



Analysis of the Environmental Impact Assessment (EIA) Directive and the EIA decision in Turkey



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ARTICLE INFO

Article history:

Received 1 February 2015

Received in revised form 28 March 2015

Accepted 5 April 2015

Available online 16 April 2015

Keywords:

Environmental Impact Assessment

Environmental Impact Assessment procedure

Environmental Impact Assessment decisions

ABSTRACT

The Environmental Impact Assessment (EIA) Directive first entered into force in the United States in 1969, and began to be implemented in many other countries by 1990. The first Environmental Impact Assessment (EIA) Directive in Turkey was published on February 7, 1993, under the Environmental Law No. 2872. The EIA Directive was revised seven times on June 23, 1997, June 6, 2002, December 16, 2003, July 17, 2008, October 3, 2013, and November 25, 2014. Several amendments were made during this process. The first EIA Directive dated 1993 was narrow in scope and its procedure was long, while the amendments in 2003, 2008, 2013, and 2014 widened the scope of the EIA, and shortened the EIA assessment procedures. In this study, the amendments to the Turkish EIA Directive were analysed, and their effect on the number of EIA decisions made was addressed. It was concluded that the uncertainties in EIA procedures were removed, procedures were shortened, and as a result, the number of EIA decisions increased thanks to the revisions made in line with harmonisation with European Union (EU) acquis.

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1. Introduction

An Environmental Impact Assessment (EIA) is a process in which an analysis and assessment is made in the effect of a particular human activity on the environment. The protection of the ecosystem aims at maintaining a sustainable environment for human benefit, and an EIA is one of the most effective tools in environmental planning and environmental management to this end (Toro et al., 2010, 2013; Wathern, 1994; Wood, 2003).

For almost 40 years, the EIA has played a key role in judicial, technical, scientific, administrative and political fields for the prediction, definition, assessment and characterization of environmental impacts (Perevochtchikova and Andre, 2013). International experience indicates that political factors have become a driving force in the application and definition of the EIA (Elliott and Thomas, 2009), and the effectivity of an EIA today is a reflection of better decision-making processes, advanced environmental protection and sustainable development (Noble, 2010). Many developed states have adopted EIA legislation, recognizing its importance for economic development (Alshuwaikhat, 2005). The implementation and adoption of an EIA are linked to the political standing of the decision-making process and the institutional framework (Ortolano and Sheperd, 1995), although EIA procedures vary from country to country in terms of methodology and legal framework (Ahmad and Wood, 2002; Barker and Wood, 1999).

A growing number of countries oblige certain investments to be a subject to an Environmental Impact Assessment. Environmental Impact Assessments (EIAs) are not only applied to the products or projects, but also applied to policies and programmes. However, EIA practices

established environmental protection measures before the creation of the concept of pollution in developed countries, and this precaution minimized the expenses on cleaning the environment after such pollution. In this sense, both the environmental values were protected and economic losses were avoided. An Environmental Impact Assessment (EIA) is a process by which the potential environmental impacts of a proposed development are assessed at an early stage of decision-making in order to promote sound environmental management (Glasson et al., 2005). It is a systematic process for considering the possible impacts prior to a decision being made about whether or not a proposal should be given approval to proceed. EIA requires, inter alia, the publication of an EIA Report describing the likely significant impacts in detail. Consultation and public participation are integral to this evaluation. EIA is thus an anticipatory, participatory environmental management, as well (Jay et al., 2007). The environmental assessment process had two major purposes: to ensure that decision makers are making conscious choices regarding impacts on the environment and to open the process to citizen involvement (CEQ, 2007).

EIA informs the authorities, who are to make decisions on a certain activity, before the decision-making process about the environmental impacts likely to be faced, and ensures that they make better decisions considering several factors likely to affect their decisions, which ensures a more holistic decision-making process. The main objective of EIA is to protect environmental values before economic policies without hampering economic and social developments, to determine all positive and negative effects likely to be caused by a certain activity, to ensure that all required measures are taken, and finally to avoid such activities provided that the environmental impacts are unacceptable (Güneş, 2010).

The European Union (EU) EIA Directive, entered into force in 1998, becoming a legal procedure to be implemented in the assessment of the environmental impacts of certain public and private sector projects in the EU Member States (Dervişoğlu, 2010).

National Environmental Policy Act 1969 is the legislative basis for EIA, which was the result of wide spread recognition in the US in the 1960s that some major environmental problems were created by the government's actions. This legislation required that all federal agencies would consider the environmental consequences of their actions. Within a few years' time, many developed and developing countries designed their EIA legislation. By the 1990s, developing countries in Asia emerged at the forefront of EIA practice in the developing world (Gilpin, 1995; Momtaz, 2002).

European Union members endeavoured in recent years to strengthen the implementation of the EIA Directive. These efforts to strengthen EIA include the improvement of activities and processes such as screening, scoping, EIA Report preparation, decision-making, monitoring, consultation, and public participation (Barker and Wood, 1999). Many countries have enacted the EIA Directive in the years after 1990 (El-Fadel and El-Fadel, 2004). Economic growth in developed countries and the increasing disruption of the environment were two factors that contributed significantly to the development and implementation of the EIA (UNEP, 2004).

