provide valuable information and developing an effective performance based tariff mechanism which will also address vulnerable customers, strengthening the regulatory capacity in deployment of smart grid technologies, establishing an effective Supply of Last Resort (SoLR) mechanism and introducing an effective customer complaint mechanism are the main areas that this action targets.

The smooth operation of Turkish transmission network infrastructure by the sole owner and operator BOTAŞ which provides natural gas for internal gas market and also contributes to security of gas supply of Europe is of vital importance. The institutional capacity of BOTAŞ has to be improved in terms of reliability, efficiency and operational performance of the natural gas infrastructure as well as smooth operation of network in line with EU network codes. BOTAŞ owns and dispatches more than 12000 km of high pressure natural gas transmission network and its field elements like compressor stations and main line valves serve for approximately more than 320 delivery points. Moreover, there are shortcomings within the system regarding demand forecasting, system optimization, network and geographical simulation, which will ensure the effective operation of a liberalized gas market in line with EU acquis. In addition, a data center for collection of the required data from the substations for gas networks is needed. BOTAŞ aims at ensuring the security and control of the data which will enhance reliability and transparency of gas trade with third parties, including the market participants from EU. Data Center will also improve ability to respond to changing requirements and better integration into corporate processes. In order to provide a perfect interoperability, strengthening the network infrastructure of BOTAŞ is the most significant action to be taken in the framework of EU technical and financial assistance. There are also shortcomings regarding short-term and long-term decision making processes which pose a threat for an effective functioning of gas market.

## **RELEVANCE WITH THE IPA II STRATEGY PAPER AND OTHER KEY REFERENCES**

The EU has been committed to the issues of increasing the use of renewable sources, reduction of CO<sub>2</sub> and GHG emissions and cuts in total energy consumption as regards its 2020 targets and 2050 objectives with a view to constitute a global engagement and to achieve safe, secure, sustainable and affordable energy use by protecting its internal dynamics. In its strategy document, Low-carbon Economy 2050 Roadmap, the EU has

committed to reducing GHG emissions to 80-95% below 1990 levels by 2050 in the context of necessary reductions by developed countries as a group. The Commission finds that domestic emission reductions of the order of 40% and 60% below 1990 levels would be the cost-effective pathway by 2030 and 2040, respectively.

Accordingly, *2030 framework for climate and energy policies* sets the targets as to reduce EU domestic GHG emissions by 40% below the 1990 level by 2030, to increase the share of RE to at least 27% of the EU's energy consumption by 2030 and to ensure 30% energy savings by 2030.

The relevant priority areas under the energy sector established in the **Indicative Strategy Paper for Turkey** for the period 2014-2020, for which the IPA II financial assistance will be channeled, are:

*Promotion of the renewable energy, energy efficiency:* increase efficiency in energy use and share of renewables; building the capacity for the implementation of the EE programmes and RE programmes; increasing the technical capacity of energy service companies (ESCOs); supporting the SMEs and micro enterprises to enhance their competitiveness; developing infrastructures to measure, monitor and report on energy savings and the potential and utilization of the RE; raising awareness and disseminating information on EE targeted to public buildings, local administrations, municipalities, universities, SMEs, industry, commerce and households; raising awareness and disseminating information on RE targeted to local administrations, municipalities, universities, industry, SMEs and follow closely the EU targets in this field.

*Market integration and development of infrastructures:* modernisation and upgrading of the Turkish Gas Transmission System in line with the European Network of Transmission System Operators for Gas (ENTSO-G), including soft supply equipment for SCADA; harmonisation of the Turkish gas and electricity codes with relevant EU network codes; acquis alignment in the areas of electricity and gas.

## **SECTOR APPROACH ASSESSMENT**

The energy sector is governed by a very large number of institutions. The main actor and the leading institution is the **MENR** which is responsible for development of policy, legislating and enforcement of legislation in all areas of the sector.

Turkey's energy strategies are outlined in six different strategies/plans: MENR 2015-2019 Strategic Plan, Electricity Market and Security of Supply Strategy Paper, EE Strategy, 10<sup>th</sup> National Development Plan 2014-2018, National Climate Change Strategy 2010–2023, and National Climate Change Action Plan.

The main objective of the energy policy in the **10<sup>th</sup> Development Plan** 2014–2018 - the main national policy document in effect - is to meet the energy needs of economic and social development in a continuous, quality, secure and sustainable manner through a free competitive market at the minimum cost. In the Plan, Primary Transformation Programmes are determined to indicate critical reform areas and assist achieving 2023 goals. In this context, the programme for EE enhancement aims at decreasing the primary energy intensity below 0.243 TEP/US\$1000 by the end of 2018 and decreasing energy consumption in public building by 10% in 2018 based on the reference year 2012. The programme envisages the development of institutional capacity and financing mechanism as well as improvement of EE in buildings.

In the **Electricity Market & Security of Supply Strategy Paper**, approved in 2009, the main target is identified as providing 30% of total electricity production from RE. So as to attain this target, the following goals for the year 2023 are adopted in the strategy:

- Hydroelectricity potential that is technically and economically feasible will be fully utilized;
- Installed capacity of wind power will reach 20,000 MW;
- The geothermal potential of 600 MW will be put into use.

Increasing the share of renewables, it is also aimed to reduce the share of natural gas in electricity generation to a level below 30%.

