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1 Introduction

Turkey and the EU were linked by an Association Agreement since 1963. In December 1999, the European Council granted the candidate status to Turkey. In 2005, the EU adopted the negotiating framework, and the accession negotiations were officially opened on 3 October 2005. Turkey continued to align with the EU Acquis since 2005. So far, 16 chapters out of 35 were opened to negotiations and only one chapter (Chapter 25 - "Science and Research") was closed provisionally.

Regarding the trade relations, the EU remains Turkey's number one import and export partner while Turkey is the EU's 4th largest export market and 5th largest provider of imports. Turkey also participates in Erasmus+, Horizon 2020, Competitiveness of Enterprises and Small and Medium-sized Enterprises-COSME, Customs 2020, Fiscal 2020, European Environment Agency, Employment, and Social Innovation-EASI, European Monitoring Centre for Drugs and Drug Addiction and since 2016 Civil Protection Mechanism. Turkey has been receiving financial assistance under IPA II since December 2015.

Chapter 15 on "Energy" and Chapter 27 on "Environment and Climate Change" are necessary to create capacities at the national and local level while considering global environmental challenges. As of today, humanity is struggling with key challenges such as environmental degradation, the loss of biodiversity, climate change, climate justice, food security, water, and air pollution, inequality between and within countries, corruption, non-transparent data, unsustainable consumption patterns, national economies heavily depended on fossil fuels, and the like. There is a scientific consensus that climate change is due to human activities. The carbon dioxide level in the Earth reached 409 ppm in May 2019.¹ Besides, the global temperature is 1 degree warmer than the pre-industrial period as mentioned by IPCC. The two negotiation Chapters with the EU advocate an integrated policy structure for the longest time. Alignment with the two Chapters will contribute to moving Turkey towards embracing a better environmental performance.

1.1 Environmental Status in Turkey

Environmental status in Turkey seems to have some inroads. Particularly, Turkey has made considerable progress in line with the EU legislation as part of the EU accession process. According to the previous progress reports, Turkey has achieved progress in noise control and waste management in general, as mentioned by the Commission. However, additional legislative and national efforts need to be made in the field of adaptation to climate change, mitigation, nature protection, industrial emissions, water management, Environmental Impact Assessment (EIA), and effective public participation in environmental issues.

Turkey is also a party to key institutions of the EU such as the Council of Europe since 1949 as well as international conventions. However, Turkey has not yet ratified the Paris Agreement. In the latest Climate Change Performance Index, Turkey is described as "very low performance" and is ranked 50th out of 60 countries². It also performs "low" in the category of greenhouse gas emissions and "very low" in the category of energy use.

¹ More information is available at https://www.esrl.noaa.gov/gmd/ccgg/trends/gl_trend.html (updated on 9 May 2019).

² Germanwatch, CAN Europe and New Climate Institute CCPI-Results 2019, available at https://www.climate-change-performance-index.org/sites/default/files/documents/ccpi2019_results.pdf

1.2 Summary of the Report

Following the EU Council meeting in December 2009, Chapter 15 remains one of the blocked Chapters in the negotiations whilst Chapter 27 was opened to accession negotiations on 21 December 2009. In short, this report attempts to present an overview of Turkey's performance in Chapter 27 and partly Chapter 15 concerning the environmental protection, climate change mitigation, and energy sector. The report aims to contribute a better understanding of the two Chapters in Turkey. Importantly, the report is not an alternative document to the EU's progress reports. The main purpose of this document is to submit inputs for the country progress report.

2 Fundamentals

2.1 Environmental Rights, Accountability & Governance

Turkish environmental legislations are mainly comprised of laws, regulations, statutes, and decisions. As the framework, Environmental Law (No: 2872, dated in 1983) aims to protect and improve the environment that is described as the common assets of all citizens in Turkey.

The state administration is organized hierarchically and rationally, ensuring basic lines of accountability. Most executive agencies are formally embedded under ministries. Internal and external oversight arrangements regarding the citizens' right to access environmental information need to be better implemented. Citizens' right to access environmental information is regulated by the law on the right to information, which does not require proactive disclosure of information and provides for broad exemptions on grounds of protecting state secrets, commercial secrets, and personal data. However, Turkey is still not a party to the Aarhus Convention.

2.2 Environmental Monitoring

Turkey is a party to all key international environmental conventions that provide appropriate policy frameworks and promote cooperation and coherent action at global, regional, and national levels to address environmental problems. The State of the Environment Report, as one of the main national state of environmental reports, is published by the Ministry of Environment and Urbanization every four years. Environmental Indicator Reports and Provincial State of the Environment Reports are also published annually.

3 Obligations of Membership

3.1 Energy (Under Chapter 15)

Following the EU Council meeting in December 2009, Chapter 15 on Energy remains one of the blocked Chapters in the accession negotiations.

Global projections predict that the global economy will double until 2040 while the growth will not be reflected in the energy demand at the same rate. On a global scale, countries tend to grow by consuming less energy. There are no projections by sector in Turkey. However, Turkish Electricity Distribution Utility (TEİAŞ) updates its 10-year projection each year. According to TEİAŞ's 10-year projection update in 2018, annual demand growth rates will be around 3.5-6.0 percent until 2027.

