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Annex 5

to the

Commission Implementing Decision on the financing of the annual action plan in favour of Turkey for 2021

ACTION DOCUMENT

1. SYNOPSIS

Action Summary Table

ACTION IDENTIFICATION	
Title	IPA III Annual Action Plan in favour of Turkey for 2021 Action # 5 – Sustainable Green Energy and Transport
OPSYS CRIS encoding (OPSYS equivalent)	OSPYS business reference IPA/2021/043673/5 CRIS encoding (OPSYS equivalent)
Basic act	Financed under the Instrument for Pre-accession Assistance (IPA III)
Team Europe Initiative	No
Zone benefiting from the action	Turkey
Programming document	IPA III Programming Framework
PRIORITY AREAS AND SECTOR INFORMATION	
Window and thematic priority	Window 3: Green agenda and sustainable connectivity Thematic Priority 2: Transport, digital economy and society, energy
Sustainable Development Goals (SDGs)	Main SDG (1 only): SDG 9 Build resilient infrastructure, promote sustainable industrialization and foster innovation Other significant SDGs (up to 9) and where appropriate, targets SDG 3 Ensure healthy lives and promote well-being for all at all ages SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable SDG 13 Take urgent action to combat climate change and its impacts
DAC code(s)	230 Energy 231 Energy policy 232 Energy generation, renewable sources 236 Energy distribution 210 Transport and storage

BUDGET INFORMATION				
Main Delivery Channel ¹	EBRD – 46015			
Markers (from DAC form)	General policy objective	Not targeted	Significant objective	Principal objective
	Participation development/good governance	☐	☐	☒
	Aid to environment	☐	☐	☒
	Gender equality and Women's and Girl's Empowerment	☐	☒	☐
	Trade Development	☐	☒	☐
	Reproductive, Maternal, New born and child health	☒	☐	☐
	Disaster Risk Reduction	☒	☐	☐
	Inclusion of persons with disabilities	☐	☐	☒
	Nutrition	☒	☐	☐
	RIO Convention markers	Not targeted	Significant objective	Principal objective
	Biological diversity	☐	☒	☐
	Combat desertification	☐	☒	☐
	Climate change mitigation	☐	☐	☒
	Climate change adaptation	☐	☒	☐
	Internal markers ²	Policy objectives	Not targeted	Significant objective
Digitalisation		☐	☒	☐
Migration ³		☒	☐	☐
COVID-19		☒	☐	☐
BUDGET INFORMATION				
Amounts concerned	Budget line: 15 02 02 01.02 Total estimated cost: EUR 77 500 000 Total amount of EU budget contribution EUR 27 500 000 of which EUR EUR 7 500 000 for IMBC and EUR 20 000 000 for IMEE This action is co-financed in joint co-financing by EBRD for an amount of EUR 50 000 000			
MANAGEMENT AND IMPLEMENTATION				
Type of financing and method(s) of implementation	Project modality Indirect Management with Turkey for Areas of Support #1, #2 Indirect Management with an entrusted entity_for Area of Support #3			
Final Date for conclusion of Financing Agreement	At the latest by 31 December 2022			

¹ <http://www.oecd.org/dac/stats/annex2.htm>.

² These markers have a different scope/rationale than the DAC codes. Posting criteria related to the encoding of the financial breakdown in CRIS/ABAC

³ Please refer to note Ares(2019)627611 of 04/02/2019.

Final date for concluding contribution / delegation agreements, procurement and grant contracts	3 years following the date of conclusion of the Financing Agreement, with the exception of cases listed under Article 114(2) of the Financial Regulation
Indicative operational implementation period	72 months following the conclusion of the Financing Agreement
Final date for implementing the Financing Agreement	12 years following the conclusion of the Financing Agreement

1.1. Summary of the Action

Turkey is one of the world's fastest-growing energy economies of the world; both primary energy and electricity demand are increasing rapidly, in parallel with a growing economy, rising social wealth and increasingly worrying environmental and climate impacts, such as rising greenhouse gas emissions. In recent years, Turkey has concentrated on increasing the use of national energy resources in a cost-effective manner. This requires sustainable investments and a well-functioning and regulated energy market, while limiting environmental damage, reducing greenhouse gas (GHG) emissions, and increasing material and energy efficiency and renewable energy utilization. This transition also needs to start quickly so reach Turkey's recent announced goals to reach net-zero greenhouse gas emissions by 2053 utilisation.

Decarbonisation is a major challenge to the global shipping industry, since GHG and air emissions (CO₂, SO_x, NO_x and PM particles, which constitute a very serious threat for both the environment and health) from shipping account for around 2.6% of total global emissions. Turkey has ratified MARPOL Annex VI in 2013, which sets out limits on NO_x and SO_x emissions from seaports and ship exhausts and prohibits deliberate emissions of ozone-depleting substances from ships. The Turkish fleet, like vessels all over the world, will need to follow the requirements related to the IMO 2018 GHG reduction strategy, to reduce CO₂ emissions per transport work, as an average across international shipping, by at least 40% by 2030, pursuing efforts towards 70% by 2050, compared to 2008); . In addition, and that total annual GHG emissions from international shipping should be reduced by at least 50% by 2050 compared to 2008. However, a significant portion of the Turkish vessel fleet (just under 50%) is above 20 years old, and over 8% is above 40 years old. There are therefore ships in the Turkish merchant fleet that need modernisation with via the incorporation of sustainable new technologies.

In line with the IPA III Programming Framework that, which aims to support IPA III beneficiaries in adopting and implementing the political, institutional, legal, administrative, social and economic reforms to comply with Union values and to progressively align to Union rules, standards, policies and practices, thereby contributing to their stability, security and prosperity, this action prioritises three areas of support ('hereinafter AoS'):

AoS#1: Enhancement of the Ministry of Energy and National Natural Resources (MENR)s capacity to prepare a national strategy and guidelines & measurement and monitoring of efficient heating and cooling

Activities under this area of support aim at to boosting the capacities of to drafting a legislative and strategic framework as well as and carry out monitoring and measurement for of efficient heating/cooling, . and The activity/measure will help promoting promote the shift towards a material and resource-efficient, digitalised, smart, safe and sustainable climate-neutral economy in Turkey.

AoS#2: Strengthening the energy performance of the public building stock through sustainable strategies

This AoS aiming aims to improve the energy performance of the existing building stock in order to decrease the public expenditures on energy consumptions.

AoS#3: Maritime decarbonisation and green shipping programme

This AoS will target developing sustainable pilot projects involving ports, vessels and the usage of alternative fuels in the Turkish maritime sector. The programme will target retrofits and new vessels to support the transition to an environmentally friendly, low- emission carbon, energy- and fuel-efficient maritime fleet, and develop bunkering of alternative fuel infrastructure⁴ to power port operations, primarily focusing on reducing GHG and air emissions, whilst while supporting climate resilience investments promoting energy efficiency, electrification, the circular economy and other environmental benefits. The programme also promotes the incorporation of renewable energy sources to power vessel operations and the use of innovative, energy-efficient technologies.

Associated technical assistance will promote maritime decarbonisation by identifying candidate projects, assessing feasibility support implementation and helping eliminate regulatory and capacity- related obstacles.

2. RATIONALE

2.1. Context Analysis

This action will contribute to the overall objective of the **IPA III Programming Framework** as regards the energy and transport sectors under Window 3, namely to promote the green agenda by reinforcing environmental protection, contributing to mitigation, increasing resilience to climate change, accelerating the shift towards a climate-neutral and circular economy and develop the digital economy and society alongside increased connectivity of the IPA III beneficiaries to the EU and to the wider global market as well as among themselves. More specifically, this action addresses the specific objectives of Thematic Priority 2 under Window 3 in the energy and transport sectors, aiming to promote smart, sustainable, inclusive, safe transport and to remove bottlenecks in key network infrastructures, to improve access to digital technologies and services, to accelerate the shift towards a climate-neutral, climate resilient economy, promote clean energy transition and a European integrated energy market.

AoS#1: Enhancement of the Ministry of Energy and Natural Resources' (MENR) Capacity for Preparation of National Strategy and Guidelines & Measurement and Monitoring on Efficient Heating and Cooling

Turkey's energy demand in heating and cooling is increasing year by year as a growing economy. Since its first use in 1976 and through the 1980s, natural gas has become the top fuel for heating and its network expanded to all regions of Turkey with annual consumption of 45 billion m³ and more than 16 million consumers totally. Households and service sector buildings use more than 17 billion m³ of this consumption annually. Coal is the second most used fuel for heating in Turkey and consumed more than 4400 tonnes of oil equivalent annually in residential and service buildings, which causes air pollution in various regions. MENR's analyses revealed that heating demand will increase by 45-60% compared to 2016 and reach 250-280 TWh in 2030. Although Turkey's per capita energy consumption is lower compared to the developed countries, it is expected to increase in the coming years with the increasing population and welfare level. The NEEAP has resulted in an acceleration in energy efficiency efforts in recent years, but the primary energy intensity is still higher than the EU average which can be interpreted as a significant energy saving potential exists in all sectors. Today, with the actions defined in several policies and strategy papers, Turkey seeks more efficient, domestic, clean, smart, sustainable and affordable options in the heating and cooling sector in line with EU legislation.

The 11th National Development Plan (2019-2023) aims at a shift to a sustainable, clean, affordable and reliable energy supply by taking up measures to reduce greenhouse gas emissions, controlling GHG emissions in several sectors, including buildings, energy, industry, transportation, waste, agriculture and forestry, and

⁴ Such as LNG, Bio-LNG, Methanol/methanol, hMethanol, Hydrogen or Ammonia/ammonia, sustainable berthing such as onshore power/ cold ironing, incorporation of renewable energy such as solar panels, zero- and low- emissions vehicles, cargo handling equipment and machinery, and deployment of energy efficiency measures, LNG marine fuel, LNG propulsion systems and bunkering means, batteries/electrification, methanol, hydrogen and ammonia vessel technologies.

ensuring energy efficiency in general and specifically in buildings. The **National Energy Efficiency Action Plan (2017-2023) (NEEAP)** aims to reduce the primary energy consumption of Turkey by 14 percent by 2023. NEEAP envisages a cumulative 23.9 million tonnes of oil equivalent (mtoe) savings by 2023 and an investment of 10.9 billion dollars for these savings by promoting efficient heating and cooling systems including measures on (B6) promoting central and district heating & cooling systems, (B9) promoting energy efficiency in new buildings, (E1) identifying the potential of cogeneration and district heating & cooling systems and prepare a roadmap, (E6) managing peak demand arising from heating & cooling, (Y.8) conducting awareness-raising activities and training on energy efficiency and (Y.10) adopting sustainability in public operations and procurement. Also, the **MENR's Strategic Plan (2019-2023)** sets out the target for energy efficiency improvements. Besides, Turkey's **Climate Change Strategy (2010-2023)** sets medium-term strategies on heating sectors as stimulating heat recovery options in the industry and promotion of cogeneration and solar collectors for heating demand arising from industrial and building sectors.

The main legislative framework for the above-mentioned targets, policies and strategies is composed of the **Energy Efficiency Law No: 5627** and **Electricity Market Law No: 6446**. The Energy Efficiency Law's purpose is to increase efficiency and effectiveness in using energy sources, avoid waste, ease the burden of energy costs on the economy and protect environment. The Electricity Market Law aims to provide sufficient, good quality, uninterrupted, low cost and environment-friendly electricity to consumers. The law regulates the electricity market and includes dedicated provisions on cogeneration systems. Besides, the **Law on Use of Renewable Energy Resources for the Purpose of Generating Electrical Energy No: 5346** and the **Law on Geothermal Resources and Natural Mineral Waters No: 5686** aim to promote renewable energy use not only in the electricity sector but also in the heating sector. Regulations on geothermal resources and natural mineral waters, energy performance in buildings, sharing of heating and sanitary hot water expenses, unlicensed electricity generation, landfills, waste management, co-generation and micro-generation plants also include provisions on the increase of renewables use in heating and cooling systems. Although the policy and strategy documents published so far aim to increase energy efficiency, expand district heating, and use renewable and waste heat, they do not include long-term goals and actions to expand efficient heating and cooling systems. In addition, Turkish legislation has not been harmonized with the provisions regarding the dissemination of efficient heating and cooling systems in the EU acquis, especially the Energy Efficiency Directive⁵, yet. With the project to be carried out, it is aimed to help full compliance of efficient heating and cooling legislation with the EU acquis and to support the development of the necessary technical capacity.

AoS #2: Strengthening the Energy Performance of Public Building Stock through Sustainable Strategies

Turkey is one of the OECD countries characterised by the highest increase in energy demand in the last decade.

As stated in the 11th Development Plan, Turkey's primary energy consumption increased by an annual average of 6.4 percent in the 2014-2017 period. Therefore, the energy policy is dominated by concerns related to the security of supplies. The energy efficiency is one of the key components of the government's energy security strategy in its 10th and 11th Development Plans and also it is critical for the economic growth and to fulfil Turkey's commitments on climate change and environmental sustainability.

Turkey has significant potential for energy efficiency improvements throughout the economy. It is possible to save energy significantly by constructing energy-efficient buildings, as well as improving the existing building stock. The public sector, the largest single energy user in Turkey, can be a frontrunner in energy efficiency implementations, while helping to catalyse markets for energy efficiency goods and services.

The Turkish Government has taken measures to use energy efficiently and economically by implementing various policies and putting into force legal regulations in various sectors, including the building/construction sector. One of them is the legal arrangements that allow public institutions to make long-term contracts for energy efficiency improvements in their buildings. In order for Energy Performance Contracts to be implemented in the public sector, with the Law on Amendment of the Tax Laws dated 21/03/2018 and numbered 7103, and some Laws and Decree Laws, Energy Performance Contracts (EPS) have been included in the Energy Efficiency Law No. 5627 dated 18/4/2007.

The Ministry of Environment and Urbanization (MoEU) set up the **National Climate Change Strategy of**

⁵ DIRECTIVE (EU) 2018/2002 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

2010-2023 aiming to increase energy efficiency and reduce greenhouse gas emissions in buildings.

The Energy Efficiency Strategy Document for 2012-2023 targets to reduce energy demands and carbon emissions of buildings and to promote sustainable eco-friendly buildings using renewable energy sources. Also, it states the targets, reducing annual energy consumption of buildings and facilities of public institutions by 20% by 2023 and realising efficient applications in the buildings and facilities of the public sector with Energy Performance Agreements.

With the Circular No. 2019/18 the importance of using public resources efficiently and reducing the burden of energy costs on the public sector is highlighted, for the public buildings a target is set to achieve a minimum of 15% energy savings by the end of 2023. For this purpose, the Ministry of Energy and Natural Resources published "Savings Target and Implementation Guide in Public Buildings" in order to achieve maximum savings by following the practices in public institutions and organizations.

Within the scope of the efforts to adapt to the climate change and emission reduction stated in the 11th Development Plan of Turkey (2019-2023) it is planned to expand the number of new buildings that are more efficient and produce their own energy, to support the energy efficiency in existing buildings and to start the "Energy Efficiency in Public Buildings Project" in public buildings by the MoEU, the responsible body for the energy efficiency implementations in public buildings. Binding measures for improving energy efficiency has to be implemented, and the strategies should be updated following up on the surveys and monitoring energy use in public buildings.