Another important aims of the strategy regarding electricity sector is that all consumers will become eligible customers by the end of 2015. The eligibility limit is reduced gradually and currently it is 4500 kWh for electricity and 100000 m<sup>3</sup> for gas respectively.

Finally, the strategy aims to support the liberalization of a well-functioning energy market.

As already mentioned above, the **EE Strategy Paper** aims at defining a set of sector policies, necessary actions and institutions responsible for carrying out these actions.

The **Law on Utilization of RE Resources for the Purpose of Generating Electrical Energy** that was issued in 2005 and amended subsequently has introduced legal framework for the RE sector. In the electricity market, real persons and legal entities who build generation facilities based on RE resources with an installed power capacity of maximum 1 MW are exempted from the obligation of obtaining license and establishing a company. Moreover, purchasing guarantee of a defined price has been given to the electricity generated from renewables. Also additional feed in tariffs are available for the use of domestically produced equipment in generation of electricity from renewables. Even though there is a considerable progress in RE sector, there are still problems in implementation. Specially the problems related with the integration of wind power plants to the transmission and distribution grid and the reliability problems caused by the intermittent character of wind energy are the main factors slowing down the development.

The **National Climate Change Strategy 2010-2023** aims to increase the share of renewables in electricity production to 30% by 2023 as well as reducing carbon emissions 7% by reference scenario. Among the targets there is also a reduction of energy intensity by 10% compared to 2008 by 2015, and the development of capacity for EE by 2015. In line with measures regarding energy intensity cooperation with industry and construction sectors is prioritized. Promotion of EE in thermal power plants and public buildings are also among the significant components of the strategy. Coordination with local and IFIs for improving financial opportunities for RE and EE sectors is envisioned in the document as well.

**In the Energy and Natural Resources Strategic Plan 2015-2019**, the MENR defines the priorities of Turkish energy sector under 9 themes and 16 targets. The MENR aims to improve security of energy supply through building powerful and reliable energy infrastructure, diversifying the sources of supply and developing an efficient demand management structure. RE is considered as an important component of the energy mix and the share of RE within primary energy and electric energy supply is provided to be increased. In this regard installed power values based on RE sources by 2019 are planned as 32000 MW for hydraulic, 10000 MW for wind, 3000 MW for solar and 700 MW for geothermal and biomass. Enhancement of EE and saving and reaching the goal of nationwide EE are targeted in the 2015-2019 strategic plan. Within the scope of this theme performing steps in the issues such as legislation, incentives, awareness campaigns, implementation of new technologies and evaluation of EE potentials, enhancement of the institutional capacity are planned. Result oriented research and development approach is defined as a basic part of technology, R&D and innovation objectives of the strategic plan.

Turkey's Public Financial Management and Control Law no: 5018, requires the annual preparation of the Medium Term Programme (MTP) for a 3 year perspective. MTP for the years of 2015-2017 has been prepared. In compliance with MTP, MENR 2015-2019 Strategic Plan has a 'Costing' section which sets out budget forecasts intended for aims and targets included in the plan.

## **LESSONS LEARNED AND LINK TO PREVIOUS FINANCIAL ASSISTANCE**

EE - Through 2003 & 2005 EE projects (TR 0303.06 "Improvement of EE in Turkey" – TR 0503.08 "Increasing Public Awareness on EE in Buildings for the General Directorate of Electrical Power Resources survey and Development Administration"), these lessons have been learned:

- Reform of energy tariffs and EE policy package should be linked. Relatively low prices of energy are supportive of low efficiency behaviours; the fiscal and energy pricing policies must be seen as a key component and tool of the EE policy, not only a political decision.
- EE should be promoted under sustainable development and better environment. EE cannot be easily understood by the general public, who is more concerned with climate change and environmental issues. The EE policy and the communication should be related to environmental justifications.
- Involvement in R/D and European programmes should be encouraged. In the past, the efforts made, including the project "Increasing public awareness on EE in buildings for the General Directorate of electrical power resources survey and development administration", had limited impact and demonstrates

the need to improve the knowledge base (including statistical database on energy consumption by sector and building stock) as well as increase in public awareness on the topic. The skill sets required for such information gathering and dissemination activities are currently lacking in MENR and require external assistance, especially as the target audience and implementation of EE investments are shifting from public sector to private sector and general public. The staff capacity for awareness raising is estimated to be insufficient to meet the conditions which is characterized by a continuous growth of the needs and potentials for reasonable improvements in EE.

Both 2012 and 2013 energy sector projects have EE and RE components. The outcomes of these projects are expected to contribute significantly to the successful implementation of the 2015 Action.

- Within the RE component of 2012 project, seminars and workshops for the promotion of RE and conduction of pilot RE projects are envisaged. In this regard successful outputs gained through them will constitute a basis for the educational activities and pilot projects in the fields of RE and EE planned for municipalities and universities in this action.
- Moreover, IPA 2012 project aims to develop financing mechanisms from which SMEs and other sector stakeholders could benefit. IPA 2013 project complements the interventions under IPA 2012: EE and RE measures are also planned to build on the financing mechanisms established under IPA 2012. Thus financing mechanisms promoted through IPA 2012 and 2013 will also facilitate RE and EE activities of municipalities and universities in 2015 action.
- IPA 2013 project also aims to further develop the EE market by promoting commercial lending facilities, provide a more active donor involvement, improve the policy framework, enhance access to information, create incentives and programmes, develop national level targets and better track progress and results in terms of reductions in energy and carbon intensities. The fulfilment of these tasks will offer a solid foundation for acquis alignment and capacity building activities of 2015 action.
- A need assessment report and a feasibility study for the necessary infrastructure of the transparent transmission system operator's (TSO) operations for meeting the needs of natural gas trading platform both for domestic and international exchanges, including development of the detailed requirements and specifications for the gas trading platform software to enhance the system by servicing real time monitoring and assessment of future developments of financial market mechanisms such as OTC, contributing to a competitive gas market are among other objectives for that project. The outputs of 2012 project will be essential to facilitate a competitive gas market and gas trade platform in which the existing and new market players will participate. As another outcome of the IPA project the required technical specifications of SCADA system will be determined. Therefore the expected impact of the project depends on the capability of SCADA system which is aimed to be improved by the action under this Document.
- The technical specifications of SCADA system will have been specified at the end of 2012 project. Thus the further development of the SCADA system referred in this action is closely related with the technical studies taking place in 2012 project.