2012 had been announced as “Coal Year” in Turkey to double the share of domestic coal in electricity generation. However, the share of domestic coal in electricity generation has decreased gradually, from 18.9 percent to 15.7 percent, while the share of imported coal has increased from 9.9 percent to 17.3 percent between 2011 and 2017, according to TEİAŞ. The capacity of imported coal doubled while the capacity of domestic coal increased by 13 percent despite all incentives.

3.1.1 Renewable Energy

Electricity generation from renewable resources met forty-four percent of Turkey’s total electricity demand by the end of 2019, with wind and solar energy representing around ten percent. According to the statistics released by the International Renewable Energy Agency in March, renewables accounted for three-quarters of the new capacity additions in the global power sector in 2019. Wind and solar energy—with continuing cost reductions—were the majority of them.³

Solar, wind, geothermal and modern biomass account for 7% of Turkey’s energy supply – the G20 average is 6%. In the last five years, the share of these sources in total energy supply has increased by around 257%, much more than the G20 average (+29% 2013-2018). Geothermal energy makes up the largest proportion.⁴

As stated in the country report, Turkey is improved to be well advanced on renewable energy and maintained increasing its power generation capacity by using local and renewable sources. In 2019, the share of renewable energy in Turkey’s power generation was set at 34%, with a 20% majority in hydropower. Changes were established in the scope definition of renewable energy installations, which influenced the applicable state incentives. In line with the legislative changes, it was precluded for renewable energy installations under 5 MW to collect state initiatives including preferential feed-in-tariffs and some tax exemptions. The legislative changes made in 2019, has called for budgetary concerns related to the current feed-in-tariffs since it will be expired by the end of 2020. In that regard, tenders within the scope of Renewable Energy Resource Areas will be operated in Turkish Lira instead of US

³ <https://www.atlanticcouncil.org/blogs/turkeysource/turkeys-renewables-sector-in-light-of-covid-19/>

⁴ Brown to Green: The G20 Transition Towards a Net-Zero Emissions Economy, 2019
https://www.climate-transparency.org/wp-content/uploads/2019/11/B2G_2019_Turkey.pdf

Dollars. The report also states that concerns regarding local-content requirements that affect the EU and other international companies' access to tenders in the renewable energy sector in Turkey remained.

Other problems with the Renewable Energy sources in Turkey are lack of planning and lack of criteria for selecting the plant site. Even though the renewable energy sources are considered as clean energy and nature friendly when more than 10 Hydro Electric Power Plant built on one single river or if a wind tribunes built on the migration flyway of the birds than they may cause as much as or more environmental problems than fossil fuel energy sources. Therefore, the renewable energy shall be planned carefully by considering both efficiency and its environmental effects.

3.1.2 Energy Efficiency

In Turkey, industrial energy consumption is concentrated in a few sectors. The cement and iron and steel sectors consume 45 percent of the primary energy and 29 percent of the electricity consumed among the industrial sectors. There is also a high potential for energy efficiency and saving in these sectors. These two sectors have an opportunity to recover more than 20 percent of electricity. In the textile sector, the saving potential reaches 57 percent.

According to the European Environment Agency's report (2014), the global energy intensity has decreased 2,1 annually since 2010, although Turkey is one of three countries that could not reduce its energy intensity among the European Economic Community countries. Turkey's energy intensity increased by 0.4 percent annually between 2005-2014.

Comparing to last year, there has been visible progress in energy efficiency. Particularly, the National Energy Efficiency action plan met some progress as it is also stated in the country report by the EU. However, the foreseen national energy efficiency financing mechanism is still not established. Concessional debt and international donor funding are still represented as the main ways of funding for critical and urgent projects across Turkey. Regarding financial matters, a new legal obligation was established for public buildings that urges to save a minimum of 15% of their energy bill compared to the calculated average consumption of the building in the last 3 years. To advance the capacity of public institutions and their infrastructure in energy efficiency, a new concessional loan and grant agreement was signed. Even though the country's policies on energy efficiency in buildings are advanced and adjusted in accordance with the EU *acquis*, there are some gaps. The existing gaps are mostly connected to inadequate details such as the problem of data quality regarding the status of energy efficiency, standards, and implementation methodologies.

On the other hand, the energy efficiency efforts for buildings and eco-design is not distinct. The current legislation remains insufficient in fully addressing the increasing demand for cooling and the potential use of renewable energy technologies in buildings. Even though Turkey has adopted the Energy Efficiency Law and Energy Efficiency Directive and issuing an energy identity card is an obligation for all the buildings and houses under the Energy Efficiency Legislation, the energy efficiency cards for millions of buildings and houses have not been issued yet. Further, there is no advantage, government initiatives, tax reduction for energy-efficient buildings so that building energy-efficient houses or renovating the building and houses to make them energy efficient are not attractive. There are no government initiative or loans for renovating the old building to make them energy efficient and/or eco-friendly domestic heating solutions. The engagement of the public sector with improving energy efficiency undergoes a lack of a committed agency that could integrate the efforts of all stakeholders including various government agencies. The mentioned role has been played by the Department of Energy Efficiency and Environment, which is a part of The Ministry of Energy and Natural Resources, with certain institutional limitations.

More attention shall be given to domestic heating and energy labeling and improving the existed legislation is necessary.

3.1.3 Nuclear Power and Safety

There is still no nuclear plant in operation in Turkey. Legislation on the nuclear industry was enacted however not consistent with Euratom regulation. The port construction of the Akkuyu Nuclear Power Plant (NPP) which is a joint project of the Turkish and Russian Governments, started in 2015. Despite all the economic and political problems of the Akkuyu Nuclear Plant constructed by Russian Rosatom, the construction continues. The project's EIA report has severe deficiencies including waste management, contingency plans, and assessment of the seismicity.