AoS #3: Maritime Decarbonisation and Green Shipping Programme

The Turkish Maritime industry is a key enabler of inclusive economic growth and acts as catalyst for global trade. The industry, however, also forms part of one of the most significant polluting economic sectors in the Turkish economy –Transport. According to the latest National Inventory Report (NIR) submitted by Turkey to the UNFCCC (2021), the Transport sector (excluding bunkering fuels) generates around 82,4 million tons of CO₂ per year and around 23,1% of overall emissions in Turkey. Maritime bunkering fuels alone are estimated to generate 2.9 million tons of CO₂ and countless air emissions (SO_x, NO_x, PM particles). Given the importance of the sector, the Maritime industry is expected to continue growing (with its related emissions) by a multiple of up to 1.5x GDP growth in Turkey in the long term. The quality of port infrastructure and services also requires improvement. Outdated equipment and superstructures, which require modernisation, can lead to transport bottlenecks which limit modal shift. Most of the existing fleet is aged and the underlined assets do not justify heavy green investments without incentives. Additionally, many ports are subject to climate change risks, lack energy efficiency and cause local air/ water pollution. In addition to emissions, the consequences of climate change are generating increased risks for Turkish ports from an adaptation perspective. The EU is moving fast towards the greening of the maritime sector and Turkey must closely follow to minimise the incompatibilities, which are causing gaps in bilateral trade.

The Republic of Turkey, a member of the European Maritime Safety Agency (EMSA) CleanSeaNet Service, has ratified and is party to 34 International Maritime Organisation (IMO) Conventions. Turkey also made voluntary commitments to combat marine litter and plastics at the "Ocean Conference" in 2017 in New York. All these facts indicate that the activities of the project will be strongly supported by both the State Authorities and the national key stakeholders.

In February 2021 Turkey signed the Ministerial declaration of the Union for the Mediterranean on sustainable blue economy, including commitments on sustainable, climate-neutral and zero-pollution maritime transport and ports.

In the Black Sea in May 2019 Turkey endorsed the Bucharest Ministerial Declaration on the Common Maritime Agenda for the Black Sea, covering 3 goals - 1. Healthy marine and coastal ecosystems; 2. Innovative, resilient blue economy; 3. Investments - and including a priority related to sustainable and safe transport and shipping. Designed to address the IPA III priorities for Turkey and the regions of Eastern Mediterranean, Aegean Sea and Black Sea, the Programme contributes to achieving specific objectives as set out in the main policy documents about the Turkish Transport sector (**11th National Development Plan, National Transport Master Plan**: Paragraph 157 sets initiative for promoting green growth and limiting the rising trend of emissions, while efforts for adaptation to climate change remain important, **2.2.1. Industrial**

Policies (Paragraph 399) refers to the establishment of a programme for converting the vessels used for short-distance passenger and vehicle transportation into environmentally friendly and energy-efficient fully electrical vessels 2., **3. Sectoral Policies** (Paragraph 510) refers to supporting “Green Port applications” to increase energy efficiency in port operations and minimizing environmental impacts and ensure sustainability, **the Transport and Communication Strategy: Vision 2023** envisages a re-organisation within the Ministry of Transport and Infrastructure in order to accommodate for the increasing responsibilities of the Ministry regarding energy efficiency and environment and the **National Climate Change Action Plan [NCCAP]** aims to develop an intermodal transport system and improve energy efficiency in the transportation sector. The main objective is the improvement of the overall sustainability of the Turkish Maritime value chain through investments, which embody market principles, balance economic, environmental and social needs and are responsive to the needs of people, industry and trade. The Action will support both private and public sector investments, with positive impacts such as reductions in greenhouse gas emissions, improvement in air quality, reduction in waste, reduced disruptions due to climate risks, and reduction in energy intensity.

As explained in detail in the next section, this project is directly supporting various national strategy and policy documents and ongoing projects and programmes run by related public authorities.

2.2. Problem analysis by areas of support

AoS#1

Problems mainly relate to (i) absence of planning for long term policies and strategies on heating and cooling, (ii) the need on data collection and monitoring systems to identify data-driven policies, (iii) untapped potential due to lack of feasibility studies and awareness raising activities, and (iv) insufficient sector coupling.

For item (i), the most popular heating system used in Turkey is natural gas combi boilers, which are individual systems that bring inefficiencies with reference to district heating solutions. The second most widely used method is again individual traditional stoves fuelled by coal or biomass, which is very inefficient and causes air pollution. On the other hand, the picture on the cooling side is blurrier. The most widely used system is individual split type air conditioners in households, which have a poor coefficient of performance numbers with reference to district or centralized cooling methods. Although the service sector seems better, because of the centralized systems used, there is an untapped potential to improve in terms of energy efficiency by establishing effective policies, implementing awareness raising activities and establishing efficient district heating technologies. Also, Turkey has not defined its long-term targets on the heating and cooling sector beyond 2023 which induces a need to prepare a nation-wide sector policy and strategies in line with the EU targets. Enhancing MENR’s capacity on the preparation of sectoral strategies would fill the gap between Turkey’s and the EU’s policies on the heating and cooling sector. In line with the EU’s energy system integration strategy, the energy systems have to be planned and operated as a whole, across multiple energy carriers, infrastructures and consumption. To achieve this aim, a sectoral roadmap and guidelines on heating and cooling are needed to be prepared. With this project, all the negative effects could be minimized by planning long term objectives for the sectoral transition. Main stakeholders in this area will be the MoEU and related sectoral NGOs.

For item (ii), district heating and cooling is not monitored currently in Turkey. MENR monitors and coordinates the stakeholders for the implementation of the NEEAP actions and announces the progress in parallel with the reporting requirements defined in the Energy Efficiency Directive Annex XIV. However, district heating and cooling generation and consumption are not monitored in the current situation, which is also absent in the NEEAP’s progress reports due to a lack of capacity. For doing this, the data collection forms are needed to be prepared, related stakeholders need to be identified and monitoring infrastructure is needed. The capacity increase in this area would also allow the creation of data-driven policies in the sector. The sector should be monitored and related indicators should be produced to identify effective policies that would fit best for Turkey’s unique circumstances. Main stakeholders in this area will be MoEU, district heating and cooling producers and consumers and NGOs.

For item (iii), nearly 80% of energy is consumed for heating and cooling purposes in buildings, which shows where the biggest untapped energy efficiency potential exists. To harness this potential, awareness raising activities may play a major role and feasibility studies may show how big the potential is. Supporting capacities and an increase in awareness will help to increase the consciousness level of the society. Main stakeholders in this area will be the end users and related NGOs. Turkey has a high rate of dependence on fossil fuels used in the heating and cooling sector. With this action, domestic and renewable energy sources could be better integrated to the heating and cooling systems to reduce the dependence on fossil fuels. Main stakeholders in this area will be related NGOs and end users in the heating and cooling sector. EU added value lies in its decades long experience and improvement in the heating and cooling sector in contributing to Turkey's efforts in developing efficient measures. Addressing these problems will complement the national policies and strategies outlined in the previous section.

For item (iv), coupling of electricity and heating & cooling sectors can provide increased energy efficiency and larger utilisation of renewable sources. This potential can be tapped through the introduction of heat storage, heat pumps and electrical boiler technologies alongside electrification of heating and cooling. Turkey currently does not have a roadmap and guidelines for sector coupling of heating & cooling by electrification and energy storage. Key stakeholders include the Ministry of Environment and Urbanisation, the Ministry of Industry and Technology, the Union of Municipalities (TBB), the Union of Energy Cities, Non-governmental Organizations and sectoral representatives (associations, societies, and unions, etc.).

AoS#2

The main challenges facing the energy efficiency in buildings are (i) long-term planning for strengthening the energy performance of existing building stock, (ii) lack of financial support mechanisms, (iii) the need for data collection and monitoring systems, (iv) difficulties faced in implementing energy efficiency measures in existing buildings, (v) lack of guidance on how to address the renovation process at the building owner/authority level, (vi) lack of awareness of the policy makers and building users, namely public.

Firstly, for item (i), although Turkey has set up its strategy on energy efficiency, there is a need to make long-term planning and a business plan to reach the goals. In order to prepare a long term renovation planning and a business plan data is required to determine the budget needed for the EE renovation of the buildings. There is a need to gather the data and identify the prioritization criteria. Furthermore Turkey has not defined its long-term targets on the energy efficiency beyond 2023 which induces a need to prepare nation-wide sector policy and strategies in line with the EU targets.

Secondly, for item (ii) energy efficiency improvement measures often require significant upfront investments. It has been estimated that achieving the current 2030 climate and energy targets of the EU will require €260 billion of additional annual investments, amounting to approximately 1.5% of EU GDP in 2018. This flow of investments will need to be sustained over time and will require the channelling of private finance to support the transition, as a complement to public money.

The importance of mobilising private finance was already recognised before the adoption of the EU Green Deal, back in 2016, when the European Commission issued a communication on Clean Energy for All Europeans⁶ in which it established the Smart Finance for Smart Buildings initiative⁷, including practical solutions to further unlock private financing for energy efficiency and renewable energy in buildings. With a view to piloting this Initiative, the Sustainable Energy Investment Forum (SEI Forum) has been working with national stakeholders in order to boost large-scale investment and financing for sustainable energy and has been building on the work of the Energy Efficiency Financial Institutions Group (EEFIG) as an alternative financing scheme for energy efficient retrofitting of existing buildings. A ZEBRA2020 survey estimates that, to date, the real-estate market does not see a link between the improvement of the energy performance of buildings and Energy Performance Contracts (EPC). The biggest issue for the realization of the energy efficiency, among other obstacles, is the *awareness on the renovation process*⁸. The energy demand is

⁶ [Clean energy for all Europeans package completed: good for consumers, good for growth and jobs, and good for the planet | European Commission \(europa.eu\)](https://ec.europa.eu/info/news/smart-finance-smart-buildings-investing-energy-efficiency-buildings-2018-feb-07_en)

⁷ https://ec.europa.eu/info/news/smart-finance-smart-buildings-investing-energy-efficiency-buildings-2018-feb-07_en

⁸ BPIE (2013): Boosting building renovation: an overview of good practices.

increasing as the effects of rapid urbanization population growth, the rapidly growing and transforming building stock is, resulting in rapidly growing greenhouse gas (GHG) emission.

On item (iii), whereas the building sector is the second biggest energy consumer, it also has the maximum potential to save energy. In order to identify the real potential t data need to be collected - firstly on construction year, construction type, the building materials and secondly energy data in terms of heating and lighting costs. This will allow to, before starting the renovation wave, to determine what should be done and the budget needed and it will allow to establish a prioritization plan to use the funds efficiently. After the renovation the verification of the EE measures can be evaluated.

For item (iv), the energy consumption and indoor thermal comfort of the existing building stock are not encouraging. Compared to the construction of a new building there are difficulties faced in implementing energy efficiency measures such as the insulation of the building façade and the roof, the modernization of the heating, cooling, lighting systems in existing building stock. The challenges range from cracks, leakages, poor insulation, heat losses and high rates of unsustainable technologies. The result of the studies show that barriers to the adoption and application of sustainable technologies are perceived benefits in demolish-and-build, age of building, cost of sustainable technologies, perceived poor payback time, unreliable energy-savings projections, existing design, hidden and overall cost of renovation, and cost of sustainable technologies. There is a need for a sustainable technologies to make the renovation process easy, rapid and cost optimal.

For item (v), building owner/policy makers at authority level need guidance on how to address the renovation process. They should be informed about the benefits of the EE renovations.

Lastly there is a need to raise the awareness on EE renovations among policy makers and above all public building users.

The implementation of energy efficiency renovations of existing public building stock and ensuring a widespread use of these implementations lie within the responsibility of the MoEU in cooperation with the MENR, the Ministry of Treasury and Finance and the Ministry of Science, Industry and Technology, as indicated in the NEEAP.

The Ministry of Energy and National Resources-EEED (MENR) is responsible for the energy policies of the country and will be the main party collaborating in this project. Other related ministries to be collaborated with are the Ministry of Health, Education, Family and Social Services, Labour and Social Security, Presidency of Strategy and Budget, Ministry of Science and Technology, Turkish Standards Institute (TSE), Turkish Statistical Institute (TÜİK), Bank of Provinces, The Scientific and Technological Research Council of Turkey (TUBİTAK), Small and Medium Enterprises Development Organization (KOSGEB). The NGOs and stakeholders to work with are the Union of Chambers of Turkish Engineers and Architects (TMMOB), Union of Turkish Municipalities (TBB), Turkish Association of HVAC&R Engineers (TTMD), Association of Turkish Construction Material Producers (IMSAD), Turkish Contractors Association, EYODER - Enerji Verimliliği ve Yönetimi Derneği (Representative of Energy Service Companies (ESCOs) and companies certified for Energy Audits in Buildings).

The EU support related to AoS#1 and AoS#2 would reinforce the case for renewables and efficiency projects in Turkey because this would be more effective and strategic for both the EU and Turkey. For the EU it would provide an opportunity to put its sustainable energy leadership aspirations into practice, while opening up new commercial opportunities. Also, it would be a good opportunity to support the realisation of the objectives set in the ‘renovation wave’, proposed by the EU Green Deal, since the project is based on two challenges addressed by the “**Renovation Wave**”; scaling up the energy performance and affordability in renovating the building stock. For Turkey, it would enhance the development of a national energy efficiency financing mechanism, together with the climate and environmental performance, while reducing the energy import.

AoS#3

Ports facilities: Turkey’s seaborne trade has increased from 213 million tons in 2005 to just under 420 million tons in 2015, registering a compound annual growth rate (CAGR) of 6.27%. Some of the larger Turkish ports in the region (Mersin, Marport, Kumport, Asyaport) have a high rate of containerisation. Between 2010-2018 Turkey’s container traffic grew at a CAGR of 7.32%, while the 2018 growth alone was 8.3%. Turkish ports

are considered an important pillar in international trade and are almost all privately owned or run under long term concession agreements with the Turkish Government by private parties. However, they remain at an early stage in terms of greening the sector and adhering to sustainable pathways. There has been an increased number of vessels calls a year. In addition to this, there are a limited number of port facilities with alternative fuel bunkering infrastructure and cold ironing infrastructure for cargo or passenger vessels which have not yet been operational. Bunkering of alternative fuel types for vessels will also be needed to move the sector to a more sustainable pathway. Alternative fuel types such as LNG, Hydrogen, Ammonia, electricity and potentially biofuels can reduce CO₂ emissions and air emissions. Maritime operations can be further improved in terms of energy efficiency, since they are powered mostly by fossil fuels while renewable energy systems (RES) have a small penetration. Land side emission reduction strategies related to modernisation and electrification of cargo handling equipment, implementation of intelligent systems for traffic flow and digitalization for just in time vessel calls have still a low uptake in Turkish Ports.

Vessel finance: Leaving aside the toxic for flora, fauna, and buildings (as acid rain) and the wide range of diseases (including destabilization of the heartbeat, skin cancer, asthma, Persistent Pulmonary Hypertension of New-borns (PPHN)), Maritime emissions (CO₂, SO_x, NO_x, VOCs and PM particles) cause severe Environment and Climate change. According to Directive (EU) 2016/802, the use of Emission Abatement Methods (EAM) as an alternative to traditional marine fuels, should be allowed in ships of all flags in ports, territorial seas and economic exclusive zones of the EU. While compliant with EEDI (Energy Efficiency Design Index) requirements of MARPOL Annex VI, the new vessels are not future proofed to achieve emissions reductions aligned with the IMO strategy, the vast majority of the existing fleet suffers from underinvestment in sustainable technologies, and a significant portion of the fleet is old and in a state of disrepair. There is still a significant room for Turkish Maritime sector stakeholders to fully understand and implement environmental technologies and vessel designs that could reduce emissions as standard practice. Retrofitting the existing fleet and making sure that new builds adhere to the best available standards will require a significant amount of financing to be deployed in the next few years to align vessels to new regulations, go over and above those in place and build capacity among private sector players to accept these as standard.