The Environmental Impact Assessment was first included in Turkish legislation under Article 10 of Environmental Law No. 2872, which entered into force in 1993 after Article 56 of the 1982 Constitution Act, regulating the “environmental right.” The aim of the Environmental Law is to avoid the environmental impacts of the projects related to certain activities likely to have significant impacts on environment, starting from the planning phase, all while leaving the procedures and principles of the issue, the scope of which is determined by EIA, to be addressed by the Directive. The EIA process in Turkey was acknowledged as a legal procedure with the Environmental Impact Assessment Directive that entered into force on February 7, 1993 (Official Gazette, 1993). The EIA Directive was revised on June 23, 1997 (Official Gazette, 1997), June 6, 2002, (Official Gazette, 2002) December 16, 2003, (Official Gazette, 2003) (EIA Guide, 2009), July 17, 2008 (Official Gazette 2008), October 3, 2013 (Official Gazette, 2013) and November, 25, 2014 (Official Gazette, 2014).

Due to the amount of amendments, it is difficult to compare EIA Directives because each Directive was submitted to ensure perfection; however, they all entered into force as Directives that include certain principles causing more problems in practice with negative impacts on the environment compared to the previous one (Alica, 2011).

The Environmental Impact Assessment Regulation was revised 7 times from 1993 to 2014 in Turkey. During this period, the decision making process and list of projects subject to Environmental Impact Assessment (Annex 1) were amended several times.

This study reveals the applications of the Environmental Impact Assessment by-law and the amendments to the EIA legislation in Turkey. The current study analyses the projects that were carried out under Annex-1 of the EIA by-law within the 21-year period from 1993 to 2014. The increase in the number of EIA applications that took place as a result of industrial development and the shortening of the problematic EIA processes for investors have been analysed. The results of the quantitative analysis of EIA decisions are significant, in that they permit an understanding of sectoral developments and the implementation of EIA in Turkey.

1.1. History of environmental regulation in Turkey

Turkey had no environmental organization to speak of until the 1970s (Özdemir, 1987), when, in 1973, the Environmental Issues Coordination Council was established to come up with solutions to the country's environmental problems. Since the Council failed to produce any effective solutions, the “Prime Ministry Environment Organization” was established in 1978, comprising the High Environment Council, the

Prime Ministry Undersecretariat of the Environment and the Technical Investigation Commission (Baykal, 2010). In 1983, the Environment Law, numbered 2872, was enacted, and in 1984 “the General Directorate of the Environment”, responsible for the enforcement of the Environment Law, was established, followed in 1989 by the Undersecretariat of the Environment. The environment finally got its own ministry in 1991, becoming the Ministry of Environment and Forestry in 2003. Since 2011, the Ministry of Environment and Urbanization has been responsible for carrying out environmental management and Environmental Impact Assessment studies.

In line with Article 56 of the 1982 Constitution regulating the “right of environment”, the Environmental Impact Assessment entered into legislation for the first time with Article 10 of the Environment Law numbered 2872. Starting from the planning phase, the Environment Law aims to prevent projects that may be detrimental to the environment, but leaves the regulation of the principles and procedures of the issue to the by-law. The first by-law in this regard, which entered into force in 1993, came up against many hurdles in terms of the legislation of other institutions and organizations related to the priority of enforcement. Furthermore, obtaining an EIA decision created difficulties for investors, being generally a very lengthy process. The revised second EIA by-law was published in the Official Gazette on 14/03/1997, numbered 23028, and was aimed at aligning with the Directive dated 14/03/1997 that amended the EU EIA Directive (Akkas, 2012). Following the recognition of Turkey as a candidate state for EU membership at the Helsinki Summit of 1999, and upon the inclusion of the EIA Directive by the European Commission as one of the “short term priorities” of the Accession Partnership Document, the EIA by-law was recast on 06/06/2002 (Innanen, 2004). One significant difference in the 2002 EIA by-law from the previous by-laws was the inclusion of the phase “public participation” (Serter, 2006). After a lengthy evaluation of the scope, definition and examination processes by a commission (Innanen, 2004), the fourth EIA by-law entered into force on December 16, 2003, just one year after the previous by-law had been enacted. There were no significant differences in the articles of the new by-law when compared to that of 2002, however the gaps in the EIA by-law mentioned in the EU Progress Report and purpose of alignment with some parts of the 2003 Directive were influential in the adoption of this by-law (Akkas, 2012). The EIA by-law dated 17/07/2008 was revised with amendments to bring it into line with the EU EIA Directive and to incorporate the relevant provisions of EU Directive 2003/35/EC, especially on “Public Participation”. With the enactment of EIA by-law dated 03/10/2013, the electronic submission of EIA applications was begun. Finally, the EIA by-law dated 25/11/2014 amended the scope and annexes of the EIA, and is still in force.

1.2. Turkish EIA Directive

In Turkey, as in many other countries, awareness about environmental issues significantly increased in the 1970s. As a result, at that time, the main environmental issues were identified, some framework environmental policies were drawn up, and administrative structures to implement these policies were established (Innanen, 2004).