There is one more Nuclear Power Station project going on in the north of Turkey. The EIA process for Sinop NPP on the Black Sea started in early 2017. There are strong public and civil society opposition against the projects because of the deficiencies of the EIA reports and processes as well as the problems of the participatory processes. The final version of the EIA of the project has been announced by the Ministry of Environment and Urbanization. However, the EIA which was started to evaluate the impact of the nuclear power plant to its surroundings neither has a valid agreement nor a company to be commissioned for the construction of reactors. There are a lot of essential drawbacks and mistakes in the EIA report that should be completed and corrected before the possible EIA approval decision. One of the most important problems about the project is nuclear waste issues, in the report, it is explicitly mentioned that the 10 square kilometer area transferred to the Ministry of Energy to establish a nuclear facility would be used as a temporary waste storage area for 60 years lifetime of the power plant and the final disposal facility would be established by Turkey under the responsibility of Turkish Atomic Energy Institution(TAEK) to have the waste ultimately disposed of at this disposal facility. Such an explanation indicates that the government of Turkey also easily attempts to build a “final repository” which will be at least three times more costly and has never been successfully done in the world since 1942 when the first reactor was established in the World.

Turkey transferred the revised Stress Tests National Report connected to the Akkuyu nuclear power plant project in July 2019 after voluntarily committed to conducting the tests in alignment with the EU model in 2011. The next step is established to be the organization of a transparent peer review of the National Report by the Commission and the European Nuclear Safety Regulators Group (ENSREG), which Turkey has an observer status in.

On the other hand, findings show that Turkey made some progress on nuclear energy and nuclear safety. After the newly assigned chairman in 2019, the recently created Regulatory Body of the Atomic Industry was restructured once again at the beginning of 2020. The transition process between the previous and new regulatory bodies is yet to be completed. It should be reminded that the country has not yet joined the Joint Convention on the Safety and Spent Fuel Management and on the Safety of Radioactive Waste Management, and has not been affiliated with the European Community Urgent Radiological Information Exchange System yet.

3.2 Environment (Under Chapter 27)

3.2.1 Horizontal Legislation

The key points that need to be underlined in the field of horizontal legislation under Chapter 27 can be seen as follows⁵: Horizontal legislation in Turkey is still problematic. Environmental Impact Assessment (EIA) can be defined as a process that examines the possible outcomes of a planned project on the environment. It is an important tool, which is used in the decision stages of investments posing a threat to the environment and public health. However, the investments in fossil fuel energy, mining, and construction sectors mostly overlook or ignore environmental conservation.

In Turkey, EIA Regulation entered into force in 1993, however, the Regulation has been revised 19 times since 1993 and many changes have been considered problematic. The Strategic Environmental Assessment (SEA) Regulation was finally completed and entered into force in 2017. However, the two provisional articles granting exemptions to fisheries and forestry sectors until 2020; and industry, energy, transportation, waste management, and telecommunications sectors until 2023 are in contradiction with the objective of the Regulation. As well as, some significant sectors such as energy and transportation are not subject to the Strategic Environmental Assessments Directive.

Concerning the infrastructure, energy, and transportation projects, the main objective of such projects is to increase social welfare. Social welfare and welfare distribution have three aspects; economic, social, and ecological. Problems/conflicts in the decision-making processes of projects arise from the fact that economic welfare is prioritized over the other two aspects. Between 1993 and 2019, as for the sectoral distribution of EIA decisions, investments in petroleum, mining, and energy sectors got the first two positions in cases with a positive result for EIA. Furthermore, 47% of all 63.112 “EIA not necessary” decisions were granted to investments related to petroleum and mining.⁶

As stated in the country report by the EU, Turkey has achieved some level of preparation in the area of horizontal legislation. However, there are still serious concerns about the provisions in the Environmental Impact Assessment (EIA) legislation that waive licensing and other restrictions for strategically important investment projects. Procedures for transboundary consultations are not following the EIA and the Strategic Environmental Assessments (SEA) Directives. Even though the current EIA legislation is continued to be carried out, the concerns regarding the application of the rule of law in court decisions on environmental issues, public participation as well as the right to access environmental information remain as significant concerns. The public interest in the Kanal Istanbul Project, the design of the artificial sea-level waterway that connects the Marmara Sea to the Black Sea, brought several cases against the positive decision of EIA to the court. In March 2020, the first tender was introduced for the planning phase that includes reconstructing two historical bridges located in the area where the canal is proposed to be built. Further an extensive impact analysis on how the project will affect the riparian states of the Mediterranean and the Black Sea and the riparian proprietors is deemed required. Considering Turkey is still not a party to the Espoo and Aarhus Conventions and aligned with the SEA Directive only in some sectors, the country’s cooperation on environmental liability remained limited.

⁵ This section is the summary of the two publications prepared by TEMA Foundation: “EIA Policy Paper 2018” (to be published soon) and “EIA Workshop-Conclusions” published in 2015 under the previous ENV.net Project period.