Description of main stakeholders

- **IMO, regulatory agencies, government agencies:** National and international conventions, sanctions, environmental agreements, nature and climate impacts related to green maritime practices and determination of related policies, regulations and incentives for green technologies.
- **Private sector companies involved in the maritime sector:** The Programme will accelerate investments in sustainable maritime operations. The Programme will lever EBRD's relationship with private companies which will act as borrowers and beneficiaries of grants under the Programme.
- **Banks, financiers:** Private banks and other financial institutions which may act as co-financiers.
- **Retailers, Customers, Ports:** The increasing environmental demands of retailers and customers who are exploring their environmental footprint and energy efficiency performance will also serve to encourage maritime transport companies to implement green practices and governance.
- **Local communities, public administrations:** Supports adoption and implementation of maritime green practices which may contribute to improvements in air quality. Municipalities, municipal transport companies or private companies (providing service under a concession or a special license) providing inner city seabus and fast ferry services will also be eligible to borrow from EBRD and receive grants under the Programme.
- **Academia/ Research:** The interdisciplinary scientific community can play an important role in initiating dialogue and communication about the environmental impact and risks of maritime transport.

2.3. Relevance and complementarity with strategies supported by key national stakeholders

Activities under this AoS are expected to enable a smooth transition towards more efficient, low-carbon and affordable heating and cooling supply throughout Turkey by

- enhancing the Ministry of Energy and Natural Resources' capacity for preparation of national strategy and guidelines on heating and cooling sector,
- creating sustainable data collection and monitoring systems for heating and cooling,
- conducting site visits, workshops, trainings and other visibility and awareness raising activities with both professionals and end user to increase the consciousness level of the society,
- preparing feasibility studies across different regions of Turkey to find the most suitable method to heat and cool the buildings and establishments to identify heating and cooling potential,
- enabling sector coupling with electrification, energy storage and renewable energy sources by preparation of legislative recommendations, a roadmap and guidelines for sector coupling of heating & cooling by electrification and energy storage.

With the adoption of the Presidential Circular 2019/27 a new "National Energy Efficiency Action Plan Monitoring and Steering Board" (NEEAP MSB) was established under the chairmanship of the Deputy Minister of Energy and Natural Resources in order to: a) ensure coordination and distribution of tasks between public and private sector institutions and organizations for the effective implementation of the actions in the NEEAP by all relevant institutions and organizations; b) carry out the monitoring and evaluation of the results; c) provide changes and up-dates, as necessary, in relation to the institutional setting and the time frame of planned actions; and d) make studies to improve efficiency.

These objectives are already covered by the 11th Development Plan of Turkey through setting the targets on reducing carbon emission with the measures on energy efficiency (489.2), expanding more efficient building practices (492), implanting climate-friendly practices and increasing awareness of all segments of the society (712), building capacity for adaptation to climate change (714) and improving the air quality by preventing air pollution from production and heating (715).

AoS#2

Activities proposed under this AoS will help tackle the problem of the huge energy consumption in existing public buildings. Within the project, after collecting the building energy use data, energy efficiency renovation plans will be prepared as a basis for investment programming. New innovative renovation solutions will be searched to handle the problems faced in renovation of existing buildings, helping also to shorten the duration of renovation. In addition, contact seminars will be held to bring together the Energy Service Companies (ESCO's), financial institutions and investors and public building representatives who got their energy renovation passports of their buildings in hand to develop and realize the renovation projects. These seminars are supposed to help changing the risk perception of energy efficiency implementation for actors of the Energy Performance Projects, bringing together those organizations on the demand side, those on the offer side and the financing institutions. It will be a step for preparing energy efficiency financial mechanisms for renovation investments.

The main issue addressed in this project is the necessity of sustainable strategies for strengthening the energy performance of existing building stock, and exploitation of the full potential of energy savings through renovation. As a result, it is expected a decrease in the public expenditures in the post Covid-19 period and help to support the European climate strategy particularly mitigation. The Building Passport developed under the project will provide a set of tailored solutions combining the best measures that would allow to get the required performance level for the overall building stock, based on specific features like building type, age, climate (etc.). Each building is considered as a "puzzle piece" contributing to the overall target.

The Building Passports should provide a vision to the actors of the building renovation process: owners, auditor, renovation professionals and financing institutions. Thus, this project will be the initial step towards the development of a national strategy for strengthening the energy performance of public buildings and energy efficiency financing mechanism.

The project will help tackle the energy efficient transformation as a way to reduce disinformation and support the existing public project replication in other buildings, addressing the gaps and needs regarding the current energy efficiency legislation and institutional framework for strengthening the energy performance of

buildings in Turkey and to align these with the European policies and directives related to energy efficiency in buildings

AoS#3

In an effort to improve the sustainability of the maritime value chain, the Action is a new financing model proposed for the Turkish maritime sector to be financed under the IPA III. The main objective of the Programme is to improve the overall sustainability of the Turkish maritime value chain through investments, which embody market principles and new technologies, balance economic, environmental and social needs and are responsive to the needs of people, industry and trade. The Programme will aim to support both private and public sector investments. The Programme is expected to have a number of positive impacts including reductions in carbon emissions, improvement in air quality, reduction in waste, reduce disruptions due to climate risks and reduction in energy intensity. These results will however need to be calibrated during implementation and will be subject to overall pilot projects pipeline development.

The Programme is also aligned to EBRD priorities as established in the relevant strategies including its Transport Sector Strategy and Municipal and Environmental Sector Strateg, specifically in the following priority areas: 1) Port infrastructure, superstructure and equipment, including clean berthing of ships in ports (e.g. cold ironing or LNG fuel switching); 2) Integration and optimisation of logistic operations through investment in fleet, warehousing, storage, sorting and intermodal infrastructure and services; 3) Shipyards, including floating docks, to provide capacity to develop energy efficient vessels and low emitting engines, as well as retrofitting services and maintenance; 4) Energy efficient technologies and designs, fleet scrappage and replacement; 5) Scale up climate resilience solutions including adaptation solutions in coastal areas.

As per the Turkey country strategy for 2019-2024 period, the EBRD's operational priorities are (i) Strengthen Resilience of the Financial Sector and Develop Domestic Capital & Financial Markets; (ii) Foster Turkey's Knowledge Economy and Higher Value-Added Activities and Promote Good Governance; (iii) Promote Economic Inclusion and Gender Equality Through Private Sector Engagement; (iv) Accelerate Turkey's Green Economy Transition and Regional Energy Connectivity.

The programme should take into account the framework of the Green Deal, and specifically the requirements of the upcoming Alternative Fuels Infrastructure Regulation, which sets specific targets for the provision of shore side electricity by ports to certain types of vessels. This is a critical requirement, in terms of reducing CO2 emissions, as well as pollutants from ships in the port and coastal areas. In addition and in line with the Smart and Sustainable Mobility Strategy and the zero emission airports and ports initiative, the programme should include initiatives to green other port services (e.g. cargo handling, towage, port reception facilities).

The Programme (EUR 20 million EU IPA contribution) is expected to raise at least an additional EUR 50 million in investment from the EBRD and co-financiers. **Investment grants** will be blended with EBRD's financing (and other co-financiers' resources) for specific **Port Facilities** and **Vessels** actions, as following:

Port Facilities: Develop bunkering of alternative fuel infrastructure such as LNG, Bio-LNG, Hydrogen or Ammonia, sustainable berthing such as onshore power/cold ironing, incorporation of renewable energy to power port operation such as solar panels, zero and low emissions vehicles and machinery intelligent systems for traffic flow (land side), and just in time call systems for vessels and deployment of energy efficiency measures.

Vessels: Support construction of new vessels and the retrofitting of existing vessels to support the transition to: sustainable marine environment, a low- carbon, energy and fuel-efficient maritime fleet. LNG, batteries/electrification, hydrogen and ammonia vessel technologies are key priorities for the Programme. The Programme also promotes the incorporation of renewable energy sources to power vessel operations and energy efficient technologies.

The Programme intends to address the needs identified in the problem analysis at the following key issues: **Economy:** The Programme enables enterprises to invest in more sustainable and better performing technologies, while lowering their operational costs and eco-footprints. **Finance:** A main barrier to pursuing green Maritime investments in Turkey relates to prioritization of upgrading the existing port facilities and vessel fleets. The availability of dedicated capex grants blended with loans will incentivize project owners to prioritise and pursue higher environmental standards and invest in high performing technologies. **Social:**

Skills development and local capacity building will be a direct consequence of the implemented investments, which include ports modernisation activities and the scale-up of shipping operations relating to the building and retrofitting of vessels. **Innovation:** The Programme will accelerate the local diffusion of advanced and innovative technologies in the shipping industry contributing towards a critical mass of pilot projects which incorporate technologies with low market penetration rates. **Sustainability:** Technical assistance support will assist the project promoters and EBRD, improve knowledge and capacity building and remove obstacles, which will assist in pilot project implementation and build their capacity to independently execute follow-on projects for the development of the green maritime sector. The use of new and innovative technologies will provide momentum for the development of the local market infrastructure (suppliers, vendors, contractors, installers, maintenance and operations) which lowers the costs and raises the availability of such technologies in the longer run. **Environment:** Contributing to climate action and environmental protection is the primary objective of this Programme. All pilot projects supported will include green measures which otherwise would not have been considered, making Turkish Maritime operations more energy efficient, environmentally sustainable and climate resilient, thus building a low carbon, energy and fuel-efficient maritime fleet and infrastructure. Directly leading to climate and environmental benefits, the Programme will have strong demonstration effects in the region and competitive landscape, contributing to a transition towards a sustainable Turkish Maritime industry. All EBRD financed projects will need to follow EBRD environmental guidelines.

2.4. Relevance and complementarity with EU policy and EU and other donors' assistance

AoS#1 and AoS#2

Within the framework of the **UN 2030 Agenda for Sustainable Development** it is considered that activities foreseen under these two AoS will contribute to SDG 7, to ensure access to affordable, reliable, sustainable and modern energy for all, and SDG 13, to take urgent action to combat climate change and its impacts.

As part of the **European Green Deal**⁹, the EU aims at increasing the use of renewable sources, reducing GHG emissions and cutting total energy consumption setting its 2020 and 2030 targets and 2050 long term strategy to constitute a global engagement and to achieve safe, secure, sustainable and affordable energy use by protecting its internal dynamics. Accordingly, the 2030 framework for climate and energy policies sets the targets as to reduce EU domestic GHG emissions by 40% below the 1990 level, to increase the share of renewable energy RE to at least 32% of the EU's energy consumption and to ensure 32.5% energy savings by 2030, with a possible upward revision in 2023. Within its “2050 long-term strategy”, proposed by the Commission on 28/11/2018¹⁰ and adopted by the Council on 12/12/2019¹¹, the EU aims to be climate-neutral by 2050 – an economy with net-zero greenhouse gas emissions. This objective is at the heart of the European Green Deal and in line with the EU's commitment to global climate action under the Paris Agreement.

Within the scope of the **IPA III Programming Framework**, regarding the **energy** sector, the **overall objectives** of the EU's assistance under Window 3 are to promote the green agenda by contributing to mitigation, increasing resilience to climate change, accelerating the shift towards a low-carbon and circular economy and develop the digital economy. Window 3 will also contribute to increased connectivity of the IPA III beneficiaries to the EU and to the wider global market as well as among themselves.

The **specific objectives** of Thematic Priority 2 under Window 3 that relate to the energy sector are: to improve access to digital technologies and services, to accelerate the shift towards a low-carbon, climate resilient economy, to promote clean energy transition and a European integrated energy market.

The European Union actively fights against environmental protection and climate change. Environment and climate change are among the important and challenging EU policy areas that affect citizens' quality of life. Sustainability is very important for future generations to benefit from natural resources. One of the long-term plans of the EU on resource efficiency has been highlighted within the framework of the Circular Economy Package (2015).

⁹ European Commission Communication (COM(2019) 640) 'The European Green Deal'

¹⁰ In-depth analysis in support of the Commission Communication (COM(2018)773)

¹¹ European Council Conclusions of 12 December 2019 (EUCO 29/19)

Within the framework of the overall and specific objectives outlined above, the IPA III Programming Framework attributes importance to the transition to a sustainable, socially just, resilient and climate neutral economy, going hand in hand with the post-COVID-19 economic recovery. To this end, support to the energy sector provides substantial opportunities to promote reliable, secure, affordable, sustainable, low-carbon and efficient energy sources, technologies and markets including a strong emphasis on decarbonisation and just transition, increased digitalisation of the system and smart grids, energy efficiency, including modernisation of district heating, and energy security and energy efficiency as the most effective way to meet carbon reduction targets, reduce energy costs and dependence on imports, in particular in a region featuring an energy intensity that is much higher than the average EU one. IPA III will also continue supporting institutional and regulatory reform measures, through the alignment with and the implementation of the EU acquis.

These projects are directly related to the Energy Efficiency Directive 2012/27/EU¹² and the Energy Efficiency Directive¹³ amended with the Directive (EU) 2018/2002¹⁴, the Energy Performance in Buildings Directive 2010/31 / EU¹⁵ and the amendment in 2018¹⁶.

These projects aim to strengthen the energy performance of the buildings, support the energy efficient transformation and decarbonisation of the existing building stock, it is directly related to, the National Climate Change Strategy, EU climate action and the European Green Deal. Within the framework of harmonization with the EU Acquis, it is also in line with the Directives under the Environment Chapter, also, with its goal to reduce carbon emissions of the public buildings compliant with the Outside Air Quality and Clean Air Directive (2008/50 / EC-CAFE)¹⁷. Besides, the Activities planned within the Action will support the chapter 27 on environment and climate change.

AoS#3

The relevance of the core action of the Programme, specifically the decarbonisation of the Turkish Maritime industry, is intertwined with Europe's as well as the Republic of Turkey's commitment to lead the transition to climate neutrality, a healthy planet and a more connected world in the context of IPA III Programming Framework Window 3: Green agenda and sustainable connectivity and Thematic Priority 1: Environment and climate change.

The European Green Deal resets the Commission's commitment to tackling climate and environmental-related challenges. It aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. The Programme is thus grounded on, although is not limited to, the key issues of Aid environment, Participation development/ Good governance, and Trade development. The new Approach for a Sustainable Blue Economy integrates ocean policy into Europe's new economic policy and the blue economy ocean supports, is indispensable to achieving the transformation set out in the European Green Deal.

The European Union has set in motion an irreversible shift to zero emission mobility while making the Transport system more efficient and resilient, in order to achieve the target for a 90% reduction in GHG emissions from transport by 2050. Although the Transport sector is hit hard by the COVID-19 pandemic, the implementation of the Strategy for Sustainable and Smart Mobility will ease the recovery from this severe impact. A comprehensive Action Plan with concrete policy actions will bring on more a sustainable, smart and resilient European Transport System.

By 2030, there should be at least 30 million zero-emission cars, 80.000 zero-emission lorries in operation and at least 100 climate neutral cities. Any scheduled collective travel under 500 km should be carbon-neutral within the EU, the high-speed rail traffic should be doubled, and the rail freight traffic should be increased by at least 50%. Transport by inland waterways and shortsea shipping should be increased by at least 25%, while

¹² Directive 2012/27/EU of the European Parliament and of the Council

¹³ Directive 2012/27/EU of the European Parliament and of the Council on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

¹⁴ Directive (EU) 2018/2002 of the European Parliament and of the Council

¹⁵ Directive 2010/31/EU of the European Parliament and of the Council

¹⁶ Directive (EU) 2018/844 of the European Parliament and of the Council

¹⁷ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

rail and waterborne-based intermodal should be able to compete on equal footing with road-only transport in the EU. Additionally, the paperless freight transport will be implemented, automated mobility will be deployed at a large scale, and the electronic ticketing will be implemented. Finally, the operational multimodal Trans-European Transport Network will be equipped for sustainable and smart transport with high speed connectivity, and zero-emission ocean-going vessels will be fully operational and ready for market.

By 2035, there should be available fully operational large zero-emission aircraft ready for market, and by 2050 almost all cars, vans, buses as well as new heavy-duty vehicles should be zero-emission. Additionally, the European Union should have doubled rail freight traffic, and tripled high-speed rail traffic. Transport by inland waterways and short sea shipping will be increased by 50%, external costs of transport within the EU will be covered by the transport users, and death toll for all modes of transport in the EU will be almost zero.