EIA process should be divided into several phases, in which the duties, roles and responsibilities of the parties are clearly defined (e.g. scope determination, impact assessment etc....). In this sense: i) the starting point, ii) objectives, iii) phases (documents required to be prepared and decision points), iv) time distribution, v) public participation, and vi) the roles of the parties are determined. Furthermore, several interim decisions are made in order to determine other activities to be done at the end of each phase. This process is described through the EIA Directive in Turkey. As a result, the EIA process is defined clearly, and transparency is ensured to a great extent (EIA Guide, 2009).

As in the EU EIA Directives, Turkish EIA Directives also adopted the listing method. Accordingly, the annexes of the Directives include lists, in which certain activities are listed with certain criteria. There are two main lists. For the activities included in one of these lists, the EIA

process is directly applied without any further assessment, while the decision on whether to apply EIA for the activities included in the other list is made upon applying further assessment. This contrast is significant because those two procedures have totally different implementations. Hence, during the listing process, the activities thought to have more significant environmental effects are gathered under one list, while the activities thought to have less impact are gathered under another (Çerçi, 2010).

The Environmental Impact Assessment was analysed under two scopes, which are Annex 1 (list of projects subject to Environmental Impact Assessment) and Annex 2 (list of projects subject to Selection and Elimination Criteria) of the Regulation, which took effect on November 25, 2014. For the projects covered under Annex 1, a decision was made regarding “EIA Required” or “EIA Not Required”, while the “EIA Positive” or “EIA Negative” decision was made for the projects covered under Annex 2. The Environmental Impact Assessment procedures are conducted by the Ministry of Environment and Urbanization. Within the scope of the by-law, EIAs are evaluated under six headings, being: petroleum mining, waste chemical plants, agriculture-food, energy investments, transportation and coastal investments.

1.3. EIA application

Institutions and organizations authorized by the Ministry of Environment and Urbanization submit their EIA Application File prepared based on the EIA General Format. For the projects with an “EIA Required” decision, such a decision and the EIA Application File, together with a power of attorney and circular of signature indicating that the signatory has been authorized by the project owner, are submitted to the Ministry by the institutions and organizations authorized by the Ministry. The Ministry analyses the information and documents submitted in the application file. This procedure is completed within five (5) working days. Provided that the application file was found to be prepared in accordance with the EIA General Format illustrated in Annex 3, the Ministry establishes a Commission consisting of the representatives of the concerned public institution and organization, Ministry officers, project owner, and institutions/organizations authorized by the Ministry, based on the information provided in the application file. The Ministry and Governorship announces, declares, or publishes on the Internet that the project application has been made, the EIA process has begun, EIA Application File has been opened for public opinion, and that remarks and recommendations can be submitted to the Ministry or Governorship before the end of the EIA process. The Ministry sends Commission Members a letter indicating a date for presenting opinions within the scope definition and Public Participation Meeting, together with the EIA Application File prepared in accordance with the General Format, which is illustrated in Annex 3.

1.3.1. Public participation

A Public Participation Meeting is held in a central location, which the individuals to be affected by the concerned issue can easily access, at an appropriate time, and on a date to be determined by the Ministry, with the attendance of the institutions and organizations authorized by the Ministry and project owner in order to inform the public about the investment and collect remarks and recommendations on the project before the scope definition meeting. Institutions and organizations authorized by the Ministry provide notice indicating the meeting date, time, place, and issue, which is to be published in a local periodical and a gazette, defined as mainstream periodical at least ten (10) days before the meeting. A Public Participation Meeting is held under the chairmanship of the Provincial Directorate of Environment and Urbanization or an official to be assigned. During the meeting, the public is informed about the project, and their remarks, questions, and recommendations are collected. The chairman may require the participants to submit their remarks in writing. One copy of the meeting minutes is kept by the Governorship, while the other copy is sent to the Ministry.

1.3.2. Determination of scope and special format by the Commission

The Ministry prepares the EIA Report Special Format in line with the remarks and recommendations of the commission member institutions and organizations and the public. Upon depositing the format price, the Ministry delivers the Special Format within seven (7) working days. Institutions and organizations authorized by the Ministry are obligated to submit the EIA Report within eighteen (18) months as of the special format issuance date. In cases where no EIA Report has been submitted during this period, the EIA process is terminated.

1.3.3. Submittal of Environmental Impact Assessment Report to the Ministry

The EIA Report issued by institutions and organizations authorized by the Ministry is submitted to the Ministry. Within five (5) working days, the Ministry analyses the EIA Report's compliance with the special format and whether it has been prepared by professionals required to be included in the defined working group. The EIA Report that has been determined to be prepared in line with the EIA Report Special Format is sent to the Commission members, accompanied by a letter that indicates the date and location of inspection and survey meeting. The Ministry and Governorship announces, declares, or publishes on the Internet that the inspection and survey process has begun, and that the concerned EIA Report has been opened for public opinion.