⁶ Ministry of Environment and Urbanization, available at <https://ced.csb.gov.tr/>

Cases alike threatening nature can also be seen in Turkey. By the end of 2013, a total of 62.754 hectares of forest area was used for activities such as mining and oil exploration. 33.959 hectares forest area was assigned to mining activities and 36.432 hectares for other energy activities in three years period, namely 2015-2016-2017.⁷

Besides, it is predicted that the precipitation rates will decline 20-40 percent in southeastern and eastern parts, and up to 40 percent in western and central parts of Turkey, given the fact that the country is located in the Mediterranean Basin being highly vulnerable to climate change, according to IPCC. Considering all the facts, impact assessment processes in Turkey become much more important. As the need for efficient and integrated impact assessment processes grows rapidly, it is of great significance to improve current practices and the body of current laws.

Participation should be transformed into a process, which involves feedback mechanisms based on exchanges of views throughout the process, and should include setting a scope, as it should be done by changing the framework of public participation meetings from something which goes beyond its purpose and where the parties do not trust each other. As mentioned above, the Aarhus Convention has not yet been signed, which is an important shortcoming in terms of legislation related to participation in environmental decision making. Regulations on periods for the EIA stages are also intended to shorten periods. As the shortening of periods makes it difficult to examine the EIA applications and reports. Monitoring and supervision is also an important stage in the EIA process. The regulations concerning how to handle monitoring and supervision are insufficient.

The scope can be dealt with in two sub-sections, namely, the identification of projects to be implemented by EIA processes and the identification of subjects covered by the EIA. Annex-1 and Annex-2 of the EIA Regulation determine which projects will be subject to EIA and which projects will be evaluated through screening criteria. It is seen that the scope of the EIA has been narrowed down with the recent changes made in these lists. This narrow-down was made by increasing the lower bounds of the capacities of some projects listed in Annex-1, by transferring the projects such as public housing and golf courses from Annex-1 to Annex-2, and by increasing the lower limits of some projects listed in Annex-2. These changes cause many projects that may have significant environmental impacts to be exempted from EIA processes.

Another important shortcoming in the designation of contents covered by the EIA is health effects. The HIA is an important tool to assess the likely impacts of a policy, a program, or a project on the health of a population living in that area. As of August 2020, Turkey does not have an HIA legislation. Besides, it is observed that the EIA processes being carried out do not address the public health data comprehensively and comparatively.

3.2.2 Air Quality

In Turkey, at least 75 million people breathe dirty air even according to national air quality limits.⁸ In 2019, only one out of 81 cities had PM 10 levels below the WHO guideline levels⁹, and PM 10 in 3 cities was not measured properly. During the same year, Istanbul, Ankara, and Bursa are the first three cities where the number of deaths is highest due to air pollution. Besides, 13 cities in Turkey experienced the most problematic air quality levels in the last three years. Air pollution is the biggest reason for

⁷ The Foresters' Association of Turkey Report on Turkish Forestry https://www.ormancilardernegi.org/dosyalar/files/revize_rapor7%20web.pdf page 49

⁸ Chamber of Environmental Engineers, Air Quality Report 2019.

⁹ Turkish Thoracic Society Air Pollution Working Group, 2019.

premature deaths in Turkey. 45.398 premature deaths are caused by air pollution yearly¹⁰. Importantly, there is no legislation with limit values for PM 2.5. In addition, there is no health impact or cumulative assessment in the permit process of industrial facilities. Older versions of dispersion modelling programs are used at EIA processes.

National legislation regarding air quality still needs to be adopted conforming to EU directives on ambient air quality and national emissions ceilings, as stated in the country report by the EU. Besides, national legislation shall be adjusted to comply with the limits of all pollutants including PM 10, PM 2.5, and SO₂ with the air quality guidelines of the World Health Organization (WHO), and this must be applied to all industrial facilities in operation without any exception. Pilot PM 2.5 measurement must be disseminated to all cities in Turkey. The reliability of measurement data for all cities must be improved. Public, NGOs, and academia access to data should be announced in an understandable format. Public transportation and bicycles in cities can be promoted to decrease emissions from transportation. Clean Air Action Plans are under consideration whilst the plans for 64 out of 81 provinces are prepared. Considering serious air pollution in some cities was reported on an annual basis, local clean air action plans is also prepared for 64 out of 81 provinces. A national strategy for air quality monitoring was already in place and 7 out of 8 planned regional networks were ready to operate. Many EIA reports do not mention the Clean Air Action Plans.

3.2.3 Waste Management

In general, Turkey's is partially aligned with the new EU *Acquis* related to waste management. The country has followed a strategy that promotes a zero waste management approach including efficient use of natural resources and expended recycling and reuse. Following the first year of the project, Turkey continued to fulfill the requirements of the Turkish Regulation on Waste Management (Official Gazette: 29314; 02.04.2015) and other legislative obligations. In addition, the Zero Waste Project aims to advance the circular economy in Turkey. Further, the legislation introduced a ban on the free distribution of lightweight plastic bags that came into force in January 2019 and attracted substantial public interest. The project also established a by-law pathway on zero waste for municipalities, buildings and settlements to be concluded by 2023. Even though there has been progressing under the project, Turkey still needs to revise its consumption patterns; to make sure that all wastes are classified by their sources and recycled, and to increase public awareness on climate change.