The irreversible shift to zero emission Mobility will be the result of boosting uptake of zero-emission vehicles, renewable and low-carbon fuels and related infrastructure, as well as of creating zero-emission airports and ports, which will make interurban and urban mobility more sustainable while greening the Freight Transport and enhancing Transport Safety and Security.

The Programme will also take into account relevant policies and strategies of the International Maritime Organization (IMO). IMO ship pollution rules are contained in the “International Convention on the Prevention of Pollution from Ships”, known as MARPOL 73/78. On 27 September 1997, the MARPOL Convention has been amended by the “1997 Protocol”, which includes Annex VI titled “Regulations for the Prevention of Air Pollution from Ships”. MARPOL Annex VI sets limits on NO_x and SO_x emissions from ship exhausts and prohibits deliberate emissions of ozone depleting substances from ships of 400 gross tonnages and above engaged in voyages to ports or offshore terminals under the jurisdiction of states that have ratified Annex VI. The programme will help to implement the Initial IMO strategy on the reduction of GHG emissions from ships by 50% by 2050 compared with 2008.

2.5. Lessons learned and links with previous financial assistance

AoS#1

Under **TF-016532 IPA 2012 Enhancement of Turkish Energy Sector in line with the EU Energy Priorities and Strategies** project’s **WB Energy Efficiency component**, main objectives were ensuring market development and supporting for commercial lending for energy efficiency in the industrial and building sectors by developing an ESCO industry¹⁸ in Turkey and enhancing the policy and institutional framework in line with the EU acquis. Policy support was provided within the scope of this project to ensure effective implementation of the energy efficiency strategy. The implemented tasks can be classified in four major groups: (i) policy dialogue and legal assistance, (ii) information and awareness raising activities, (iii) training and capacity building, and (iv) supporting tools, documents, procedures based on the lessons learnt.

Under the WB’s Global Environmental Facility Trust Fundprogram, “**Small and Medium Enterprises Energy Efficiency Project Component 2: Policy support and Technical Assistance to GDRE**” technical assistance was provided to support ongoing policy dialogue on energy efficiency, enhance the enabling environment, and foster broader energy efficiency market development in Turkey. Given the vast investment potential and limited size of the credit line, efforts were planned to broaden the market in three main areas, namely: (a) awareness and information dissemination on energy efficiency opportunities and sharing experience from the credit line; (ii) policy and market support for energy efficiency financing and ESCO development; and (iii) institutional support to GDRE to support its EE policy and programs.

Under **TF-019255 IPA 2013 Enhancement of Turkish Energy Sector in line with EU Energy Strategies** project’s **EBRD component “National Energy Efficiency Financing Mechanism Roadmap and Supporting the Establishment of Competitive Energy Efficiency Tender Mechanism in Turkey”** project was designed to help establish a more transparent and efficient market for financing EE projects in Turkey together with competitive tender mechanisms.

¹⁸ ESCO stands for health, safety, quality and economy for consumers with recognized, reliable, certified and approved suppliers and production and processing technologies, final quality control and sales and after-sales services, starting with the selection of raw materials.

Under **TF-019255 IPA 2013 Enhancement of Turkish Energy Sector in line with EU Energy Strategies** project's **WB component**, technical assistance projects were implemented to identify the energy efficiency potential in electricity generation and electricity and natural gas transmission.

IPA 2015 “Technical Assistance for Enhancement of Institutional Capacity in Energy Efficiency” project is currently under implementation. The project aims to improve capacity on energy efficiency within the MENR in all sectors of the economy in order to be in line with EU's resource efficiency targets. The key issues that are addressed by the project are (i) strengthening the existing institutional and personnel capacities to implement the energy efficiency policies and action plans, (ii) designing and implementing viable tools and instruments for the implementation and monitoring of energy efficiency policies particularly the NEEAP.

In Turkey, analyses were carried out within the **Framework of Strategic Sector Cooperation with Denmark** to determine the demand for heating and cooling in the buildings sector and projections were carried out for 2030. By 2030, it is estimated that heat demand of Turkey will increase by 45-60% compared to 2016 and reach 250-280 TWh approximately. Cooling demand from air conditioning devices is foreseen to be 8-13 TWh at the same year. The regional heating potential of Turkey was examined, and it has been determined that the places with a heat density above 50 kWh/m² may be potential areas for district heating. A **Policy Gap Analysis Report** was prepared to be used in the heat legislation impact assessment study for Turkey. Within the scope of the project heating and cooling demand of buildings sector has been determined, heat demand has been calculated in each of the high resolution (1 km² resolution) areas where Turkey is divided into approximately 15,000 regions in order to identify the most suitable areas for the implementation of district heating systems. Furthermore, mapping was made by using the Copernicus Program. In addition, in order to identify the cost effectiveness of district heating systems, different climate and population-dense regions were selected and cost-benefit analyses were carried out. Then a nation-wide cost benefit analysis was calculated. Also, regional heating feasibility was prepared for 1,500 residences in cooperation with TOKİ, within the Kuzeyşehir Social Housing Project, and hydraulic layout design studies were carried out.

Similarly, international financing institutions (IFIs) such as the World Bank, EBRD and EIB and national development banks such as the KfW and AFD highly prioritize sustainable, clean and affordable energy supply projects in order to reach emission reduction targets and ensure social benefits across the globe. Specifically, under EBRD's TURSEFF program, the “TurSEFF solutions for ESCOs are: TurSEFF Finance for ESCOs” loans support investments including Facility Management Control and Monitoring Systems (BMCS), co/tri-generation, rehabilitation of heating, cooling and heat recovery systems, replacement of old motors and VSD applications, rehabilitation of lighting and insulation systems, and renewable energy plants for self-consumption (PV, wind and biomass etc.). Since 2010, totally around 80 million Euro loans were provided by TURSEFF for investments in HVAC, co/trigeneration, heating systems, and heat recovery. These efforts will be expanded in the future with the effects of the EU Green Deal programme.

The EBRD's Turkey Sustainable Energy Financing Facility (TurSEFF) support to develop Turkey's renewable energy market and invested over €650 million in more than 1,600 energy efficiency and renewable energy projects. These projects have resulted in the installation of 535 MW of renewable energy capacity and contributed to saving over 6 million kWh of primary energy and more than 2.3 million tonnes of CO₂ emissions per year by 1st half 2020.

World Bank's Turkey Geothermal Development Project, which is called Risk Sharing Mechanism (RSM), also aims to facilitate private sector investment in geothermal exploration projects in Turkey. A 25 MW geothermal power plant project is supported under the project. In addition to this, the World Bank's Sustainable Cities Project support the renewable energy investments as well.

MENR also initiated collaboration with the World Bank ESMAP's Global Offshore Wind Development Programme to prepare a road map for the offshore wind energy sector development in Turkey as well as support to IPA 2019 site investigations action.

AoS#2

International donors and IFIs have been very active during the last decades in supporting Turkey on its way towards Energy Efficiency in buildings. The support proposed under this area is also fully complementary to

completed and ongoing EU funded TA projects, and will complement the other projects' activities to reach the targets on energy efficiency and combat climate change.

Some of the completed and ongoing projects are given below:

- EUbuild EE Project (2010-2012) by IMSAD, (<https://www.imsad.org/tr/etkinlikler/projeler/eubuild-ee-2010-2012/>)
- Promoting Energy Efficiency in Buildings (GEF project) (2011-2015) (<https://www.thegef.org/project/promote-energy-efficiency-buildings>)
- Energy Efficiency in Public Buildings (GIZ project) (2014-2020) (<https://www.giz.de/en/worldwide/32607.html>)
- Improving Energy Efficiency in the Buildings Project (IPA 2011 Project) (2015-2017) (<http://old.avrupa.info.tr/eu-projects-at-a-glance/environment-transport-energy/improving-energy-efficiency-in-buildings.html>)
- Energy Efficiency in Public Buildings Project (IBRD&CTF) (2020-2025) (<https://www.worldbank.org/en/news/loans-credits/2019/11/05/turkey-energy-efficiency-in-public-buildings>)
- Seismic Resilience and Energy Efficiency in Public Buildings Project (IBRD&GFDRR) (2021-2027) (<https://projects.worldbank.org/en/projects-operations/project-detail/P175894>)

The lessons learned from previous projects and how they have been reflected in the Project design are summarized below:

- Ministerial coordination (political structure) is of a vital importance for future works as it will enable communication and transfer of knowledge between relevant bodies.
- In support of EE, the issue of a wider EE policy coordination should be taken into consideration in the design.
- Establishing a regular consultative process with the related stakeholders in order to forge strategic partnerships for the effective implementation of energy performance of buildings should be considered. Building a strong institutional capacity in the sector to coordinate the EE measures throughout the country and between the relevant public and private institutions is a key factor.
- The dissemination of the project results to the sector, provincial institutions and local bodies has vital importance to facilitate mutual understanding among different actors thus contributing to adequate ownership of the project goals.
- Involvement in R&D and European programmes should be encouraged.

There are two ongoing World Bank financed projects; Energy Efficiency in Public Buildings Project (EEPBP) with a budget of US\$ 200 million and the Seismic Resilience and Energy Efficiency in Public Buildings Project (SREEPB) with a budget of US\$ 265 million. The overall objective is to reduce energy use in central government buildings and inform the development of sustainable financing mechanisms to support a scaled-up, national program for energy efficiency in public buildings. In the EEPBP minimum 20% energy saving with a 12 years pay back period and in the SREEPB Project minimum 15% energy saving are targeted. In both projects approximately 500-700 public buildings will be renovated to achieve substantial energy savings. Project main indicators to monitor progress towards the PDO will include: (i) projected lifetime energy savings from EE investments in central government buildings and (ii) number of public buildings made resilient to earthquakes, associated CO₂ emissions reductions as a result of the energy savings; number of buildings renovated for seismic safety and EE; budgetary savings from EE investments.

The energy efficiency performance and the investment costs of the renovated buildings will be real scenarios to be taken into consideration for the programming of the Action. The action will search for the new techniques to overcome the obstacles in the renovation of the existing buildings. One of the activities under AoS plans to establish a monitoring system for the renovated buildings for the verification of EE measures applied. The experience gained in the activity will be used in the World Bank Project and results and the achieved best practices will be disseminated. In other words: the two projects will complement each other.

EU/EBRD have launched “Enhancement of Turkish Energy Sector in line with EU energy strategies” Programme under the IPA 2013, in order to promote resource efficiency, renewable energy investments and capacity building. There are some other programmes implemented to strengthen the sectoral capacity and scale up the energy efficiency implementations in Turkey, e.g. TUREFF, TURSEFF, MIDSEFF, PLUTO.

World Bank also contributes to the development of the sector in Turkey with: Private Sector Renewable Energy and Energy Efficiency Loan; Project for Increasing Energy Efficiency in SMEs; Turkey Energy Efficiency in Public Buildings projects with the loans and grants made available from CTF, GEF, IBRD

The lesson for the project is: financial mechanisms and more IFI support is needed for the sustainable renovation of the building stock. It is important to gather data to determine the potential, to monitor and verify. The implementation for EE of public buildings that will be monitored is an opportunity to use the tested best practices and cooperation of the stakeholders will scale up the renovation process.

AoS#3

Regarding the implementation of MARPOL Annex VI, an action called “Control of Ship-Sourced Emission in Turkey” (Jan 2011-Nov 2013), co-funded by the EU, was implemented. Within the aimed components of the project, the National Legislation for Turkey regarding the MARPOL Annex VI and EU directives on ship sourced air pollution was prepared. Development of a Strategy Document for Turkey on the implementation of ship sourced air pollution activities were also finalized; The ECA proposal for the Marmara Sea was prepared in order to submit to the IMO and more than 100 port state control officers were trained by experts. As a result of the project, Turkey’s ratification of MARPOL Annex VI was accomplished in 2013. A draft national legislation was prepared for Turkey. In addition, the “Sulphur Regulation” has been harmonized and implemented in Turkey since 2012. In the marine jurisdiction inland water vehicles and ships in ports of Turkey, the use of marine fuel with a sulphur content exceeding 0.1% by mass is prohibited.

3. DESCRIPTION OF THE ACTION

3.1. Planned results and intervention logic

AoS#1

The activities under this AoS aim to enable a smooth transition towards a more efficient, low-carbon and affordable heating and cooling supply across Turkey. The first step is the preparation of MENR’s national strategy and guidelines and the establishment of the monitoring system for data collection for heating and cooling. If an effective monitoring system is implemented, then it will allow for analysing the sectoral progress, which would in turn lead to the production of required data and indicators needed for policy development. If the technical capacity of MENR in this field is improved, then it will help to prepare long-term strategy documents with specific, measurable, achievable, relevant and time bound targets. If these outputs are realised, the intervention will contribute to the sectoral transformation of efficient heating and cooling systems. Moreover, prepared guidelines and templates are expected to guide all parties, including private sector (energy producers, energy carriers and mediums, etc.) and end users. Besides, feasibility studies and awareness raising activities are expected to play an exemplary role for the society and increase consciousness level in all segments, thus contributing to the dissemination of efficient heating and cooling systems. If those outputs are realised, the long-term impact of EU intervention would be the establishment of a sustainable heating and cooling policy which will eventually serve emissions control, reduced energy intensity and improved energy efficiency.

AoS#2

The objective of the activities foreseen under this AoS is to improve energy efficiency of public building stock. The objective will be achieved with the delivery of three outputs, namely: i) developing tools for a transparent and an accountable model with a focus on energy performance contracts to support the energy efficiency renovations of public buildings; ii) promoting the dialogue and synergies for cooperation between ESCO’s, the public investors and finance institutions to support the development of energy performance projects and iii) raising awareness of public and occupancy and institutional capacity of the actors in the sector in Energy Efficiency and Performance of Buildings. The proposed support will help tackle the huge energy consumption problem of existing public buildings.

Sectoral energy efficiency policies at the national and the regional (among EU countries) level will be examined, the energy consumptions of public buildings in different regions of Turkey will be monitored, individual energy renovation roadmaps for each public building will be identified to keep up with the energy efficiency targets of the country.

Necessary steps will be taken to overcome the barriers, build trust among the sectoral actors, and develop national energy efficiency financing mechanism common in. In order to achieve one of the specific objectives, capacity building, training and awareness raising activities are foreseen to increase the social and sectoral awareness on the efficient use of energy resources.

These activities will support the development of a long term and a significantly scaled up investment programme focused on increasing the energy efficiency of public buildings in Turkey. Activities undertaken and lessons learnt under the activities would also have broader applicability to private and residential structures in Turkey.

AoS#3

Aimed at reducing the GHG and air pollutant emissions, the Programme will deploy grants blended with EBRD and other co-financiers financing to deliver investments regarding alternative fuels and deployment of energy efficient solutions for the Turkish Maritime sector at sea (vessels) and onshore (ports). The Programme will also mobilise Technical Assistance for project preparation and implementation support as well as to identify policy, regulatory and capacity gaps.

The EBRD will be responsible for developing a pipeline of pilot projects which promise a high demonstration impact. In doing so, the EBRD will review the pilot project pipeline identified through the ATA assistance of the EU Delegation in coordination with Ministry of Transport and Infrastructure and could prioritize them should they meet all investment criteria. (see also section 4.2 on implementation modalities).

The objectives set out in this AoS would not be achievable without the financial aid of the European Union and without the close cooperation of the Authorities of the Republic of Turkey, which are committed to actively promote Climate Change mitigation policies and initiatives particularly in the maritime sector. Furthermore, during many multileveled meetings with the key stakeholders, strong local ownership and commitment to the objectives of the Programme was confirmed. Therefore, if the Turkish Authorities as well as all other stakeholders remain committed to the aforementioned policy and keep up investing at the maritime industry, they will realise improved sustainability and climate resilience of port facilities. In addition, they will promote the retrofitting of the existing vessels and the building of new eco-friendly ships, ensuring green maritime operations and thus protecting the environment while improving, among others, the climate related corporate governance of the private sector too. Thanks to these pilot initiatives, the GHG and air pollutants emissions per year will be abated, the final energy consumption of the Maritime industry will be reduced, and the benefits of the circular economy will positively impact the local communities and the Turkish society as a whole. Furthermore, there will be climate resilience benefits for resilience investments and capacity improvement of the Turkish Maritime Authorities, thus enhancing further specific corporate climate governance actions.