1.3.4. Inspection and survey of report

The commission inspects and surveys the EIA Report within ten (10) working days as of the initial inspection and survey meeting. The commission gathers with an absolute majority. The commission members are assigned within the scope of their authorities, duties, and responsibilities concerning the central and local institutions and organizations they represent, and submit their opinions on behalf of their institutions and organizations.

1.3.5. Decision making

The EIA Report, which has been analysed and put into its final form by the Commission, is opened for public opinion for ten (10) calendar days by the Ministry and/or Governorship through declaration or the Internet, in order to receive remarks and recommendations of the public. During the decision making processes, such remarks are taken into consideration, as well. A Letter of Commitment stating that the final EIA Report and annexes thereof are under the commitment of the project owner and a notarized circular of signatures are submitted to the Ministry within five (5) working days. The Ministry delivers an “EIA Positive” or “EIA Negative” decision for the concerned project within ten (10) working days, considering the Commission works and public opinion, and informs Commission members about the decision. An “EIA Positive” or “EIA Negative” decision for the concerned project is publicized by the Ministry and Governorship through declaration or the Internet.

1.3.6. Projects subject to selection and elimination criteria

In cases where the capacity increases and/or a widening of an EIA Regulation is planned for the projects addressed outside of the scope, current project capacity, capacity increase, and the new project capacity are subject to selection and elimination criteria, such as the projects listed in Annex 2. A Project Introduction File prepared by the institutions and organizations authorized by the Ministry in accordance with Annex 4, in order to investigate whether the Environmental Impact Assessment is required, is submitted to the Ministry. The Ministry analyses the Project Introduction File within five (5) working days, considering the criteria stated in Annex 4. In case of a lack of information and/or missing documents, the institutions and organizations authorized by the Ministry are required to complete such information and missing documents. The EIA process is terminated for Project Introduction Files that are not completed within six (6) months.

The Ministry finalizes inspection and survey within fifteen (15) working days, and delivers an “EIA Required” or “EIA not Required”

decision within five (5) working days, and informs the Governorship, project owner, and institutions and organizations authorized by the Ministry about the decision. The Governorship publicizes such opinions through declaration or the Internet.

1.3.7. Monitoring and control

The Ministry monitors and checks whether the points guaranteed under the Project Introduction File prepared, are based on the Final EIA Report and/or the “EIA Not Required” decision for the projects with an “EIA Positive” or “EIA Not Required” decision. Upon receiving an “EIA Positive” or “EIA Not Required” decision, the project owner is liable to inform the Ministry or Governorship about the regulation-related changes to be made to the project. The following figure illustrates the EIA procedure. EIA procedure in Turkey is summarized in Fig. 1 (Official Gazette, 2014).

2. Methodology

The activities included within the scope of EIA are determined via the Directive in Turkey. The annexes of the Directive include the projects subject to the EIA; Annex I is “The List of Projects Subject to Environmental Impact Analysis”, while Annex II is “The List of Projects Subject to Selection & Elimination Criteria.” The changes in the EIA processes of the EIA Directives dated 1993, 1997, 2002, 2003, 2008, 2013, and 2014 were analysed within the scope of this study, and their effect on the number of EIA decisions made were approached. Within the scope of the study, the EIA decisions on the activities included in

Annex I of the Environmental Impact Analysis Directive between 1993 November 25, 2014 were analysed. The EIA decision data were gathered from the web site of the Ministry of Environment and Urbanization. The SPSS-20 program was used to conduct the frequency and crosstab analysis, based on year, sector, and region.

3. Results

3.1. Amendments to the EIA Directive

The EIA Directive amendments between the years 1993 and 2014 were analysed in terms of the EIA process covered by the Annex I of the Directive. The results are given in Table 1, and the related titles are given below.

3.1.1. Presentation of EIA Application File to the Ministry, and its analysis in terms of format

This procedure was determined to be two weeks in the first Directive dated 1993, while it was reduced to seven days in the Directive dated 1997, and then increased to ten working days in the Directive dated 2003, reduced to three working days in the Directives dated 2003 and 2008, and finally determined to be five working days in the Directive dated 2013 and 2014.

3.1.2. Public Participation Meeting Process

A public participation meeting is held to inform the community about any project before determining its scope and special format, and