Capacity and cooperation for sorting, recycling, and medical waste treatment increased. However, an integrated waste management system is necessary for each province and town in Turkey. Importantly, wild dumping sites and landfilling methods still remain problematic in the country. In this respect, Turkey commits to reduce municipal landfills from 88,7 percent (2014) to 65 percent in 2023 and the current wild dumping sites will be rehabilitated across the country under the National Waste Management Action Plan (2016-2023).

The updated rates on regular storage and other methods used by municipalities are as follows¹¹:

- Regular storage: 61,2 per cent
- Municipal garbage: 28,8 percent
- Recovery: 9,8 percent

¹⁰ Temiz Hava Hakkı Platformu (2019), *Hava Kirliliği ve Sağlık Etkileri, Kara Rapor*, available at <https://www.temizhavahakki.com/wp-content/uploads/2019/05/Hava-Kirlili%C4%9Fi-ve-Sa%C4%9Flu%C4%B1k-Etkileri-Kara-Rapor-2019.pdf>

¹¹ More information is available at <http://cevresehgostergeler.csb.gov.tr/belediye-atiklari-miktari-ve-bertaraf-miktari-i-85749>

- Others: 0,2 percent.

For waste treatments to achieve EU acquis standards, the efforts continued. Nevertheless, a lot of work is needed to increase the capacity of treatment. Almost 90% of the waste is still dumped into the landfills.

As stated in the country report by EU, economic tools to advocate recycling and the prevention of waste generation advanced, but remained limited. In March 2020, Turkey also extended its previous recycling and initially identified its re-use targets that cover the years 2020-2031 and beyond. Hence, the target percentage for total recycling was also increased. Legislation on ship recycling that embodies the demands of the EU Ship Recycling Regulation was pending adoption. The existing notification practices were in accordance with the Basel Convention.

3.2.4 *Water Quality*

According to the World Resource Institute, Turkey is expected to be ranked among the most “water-stressed” countries by 2040¹². There are 25 basins defined by the Ministry in Turkey and each basin has its River Basin Protection Action Plans. So far, management plans for 5 out of 25 river basins were concluded and adopted. However, the main problem related to water issues in Turkey remained, which is the lack of an appropriate legal framework. Even though the legislative alignment on water quality has improved, the implementation also needs to be advanced. The Regulation regarding Protection of Water Basins and Preparation of Management Plans enacted in 2012, contains elements for the approximation of EU legislation, such as turning the "River Basin Protection Action Plans" into "River Basin Management Plans".

Drinking water quality is regulated by Regulation Concerning Water Intended for Human Consumption by the Ministry of Health in Turkey. As in the process of becoming a member state of the EU, Turkish regulation is compatible with the EU Drinking Water Directive.¹³ In addition, the law of Protecting of Drinking Water Basins was amended in March 2020. The capacity of wastewater treatment also improved with the help of continuous investments.

3.2.5 *Nature Protection*

In Turkey, to develop policies concerning nature protection, to designate and manage protected areas, to develop and implement plans and programs are under the responsibility of the Ministry of Agriculture and Forestry and the Ministry of Environment and Urbanization and their affiliated organizations. Even though the country has reached some level of preparation on natural protection, the framework law on nature protection has not entered into force. Regulations that decide planning and construction in forests and natural sites are still not in accordance with EU acquis, as mentioned in the country report by the EU. The institutional framework for designating and managing Natura 2000 sites has not yet been drawn up, and it needs to be sufficiently resourced. The national biodiversity strategy and action plan have not been revised. Investments, particularly in energy (such as hydropower and coal power plants) and mining, need to be made in compliance with the relevant national and international obligations to protect nature.

Some changes regarding the status of protected areas have occurred over the year. These are including but not limited to the dismissed status of the National Park of Cappadocia as a national park. This change

¹² <https://www.wri.org/blog/2015/08/ranking-world-s-most-water-stressed-countries-2040>

¹³ Giresunlu E. et al, Drinking Water Treatment Plants in Turkey and Determination of Revision Needs, 2019
<https://dergipark.org.tr/tr/download/article-file/726895>

brought significant concerns regarding its legal basis, transparency, and the lack of stakeholders' involvement.

3.2.6 *Industrial Pollution and Risk Management*

Ministry of Environment & Urbanization and World Bank carried out a project together between 2011-2016 on the MRV system. The objective of the project was to contribute to setting up the MRV system in Turkey, and the investigation of credits, trading schemes, and options to get prepared for the decision-making process. The Regulation on Monitoring of Greenhouse Gas Emission ("MRV Regulation") which was enacted in 2014 has been successfully implemented.

Working in accordance with the EU acquis in industrial pollution and risk management is considered as located in the initial phase, by the EU country progress report.

3.2.7 *Chemicals*

The new regulation called "Registration, Evaluation, Authorisation, Restriction of Chemicals" with the Official Gazette number 30105 came into force on 23 June 2017. With this regulation, "Regulation on the Safety Data Sheets of the Dangerous Chemicals and Compounds", "Regulation on the Inventory and Control of Chemicals" and "Regulation on Restriction of Chemicals and Chemical Compounds" were consolidated. In addition, new restrictions accepted and came into force in December 2017 are also similar to EU REACH Annex XVII. On the other hand, Turkey has been identified as one of the countries of origin in 3.3 percent of all registered alerts in the EU market.¹⁴ Even though the overall status of legislative cooperation is improved, the enforcement remains weak.