Regarding in particular BOTAS, the institution has already been involved in two subsequent projects namely IPA 2012 and 2013 Energy Sector Projects.

- Within the framework of IPA 2012, reviewing the existing regulations and procedures for network operation (such as capacity reservations, capacity transfers, nominations, allocations and balancing), reviewing the design and implementation of BOTAS's new Electronic Bulletin Board (EBB) including technical features, software characteristics and functional modules relating to Network Code applications, preparation of regulations and technical and functional design of a natural gas balancing and wholesale trade platform (physical trading) with which BOTAS' transmission activities will be incorporated.
- Following IPA 2012 which is a technical assistance project to improve BOTAS' infrastructure for basically commercial and market management software capabilities, IPA 2013 project is developed in order to extend the technical capability of Gas Transmission Operations. The objectives of this technical

assistance project are the design of SCADA system according to the needs of the liberalizing natural gas sector and preparation of the needs assessment and feasibility studies and terms of references for the related software and hardware system for effective implementation of the SCADA system and for the Gas Management Tools and Equipment and development of the Mathematical Modelling Programmes for the SCADA systems. With the IPA 2013 project, the technical feasibility and the need assessment will be delivered and therefore, together with IPA 2012 and 2013 results, this action will be launched in order to provide necessary supply and technical assistance to BOTAŞ in order to empower the natural gas transmission network infrastructure to ensure interoperability with the EU and provide energy efficient gas pipeline dispatch operations.

## 2. INTERVENTION LOGIC

### LOGICAL FRAMEWORK MATRIX

OVERALL OBJECTIVE	OBJECTIVELY VERIFIABLE INDICATORS (*)	SOURCES OF VERIFICATION	
<p>To promote energy efficiency and renewable energy in line with the EU's resource efficiency and climate action targets; To improve Turkey's interconnectivity and integration with European electricity and gas markets.</p>	<p>Progress made towards meeting accession criteria</p> <p>Extended and strengthened operational performance and data flow of the Turkish Gas transmission system</p>	<p>Annual Progress Reports for Turkey of the EC.</p> <p>Interim Evaluation Reports of the projects.</p> <p>Final Reports of the projects.</p> <p>Line Ministries Annual Reports.</p> <p>International Energy Agency Reports and Statistics.</p> <p>World Energy Council Reports.</p>	
SPECIFIC OBJECTIVE	OBJECTIVELY VERIFIABLE INDICATORS (*)	SOURCES OF VERIFICATION	ASSUMPTIONS
<p>To contribute to increasing share of renewable energy in municipalities and universities supported.</p> <p>To contribute to achieving energy savings in municipalities and universities supported.</p> <p>To improve the functioning of the electricity and gas markets, in line with EU requirements.</p>	<p>Use of renewable energy in the supported municipalities and universities.</p> <p>Energy savings in supported municipalities and universities.</p> <p>Performance based tariff mechanism applied by Energy Markets Regulator Authority.</p> <p>Level of integration of gas sub-stations serving the gas transportation pipeline complex</p>	<p>EC Progress Reports.</p> <p>Interim Evaluation Reports of the projects.</p> <p>Final Reports of the projects.</p> <p>Line Ministries Annual Reports.</p> <p>International Energy Agency Reports and Statistics.</p> <p>World Energy Council Reports.</p>	<p>N/A</p>
RESULTS	OBJECTIVELY VERIFIABLE INDICATORS (*)	SOURCES OF VERIFICATION	ASSUMPTIONS
<p><b>Result 1:</b> Capacity of the municipalities and universities in relation to renewable energy and energy efficiency applications is enhanced.</p>	<p>Number of people trained – broken down by type of institution and by gender.</p>	<p>Interim Evaluation Reports of the projects.</p>	<p>N/A</p>