Should the Republic of Turkey undertake ownership and successfully take advantage of the initiatives, actions and technical support of the Programme, the Turkish Maritime operations will gradually become eco-friendly due to the new fleet of green vessels and the improved port facilities infrastructure, while the climate related corporate governance of the private sector would become step by step more effective. In addition, if the Turkish Authorities remain committed to actively promoting climate mitigation and adaptation investments for the Maritime industry, there will be even more sector enterprises eager to respond, participate, and invest in the Programme.

Under these circumstances, the intervention will contribute to the expected impact of the core activities of the Programme, which is the abatement of 2-4 kt of CO₂¹⁹ emissions per year as a result of the improvements on the de-carbonisation of the Turkish Maritime sector, thus improving significantly the environmental performance of the region.

¹⁹ Actual CO₂ reduction will depend on the selected projects for financing.

3.2. Indicative type of activities

Outputs	Activities	Type of Activities
AoS#1		
MENR’s national strategy and guidelines are prepared.	Analysis and assessment of the Turkish heating and cooling sector	Technical assistance
	Preparation of the national strategy paper on efficient heating and cooling	
	Development of legislative recommendations and implementation guidelines on efficient heating and cooling	
	Capacity building through site visits to EU best practices, regional workshops and trainings	
Monitoring system for data collection for heating and cooling is established.	Development of a digital data collection and monitoring system	
	Communication and visibility and awareness raising activities, and dissemination of promotional materials	
AoS#2		
A transparent and accountable model of energy performance contract to be applied in EE renovation of public buildings is developed, by combining the different tools provided through the foreseen activities/outputs.	Building assessment and benchmarking tool which is based on Data Gathering on Individual Building Level as a component of the online tool for sustainable building energy performance. The gathered data will be processed and evaluated on the basis of key performance indicators.	Technical assistance
	Building energy renovation passports (BPR) A building specific renovation plan with cost-effective approaches for implementation of renovations relevant to the building type and climatic zone, considering potentially relevant trigger points, where applicable, in the life-cycle of the analysed public buildings. It consists of two parts: (1) Renovation Roadmap; (2) Building Log Book	
	Development of monitoring software to track the energy performance of public buildings	
	Development of a yearly roadmap to increase the number of “nearly zero energy public buildings (NZEB)” and periodical reports analysing and updating the existing situation were prepared.	
A structured dialogue between ESCO’s, public investors and finance institutions is in place to support the development of energy performance projects	Preparation of National Market report	Technical assistance Policy dialogue
	Development of a national discussion platform devising recommendations for enhancing the policy frameworks.	
	Organization of trust-building and match making events	
	Preparation of two policy recommendation papers on national investment models financial mechanisms and Energy Performance Contracting (EPC)	
Public and occupancy awareness were raised and Institutional	Development of Training Programs: (1) to enhance the technical capacity of the Project Coordination Unit (PCU) responsible from the coordination and monitoring of the project; (2) to enhance the capacity of the staff in the Provincial Directorates of MoEU that are going to be responsible of the preliminary audits of the public	Technical assistance

Outputs	Activities	Type of Activities
Capacity of the Actors in the sector in Energy Efficiency and Performance of Buildings, was developed	buildings to prepare their Renovation Passports after the completion of the project period; (3) towards the other technical staff in MoEU and MENR	
	Institutional Capacity building towards the relevant stakeholders	
	Raising awareness of public and occupancy to support the achievement of targets towards energy performance of public buildings renovated	
AoS#3		
Sustainability and climate resilience of port facilities, new vessel construction and retrofitting, and maritime operations is improved	Investment grants will be blended with EBRD financing (and other co-financiers’ resources) for pilots and other investments: 1. <u>Port Facilities</u> Develop bunkering of alternative fuel infrastructure such as LNG, Bio-LNG, Methanol, Green Hydrogen or Ammonia, sustainable berthing such as onshore power/cold ironing, incorporation of renewable energy to power port operations such as solar panels, zero and low emissions vehicles, cargo handling equipment and machinery and deployment of energy efficiency measures (intelligent systems for land based traffic flow, just in time vessel calls, port lightning). 2. <u>Vessels</u> : Support the construction of new vessels and the retrofitting of existing vessels to support the transition to: sustainable marine environment, low- carbon, energy and fuel-efficient maritime fleet. LNG, batteries/electrification, methanol, green hydrogen and ammonia vessel technologies are key priorities for the Programme. The Programme also promotes the incorporation of renewable energy sources to power vessel operations energy efficient technologies.	Investments
Climate related corporate governance of the maritime sector is improved	C1: Technical Assistance for Clients: In order to ensure projects are successfully implemented in the Turkish Maritime Sector existing barriers will need to be removed. For instance, reaching the final investment decision and the initiation of a project demands that all environmental, operational, safety, regulatory and financial issues are successfully treated in a timely manner. TA will be deployed to remove these barriers with assignments tailored to the specific requirements of individual potential projects. The assignments undertaken under this component will include, but will not be limited to feasibility studies/project preparation, market studies, capacity building and training, implementation support, lenders monitor and project management as well as supporting climate related corporate governance action plans.	Technical Assistance
	C2: Maritime Technical Expert(s): The Maritime Technical Expert(s) will provide technical guidance to project promoters and stakeholders on sustainable and frontier technologies and assist in pipeline development and project due diligence.	Technical Assistance
Policies to advance investments in onshore power (cold ironing) and climate resilience	C3: Policy Dialogue Framework: TA under this component will comprise capacity building support and policy dialogue activities on climate resilience and climate resilience assessments. This may include, but not limited to, provision of legal support for drafting legislations, workshops with stakeholders, public awareness campaigns, promotional events, interactions (site visits, meetings,	Technical Assistance Policy Dialogue

Outputs	Activities	Type of Activities
activities are facilitated	study visits to EU countries) with best practices of IMO Member States on alternative fuels and maritime decarbonisation. In terms of enhancement of technical capacities, purchase of the packaged software to be used in order to monitor and trace the GHG emission from ships is planned.	

3.3 Mainstreaming

How does this Action contribute to Gender Equality and Women's and Girls' Empowerment (in line with the EU gender equality strategy 2020-2025)?

With respect to AoS#1 and AoS#2 this intervention will contribute to the Objective 4 of the EU Gender Equality Strategy 2020-2025²⁰: Gender mainstreaming and an intersectional perspective in EU policies, putting equal opportunities between men and women as an integral part of its design, implementation, monitoring and evaluation.

Gender balance will be sought on all the managing bodies and activities of the Action and attention will be paid during all stages. Equal participation of women and men will be considered, wherever applicable and relevant, in the design of activities and access to the opportunities they offer. Promotion of gender equality and equal opportunities will be considered. The gender dimension of the activities will also be closely monitored by the European Union in terms of compliance with the Gender Action Plan III²¹.

Principles of equal opportunity for female and male and non-discrimination on grounds of gender are considered throughout the programme implementation. Therefore, measures to ensure equal opportunities and non-discrimination regardless of gender are integrated in the design and the implementation of this programme. As such, the Action will ensure that equally qualified men and women will be given equal opportunity to participate and benefit from it.

With regard to AoS#3, economic inclusion and inequality have become defining political, social and economic issues shaping the EBRD region today. For instance, in many EBRD countries of operation women still face difficulties in accessing the same economic opportunities as men. There are many ways how economic systems continue to favour men over women ranging from labour practices that offer women lower pay to legal and cultural barriers restricting their access to jobs and finance.

Regarding improved access to services, EBRD promotes women's safety and security as part of mainstreaming gender inclusion in infrastructure and transport investments to ensure that women do not miss out economic opportunities due to safety and security concerns. This is highly linked to the prevention, mitigation, response and monitoring of gender-based violence and harassment (GBVH) in infrastructure and transport sectors. Hence, the Bank provides technical support to its clients across sectors including infrastructure and transport to address GBVH through capacity building and awareness raising.

Where relevant AoS#3 and underlying investments will address issues related to gender, non-discrimination through stakeholder engagement as part of project preparation to ensure that all the needs and concerns of the local stakeholders are taken into account and addressed as part of the project design and implementation. As part of project structuring gender considerations will be analysed and if relevant incorporated into the project design. Moreover, where relevant, capacity building to EBRD clients will be delivered through the development of sector specific tools and trainings as part of technical cooperation support.

How does this Action address Environment and Climate change?

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

²⁰ A Union of Equality: Gender Equality Strategy 2020-2025, COM(2020) 152 final

²¹ Joint Communication to the European Parliament and the Council, JOIN(2020) 17 final

requires sustainable private sector investments and a well-functioning and regulated energy market, while limiting environmental damage, reducing GHG emissions, and increasing energy efficiency and renewable energy utilization. In this respect, as for AoS#1 andAoS#2, increased utilization of renewable energy and energy efficient technologies at the local level is an effective solution for both security of energy supply and reduction of GHG emissions. Activities of this action are going to contribute extensively to the sustainable environment targets of the EU and Turkey. This action will contribute to the deployment of low-carbon energy applications such as utilisation of renewable energy and energy efficient clean technologies for electricity generation and heating and cooling including district heating and cooling systems.

With regard to AoS#3, the proposed activities promote Environment and Climate Change mitigation and adaptation by intervening in Ports facilities and Vessel finance, the two main sectors of the Turkish Maritime industry. This AoS will increase capacity driving bunkering alternative fuel infrastructure, energy efficiency, incorporation of renewable energy sources to power operations, climate resilience, decrease of emissions, electrification and equipment upgrades, onshore power/ cold ironing, certifications and climate governance. AoS#3 will facilitate fuel switching for new builds and existing fleets, energy and fuel efficiency upgrades (machinery, propulsion and hull improvements, energy consumers, energy recovery, operational optimization) support capacity upgrades that can drive modal shift, fully electric short distance vessels, certifications and climate governance.

How does this Action address the Rights Based Approach?

Turkey has made significant progress in the field of human rights to achieve measurable progress towards the full enjoyment of all fundamental rights and freedoms by all individuals without discrimination in all areas. The principles of transparency, inclusiveness and non-discrimination will be applied across all activities and at every stage of the proposed action implementation.

How does this Action promote the systematic engagement with Civil Society?

Engagement with civil society will create the backbone of the awareness raising activities of the action. In order to inform the stakeholders about the activities, close cooperation and coordination will be provided with line ministries, public institutions, NGOs and public in general. Stakeholder meetings will be employed for interacting with various stakeholders. Preliminary meetings and other activities identified in the need analysis will also be held to create awareness about the objectives of action and integrate the approaches of various stakeholders into the implementation process.

Complementary to similar activities undertaken in the field by the EU, the Programme will strive to engage with local stakeholders, instigate a debate on the need to decarbonise the Maritime sector in Turkey, enable public consultation in the context of policy assignments, raise awareness of the proposed activities and ensure wide dissemination of its results.

Others (such as Resilience and Conflict Sensitivity, Roma, people with disabilities and other vulnerable groups)

Turkey guarantees equal treatment for all the citizens. Activities financed under this proposed projects will thus be implemented by complying with the principles of preventing all forms of discrimination and promoting gender equality. Based on the fundamental principles of promoting equality and combating discrimination, participation in the proposed action will be guaranteed on the basis of equal access regardless of sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation.

3.4 Risks and assumptions

Risks	Risk level (H/M/L)	Mitigating measures
AoS#1		

Heating and cooling data collection could be limited due to the unwillingness of the end users.	M	Promotion materials with visibility logos such as USB sticks, power banks, external memory devices etc. will be distributed to participating end users; as an incentive energy certification services will be provided to participating buildings.
Lack of available and reliable data.	M	This risk will be mitigated through the collaborative activities with the support area including the development of a digital data collection and monitoring system and the Ministry's enforcement measures.
AoS#2		
High staff turnover at the MoEU	M	When key personnel is relocated or re-assigned at the crucial point of the Action implementation, due to compulsory circumstances, new key personnel as a replacement will be appointed as quickly as possible. As soon as his/her approval is obtained, the assigned personnel is subjected to orientation training .
Insufficient willingness and availability of co-beneficiaries to part-take in project activities	M	Awareness raising activities will be designed to encourage co-beneficiaries to actively take part in the implementation of the activities and contribute to the achievement of the objective.
Lack of legislative arrangements to regulate the policy and market barriers reported by the Stakeholders that plagued the implementation of Energy Performance Contracting (EPC)	L	In addition, the stakeholder recommendation papers prepared as a result of National Discussions are going to be presented to the Strategic Planning Unit of the Presidency
Building designers and architects are reluctant to apply energy efficiency principles in planning	L	Awareness raising activities will target this group
AoS#3		
Financial Risk Green maritime projects are considered to be relatively new to the region and hence subject to significant technology risk and early mover risk. Local financiers are generally reluctant to provide financing for unfamiliar projects such as these. Transaction costs are often high due to the lack of market interactions and business relationships. The focus on liquidity that has resulted from the recent economic/currency crisis has hampered investments with a longer payback period. This is particularly significant in the maritime sector since the investments needed are often large and long term.	H	The provision of the investment grants together with the technical support will provide sufficient incentive to the client to take additional risks relating to implementing new technologies.
Green Corporate governance Standards of corporate governance and business conduct are often insufficient in order to implement elements of green maritime projects such as certification	H	The TA component can be used to strengthen capacity in the area of corporate governance and facilitate operational performance improvements.

schemes, partnerships, green procurement. For example, there is a lack of data on internal resource use and operational parameters of systems and processes. The responsibility regarding sustainability in many companies is not clearly allocated and the departments dealing with it often measure success using different Key Performance Indicators.		
Client capacity to implement Innovative systems are highly complex and multidisciplinary. Achieving sustainability in the maritime sector requires competence and knowledge, for which education and training are currently lacking. For companies, the limited in-house expertise affects actors' ability to choose suitable options, since the market for energy efficiency technologies and solutions is vast and it is not easy to navigate the large menu of options.	M	During project preparation phase of the investments the clients will be supported by EBRD and other co-financiers sector experts and external technical advisers in assessing capacity gaps with identification and prioritisation of most suitable technologies. The TA will initially pre-identify the project pipeline and motivate potential investors to meet EBRD and other co-financiers' conditions. TA will include, but not be limited to due diligence, feasibility studies, market studies and application support, applicability of innovative and frontier technologies requiring grant financing and the associated cost-benefit analysis. As part of implementation the clients will be exposed to international best practice in procurement, implementation and monitoring of the investment projects hence be able to improve their capacity beyond the project delivery.
Awareness In the maritime sector, there are many technologies and initiatives that are new in the region, have a low level of penetration and low awareness. There is a lack of information about available options, their performance, cost and financial rewards.	M	Technical Assistance will deliver studies on new technologies in maritime sector and related policy requirements and climate resilience assessment which will facilitate dialogue with relevant stakeholder both on the level of the government and other stakeholders in the maritime sector. In addition, it will include workshops with stakeholders, public awareness campaigns, promotional events, interactions (site visits, meetings) with European stakeholders applying best practices on alternative fuels and Maritime decarbonisation
Technology Low-carbon maritime solutions are not yet widely available and are yet to be implemented in the vast majority of the Turkish fleet and ports. Shore Power for example is considered to be a must have in many developed ports around the world and is also supported by local policy and regulation. However, issues relating to the demand side of the equation (vessels with the technology on board to connect on shore power) will persist in countries with developed policies and regulations.	H	Technical Assistance will facilitate support to the government to consider putting in place enabling regulatory environment to support penetration of low carbon technologies in the maritime sectors.