Issues regarding genetically modified organisms (GMOs) in Turkey is still controversial. The legislation on the commerce of dangerous chemicals is yet to be completed. Even though the use of GMOs for food is banned in the country, Turkey's Biosafety Council approved the use of three types of soybeans and one type of corn GMO traits as animal food under the Decision published in the Official Gazette 2 August 2017. Again, in January 2018, the Council approved the import application on two corn and one soybeans GMO as animal food whilst ten cotton and four canola GMO are not imported. In March 2020, Turkey adopted a law that targets to align with EU acquis on biocidal products.

Turkish Biosafety Council was established under the Biosafety Law in 2010 (No. 5977). In August 2018, the Council is no longer active and its authority was transferred to the Ministry of Agriculture and Forestry. Turkey also enacted the legislation on persistent organic pollutants (POPs) dated 14 November 2018 with the Official Gazette Number 39595. Regulation on "Working Procedures and Principles of Animal Experiments Ethics" published in Official Gazette Number 28914 dated 15 February 2014. The embracement of a regulatory framework to enforce the Directive on the protection of animals used for scientific means has advanced, the regulation was adopted in April 2019.

3.2.8 *Noise*

Under the heading of noise, there is a single Directive (2002/49/EC) on the Assessment and Management of Environmental Noise. The Directive calls for the preparation of strategic noise maps by Member States showing the situation in all agglomerations with more than 250.000 inhabitants, all major roads which have more than 6 million vehicle passages a year, major railways which have more than 60.000 train

¹⁴ European Commission (2018). *2017 Results of the EU Rapid Alert System for dangerous non-food products*, available at https://ec.europa.eu/consumers/consumers_safety/safety_products/rapex/alerts/repository/content/pages/rapex/reports/docs/Rapex_annual_Report_2017.pdf

passages per year and major airports within their territories. The Directive also requires the Member States to draw up Noise Action Plans.¹⁵ The Ministry of Environment and Urbanization in cooperation with relevant municipalities plans to complete noise maps of 66 Turkish provinces by the end of 2019. Environmental Noise Action Plan (2009-2020) was prepared.

The alignment in the field of noise in accordance with the EU Acquis is well improved, according to EU's Progress Reports. However, implementation of the legislation should be also increased.

3.2.9 Civil Protection

Turkey ranks the first country in humanitarian aid with 8.07 billion US Dollars.¹⁶ However, Turkey also ranks third in the world in terms of earthquake-related casualties, including the 1999 Marmara Earthquake, the 2006 Flood in the South East, and the 2011 Van Earthquake. In this respect, the coordination of disasters and legal authority remains crucial.

Turkey and the EU have been collaborating in the field of disaster management. Turkey is for instance a member of the European Civil Protection Mechanism since 2006. In addition, the number of refugees has reached almost 4 million,¹⁷ which is the highest number of refugees around the world. The EU has contracted 50 humanitarian projects in order to help refugees. The EU humanitarian funding to support a similar type of humanitarian activities in basic needs, health, education through the Facility for Refugees in Turkey is 1.45 billion Euro between 2016-2018. The Facility supports both humanitarian and non-humanitarian assistance. It has a total budget of 6 million Euros from the EU and the Member States. According to a special report from the European Court of Auditors (ECA) published in November 2018,¹⁸ Turkey provided significant support for the Facility.

In 2009, the Turkish Parliament approved the Law No.5902 to form the Disaster and Emergency Management Authority (AFAD) under the Prime Minister. On 16 April 2017, Turkey adopted a presidential system of governance after a referendum. In the aftermath of the approval of the new system, AFAD re-formed under the Ministry of Interior¹⁹ by the Presidential Decree No. 4 that was published in the Official Gazette on 15 July 2018. It takes necessary measures for effective emergency management and civil protection in the country. It operates to minimize disaster-related damages, coordinate post-disaster response. Importantly, it introduced a novel disaster management in the transition towards risk management. It has 81 provincial branches in Turkey.

The Turkish Parliament passed the Law on Precautions to be taken due to Disaster Affecting Public Life and Assistance to be Provided No.7269. The legislative framework on disaster is present under the by-law on the Principles of the Organization and Planning of Emergency Assistance Regarding Disasters. At the national level, The Turkish Red Crescent Organisation also organizes humanitarian relief and assists in the delivery of medical teams, equipment, blood, blood products, and their distribution and storage.

¹⁵ https://www.ab.gov.tr/chapter-27-environment_92_en.html

¹⁶ Global Humanitarian Assistance Report 2018.

¹⁷ https://ec.europa.eu/echo/where/europe/turkey_en

¹⁸ the European Court of Auditors (2018). *The Facility for Refugees in Turkey: helpful support, but improvements needed to deliver more value for Money*, Special Report No:27/2018, Luxembourg, available at

https://www.eca.europa.eu/Lists/ECADocuments/SR18_27/SR_TRF_EN.pdf

¹⁹ Presidential Decree No. 4, available in Turkish at

https://www.afad.gov.tr/upload/Node/29467/files/4_nolu_KHK_2nci_Bolum_AFAD.pdf

Another one is the General Directorate of Civil Defence (Ministry of Interior) which aims to organize all activities.

As stated in the state progress report by the EU, Turkey's cooperation under the EU Civil Protection Mechanism (UCPM) has increased notably since 2019, regarding the efforts for the COVID-19 pandemic. The country is expected to commit further response capacities to the European Civil Protection Pool and to contribute to assistance under the Union Civil Protection Mechanism during emergencies. Turkey is supported to establish the Secure Trans European Services for Telematics between Administrators (sTESTA) system so that it could connect through the Common Emergency Communication and Information System (CECIS) with the Emergency Response Coordination Centre (ERCC) of the European Commission. The COVID-19 outbreak emphasized the need for a stronger legal framework and institutional capacities regarding the health emergencies.