<p><b>Result 2:</b> Energy Efficiency and renewable energy utilization in municipalities and university campuses are increased.</p> <p><b>Result 3:</b> R&amp;D applications for renewable energy and energy efficiency supported</p>	<p>Number of audit, preparatory feasibility studies and action plans in relation to energy efficiency prepared, by type of institutions.</p> <p>Number of pilot projects related to renewable energy supported, by type of institutions.</p> <p>Number of Number of audit, preparatory feasibility studies and action plans in relation to renewable energy prepared, by type of institutions.</p> <p>Number of pilot projects related to energy efficiency supported, by type of institutions.</p> <p>Number of R&amp;D project supported.</p>	<p>Final Reports of the projects.</p> <p>TURKSTAT statistics.</p> <p>MoEU statistics.</p> <p>MENR Annual Progress Reports.</p> <p>Line Ministries Annual Reports.</p> <p>International Energy Agency Reports and Statistics.</p> <p>World Energy Council Reports.</p> <p>Training certificates of the trainees participated to the trainings.</p>	
<p><b>Result 4:</b> Capacity of DGRE in implementation of energy efficiency strategies and accuracy of future projections is increased in line with 2012/27/EU.</p>	<p>Energy efficiency roadmap for Turkey available.</p> <p>Calculation methodology and model of energy efficiency available.</p>	<p>Reports and studies completed under the Action.</p> <p>Reports and articles published by the universities.</p>	
<p><b>Result 5:</b> Capacity of EMRA improved by the development of new performance based tariff calculation mechanisms, including a social tariff.</p>	<p>New performance based tariff calculation mechanisms, including a social tariff developed.</p>	<p>Bulletins, journals and periodicals published by municipalities.</p>	
<p><b>Result 6.</b> Sustainability and maintenance of the gas network system enhanced via support to new SCADA system</p>	<p>Information flow performance from field to SCADA centre.</p>	<p>Prepared Action plans, Manuals, Technical Guides.</p> <p>Published regulations and other regulatory documents.</p>	
<p><b>ACTIVITIES</b></p>	<p><b>MEANS</b></p>	<p><b>OVERALL COST</b></p>	<p><b>ASSUMPTIONS</b></p>
<p><b>Activity 1.</b> Renewable Energy and Energy Efficiency Support for the Municipalities and Universities.</p> <p><b>Activity 2.</b> Enhancement of Institutional Capacity in Energy Efficiency.</p>	<p><b>TA Contract 1:</b> Activities 1.1, 1.2, 1.3, 1.4, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13; (TA Activities regarding Renewable Energy and Energy Efficiency Support for the</p>	<p><b>Total Cost 29,352,94 €1</b></p> <p><b>EU Contribution 26,600,000 €</b></p>	<p>N/A</p>

<p><b>Activity 3.</b> Improvement of Performance-Based Tariff Regulation of EMRA for Turkish Energy Markets through Introducing an Enhanced Monitoring System.</p> <p><b>Activity 4.</b> Improvement of Gas Network Infrastructures</p>	<p>Municipalities and Universities)</p> <p><b>TA Contract 2:</b> Activity 2 (Enhancement of Institutional Capacity in Energy Efficiency)</p> <p><b>TA Contract 3:</b> Activity 3 (Improvement of Performance-Based Tariff Regulation of EMRA for Turkish Energy Markets through Introducing an Enhanced Monitoring System.)</p> <p><b>TA Contract 4:</b> Activity 4.2 (TA Activity regarding Improvement of Gas Network Infrastructures)</p> <p><b>Supply Contract 1:</b> Activities 1.5, 1.6, 1.7 (Supply Activities regarding Renewable Energy and Energy Efficiency Support for the Municipalities and Universities)</p> <p><b>Supply Contract 2:</b> Activity 4.1 (Supply Activity regarding Improvement of Gas Network Infrastructures)</p>		
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## **ADDITIONAL DESCRIPTION**

### **Activity 1 - Renewable Energy and Energy Efficiency Support for the Municipalities and Universities**

Activity 1.1 Training of municipal personnel on project development and implementation; conduction of activities for energy management and financing procedures in energy efficiency and renewable energy funding

Activity 1.2 Study visits to the EU Member States (to be selected accordingly) to examine best practices in terms of renewable energy and energy efficiency applications in towns/cities

Activity 1.3 Development of audit and retrofitting programmes and preparation of feasibility studies and action plans for municipal buildings (particularly for street lighting, heating and cooling projects), as well as the relevant reports and plans for facilitation of funding from financial institutions.

Activity 1.4 Preparation of feasibility studies and action plans for renewable energy utilization in municipalities and municipal services (such as energy production from waste and landfill etc.)

Activity 1.5 Pilot projects for enhancement of energy efficient technologies in municipal services (such as waste and landfill, drinking water supply and treatment of wastewater facilities and public transportation) and buildings.

Activity 1.6 Pilot solar/wind/biogas/biomass/geothermal/hydraulic electricity generation applications at selected municipalities and their undertakings

Activity 1.7 Conduction of pilot projects in municipalities for green transportation technologies

Activity 1.8 Visibility and public awareness

Activity 1.9 Training of academic staff/research assistants/students of vocational schools of higher education by the EU academic institutions on project development and implementation, conduction of feasibility/socio-economic impact analyses in energy efficiency and renewable energy applications and R&D; as well as financing procedures.

Activity 1.10 Study visits to the academic institutions in selected EU Member States to examine best practices for R&D activities

Activity 1.11 Support for universities/institutes/research centers in R&D activities for development of renewable energy technologies in electricity generation from solar (PV, CSP etc.), wind, biomass/biogas, geothermal and other renewable resources, energy efficiency applications such as insulation materials and technologies, and in electricity storage (fuel cells/batteries)

Activity 1.12 Support for universities/institutes/research centers in development of software/hardware for monitoring and control of renewable energy power plants, hi-tech and low-tech products and manufacturing for renewable energy and energy efficiency applications, renewable energy and energy efficient technologies (e.g. hybrid engines, hydrogen/inner combustion engines) in transportation

Activity 1.13 Development of audit and retrofitting programmes and preparation of feasibility studies and action plans for university buildings (particularly for street lighting, heating and cooling projects), as well as the relevant reports and plans for facilitation of funding from financial institutions.