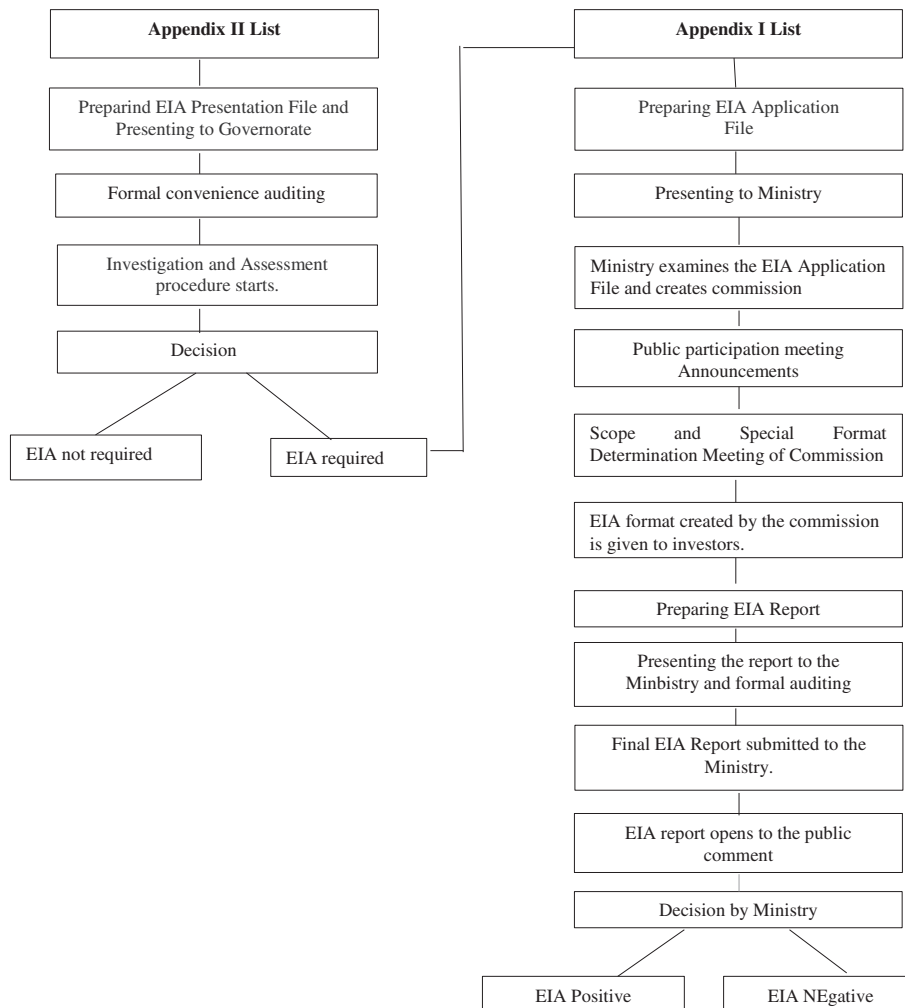


Fig. 1. Environmental Impact Assessment Procedure in Turkey.

Table 1

EIA exchange between the years 1993 and 2014 in Turkey.

	1993	1997	2002	2003	2008	2013	2014
Refineries	x	x	x	x	x	x	x
Thermal power plants	x	x	x	x	x	x	x
Nuclear fuel plants	x	x	x	x	x	x	x
Metal industrial facilities	x	x	x	x	x	x	x
Installations for the extraction of asbestos and for the processing and transformation of asbestos and products containing asbestos	x	x	x	x	x	x	x
Integrated chemical installations for industrial scale manufacture of substances using chemical conversion processes, in which various units are juxtaposed and functionally linked to one another and which are			x	x	x	x	x
Facilities producing explosive and inflammable materials	x	x	x	x	x	x	x
Motorways, transits, and airports	x	x	x	x	x	x	x
Waterways, ports, and shipyards	x	x	x	x	x	x	x
Hazardous and specially processed wastes	x	x	x	x	x	x	x
Waste disposal installations for the recovery and/or final disposal and waste incineration installations			x	x	x	x	x
Groundwater extraction or underground water storage projects with an annual water volume of 10 million m ³ or over	x	x	x	x	x	x	x
Works for the transfer of major water sources, other than piped drinking water:			x	x	x	x	x
Dams and lakes with a reservoir volume of 10 mio m ³ and over	X	X	X	x	x	x	x
River type power plants with an installed capacity of 25 MW or more		50 MW >	50 MW >	x	x	x	10 MWm >
Waste water treatment plants with a capacity exceeding 150,000 population equivalency and / or 30.000 m ³ capacity per day.				x	x	x	x
Slaughter facilities	x	x	x	x	x	x	x
Livestock facilities			x	x	x	x	x
Aquaculture projects (1.000 or more tons per year)				x	x	x	x
Facilities where raw-oil extraction from crops and refinement process is carried out together				x	x	x	x
Milk products processing facilities				x	x	x	x
Yeast factories		x		x	x	x	x
Sugar factories	x	x	x	x	x	x	x
Forest and cellulose product facilities	x	x	x	x	x	x	x
Fibre, fabric or carpet factories		x	x	x	x	x	x
Mining projects	x	x	x	x	x	x	x
Extraction of raw oil (500 t or more per day) and natural gas (500.000 m ³ or more per day)			x	x	x	x	x
Pipelines for the transportation of gas, oil or chemicals with a diameter over 600 mm and a length of more than 40 km	x	x	x	x	x		x
Cement factories	x	x	x	x	x	x	x
Petroleum, natural gas, petro-chemical, and chemical substance storage facilities	x	x	x	x	x	x	x
Raw hide processing facilities	x	x		x	x	x	x
Expert industrial zones	x	x		x	x	x	x
Battery and Accumulator production facilities	x	x	x	x	x	x	x
Facilities where active pesticide substances and/or pharmaceutical products are produced	x	x	x	x	x	x	x
Motor vehicle production	x	x	x	x	x	x	x
Railway vehicle production	x	x	x	x	x	x	x
Aircraft production	x	x	x	x	x	x	x
Glass, fibreglass, or rock wool production facilities	x	x	x	x	x	x	x
Rubber production facilities	x	x	x	x	x	x	x
Cerami, or porcelain production facilities	x	x	x	x	x	x	x
Tourist accommodation facilities (500 or more rooms), holiday villages, and/or tourist complexes		X (200 rooms>)		x	x	x	x
Wind power plants having 50 MW or more installed capacity						x	x
Extraction of geo-thermal sources and facilities using geo-thermal energy (20 MWe more thermal capacity)						25 MWe >	x
Solar power plants						x	x
154 kV or more energy transmission facilities (15 km or more)	x		x	x	x	x	x
Mass-housing projects (1000 housings and more)		x				2000 >	
Hospitals with a capacity of 500 beds and more						x	
Golf facilities (50 ha>)						x	
Shopping centres (50.000 m ² >)						x	
Dragnet projects > 3.000.000 m ³		X (200.000 m ³ >)				x	50.000 >