Assumptions (to be reflected in the Logical Framework Matrix below) – grouped by outputs and outcomes

At the level of Outcomes

- There is a continuous commitment, steered and coordinated at the highest level of the government, to address the key priorities under Transport and Energy Sectors.
- The necessary domestic financial and administrative resources are effectively and efficiently mobilised.
- There is strong institutional cooperation and with a full involvement of stakeholders.
- Authorities remain committed to actively promoting climate mitigation and adaptation investments.
- Political commitment is ensured.
- Positive microeconomic situation encourages renewable energy and energy efficiency investments, thus curbing GHG and air pollutant emissions.
- Turkish Authorities are encouraged to prioritize the remedy of environmental problems, starting with the proper monitoring techniques implied from the AoS#3 to reduce the carbon footprint of the maritime industry.
- Increasing the share of renewable energy resources in electricity production will continue to be a priority in Turkey.

At the level of Outputs

AoS#1

- MENR approves national strategy paper and guidelines.
- Stakeholders and end users are willing to share data and participate in project activities.

AoS#2

- Presence of various national and international fund sources
- Energy efficient renovation of public buildings remains a policy priority throughout the implementation of activities.
- Stakeholders, universities, local authorities and local energy service providers are willing to share and participate in project activities

AoS#3

- Responsiveness and commitment of targeted private and public sector enterprises to participate in the Programme and undertake relevant investments.
- Appropriateness of identified projects to bankability criteria of the EBRD.

3.5. Conditions for implementation

There are no pre-conditions envisaged to affect the effective and timely implementation of the action in relation to AoS#1 and AoS#2.

Concerning AoS#3 the Programme will benefit from a long-lasting cooperation between the EU Delegation and the EBRD, as well as the existing relationship between the Ministry of Transport and Infrastructure and the EBRD. However, for the effective and timely implementation of the Programme, the following conditions should be in place:

1. A pipeline of investment projects will be developed for financing by the EBRD. The EBRD will also review the pipeline identified through the technical assistance provided by the EU Delegation. Such projects could be prioritised if they satisfy all investment criteria of the EBRD.
2. All related and relevant Turkish authorities will take part in the maritime decarbonisation policy dialogue to ensure the necessary regulatory environment is adopted and various problems and bottlenecks are solved with best endeavours. The Turkish Authorities should include the environmental impact assessment systematically in new maritime infrastructure projects.
3. The Republic of Turkey should remain fully committed to actively promoting Climate change mitigation and adaptation investments for the Maritime industry of the region. Turkish Authorities are

strongly encouraged to prioritize the remedy of environmental problems, starting with the proper monitoring techniques implied from the Programme to reduce the carbon footprint of the Maritime industry.

3.6. Logical Framework

Results	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Baselines (year)	Targets (year)	Sources of data (1 per indicator)	Assumptions
Impact	The green agenda is promoted by ensuring an accelerated shift towards a low-carbon economy in energy and transport sectors.	Logistics Performance Indicator	3.15 (2018)	10%increase 3.50 (2027)	World Bank	
		Energy from renewable sources, in selected years, 2005-2017 (% share of gross final energy consumption)	13.7 2015-2016 average	to be established during project implementation	Eurostat	
AoS#1						
Outcome 1	MENR’s capacity to plan and implement, measure and monitor energy efficient heating and cooling is enhanced	Completion rate of 26 actions under MENR’s responsibility in the National Energy Efficiency Action Plan	20% (2019)	100% (2023)	MENR’s reports (Directorate of Energy Efficiency and Environment-DEEE)	There is a continuous commitment, steered and coordinated at the highest level of the government, to address the key priorities under Transport and Energy Sectors. The necessary domestic financial and administrative resources are effectively and efficiently mobilised There is strong institutional cooperation and with a full involvement of stakeholders Authorities remain committed to actively promoting climate mitigation and adaptation investments Political commitment is ensured The Turkish economy keep up growing at positive rate, enhancing energy efficiency so
AoS#2						
Outcome 2	Improved energy efficiency of public building stock is achieved.	The increase rate of energy performance of public buildings	min.0%- max 20%- (2020)	min.15 % -max 40% (2024)	Presidential Decree dated 16 August 2019 the Energy Efficiency Law no. 56272-	
		The rate of the total floor area of public buildings renovated each year to meet at least the minimum energy performance requirements.	2% (2020)	4% (2024)	The annual reports of MoEU and MENR	
AoS#3						

Results	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Baselines (year)	Targets (year)	Sources of data (1 per indicator)	Assumptions
Outcome 3	Environmental performance of the Turkish Maritime sector is improved	Main Indicators GHG emission per year (kt CO ₂ eq./year) Air pollutant emissions per year (kt of SO _x , NO _x , VOCs and PM particles/ year) Secondary Indicators (to be set as pipeline develops) Final energy consumption per year (MWh/ year) Circular economy benefits per year (tonnes/ year) Climate Resilience Benefits for resilience investments Capacity improvement of Maritime Authorities Corporate Climate Governance actions proposed	to be established during the project implementation	2-4 kt of CO ₂ emissions abated per year	Project related documents and due diligence. The Data will be collected once by the entrusted entity upon the projects financial close. Packaged software instrument will be used for monitoring and tracking GHG emissions from ships.	as to curb GHG and air pollutant emissions Turkish Authorities are encouraged to prioritize the remedy of environmental problems, starting with the proper monitoring techniques implied from the Programme to reduce the carbon footprint of the Maritime industry Increasing the share of renewable energy resources in electricity production will continue to be a priority in Turkey
AoS#1						
Output 1 related to outcome 1	MENR’s national strategy and guidelines are prepared.	Announcemenmt of national strategy paper and guidelines on efficient heating and cooling	No national strategy paper and guidelines are in place (2021)	National strategy paper and guidelines on efficient heating and cooling are published (2027)	DEEE	MENR approves national strategy paper and guidelines. Stakeholders and end users are willing to share data and participate in project activities.
Output 2 related to outcome 1	Monitoring system for data collection for heating and cooling is established.	Establishment of data collection and monitoring system for heating and cooling including the energy supplied to buildings whose construction area higher than 2000 m ² and, industrial establishments and greenhouses	No data collection and monitoring system for heating and cooling is in place. (2021)	Data collection and monitoring system for heating and cooling is in place (2027)	DEEE	
AoS#2						
Output 1 related to outcome 2	A transparent and accountable model of energy performance contract to be applied in EE renovation of public buildings is developed, by combining the	Number of Building Data gathered through existing databases and field visits	150 - 2020	500 - 2024	The data gathered from the existing databases ENVER, KABEV, KAYES The information gathered through walk through audits	Presence of various national and international funds Effective communication and cooperation between the relevant stakeholders

Results	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Baselines (year)	Targets (year)	Sources of data (1 per indicator)	Assumptions
	different tools provided through the foreseen activities/outputs				The information gathered from the buildings occupancies	Good coordination of the project activities with high level support from the relevant institutions Good coordination between the consultant (s) and the Ministry Timely progress of the project activities Local authorities and local energy service providers are willing to monitor and inspect the EE in building Interest of the identified universities to co-operate with the project. Strong coordination between all stakeholders including, TUIK, municipalities, ESCOs, financing institutions, investor groups, certification bodies, the energy efficiency services sector, tertiary sector actors, public authorities and policy makers, and the Ministry
		The number of buildings that obtain Electronic building energy renovation passport (BRP) documents with information on relevant topics such as steps to be taken to implement the renovations, financial or other types of incentives for renovations, and the validity period of renovations	0 - 2020	100 - 2024	Renovation passports of the public buildings examined	
		The number of public buildings that obtain NZEB renovation passports	0 - 2020	5 - 2024	NZEB renovation passports for identified public buildings	
		The number of renovated buildings monitored	0 - 2020	200 -2024	a. Periodic reports taken from public buildings assessed. b. Public buildings energy consumption data verified through established online tool.	
		Rate of positive feedbacks taken from the sector on the Energy Renovation Passports	0% (2020)	70% (2024)	Reports from the Questionnaires provided from the key sector players (Min 500 professional from sector) The periodic report of IMSAD/ Working Group on energy efficiency and financing mechanism	
		Number of energy performance contracts (EPC) established for renovation of public buildings	0 (2020)	5 (2024)	4. The number of EPC monitored via the on-line tool	
		The number of the agreements signed between finance institutions and public authorities	0 – 2020	5 - 2024	The online project application tools of EU and other international organizations	
Output 2 related to outcome 2	A structured dialogue between ESCO's, public investors and finance institutions is in place to support the development of energy performance projects	Number of meetings organised within the framework of the National discussion platform	0 -2020	4 - 2024	1.List of participants participated in discussions 2. Meeting Reports	1. Correct use of social media & the other media tools 2. The relevant technical professionals with necessary skills and competencies
		The number of registered members of the National Discussion Platform	0 - 2020	200 - 2024	2.Discussion reports	

Results	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Baselines (year)	Targets (year)	Sources of data (1 per indicator)	Assumptions
		The number Policy Recommendation Papers developed	0 - 2020	2 - 2024	1.Policy Recommendation Papers	participated in the Events and trainings 3. Good coordination between the consultant (s) and the Ministry 4. Strong coordination between all stakeholders including EIE, TUIK, municipalities, ESCOs, financing institutions, investor groups, certification bodies, the energy efficiency services sector, tertiary sector actors, public authorities and policy makers, and the Ministry
		The number of Trust-building and match making events organized	0 - 2020	4 - 2024	2.Minutes and Reports of the Events	
Output 3 related to outcome 2	Public and occupancy awareness were raised and Institutional Capacity of the Actors in the sector in Energy Efficiency and Performance of Buildings, was developed				Training Needs analysis Report	
		Number of Technical staff sex disaggregated to participated in the trainings	a. 0 - 2020	a- 200 - 2024	Training materials Participant Lists of the training activities	
		Number of stakeholders participatedin the capacity building activities sex disaggregated	a. 0 – 2020	a. 200 - 2024	Reports from the Questionnaires filled by participants	
Output 4 related to outcome 2	Public and occupancy awareness were raised	Number of participants sex-disaggregated, participated in the online public trainings	a.0- 2020	a. 200- 2020	Participant Lists	
		Number of users accessed to the portal in the Project web page	a.0- 2020	a. 500 – 2024	The Project Web-portal	
		Number of cooperation webinars organized towards the public buildings’ occupants and authorities	a. 0 - 2020	a. 10 - 2024	Webinars organised List of Participants Webinar Reports	
AoS#3						
Output 1 related to outcome 3	Sustainability and climate resilience of port facilities, new vessel construction and retrofitting, and maritime operations is improved	Total volume of financing provided for ship building and retrofits in line with green innovative technologies, and climate resilience investments (MEUR)	To be determined as pipeline develops	To be determined as pipeline develops	Project related documents and due diligence. The Data will be collected once by the entrusted entity upon the projects financial close.	Responsiveness and commitment of targeted sector enterprises to participate in the Programme and undertake relevant investments

Results	Results chain: Main expected results (maximum 10)	Indicators (at least one indicator per expected result)	Baselines (year)	Targets (year)	Sources of data (1 per indicator)	Assumptions
		Final energy consumption per year (MWh/year) GHG emissions per year (kt CO ₂ eq./year) Air pollutants emissions (kt of SO _x , NO _x VOCs and PM particles reduced/ year) Climate Resilience Benefits ratio				Appropriateness of identified projects to bankability criteria of EBRD. The required strong eagerness of co-financiers in implementing will be ensured by means of investment grants, sound banking and high transition impact
Output 2 related to outcome 3	Climate related corporate governance of the maritime sector is improved	Number of corporate climate governance schemes proposed	N/A/	To be determined as pipeline develops	Project related documents and due diligence. The Data will be collected once by the entrusted entity upon the projects financial close.	
Output 3 related to outcome 3	Policies to advance investments in onshore power (cold ironing) and climate resilience activities are facilitated	Level of alignment of policy changes to advance investments in onshore power (cold ironing) and climate resilience activities with EU standards	To be determined as pipeline develops	To be determined as pipeline develops	To be determined as pipeline develops	

4. IMPLEMENTATION ARRANGEMENTS

4.1. Financing agreement

In order to implement this action, it is foreseen to conclude a financing agreement with the Republic of Turkey.

4.2. Implementation modalities

The Commission will ensure that the appropriate EU rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures²².

4.2.1. Indirect management with an entrusted entity (i.e. Member State Organisation, third donor country, EU specialised (traditional/regulatory) agency, international organisation)

AoS#3 of this action may be implemented in indirect management with the **European Bank for Reconstruction and Development (EBRD)**. This implementation entails co-financing pilot investment projects through the combination of EU capex grants and EBRD loans, as well as associated technical assistance and capacity building, as further described in this Action Document.

The envisaged entity has been selected using the following criteria:

- **Vast experience in the Turkish market:** Turkey is currently the EBRD's largest single market for investments with 14% of total EBRD portfolio or EUR 1.7 billion channelled to clients in the country in 2020. EBRD has invested EUR 13.2 billion in various sectors of the Turkish economy since 2009, including EUR 3.3 billion for Sustainable Infrastructure and Energy (SIG) sectors with a large number of transport projects. As of February 2021, 40% of Turkey's portfolio is SIG sector with EUR 2.8 billion out of EUR 7 billion of Turkey's portfolio.
- **Past and ongoing involvement in the Turkish maritime sector:** The EBRD has invested EUR 500 million in the maritime sector in Turkey, including investments in ports, shipyards, ferry operators and vessel acquisitions.
- **Ability to mobilise the required financing:** The EBRD has both the operational capacity and the capital resources to mobilise the envisaged financing under the Programme. The EBRD maintains strong working relationships with many of the leading Turkish financial institutions and fellow IFIs which may be interested in co-financing eligible projects.
- **Proven track record of successful blending operations, including with EU funding:** The EBRD has an extensive track record implementing blending operations that utilise EU funding. These include large transport and environmental infrastructure projects both inside and outside the EU.
- **Strong local presence:** The EBRD maintains resident offices (ROs) in Ankara and Istanbul staffed with bankers and project staff that are able to deliver all the relevant day-to-day work associated with the Programme without necessitating international travel. The EBRD's local presence also allows it to enjoy a close working relationship with public sector stakeholders, ensuring that the Project is implemented in alignment with both Turkish Government and EU priorities.
- **High technical and institutional readiness:** The EBRD is institutionally geared to deploy all aspects of the Programme on a timely basis. The EBRD maintains lending relationships with numerous Turkish banks, as well as municipalities and other project promoters who are expected to be the beneficiaries of this Programme. Moreover, the EBRD has a number of specialised teams who can advise on Programme's deployment in such areas as environmental due diligence, procurement, grant management, and others.
- **Sound internal processes:** Being a pillar-assessed organisation, EBRD offers high standard of its internal systems, including with regard to internal control, accounting, the independent external audit, procurement, etc.

²² www.sanctionsmap.eu Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website it is the OJ version that prevails.

The EBRD has recently passed an ex-ante assessment of its systems and procedures. This is without prejudice to certain supervisory measures that the European Commission and the EBRD may agree upon in accordance with Article 154(5) of the Financial Regulation.

AoS#3 is based on the principle of combining EU grants with commercial financing, and it requires a partner which can offer financing and experience in the sector. In the event that an agreement with the EBRD cannot be reached, the Commission's services may select a replacement entity using the same selection criteria given above.

EBRD will lead the implementation of the project, providing financing to selected beneficiaries implementing eligible pilots and other investments in the established priority areas. EBRD has a strong track record of delivering infrastructure projects in Turkey and seeks to maximise the speed of implementation through the thorough identification and preparation of projects so the funds under the Program can be disbursed shortly after signing of the related financing agreement.