### **Activity 2 - Enhancement of Institutional Capacity in Energy Efficiency**

#### **2.1. Enhancement of the Capacity of the DGRE in terms of Energy Efficiency**

Activity 2.1.1. Analysis of the current situation and needs; and preparation of a roadmap for the enhancement of the institutional capacity for energy efficiency for the implementation of EU Directive 2012/27/EU.

Activity 2.1.2. Organization of trainings for DGRE personnel, regarding energy efficiency legislation of the EU and implementation in EU Member States.

Activity 2.1.3. Improvement of Energy Efficiency (ENVER) Portal

## **2.2. Development of a methodology for calculating energy saving potentials and a model for energy efficiency projections**

Activity 2.2.1. Preparation of a needs assessment report for the requirements of the calculation methodology.

Activity 2.2.2. Definition and development of a computer modelling for calculation of potentials, providing detailed outputs via different modules for industry, buildings and transport sectors; and a separate computer modelling software for energy efficiency scenario building, providing detailed outputs for industry, buildings and transport sectors.

Activity 2.2.3. Preparation of a report on national industrial energy use benchmarks and usage as policy instrument.

Activity 2.2.4. Organization of trainings for the personnel regarding the computer model, energy data collection, databases and energy benchmark formulation, and energy efficiency scenario building.

Activity 2.2.5. Preparation of an impact assessment as a report, which provides the impacts of energy efficiency policy.

Activity 2.3. Preparation of a revised energy efficiency action plan by reviewing present studies prepared thereof based on the energy efficiency strategy of Turkey and in line with the implementation of EU Directive 2012/27/EU.

## **Activity 3 - Improvement of Performance-Based Tariff Regulation of EMRA for Turkish Energy Markets through Introducing an Enhanced Monitoring System**

Activity 3.1. Analysis of current tariff structure, market monitoring regulations and identification of existing barriers and gaps with the relevant study visits and workshops

Activity 3.2. Improvement of energy market monitoring system that will enhance performance-based tariff setting and monitoring for Turkish electricity and natural gas markets and the organization of related trainings

Activity 3.3. Incorporation of incentive mechanisms into electricity and natural gas markets tariff structure to enhance innovation capabilities of regulated entities together with relevant study visits, sectoral workshops and trainings

Activity 3.4. Preparation of Smart Grid Road Map for Electricity & Natural Gas Markets and organization of sector specific workshops

Activity 3.5. Preparation of methodology to incorporate costs of smart grid transition into EMRA's electricity and natural gas tariff mechanisms and the organization of related trainings

Activity 3.6. Preparation of Vulnerable Consumers Action Plan in Electricity and Natural Gas Market with the participation of all relevant stakeholders through workshops

Activity 3.7. Preparation of Social Tariff methodology and other complementary regulatory measures that are needed to be implemented by other stakeholders

Activity 3.8. Preparation of regulatory measures and tariff structure for supplier of last resort (SoLR) in Turkish electricity market

Activity 3.9. Development of competent customer complaints mechanism, and incorporate its outputs into tariff calculations

## **Activity 4 - Improvement of Gas Network Infrastructures**

Activity 4.1. Supply of;

- Modular Data Center and other related equipment for collection of the required data from the field installations of delivery point, compressor stations, line valves etc. for gas transmission networks and

necessary adaptation works for collection of the required data to the Modular Data Center for gas networks, including the installation and operation,

- Video conference system for necessary communication including its installation,
- New Data Centre Security Products including the following components together with their integration to SCADA system,
- The steady-state network simulation software with GIS data import and network optimization capability,
- The real-time network simulation software allowing online and offline operation,
- The demand forecasting software and supplementary meteorological services compatible with SCADA system in order to collect data simultaneously,
- RTUs together with their integration and substitute RTUs

Activity 4.2. Organization of:

- Maintenance trainings on Modular Data Center,
- Necessary user and maintenance trainings on video conference system,
- Trainings on New Data Centre Security Products,
- Trainings, workshops and study visits on the steady-state network simulation software,
- Training on the real-time network simulation software, Trainings, workshops and site visits on the demand forecasting software,
- Trainings on RTUs,
- Study visits to gas transmission companies in the EU, regarding the implementation of software systems and operational processes.

Apart the local applications of EE and RE activities at universities and municipalities and the enhancement of institutional capacity of MENR's DGRE, human resources development for municipalities in RE and EE is one of the basic results to be reached through the action. Training activities organised with partner academic institutions towards project development and financing procedures, and experiencing EU best practices through study visits will help attain this goal. Development of EE and financing in the municipalities is another objective of the action. In addition to the feasibility studies and action plans for EE in municipal buildings, the preparation of necessary technical studies for EE in street lighting and heating and cooling of the municipal building are planned. Pilot projects for enhancement of energy efficient technologies in municipal services and buildings, and support for the facilitation of funding from financial institutions constitute the other components of the EE action. RE utilization in municipalities will be enhanced through preparation of feasibility studies and action plans for RE utilization in municipal services and via implementation of pilot solar/wind/biogas/biomass/geothermal/hydraulic electricity generation applications at selected municipalities. At the local level municipalities also play a critical role in terms application of EE and RE projects both in creating public awareness and dissemination of the knowledge about the use RE and EE.