3.2.10 Climate Change

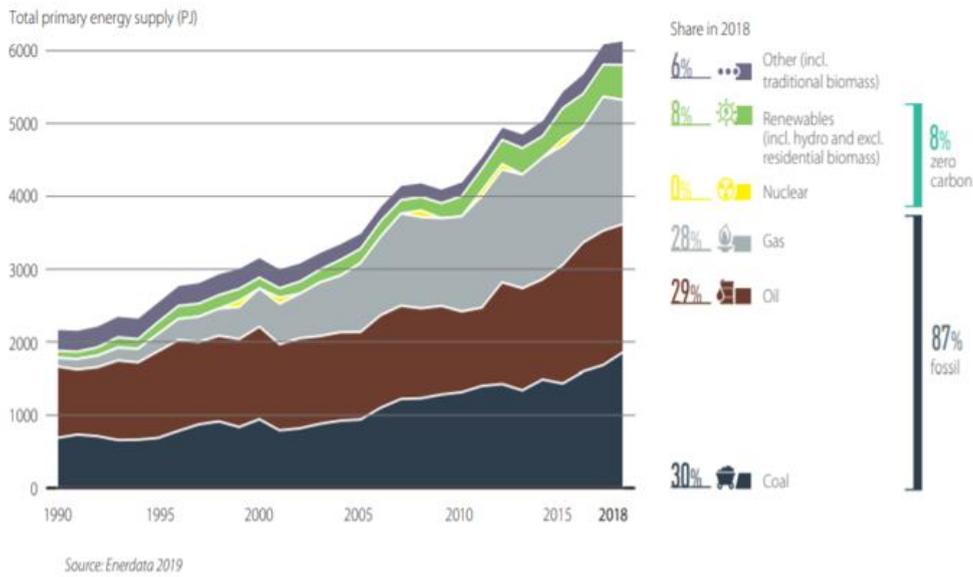
As a candidate country for the EU membership, environmental agreements should be at the core of Turkey's policy-making processes. Turkey must increase measures for climate change mitigation and adaptation. However, a national strategy in line with the EU 2030 climate and energy framework is yet to be formulated. Mainstreaming of climate action in sector policies remained limited. In addition, the current national strategy and action plan addressed the concerns related to climate change only partially and in a short-term aspect. Previously, Turkey indicated an intent to combat climate change in several international agreements. The country became a party to the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and ratified the Kyoto Protocol in 2009 and signed the Paris Agreement in April 2016 but has not yet ratified it.

Greenhouse gas emissions from Turkey have doubled since the 1990s. According to the emission inventory of Turkstat (Turkish Statistical Institute), the sector most responsible for emissions is the energy sector (71,6 percent). The industry (12,5 percent), agriculture (12,5 percent), and waste sectors (3,4 percent) follow the energy sector regarding emissions. There should be greenhouse gas emission mitigation efforts in every sector to attenuate climate change. According to Turkstat, in 2018, total greenhouse gas emissions as CO₂ equivalent increased by 137,5 percent compared to the levels in 1990. The INDC target of Turkey is 21 percent emission reduction from 1.175 MtCO₂e to 929 MtCO₂e according to its business as usual scenario²⁰. In that regard, reports show that there is a need for implementing the Fuel Quality Directive fully and for initiating alignment on emissions standards. Turkey is also expected to establish an alignment plan for the Carbon Capture and Storage Directive according to the EU country progress report.

²⁰ More information is available at

https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Turkey/1/The_INDC_of_TURKEY_v.15.19.30.pdf

Turkey’s energy use per capita and the energy intensity of the economy are both below the G20 average, although energy use in particular has significantly increased in the past five years. This trend needs to be reversed to be compatible with a 1.5°C pathway.²¹ Graph 1 shows the fuel mix for all energy supply, including energy used for electricity generation, heating, cooking, and transport fuels. Fossil fuels (oil, coal and gas) still make up 87% of Turkey’s energy mix, which is above the G20 average (82%). Growing energy supply has mainly been covered by increased use of fossil fuels, but renewables are picking up speed supply for Turkey.²²



Graph 1: Energy mix

Table 1 summarises the policy activity and gap analysis for each of the sectors and respective benchmarks. The qualitative rating evaluates the current progress status in each respective sector and evaluates the sector’s transition into 1.5°C Paris Agreement compatibility.