to receive their views and recommendations. Within this scope, according to the Environmental Impact Assessment Report, the owner of the activity publishes the place, date, time, and subject of the meeting on one of the newspapers with best circulation in Turkey, and on another local newspaper two times a week, within the agreement ensured with the ministry. Furthermore, the local civilian authority also announces the meeting at the locations deemed necessary, for one week.

The uncertainty of choosing a location for the public participation meeting in the 1993 Directive was eliminated in the Directive dated 1997. The following statement was included in the Directive: "The location of the meeting will be determined by the activity owner and governorship, paying special attention to choose a place where the local community, who are likely to be affected by the activity at the greatest

level, can access quite easily; and then the Ministry is notified of the location." The owner of the activity publishes the place, date, time, and subject of the meeting in one of the newspapers with the best circulation in Turkey, and on another local newspaper three days before the meeting, in accordance with the agreement ensured with the ministry. Furthermore, the local civilian authority also announces the meeting on the locations deemed necessary, for five working days.

In the Directive dated 2002, the provision requiring the whole commission or assigned persons to view the location where the project is to be held was added, and this provision is different from those included in the Directive dated 1997. The announcement of the meeting, including information on location, date, and time was required to be published in a national newspaper five days before the meeting.

Table 2

Amendments on EIA Directives between 1993 and 2014.

	1993	1997	2002	2003	2008	2013	2014
EIA Application File/analysis of the applications made to the ministry	2 weeks	7 days	10 working days	3 working days	3 working days	5 working days	5 working days
Briefing, public participation, and special format determination	–	–	30 working days	12 working days	12 working days	7 working days	7 working days
Announcement of public participation meeting	One week–2 times	Before 3 days	–	Before 3 days	Before 10 days	Before 10 days	Before 10 days
Local newspaper	One week–2 times	Before 3 days	Before 15 days	Before 3 days	Before 10 days	Before 10 days	Before 10 days
National newspaper	–	–	–	–	–	–	–
EIA Report review process	12 weeks	60 working days	3 days	3 working days	3 working days	5 working days	5 working days
Final EIA Report	N/A	30 days	30 days	5 working days	5 working days	5 working days	5 working days
Public review	–	–	–	–	10 working days	10 working days	10 working days
Days required for replicating the copies for each Commission Member of the Ministry	–	–	–	–	3 working days	3 working days	3 working days
Submitting the replicated Final EIA Report to the Ministry	–	–	–	5 working days	5 working days	5 working days	5 working days
EIA Positive or EIA Negative decision	2 weeks	10 working days	10 working days	5 working days	5 working days	10 working days	10 working days

In the Directive dated 2003, the following statement was included: “The project owner may conduct certain studies such as questionnaires, and seminars before the Environmental Impact Analysis process, in order to inform the community,” which is different from the Directives dated 1993, 1997, and 2002. The announcement of the meeting, including information on the location, date, and time was required to be published in a national and local newspaper at least three days before the meeting.

Lastly in the Directives dated 2008, 2013, and 2014, the announcement of the public participation meeting was required to be published ten days before the meeting, which is different from the Directive dated 2003.

3.1.3. Briefing, public participation, and special format determination meeting process

This meeting is held after the Public Participation Meeting for the projects, which are subject to the Environmental Impact Analysis. No due date was determined for this project in the Environmental Impact Analysis Directives dated 1993 and 1997, while 30 working days were determined in the Directive dated 2002, 12 working days were determined in the Directives dated 2003 and 2008, and seven working days were determined in the Directive dated 2013 and 2014.

3.1.4. EIA Report review period

This review is carried out by the Ministry in order to determine its compliance with the special format, and to inspect whether it was prepared by professional experts, who are required to be included in the pre-determined working group. This process was determined as

12 weeks in the Environmental Impact Assessment Report dated 1993, while 60 working days were spared for this process in the Directive dated 1997, three working days were spared in the Directives dated 2002, 2003, and 2008, and five working days were spared in the Directive published in 2013 and 2014.