To enhance the human resources capacity of the universities is also considered crucial for the overall development of RE and EE in the academic field. Thus, training of the academic staff by the EU academic institutions on project development and implementation in EE and RE applications, feasibility studies, financing and R&D are planned through study visits and technical assistance activities. RE utilization and EE in university campuses are aimed to be enhanced in this action by the preparation of feasibility studies and action plans for EE and preparation of necessary technical studies for EE in street lighting in campuses and heating and cooling of the university buildings. Conduction of pilot projects in universities for electricity generation from renewable sources and green transportation technologies as well as energy efficient

technologies in buildings and services will also be the other important steps to reach the referred goals in the university campuses.

Pilot project implementation under this Action will be complementary to the sustainable energy investment programmes such as IPARD, İLBANK's loan programmes, EBRD's MUNSEFF and similar programmes of other IFIs. Pilot projects will enable larger amounts of investments by municipalities and private sector in energy efficient and RE technologies.

### **3. IMPLEMENTATION ARRANGEMENTS**

#### **ROLES AND RESPONSIBILITIES**

The Energy Sector is governed by a very large number of institutions. The lead institution in the context of IPA sector approach is the **MENR** which is responsible for development of policy, legislating and enforcement of legislation in all areas of the sector. The purpose and the future role of the MENR is to help define targets and policies related to energy and natural resources in a way that serves and guarantees the defence of the country, security, welfare, and strengthening of the national economy; and to ensure that energy and natural resources are researched, developed, generated and consumed in a way that is compatible with said targets and policies. With regard to the 1<sup>st</sup> Activity (RE and EE Support for the Municipalities and Universities), the lead beneficiary is MENR, while selected municipalities and universities will take part in the project as co-beneficiaries. Implementation methods regarding this Activity are mentioned under the relevant title below.

**Directorate General for Foreign Relations and EU** is responsible for the management, supervision and coordination of the EU relations of the Ministry, including all the attached and related institutions. The development, improvement and enhancement of the projects for the MENR under IPA are under the responsibility of the Directorate General. The Directorate General will have a crucial role for providing coordination mechanisms between IFIs, investors and public institutions especially in the areas of EE and RE.

The implementation of the activities of all the beneficiaries is under the coordination of the DG Foreign Relations and EU. In this scope, support for municipalities and universities in EE and RE is coordinated by DG Foreign Relations and EU. The DG has established separate **Coordination Boards** with the participation of universities and municipalities for effective programming and implementation of the IPA funded projects in EE and RE. Coordination Boards have members from relevant stakeholders such as municipalities, universities, research centres, institutes, national and regional unions of municipalities, development agencies and etc. The Boards provide a platform for programming and implementation of EE and RE applications in the sector. The Boards enable all relevant stakeholders to discuss further projects ideas for the coming programming years, establish regular communication among stakeholders, coordinate sector applications, ensure sustainability, and launch an effective coordination mechanism for dissemination of experience and information exchange. The Boards will gather every six months and on an *ad hoc* basis if found necessary. The Boards will coordinate programming and exchange information and project experience but will not monitor project implementation. Monitoring will be conducted by the Steering Committees as explained under Methodology for Monitoring and Evaluation. The first meetings of the Coordination Boards were held on January 27<sup>th</sup> and February 2<sup>nd</sup>, 2015 under the coordination of DG Foreign Relations and EU at the premises of the MENR. Project ideas were discussed and the scope of activities was determined at these meetings.

**Directorate General for RE** is responsible for utilization of new and RE (RE) resources and preparation of pilot projects, providing necessary consultancy for improvement of EE (EE) and utilization of RE, awareness raising regarding EE in industry and buildings, determining RE and EE targets and projections for Turkey. Improvement of the EE and utilization of RE in electricity generation, heating/cooling of the municipal

buildings and transportation, increasing the share of renewable in urban cities and the regulatory capacity in EE sector, strengthening the EE and RE financing mechanisms are the areas in which the Directorate General for RE will engage in parallel with IPA intervention. With regard to the 2<sup>nd</sup> Activity (Enhancement of Institutional Capacity in EE) the beneficiary is DG RE.

**Energy Market Regulatory Authority (EMRA)** was established in 2001 in order to perform the regulatory and supervisory functions in the energy markets. The fundamental objective of EMRA is set forth in its founding document as to ensure the development of financially sound and transparent energy markets operating in a competitive environment and the delivery of sufficient, good quality, low cost and environment-friendly energy to consumers and to ensure the autonomous regulation and supervision of electricity, natural gas, and downstream petroleum and LPG markets. Improvement of tariff mechanism in energy market, developing a tariff mechanism which will also address vulnerable customers, strengthening the regulatory capacity in deployment of smart grid technologies, establishing an effective Supply of Last Resort (SoLR) mechanism and introducing an effective customer complaint mechanism are the areas in which EMRA will have a crucial role regarding this IPA intervention. With regard to the 3<sup>rd</sup> Activity (Improvement of Performance-Based Tariff Regulation of EMRA for Turkish Energy Markets through Introducing an Enhanced Monitoring System) the beneficiary is EMRA.

**Petroleum Pipeline Corporation (BOTAŞ)** is a related institution of MENR. Because of Turkey's increasing need for diversified energy sources, since 1987 BOTAŞ has expanded its original purpose of transporting crude oil through pipelines to cover natural gas transportation and trade activities, therefore becoming a trading company. Enhancement of the security of supply and integration capability of Turkish Gas Market to the European Gas Market are the areas in which BOTAŞ will engage in parallel with IPA intervention. With regard to the 4<sup>th</sup> Activity (Improvement of Gas Network Infrastructures) the beneficiary is BOTAŞ.