EBRD will set up an implementation team comprised of senior bankers, sector and procurement specialists based in the resident office in Istanbul and EBRD headquarters in London. The team will be supported by several teams located in London, in particular the procurement department, environment and sustainability team, grant unit within the infrastructure team, as well as donor co-financing and communications teams.

The funding to be provided under AoS#3 will be managed by the EBRD in accordance with the contribution agreement signed between the EUD and the EBRD. The EBRD's policies and procedures will apply throughout implementation of the project, including with regard to internal controls, accounting, external audit and procurement which were positively assessed by the EU as part of the Pillar Assessment. The grant financing for each investment will be adjusted in line with the Bank's internal guidelines on the use of concessional financing. Especially for pilots, grant financing may reach 50%. Eligibility criteria for the sub-projects to be implemented under the AoS#3 will be agreed with the EUD and other relevant stakeholders. The sub-projects will be prepared and implemented in accordance with the EBRD's standard operating procedures. The EBRD will monitor the procurement of goods, works and services, funded by the Bank's loan and the EU grant, in accordance with its internal policies including the Procurement Policies and Rules (PP&R).

In order to address the environmental risks related to potential investments under the AoS#3, the EBRD will ensure that an environmental and social ("E&S") due diligence for each sub-project is carried out by independent consultants under the TA support during project preparation. Such due diligence will include at minimum an assessment of potential E&S impacts and benefits, an E&S audit of the corporate management systems, contractor management mechanisms, environmental, health and safety standards ("EHSS") resources, operations and facilities of each participating clients to help structure the priority investment plans and a gender assessment. Corrective Environmental & Social Action Plans and gender-sensitive stakeholder engagement plans will be prepared as part of sub-project preparation. To the extent appropriate, the procurement documents will reflect the EBRD Performance Requirements regarding environmental, health and safety and social matters, as defined in the EBRD Social and Environmental Policy and will be further specified in the Environmental and Social Action Plan ("ESAP") for each sub-project.

The EU Delegation has contracted a technical expert experienced in the maritime and maritime decarbonisation sectors, who has undertaken some scoping work, which has been taken into account in the preparation of this Action Document. In association with the EBRD, the EUD ATA expert(s) will continue their engagement throughout the programming process, looking into eligible technologies as well as identifying potential pilot projects, which will be funded under the Programme. The legal expert under the EUD ATA project will provide a gap analysis on possible changes to regulatory framework and other policy measures aimed at facilitating decarbonisation of the maritime sector in Turkey. The EU Delegation, the Ministry of Transport and Infrastructure and the EBRD will work with the two consultants in the period leading to the signing of the Delegation/Contribution Agreement, so as to take full advantage of this preparatory work and further strengthen Programme maturity.

4.2.2. Indirect management with an IPA III beneficiary

A part of this action will be implemented under indirect management by the Republic of Turkey, which shall be responsible for carrying out all the tasks relating to the implementation of the activities corresponding for each area of support as follows:

AoS#1:

The managing authority responsible for the execution of the action is the NIPAC/NIPAC Support Office – Directorate for EU affairs in the Ministry of Foreign Affairs. The managing authority shall be responsible for legality and regularity of expenditure, sound financial management, programming, implementation, monitoring, evaluation, information, visibility and reporting of IPA III activities. The managing authority shall rely on sectoral expertise and technical competence of the following intermediate body for policy management - Ministry of Energy and Natural Resources. It shall ensure sound financial management of the project. Budget implementation tasks such as calls for tenders, calls for proposals, contracting, contract management, payments and revenue operations, shall be entrusted to the following intermediate bodies for financial management: CFCU at the Ministry of Finance and Treasury. It shall ensure legality and regularity of expenditure.

AoS#2:

The managing authority is the Ministry of Environment and Urbanization (MoEU) - General Directorate for Construction Affairs. The managing authority shall be responsible for legality and regularity of expenditure, sound financial management, programming, implementation, monitoring, evaluation, information, visibility and reporting of IPA III activities. Budget implementation tasks such as calls for tenders, calls for proposals, contracting, contract management, payments and revenue operations shall be entrusted to the following intermediate bodies for financial management: Ministry of Environment and Urbanisation (MoEU) / General Directorate of European Union and Foreign Relations (GDoEUFR) / Department of EU Financial Assistance (DoEUFA). It shall ensure legality and regularity of expenditure. The Ministry of Environment and Urbanisation, General Directorate of Construction Affairs, Department of External Investments will be the end recipient for this Action (Project).

4.3. Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply, subject to the following provisions.

The Commission's authorising officer responsible may extend the geographical eligibility on the basis of urgency or of unavailability of services in the markets of the countries or territories concerned, or in other duly substantiated cases where application of the eligibility rules would make the realisation of this action impossible or exceedingly difficult.

4.4. Indicative budget

Indicative Budget components	EU contribution (amount in EUR)	Indicative third-party contribution (amount in EUR)
Outcome 3 for AoS#3		
Indirect management with EBRD – (cf. section 4.2.1)	20 000 000	50 000 000

Outcome 1 for AoS#1 and Outcome 2 for AoS#2 Indirect management with Turkey – (cf. section 4.2.2)		
Procurement – total envelope under section 4.2.2	7 500 000	0
Evaluation – (cf. section 5.3)	will be covered by another decision	N/A
Audit/Expenditure verification - (cf. section 6)	will be covered by another decision	N/A
Communication and visibility – (cf. section 7)	N/A	N/A
Contingencies ²³	N/A	N/A
Totals	27 500 000	50 000 000

4.5. Organisational set-up and responsibilities

AoS#1

LI-MENR has verified during the programming process that the institutional readiness, i.e. the capacity and the commitment of the final beneficiary to receive the outputs and participate to the activities, including enough skilled staff and budget for the operation and maintenance of the project's outputs after the end of the implementation, is at an advanced level for this project. LI-MENR also verified that an adequate institutional and legal framework and sufficient staff to manage and follow-up of the sector are already in place. The roles and legal duties of the final beneficiary and other stakeholders are detailed below whereas the sustainability issues regarding the project are addressed under section 8. As to the adequate verified institutional and legal framework in place and the absorption capacity, under DEEE, the Planning and Coordination Group and the Heating and Cogeneration Group totally consisting of 9 personnel dedicated to carrying out activities regarding efficient heating & cooling will ensure the sustainability of project outcomes.

Under MENR, the **Department of Energy Efficiency and Environment (“DEEE”)** was established by Presidential by-law (Number 27) on 10 January 10 2019 as a spin-off of the General Directorate of Energy Affairs which used to be competent jointly for renewable energy and energy efficiency policies. Although it has been established as a Department and not as a General Directorate, the Head of DEEE reports directly to the Deputy Minister and not to a General Directorate as for other Departments within MENR. It keeps abreast of policies and strategies and coordinates activities related to the National Energy Efficiency Action Plan. Some additional functions include dealing with legislation, monitor and assess implementation of various strategic frameworks and coordinates joint projects and events. It also determines the potential for energy savings for the country and carries out surveys and works related to the regional heating and heat market. DEEE will be the **main end beneficiary** of the project and will coordinate project actions across other stakeholders and intervene if necessary. The main end beneficiary is responsible for the implementation of this project.

The **Ministry of Environment and Urbanisation** will be a key stakeholder. The MoEU General Directorate of Occupational Services works on residential and commercial buildings in accordance with the Energy Efficiency Law and BEP Regulation. Their duties include the development and enforcement of building codes and certificates for new and renovated buildings, providing training authorising for Building Energy Identity related issues and also involvement in policy development studies.

The **Ministry of Industry and Technology** will be a key stakeholder. Its responsibilities include issuing, implementation and market inspection of eco-design and labelling regulations.

²³ Consider that contracts where no financing agreement is concluded, contingencies have to be covered by individual and legal commitments by 31 December of N+1.

Key stakeholders will also include the Union of Municipalities (TBB), the Union of Energy Cities, Non-governmental Organizations and sectoral representatives (associations, societies, and unions, etc.).

AoS#2

The Ministry of Environment and Urbanisation (MoEU)

Activities under this AoS will be implemented through indirect implementation, with project implementation mode, by the Ministry of Environment and Urbanisation (MoEU), General Directorate of Construction Affairs (GDCA). The Ministry is the lead institution in the field of environment, urbanization and buildings. Contracting authority is the Ministry of Environment and Urbanization (MoEU) / General Directorate of European Union and Foreign Relations (GDoEUFR) / Department of EU Financial Assistance (DoEUFA).

The Ministry is in charge of carrying out construction and renovation works of public buildings, as well as providing services related to physical planning, land development and housing for low-income families as well as extending disaster relief. The Ministry is composed of the central, provincial, attached and related organizations.

The General Directorate of Construction Affairs (GDCA) which is under the Ministry (MoEU) has 11 departments with well-qualified technical staff. It is responsible for the design, construction and renovations (including energy efficiency retrofitting, structural strengthening) of public buildings, residential construction in conformity with the principles of housing policy, and for taking necessary measures for the manufacturing and use of innovative, cost-effective construction materials in the most transparent and affordable way for the country's requirements.

The Ministry of Energy and Natural Resources (MENR)

It falls under the responsibility of the Ministry to contribute to national welfare by utilizing energy and natural resources in the most efficient and environmentally conscious manner. Among its other duties, the **Department of Energy Efficiency and Environment (DEEE)** has the responsibility of carrying out the implementation, coordination and monitoring of activities of the national energy efficiency action plan and for providing consultancy and technical support for the realization of energy efficiency investments, including energy performance contracts, to perform or have other related services. It is very experienced in financing energy efficiency and assisting the Ministry in the project implementation by sharing its knowledge and stakeholders' network.

At state level, mainly two Ministries are important: the MoEU and the Ministry of Energy and Natural Resources (MENR). Regarding planning and construction of new buildings, TOKI is an important player. At the local and regional level next to municipalities, construction sector, chambers, universities and NGOs play an important role.

The other key stakeholders for the activities foreseen under this AoS are:

The Presidency of Strategy and Budget and Ministry of Treasury and Finance: The Presidency of Strategy and Budget fulfills various duties in the fields of sectoral and thematic policies and strategies' development, plans, programmes', resource allocation, budget, policy and strategy implementation, and international development cooperation.

The Ministry of Treasury and Finance is responsible for monitoring and evaluating domestic and international developments in financial markets. It also produces financial sector development tools, participates in the activities of public institutions and organizations that concern economic policies

Union of Banks:

Banks should be the most enthusiastic supporters of EPC. Involving banks to evaluate the risk differences between financing Energy Efficiency and standard buildings and re-assess their underwriting practices is essential to gain their understanding of the business case for EE programmes.

Other EE Solution Providers:

Energy efficiency solutions incorporate a wide array of technologies and practises. It is essential to provide services, products, materials and technologies necessary to develop energy efficiency projects. Key players include ESCOs, architects, engineers, construction managers, building material developers (e.g. insulation, paints, etc.), products (windows, doors, etc.) and key technology providers (heat exchangers, LED lighting, etc.). This group has an obvious interest in expanding knowhow and awareness in the buildings. They should be encouraged to invest in advertising the concept, train their sales and support teams, reach out to the customers, and innovate their product lines in harmony with the EU practices to effectively contribute to successful EE programmes.

Project management

Responsible body

The Ministry of Environment and Urbanisation (MoEU) will support the implementation of this project (under AoS#2) by ensuring the necessary organizational environment, making available the necessary personnel and covering the necessary running and administrative costs.

The Project will be implemented under the supervision of the Ministry of Environment and Urbanisation (MoEU) as the beneficiary.

ACU, established within the GDCA of MoEU, under Department of External Investment with 20 dedicated, technical staff, will appoint a co-director and a co-expert for coordination of the activities and collaborate with the Technical Assistance Team (TAT).

The ACU has confirmed that adequate institutional and legal frameworks for carrying out this project and sufficient staff are already in place to manage and monitor the activities to be carried out under the project.

Day-to-day management and coordination of the project activities will be carried out by the Action Coordination Unit (ACU). Project activities will be coordinated by ACU, that is composed of a central team of experts from the Department of External Investment, the Contracting Authority and the TA team, regarding all of the project activities.

The Project Steering Committee will meet in principle twice a year, or more frequently where relevant as per request of the members, to monitor the implementation of the project, achievement of results against indicators in the project fiche, and to agree on corrective actions as appropriate. The operational conclusions of the Steering Committee meetings will be agreed by all participants in the minutes of the meetings. Project Steering Committees (SC) will be composed of the representatives of project beneficiaries, NIPAC, MENR (DEEE) Presidency of Strategy and Budget, Ministry of Treasury and Finance Union of Banks and EU Delegation to Turkey. Participation of other stakeholders will be ensured when deemed necessary.

The Project Steering Committee will operate under the following set of rules/tasks:

- To assess the progress of the project components in terms of the procurement preparation and implementation of contracts
- To verify the achievement of the outputs and results specified in the PFs or as amended.
- To discuss actions to be undertaken in following quarters in terms of achievement of indicators in the PF.
- To design and monitor the outreach and communications activities among relevant partner/beneficiary institutions at programme level.
- To coordinate involvement of the partner/beneficiary organizations for effective follow up of progress made and ensure the timely flow of project level information between these institutional partners.
- To monitor the progress made towards project indicators in line with the log frame or propose project fiches changes where appropriate.
- To monitor and facilitate linkage among different project components/contracts and the project with linked activities with other projects, donors or through a national fund.
- To coordinate among different project components/contracts ensuring effective sequencing between interrelated components.

There will be Quarterly Progress Reports prepared and delivered to the MoEU to monitor and evaluate the progress of the project. In addition to them, there will be weekly follow up meetings between ACU and TAT.

AoS#3

Since the Programme will be implemented under the “indirect management with an entrusted entity” modality, the EU Delegation to Turkey and EBRD will be the Parties bearing the contractual responsibilities, which will be regulated in the Delegation/Contribution Agreement.

The Programme will be implemented and managed by the EBRD, drawing on the expertise from across the institution, and involving multi-disciplinary teams from the EBRD’s resident offices in Turkey and HQ.

The EBRD will be responsible for the implementation of all relevant activities envisaged under the project, which include:

1. **Preparation and financing of eligible investment projects:** The EBRD will be responsible for identifying and selecting potential investment projects, undertaking due diligence, negotiating and concluding lending agreements and providing implementation support through dedicated technical assistance. Both the grant and the loan components will be managed by the EBRD.
2. **Provision of Technical Assistance:** The Technical Assistance and Policy components will be delivered by external consultants, under the supervision of the EBRD team. The consultants will be selected in accordance with the EBRD’s Procurement Policies and Rules and will comprise of experienced international and local experts.
3. **Policy Dialogue:** The Ministry of Transport and Infrastructure, being the applicant and one of the beneficiaries of the AoS#3, will operate in an advisory role to the EBRD, providing feedback on the activities and assisting the EBRD in identifying the priority areas for policy work. The policy dialogue may involve other relevant Ministries (Energy, finance, environment and urbanisation) and local authorities for the smooth initiation and long-term sustainability of the activities.

In order to facilitate the implementation of the Programme, Technical Assistance is expected to deliver studies on the new technologies in the maritime sector and related policy requirements and climate resilience assessment which will facilitate dialogue with relevant stakeholders both on the level of the government and other stakeholders in the maritime sector. The Technical Assistance will aim to improve capacity and help eliminate regulatory and capacity related obstacles for implementation of the new technologies.

The implementation AoS#3 will be supported by a consultative Steering Committee composed of the representatives of the Ministry of Transport and Infrastructure, the Presidency of Strategy and Budget of the Presidency of the Republic of Turkey⁸, EU Delegation and EBRD. The Steering Committee will review implementation progress, discuss lessons learnt and facilitate coordination with other similar initiatives which may be undertaken in Turkey. In order to track the Programme’s implementation progress and inform the meetings of the Steering Committee, narrative and financial progress reports will be prepared annually by EBRD.

4.6. Pre-conditions:

There are no pre conditions for this action document.