Table 1: Summary table for sectoral policy activity and gap analysis in Turkey.²³

²¹ More information is available at https://www.climate-transparency.org/wp-content/uploads/2019/11/B2G_2019_Turkey.pdf

²² Ibid

²³ https://climateactiontracker.org/documents/672/CAT_2019-11-29_ScalingUp_TURKEY_FullReport_ENG.pdf

Sector	1.5 °C-consistent benchmark	Overall evaluation based on policy activity and gap analysis	Policy rating
 Electricity and heat sector	Sustain the global average growth of renewables and other zero and low carbon power until 2025 to reach 100% by 2050	<ul style="list-style-type: none"> Targeted share of renewable electricity generation of 38.8% by 2023, however there are no targets beyond 2023. Significant untapped potential for renewable power, especially solar power. 	 Getting Started
	No new coal plants, reduce emissions from coal power by at least 30% by 2025	<ul style="list-style-type: none"> 0.3 GW of coal plants under construction and 33.8 GW in the pipeline either being permitted, pre-permit or announced. Although the pipeline is shrinking, Turkey still pursues new plants and does not consider a phase out of coal. For a Paris Agreement compatible pathway coal would need to be phased-out by 2030. Therefore, early retirement of current capacity and cancellation of planned capacity is required. 	 No Action
 Transport sector	Last fossil fuel car sold before 2035–2050	<ul style="list-style-type: none"> Turkey's national action plans on climate change and energy efficiency address the switch to alternative fuels and clean vehicle technologies. However, the objectives stay qualitative (e.g. development of legal arrangements, capacity building and promotion activities). Unclear whether the intended development and promotion of alternative fuels and clean vehicle technologies can be realised in the near to medium term. Turkey is developing an electric vehicle for domestic production, to be available as of 2022. 	 Getting Started
	Aviation and shipping: Develop and agree on a 1.5°C compatible vision	<ul style="list-style-type: none"> Unclear whether intended legislative arrangement around emission trading and modal shift in freight transport will result in significant GHG emissions reduction. 	 Getting Started
 Buildings sector	All new buildings fossil free and near zero energy by 2020	<ul style="list-style-type: none"> Limited short-term target set by the government: 20% of energy demand of new buildings must be met by renewable energy sources as of 2017, GHG emissions of new settlements must be reduced by at least 10% compared to existing settlements until 2023 and energy consumption of public institutions will be decreased by 20% until 2020. These targets do not appear to be supported by concrete policies and thus are unlikely to be achieved. No long-term target or strategy in place. 	 Getting Started
	Increase building renovation rates from <1% to 5% by 2020	<ul style="list-style-type: none"> Unclear whether the objective to raise awareness of, support directly or indirectly, and impose obligations on end-users to improve energy efficiency in the existing building stock will be sufficient to realise a renovation rate of 5% by 2020. 	 Getting Started

 Industry sector	<p>All new installations in emissions-intensive sectors are low-carbon after 2020, maximise material efficiency</p>	<ul style="list-style-type: none"> • Government has a stated objective to raise awareness of, support directly or indirectly, and impose obligations on end-users to improve energy efficiency in the existing buildings stock. • Unclear whether this objective will be supported by concrete policies, and thus unlikely that a renovation rate of 5% by 2020 will be achieved. 	 Getting Started
 LULUCF	<p>Reduce emissions from forestry and other land use to 95% below 2010 by 2030, stop net deforestation by 2025</p>	<ul style="list-style-type: none"> • The LULUCF sector constitutes a (growing) emission sink. • In addition, the Turkish government aims to further increase the amount of carbon sequestered in forests and further reduce deforestation. 	 Fully Transitioned
 Commercial Agriculture	<p>Keep emissions in 2020 at or below current levels, establish and disseminate regional best practice, ramp up research</p>	<ul style="list-style-type: none"> • Based on an expected shrinking of the Turkish agricultural sector and the objectives to limit GHG emissions and increase the sink capacity, agricultural emissions are likely to remain flat or decrease over time. 	 Ambitious Plan

4 Conclusions and recommendations

EU – Turkey relations have not been advancing so far. There are several reasons of that; Turkey's EU policy is unofficially suspended, and the EU's enlargement policy is struggling. Refugee issues are dominating relations. The legislation alignment is continuing in some fields however not in an ambitious way. Pandemic is another reason of decelerate the relations. On the other hand, EU acquis alignment is still a strong hook for environment CSOs for advocacy.

Nevertheless, the lens of the EU accession negotiations, Turkey continues to adopt the EU Directives on environmental protection and climate change as well as energy. However, Turkey remains one of the G20 countries that has not ratified the Paris Agreement. Full alignment regarding water, climate change, emission reduction, EIA, and nature protection is limited. In the field of the energy policy of the EU, renewable energy is one of the priority sectors in the EU in meeting climate and SDGs targets. Turkey is also rich in solar energy sources and has a very high potential to develop renewable energy markets at the national level. However, previous experiences in Turkey show that even renewable energy projects may turn to environmental disasters if the planning is not done properly by considering the geographical conditions and cumulative effects of the projects. Strategic Environmental Assessments Directive may help to improve the planning process of Turkey.

On the other hand, European Commission proposed green recovery plan to get rid of the negative effects of the COVID-19 Pandemic in May 2020. European Commission President Ursula von der Leyen said that “The recovery plan turns the immense challenge we face into an opportunity, not only by supporting the recovery but also by investing in our future: the European Green Deal and digitalization will boost jobs and growth, the resilience of our societies and the health of our environment,” about the proposed recovery plan. Turkey shall follow the developments about the EU Green Deal and Green Recovery closely and shall amend its development plans and create its recovery plans by considering European precisions.

As it is stated in the progress report; Turkey has reached some level of preparation on competition, agriculture, food safety, veterinary and phytosanitary policy, social policy and employment, environment, and climate change where more ambitious and better-coordinated policies still need to be established and implemented. In all areas, more attention needs to be given to enforce legislation whilst many areas require further significant progress to achieve legislative alignment with the EU acquis, strengthen the independence of regulatory authorities and build the administrative capacities.