#### **IMPLEMENTATION METHOD(S) AND TYPE(S) OF FINANCING**

In EE and RE activities regarding support to the municipalities and universities, the selection procedures will be determined during the tendering phase in collaboration with the implementing agency (CFCU) and the Delegation of the European Union (EUD) to Ankara. For the determination of technical specifications for the selection process of the municipalities and universities and preparation of relevant market research to be used in the supply contract, a SEI project is planned.

Activities 1.1, 1.2, 1.3, 1.4, 1.8 1.9, 1.10, 1.11, 1.12, 1.13, 2, 3 and 4.2 will be implemented under TA contracts tendered/contracted by the CFCU. Activity 1.5, 1.6, 1.7 and 4.1 will be implemented under supply contracts tendered/contracted by the CFCU.

#### **4. PERFORMANCE MEASUREMENT**

##### **METHODOLOGY FOR MONITORING (AND EVALUATION)**

The Action will be monitored by the MENR. Separate Steering Committee meetings for support for Universities, Municipalities, DGRE, EMRA and BOTAŞ will be held at the premises of the MENR every quarter of the implementation years. MENR's Directorate General of Foreign Relations and the EU will host and chair the steering committee meetings. Additionally, result-oriented monitoring will be provided through the IPA project implemented by the Ministry for EU Affairs.

In line with the IPA II Implementing Regulation 447/2014, an IPA II beneficiary who has been entrusted of budget implementation tasks of IPA II assistance shall be responsible for conducting evaluations of the programmes it manages.

The Commission may carry out a mid-term, a final or an ex-post evaluation for this Action or its components via independent consultants, through a joint mission or via an implementing partner. In case a mid-term or final evaluation is not foreseen, the Commission may, during implementation, decide to undertake such an evaluation for duly justified reasons either on its own decision or on the initiative of the partner. The evaluations will be carried out as prescribed by the DG NEAR guidelines for evaluations. In addition, the Action might be subject to external monitoring in line with the EC rules and procedures set in the Financing Agreement.

## INDICATOR MEASUREMENT

Indicator	Baseline (2015)	Milestone 2017	Target 2020	Final Target (2019)	Source of information
Progress made towards meeting accession criteria					European Commission Progress Reports Interim Evaluation Reports of the projects
Extended and strengthened operational performance and data flow of the Turkish Gas transmission system	The information flow from fields to SCADA centre is 70%	70%, (Start of project)	100%	100%	Final Reports of the projects Line Ministries Annual Reports
Level of RES utilization in the supported municipalities and universities	N/A - This information is not applicable since the selected universities are not determined yet		5% increase	5% increase	International Energy Agency Reports and Statistics
Energy savings in supported municipalities and universities	N/A - This information is not applicable since the selected municipalities are not determined yet		10% increase	10% increase	World Energy Council Reports
Performance based tariff mechanism applied by Energy Markets Regulator Authority	Old mechanism	Development of new mechanism started	New mechanism applied	New mechanism applied	Sector Research Reports of Turkish Competition Authority BOTAŞ Annual Report Project Monitoring Reports
Level of integration of gas sub-stations serving the gas transportation pipeline complex	70 %	70 %	100 %	82.5%	

Number of people trained in relation to renewable energy and energy efficiency – broken down by type of institution and by gender	0	0	200 people trained in EE-municipalities (75 female, 125 male)  200 people trained in EE-universities (100 female, 100 male)  200 people trained in RE-municipalities (75 female, 125 male)  200 people trained in RE-universities (100 female, 100 male)	300 people trained in EE (100 female, 200 male)  300 people trained in RE (100 female, 200 male)	
Number of audit, preparatory feasibility studies and action plans in relation to renewable energy prepared, by type of institutions	0-Municipalities 0-Universities	0-Municipalities 0-Universities	20-Municipalities 10-Universities	20-Municipalities 10-Universities	
Number of audit, preparatory feasibility studies and action plans in relation to energy efficiency prepared, by type of institutions	0-Municipalities 0-Universities	0-Municipalities 0-Universities	20-Municipalities 10-Universities	20-Municipalities 10-Universities	
Number of pilot projects related to energy efficiency supported, by type of institutions	0-Municipalities	0-Municipalities	3-Municipalities	3-Municipalities	
Number of pilot projects related to renewable energy supported, by type of institutions	0-Municipalities	0-Municipalities	5-Municipalities	5-Municipalities	
Number of R&D project supported	0	0	3	3	

Efficiency roadmap for Turkey available	No	No	Yes	Yes	
Calculation methodology and model of energy efficiency available	Old calculation methodology	Old calculation methodology	Calculation methodology developed	Calculation methodology developed	
New performance based tariff calculation mechanisms, including a social tariff developed	Old tariff methodology	Old tariff methodology	New performance based tariff developed	New performance based tariff developed	
Information flow performance from field to SCADA center	600 RTUs effective in operation		800 RTUs effective in operation	675 RTUs effective in operation	

## 5. CROSS-CUTTING ISSUES

### ENVIRONMENT AND CLIMATE CHANGE (AND IF RELEVANT DISASTER RESILIENCE)

Turkey is one of the fastest growing energy economies of the world; both primary energy and electricity demand are increasing rapidly in parallel with growing economy and rising social wealth. In recent years, Turkey has concentrated on increasing the use of national energy resources in a cost-effective manner. This requires sustainable private sector investments and a well-functioning and regulated energy market, while limiting environmental damage, reducing GHG emissions, and increasing EE and RES utilization. In this respect, increased utilization of RES and EE technologies at the local level is considered to be an effective solution for both security of energy supply and reduction of GHG emissions. Activities of this action are going to contribute to the sustainable environment targets of the EU and Turkey. According to the OECD-DAC's methodology, in all the activities of this action related to renewable energy and energy efficiency the climate change mitigation is the main objective (Rio marker), while this could not be true for the other activities foreseen. For the whole action the climate change mitigation can be defined as a significant objective.