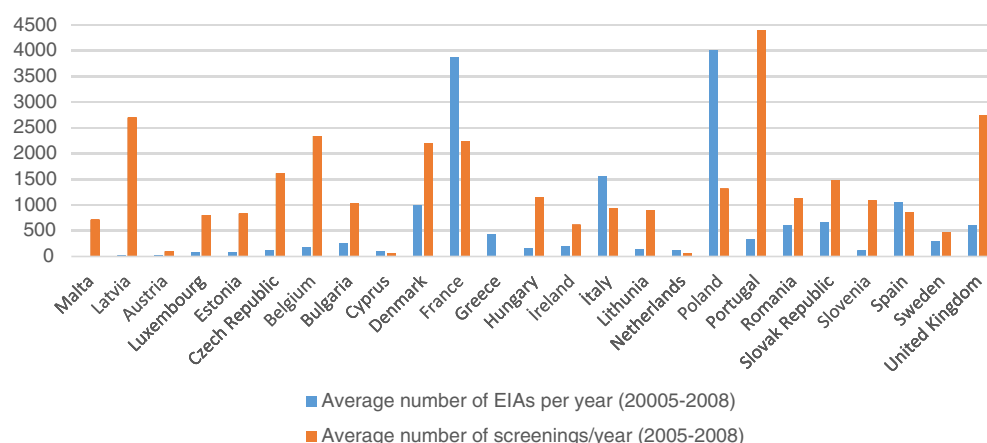
3.1.5. Final EIA Report process

No due date was determined for the Final EIA Report process, which is the delivery of the report upon its completion by EIA Report Commission Members, in the Directive dated 1993, while 30 days were spared in the Directives dated 1997 and 2002. However, in the Directives dated 2003, 2008, 2013, and 2014, the process was determined to take five working days.

3.1.6. EIA Positive or EIA Negative decision process

The Environmental Impact Assessment decision process varies depending on the features of the project. Therefore, an exact decision time period cannot be given for the completion of the project, except for the periods stated in regulations.

The average duration of an EIA decision procedure in European Union Member States is 11.6 months in total, with 1.2 months for elimination, 1.3 months for conceptualization, 5.5 months for the environmental report, 1.6 months for consultations (public, authorities, other Member states), and 2 months for the final decision (GHK, 2010). While the period given for the completion of the Annex 1 projects in South Africa is 106 days, it is 46 days for Annex 2 projects (SADC, 2012). When we look at the Gulf countries, in Oman, Bahrain, Kuwait,

**Fig. 2.** Number of EIA decisions in different countries (GHK, 2010).

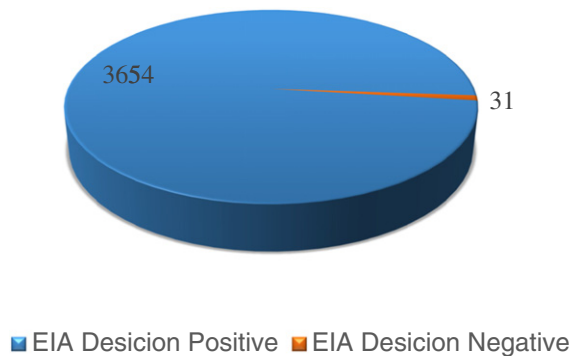


Fig. 3. Total Positive and Negative EIA decisions between 1993 and 2014 (25.11.2014).

it is 60 days following the application, while there is no limit for the Kingdom of Saudi Arabia, and it is 30 days in Qatar (Azri et al., 2013).

This process was determined to be ten working days in the Directives dated 1993, 1997, and 2002, while it was reduced to five working days in the Directives dated 2003 and 2008, and increased to ten working days in the Directives dated 2013 and 2014.

When the amendments of Annex 1 of the Regulation are analysed based on the EIA Projects, the following conclusions were made (Table 2):

Annex 1 of the EIA Regulation dated 1993 is observed to have the narrowest scope. This regulation did not cover several facilities such as power plants, treatment facilities, recovery plants, tourism, and mass housing.

The regulation dated 1997 covered river plants, together with the plants listed in Annex 1 of the previous regulation; however, this regulation did not cover wind plants, solar plants, and geothermal power plants. Furthermore, recovery plants, animal breeding, and culture fishing facilities were not covered by the list. On the other hand, mass housing (≥ 1000 houses) and tourism facilities (≥ 200 rooms) were observed to be covered under the list.

In 2002, the scope of the projects covered under Annex 1 of the EIA Regulation was again limited. Mass housing and tourism facilities covered by the Regulation dated 1997 were excluded. Power plants, apart from river-type power plants, were excluded from List 1. Specialized organized facilities processing rawhide, which were covered under the Regulation dated 1993, were included in Annex 2 of the Regulation dated 2002.

The scope of Annex 1, pertaining to EIA Regulations dated 2003 and 2008, was widened compared to previous years. Treatment facilities, recovery plants, culture fishing facilities, and dairy factories not covered under previous regulations were included in Annex 1 of the Regulations dated 2003 and 2008.