5. PERFORMANCE/RESULTS MONITORING AND REPORTING

5.1. Internal Monitoring

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process and part of the implementing partner’s responsibilities. To this aim, the implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of

⁸As per the Presidential Circular No.2019/20, the Presidency of Strategy and Budget of the Presidency of the Republic of Turkey will be a member of the Steering Committee, undertaking the monitoring and steering functions regarding the Action.

achievement of its results (outputs and outcomes) as measured by corresponding indicators, using as reference the log frame matrix (for project modality) The report shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the action. The final report, narrative and financial, will cover the entire period of the action implementation.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

AoS#1

The management structure is composed of the CFCU and MENR as the Lead Institution in the energy sector. Implementing partners will be the end beneficiaries of the activities under this AoS, which are DGEA and DEEE. The activities will be monitored by the MENR. Steering Committee meetings for the activities under this AoS, whose direct beneficiaries are DGEA and DEEE, will be held at the premises of the MENR every quarter of the implementation years. DGEA and DEEE will host and chair the steering committee meetings for the activities under their responsibilities separately whereas MENR's DGFR, EUD, NIPAC, Presidency of Strategy and Budget and the key stakeholders will be the members.

AoS#2

The project under this action will adopt a 2-layer monitoring and management structure. As a first layer of the management structure, a Project Steering Committee (PSC) will be established to oversee overall implementation of the project and provide strategic guidance. The second layer of the structure concerns day-to-day management and coordination of the project activities to be carried out by the Action Coordination Unit (ACU).

The role of the Steering Committees will be:

- to provide overall guidance during the implementation of the project,
- to monitor all activities of the project,
- to receive and evaluate the reports that may be submitted by the project team,
- to review the Contractor's inception report, progress reports, work plans, other outputs and to make recommendations as appropriate,
- to ensure coordination and cooperation between the MoEU and other ministries and institutions.

The ACU will consist of the General Directorate of Construction Affairs (GDCA), the External Investment Department and CA and the contractor.

Stakeholders of this Action are the Ministry of Environment and Urbanisation, the Ministry of Energy and Natural Resources, the Ministry of Industry and Technology, the Ministry of Treasury and Finance, the Presidency of Strategy and Budget, the Ministry of Health, the Ministry of National Education, the Ministry of Interior, Disaster and Emergency Management Presidency (AFAD), the Turkish Statistical Institute, the Turkish Union of Chambers and Commodity Exchanges, the Turkish Industry and Business Association, the Independent industrialists and businessmen's association, the Capital Markets Board of Turkey, the Union of Municipalities of Turkey as well as local authorities and municipalities, non-governmental organizations, chambers, professional and business organizations and universities.

The expected results, activities, objectively verifiable indicators, sources of verification and assumptions listed in the Logical Framework will constitute the basis on which the project's monitoring and evaluation system will be programmed, realized and monitored by staff of the end recipient and if necessary key stakeholders in close cooperation with the Contractor.

The end recipient will continuously track the progress level of the action based on the agreed performance indicators and all reporting will be carried out according to these parameters.

SC will discuss the progress of the action, verify the achievement of the outputs and mandatory results against specified indicators and agree on corrective actions to be taken at regular intervals or whenever deemed necessary.

The project reports are important monitoring tools that should also be used for the improvement of the activities and implementation process. Regular reports will be prepared about carried out and ongoing activities as well as outputs.

An inception report, interim reports, and a final report will be evaluated by the end recipient. Interim reports must be prepared regularly during the period of execution of the contract.

Apart from contract management, ACU and PSC, CA will monitor the action based on the expected results, activities and objectively verifiable indicators through its monitoring and evaluation procedures and processes.

AoS#3

In addition to the coordination mechanism described in section 4.5, a periodic narrative and financial progress report will be prepared to provide an accurate account of implementation of the Programme, difficulties encountered, changes introduced, as well as the degree of achievement of its results (outputs and outcomes) as measured by corresponding indicators, using as reference the log frame matrix (for project modality). The reports shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the AoS#3. The final report, narrative and financial, will cover the entire implementation period.

Objectively verifiable quantitative and/ or qualitative variables will provide a simple and reliable means to measure the achievement of the corresponding expected results (i.e. outputs, outcomes, impacts). The main indicators, which will all have a clear measurement unit and be formulated in a neutral way, are GHG emission per year (kt CO₂ eq./year) and Air pollutant emissions per year (kt of SO_x, NO_x, VOCs and PM particles/year). The secondary indicators, which will be set as pipeline develops, are Final energy consumption per year (MWh/ year), Circular economy benefits per year (tonnes/ year), Climate Resilience Benefits for resilience investments, Capacity improvement of Maritime Authorities, and Corporate Climate Governance actions proposed by the relevant stakeholders. Internal monitoring will be supported and supervised by TA.

5.2. Roles & responsibilities for data collection, analysis & reporting

The different responsibilities for this dual internal monitoring are the following:

- Implementing partners'/ beneficiary country's monitoring, under the coordination of NIPAC Office, will aim at collecting and analysing data to inform on progress towards planned results' achievement to feed decision-making processes at the action's management level and to report on the use of resources.

To this aim, the implementing partner/ beneficiary country shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress monitoring reports (at least twice a year) and final reports.

Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes jointly introduced, as well as the degree of achievement of its results (outputs and direct outcomes) as measured by the corresponding agreed indicators (and related targets) included in the log frame matrix. The report shall be laid out in such a way as to allow monitoring of the means envisaged and employed and of the budget details for the action. Reporting focusing on activities and inputs' use, will not be considered. The final report, narrative and financial, will cover the entire period of the action implementation.

- EU operational manager monitoring will aim at complementing implementing partners'/ beneficiary country's monitoring, especially in key moments of the action cycle. It will also aim at ensuring a sound follow-up on external monitoring recommendations and at informing EU management. This monitoring could take different forms (meetings with implementing partners, action steering committees, on the spot checks), to be decided based on specific needs and resources at hand. Reporting will be done on the basis of checklists and synthesised in a monitoring note/report.

Both types of internal monitoring are meant to inform and provide support to external monitoring:

- External monitoring (ROM)

The Commission and/or NIPAC may undertake additional project monitoring in line with the European Commission rules and procedures set in the Financing Agreement through independent consultants recruited directly by the Commission/NIPAC for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission/NIPAC for implementing such reviews).

- Results data collection

Beside the ROM review, the Commission/NIPAC may undertake action results data collection through independent consultants recruited directly by the Commission/NIPAC (or recruited by the responsible agent contracted by the Commission for implementing such reviews). Their aim would be to identify and check the most relevant results on the action.

The overall progress may also be subject to joint monitoring by the European Commission (DG NEAR) and the beneficiaries. The compliance, coherence, effectiveness, efficiency and coordination in implementation of financial assistance will be regularly monitored by Sectoral Monitoring committees, which will ensure a monitoring process at sector level.

The Steering Committees will be established at activity level in order to monitor the implementation of activities, achievement of results against indicators in the action document, and to agree on corrective actions as appropriate. The Steering Committees will be composed of the representatives of end beneficiaries, EBRD, Lead Institution, NIPAC Office, Contracting Authority and Presidency of Strategy and Budget and the EU Delegation.

Concerning AoS#3, the EBRD will be responsible for implementing all relevant data collection, analysis, and reporting arrangements as it relates to the Action – all of which will be undertaken according to its internal policies and in compliance with the contractual arrangements with the EU Delegation.

Data collection and reporting will be done for each type of activity envisaged under the Action:

Financing activities: the EBRD will collect data from the beneficiaries of projects under this AoS#3 as well as co-financiers, if any, and report on use of loan proceeds and grant financing, and the progress towards applicable results indicators. Reconciliation, consolidation, and reporting of this data would take place on an annual basis.

Technical assistance: Technical assistance will be overseen directly by the EBRD. The EBRD will report on annual basis the nature of the support and progress achieved.

5.3. Evaluation

Having regard to the importance of the action, an ex post evaluation will be carried out for this action via independent consultants. It will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the fact that the surveillance of electronic market is a new activity in Turkey.

The Commission shall inform the implementing partner at least two months in advance of the dates foreseen for the evaluation missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports shall be shared with the partner country and other key stakeholders. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

The financing of the evaluation shall be covered by another measure constituting a Financing Decision.

6. AUDIT

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments for one or several contracts or agreements.

The financing of the audit shall be covered by another measure constituting a financing Decision. For the part of the action incorporating a form of financing not linked to costs but on the achievement of results, the verification mechanisms will focus on the results and performance indicators previously agreed.

7. COMMUNICATION AND VISIBILITY

Visibility of EU funding and communication about objectives and impact of Actions are a legal obligation for all Actions funded by the EU, as set out in the EU communication and visibility requirements in force.

In particular, the recipients of EU funding shall acknowledge the origin of the EU funding and ensure its proper visibility by:

- providing a statement highlighting the support received from the EU in a visible manner on all documents and communication material relating to the implementation of the funds, including on an official website and social media accounts, where these exist; and
- promoting the actions and their results by providing coherent, effective and proportionate targeted information to multiple audiences, including the media.

Visibility and communication measures shall be implemented, as relevant, by the national administrations (for instance, concerning the reforms linked to EU budget support), entrusted entities, contractors and grant beneficiaries. Appropriate contractual obligations shall be included, respectively, in financing agreements, delegation agreements, and procurement and grant contracts.

The measures shall be based on a specific Communication and Visibility Plan, established and implemented in line with the EU communication and visibility requirements in force. The plan shall include, inter alia, a communication narrative and master messages for the Action, customised for the various target audiences (stakeholders, civil society, general public, etc.)

Visibility and communication measures specific to this Action shall be complementary to the broader communication activities implemented directly by the European Commission services and/or the EU Delegation. The European Commission and the EU Delegation should be fully informed of the planning and implementation of the specific visibility and communication activities, notably with respect to the communication narrative and master messages.

Communication activities should also take into consideration the risks of potentially related disinformation attempts, and ways of countering these, as disinformation might undermine the Union's efforts and image in the country.

8. SUSTAINABILITY

AoS#1

With this action, long term sector strategies, objectives and a roadmap will be identified, a web-based data collection and monitoring system will be developed, legislative recommendations will be prepared, guidelines on efficient heating and cooling will be prepared all of which will serve longer term implementation of efficient heating and cooling sector activities in Turkey by enhancement of DEEE's capacity. With the improved capacity this action will lead all stakeholders to continue their efforts and roles. Moreover, expected outcomes of this action will be a milestone and kick-starter of a new market establishment for heating and cooling sector. Awareness raising activities and trainings will provide for long lasting impact on staff capacity and the sector-wide end users and manufacturers. The key factors impacting on the sustainability of this action are political commitment by the government on efficient heating & cooling and the institutional capacity of the beneficiary. Turkey's political commitment on efficient heating & cooling can be derived from all of its strategic and political documents including INDC, 11th Development Plan, MENR's Strategic Plan, and Pre-Accession Economic Reform Program all of which directly refer to the continuation of energy efficiency and efficient and clean heating & cooling policies as outlined in detail under sections 2.1 and 2.3. These policies can be traced back to the publication of Climate Change Strategy in 2010 and to the establishment of the former DG Renewable Energy specifically in charge of energy efficiency matters in 2011 which clearly demonstrate the ambitions and commitment of the government for this issue. On the other hand, the institutional capacity and staff specifically allocated for energy efficiency have always been significant, long-term and developing for more than a decade. As outlined in detail under section 4.6, under DEEE, the Planning and Coordination Group and the Heating and Cogeneration Group totally consisting of 9 personnel dedicated to carrying out activities regarding efficient heating & cooling will ensure the sustainability of action outcomes.

AoS#2

Turkey has a responsibility to ensure the outputs of this action are fully used and to allocate the necessary resources to ensure the sustainability of the action. The MoEU and the relevant stakeholders especially MENR (Ministry of Energy and Natural Resources) and the Ministries of the Public buildings that are examined will provide every resource and effort in collaboration with the relevant parties to maintain, and if necessary, further improve, the outcome of this Action.

The activities on capacity building and training are integrated into this Action. This integration will enhance the project results and will safeguard the impact and sustainability of the project results. The trained staff in the Provincial Directorates of MoEU will cooperate in making the walk through audits to make data available for the Building Passport tool of the project in the following years. This is an important consideration to ensure the sustainability of the project output.

Guidelines that will be produced will support technical sustainability. For the sustainability of the developed institutional capacity, the developed technical documents, outputs of the project and all training materials and the handbooks, guidelines, all pieces of data and information gathered that are necessary for continuation studies after the Action, etc. will be kept in a media that can be easily accessed, used and -if necessary- edited by the rest of the staff such as the official web site of the Ministry.

Trainers will be trained as part of the project and will continue training and informing activities after the project. The training modules and training documents will be developed within the scope of the project and will be used actively after the completion of the project.

The system of Building Renovation Passport and the Online Tool established within the Action will continue to be maintained and, if necessary, further developed by MoEU. The relevant documents and information obtained during the Action will be made accessible, editable and usable for the staff responsible for this maintenance and development. Activities undertaken and lessons learnt under the activities also have broader applicability to private and residential structures in Turkey.

The objectives and outputs developed within the scope of this Action, can be traced back to the 11th Development Plan, National Climate Change Action Plan, National Energy Efficiency Action Plan and the Strategic Plans of MoEU, which clearly demonstrate the ambitions and commitment of the government for the issues addressed in this Action..

Preparation of similar projects that would use this Action (project) OUTPUTs as INPUTs, to support the sustainability, disseminate the results and to increase the impact of the project, is an important target to achieve sustainability.

AoS#3

The Programme is designed to produce replicable outputs and to generate sustainable momentum for the greening of the maritime sector in Turkey. Programme investments will demonstrate best practices in the Turkish Maritime sector and will be subject to best available technology. Due to the nature of the emerging green maritime investments in Turkey, there is limited experience with such projects. EU support will be instrumental in demonstrating and building a knowledge base on the implementation of green Maritime projects. Green shipping Programme will also increase the sustainability and efficiency of the national transport systems, strengthen the integration of Turkey with the EU in the field of transportation by providing a progressive harmonization of the Turkish transport sector with the EU transport policies, and ensure the transition to a transport system that is more secure and environmentally friendly, which reflects a more balanced modal split. Under the present Area of Support, a small number of investment projects will be implemented. If successful, a follow up programme can be considered, subject to agreement between the parties and availability of funding.

Through technical assistance, targeted capacity building and the investment Programme, the AoS#3 will raise considerable awareness about the potential and viability of green investments in the maritime sector. The demonstration of the benefits of green investments, which is mainly the abatement of 2-4 kt CO₂ emissions per year, is expected to have a beneficial impact on demand for, and supply of, the eco-friendly technologies and practices involved that will contribute to the development of the sector. While focused on fostering confidence in proven technologies in a limited number of demonstration investments, the Programme aims for replicable and sustainable impact through harnessing the beneficial demonstration effect from the investments under each programme component. After the implementation of the Programme, the enhanced knowledge and capacity building will continue to remove obstacles, which will further assist in pilot project implementation and build their capacity to independently execute follow-on projects for the further development of the green Maritime sector.

The Programme aims to achieve replicable and sustainable outcomes by enabling proven and innovative technologies to enter the Turkish market for the first time. This will be achieved through the implementation of pilot projects under each programme component, where grants component will be agreed between EBRD and EU. These projects will provide practical examples of the beneficial impact of such investments in the context of the Turkish market and open the markets for future commercial replication. The implementation of the Programme is expected to enhance knowledge, introduce relevant policy, and build capacity in the sector and thereby support in removing what has recognized to be one of the barriers to greening the sector in the country, namely a lack of capacity, awareness and information on the benefits of green technologies in the sector. Implementing pilot projects is one of the main ways to foster independent developments regarding these technologies in the market and rightly sized grants will ensure sustainable investments and commercial replication in the medium to long-term.