### ENGAGEMENT WITH CIVIL SOCIETY (AND IF RELEVANT OTHER NON-STATE STAKEHOLDERS)

Engagement with civil society will create the backbone of the awareness raising activities of the action. In order to inform the public about EE and RE close cooperation and coordination will be provided with universities, municipalities, NGOs, media and other members of civil society. Workshops, working group meetings, seminars, conferences and similar activities will be employed as the opportunities for interacting with various stakeholders. Preliminary meetings and other activities of need analysis will also be held to create awareness about the objectives of action and integrate the approaches of various stakeholders to the implementation process.

## **EQUAL OPPORTUNITIES AND GENDER MAINSTREAMING**

Equal opportunity principles and practices in ensuring equitable gender participation in the project will be guaranteed. The main criteria for staff recruitment will be appropriate qualifications and experience in similar projects. Both men and women will have equal opportunities and salaries.

## **MINORITIES AND VULNERABLE GROUPS**

According to the Turkish Constitutional System, the word “minorities” encompasses only groups of persons defined and recognized as such on the basis of multilateral or bilateral instruments to which Turkey is a party. This action has no negative impact on minorities and vulnerable groups. Furthermore the activity related to the development of a tariff mechanism which will also address vulnerable customers provides positive impacts on certain vulnerable groups.

## **6. SUSTAINABILITY**

The implementation of pilot projects for R&D activities, RES utilization and EE will enhance the institutional capacity at universities and municipalities and increase public awareness since they will be applied in municipal services and university laboratories where direct interaction with citizens is going to be present. The activities will also contribute to the job creation at municipal services, EE sector and research centres.

This action will provide effective implementation of EE strategies, on the agenda of the government, by establishing the institutional capacity for calculation of energy savings potentials and development of a model for EE projections. The EE Action Plan prepared / reviewed under this Action will be a milestone in implementing future strategies in the EE sector.

Last but not the least, the action will promote the empowerment of the Turkish natural gas transmission network infrastructure to ensure interoperability with the EU and provide gas pipeline dispatch operations. BOTAŞ aims at ensuring the security and control of the data which will enhance reliability and transparency of gas trade with third parties, including the market participants from EU. This action will also help overcoming the bottlenecks regarding short-term and long-term decision making processes which pose a threat for effective functioning of gas market.

## **7. COMMUNICATION AND VISIBILITY**

Communication and visibility will be given high importance during the implementation of the Action. The implementation of the communication activities shall be the responsibility of the beneficiary, and shall be funded from the amounts allocated to the Action.

All necessary measures will be taken to publicize the fact that the Action has received funding from the EU in line with the Communication and Visibility Manual for EU External Actions. Additional Visibility Guidelines developed by the Commission (DG NEAR) will have to be followed.

Visibility and communication actions shall demonstrate how the intervention contributes to the agreed programme objectives and the accession process. Actions shall be aimed at strengthening general public awareness and support of interventions financed and the objectives pursued. The actions shall aim at highlighting to the relevant target audiences the added value and impact of the EU's interventions and will promote transparency and accountability on the use of funds.

It is the responsibility of the beneficiary to keep the Commission fully informed of the planning and implementation of the specific visibility and communication activities.

The beneficiary shall report on its visibility and communication actions in the report submitted to the IPA monitoring committee and the sectorial monitoring committee.

All projects /contract implemented under this programme shall comply with the **Visibility Guidelines for European Commission Projects in Turkey** published by the EUD to Turkey, at [http://www.avrupa.info.tr/AB\\_Mali\\_Destegi/Gorunurluk\\_Visi.html](http://www.avrupa.info.tr/AB_Mali_Destegi/Gorunurluk_Visi.html)

All communication and visibility activities should be carried out in close co-operation with the CFCU and the EUD to Ankara. The CFCU and the EUD are the main authorities in charge of reviewing and approving visibility-related materials and activities.

The EU-Turkey cooperation logo should be accompanied by the following text:

*“This project is co-funded by the European Union.”*

Whether used in the form of the EU-Turkey cooperation logo for information materials or separately at events, the EU and Turkish flag have to enjoy at least double prominence each, both in terms of size and placement in relation to other displayed logos and should appear on all materials and at all events as per the Communication and Visibility Manual for European Union External Actions. At visibility events, the Turkish and the EU flag have to be displayed prominently and separately from any logos.

Logos of the beneficiary institution and the CFCU should be clearly separated from the EU-Turkey partnership logo and be maximum half the size of each flag. The logos will not be accompanied by any text. The CFCU and beneficiary logo will be on the lower left-hand corner and lower right-hand corner respectively. The consultant logo with the same size will be in the middle of the CFCU and beneficiary logo. If the consultant is a consortium, only the logo of the consortium leader will be displayed.

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