Annex 1 of the Regulation dated 2013 has the widest scope. Unlike the previous regulations, this list covers wind, solar, and geothermal power plants. Mass housing projects, which were not covered by Regulations dated 1993, 2002, 2003, and 2008, and which were defined to be ≥ 1000 houses in the Regulation dated 1997, were incorporated into the Regulation dated 2013 as ≥ 2000 houses. Furthermore, this Regulation is the first one to cover hospitals, shopping malls, and golf courses.

Mass housing projects, hospitals, shopping malls, and golf courses included in the Regulation dated 2013 were removed from the list pertaining to the Regulation dated 2014. The capacity requirement for wind power plants and river-type power plants were defined to be ≥ 50 MW and ≥ 10 MW, respectively.

3.2. EIA decisions

While the number of EIAs performed in Turkey between 1997 and 2008 within the scope of Annex I was only approximately 100, this number began to increase rapidly after 2008.

Process-related amendments on the Environmental Impact Assessment Directive in Turkey are observed to accelerate the EIA process (Fig. 2). The Directive dated 1993 slowed the EIA process, as there was no clear framework determined and due to long review and assessment procedures.

The most important difference between the Directives dated 1993 and 1997, and the Directives dated 2002, 2003, 2008, 2013, and 2014 is the shortened EIA review procedures. Considering the effect of such amendments on the number of EIA decisions, for the projects subject to EIA Report, which are included in Annex I of the Directive, it is observed that 3685 EIA decisions were made within the 21-year period before November 25, 2014. Thirty-one of these decisions were negative, while 3654 of them were positive (Fig. 3).

If analysed according to the years, an increase is observed in EIA positive decisions between 1993 and 2014, while a decrease is observed in the EIA negative decisions (Figs. 4 and 5).

The Environmental Impact Assessment Directive that entered into force in 1993 had a very narrow scope compared to the EIA Directives that entered into force in 1997, 2002, 2003, 2008, 2013, and 2014. The long review process and uncertainties in the decision-making process also have a reflection in the number of EIA decisions (Fig. 6).

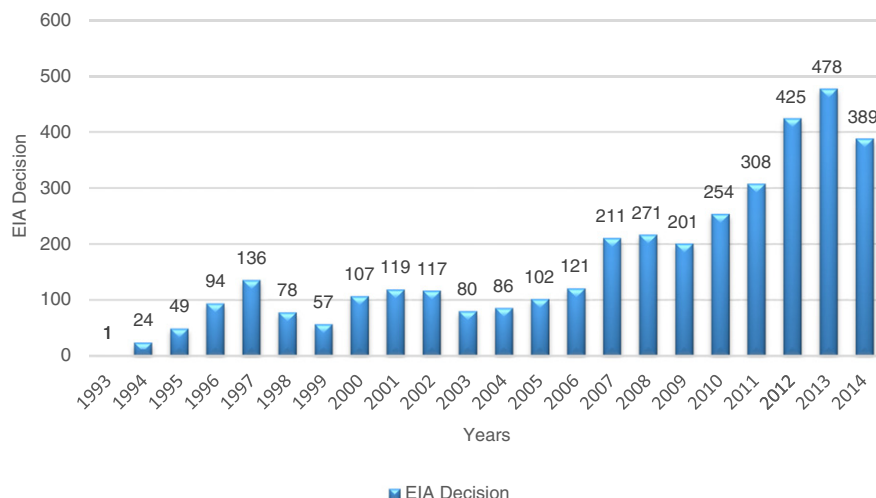


Fig. 4. The number of EIA Positive decisions between 1993 and 2014 (25.11.2014).

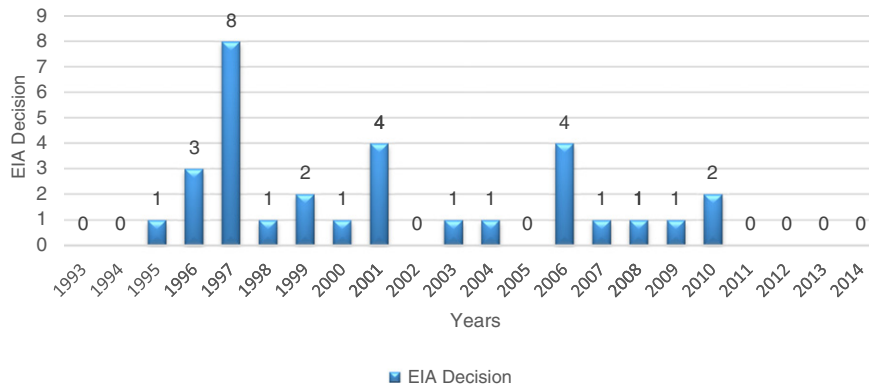


Fig. 5. The number of EIA Negative decisions between 1993 and 2014 (25.11.2014).

- A total of 234 EIA decisions were made between February 7, 1993 and June 23, 1997.
- In the Directive dated June 23, 1997, the decision-making processes were shortened, and uncertainties in the Directive dated 1993 were avoided, and as a result, the EIA procedure was accelerated. A total of 495 EIA decisions were made in the five-year period before publishing the next Directive on June 6, 2002.
- The Directive entered into force on December 16, 2003 shortened the processes even more, compared to the process durations stated in the Directives dated 1993, 1997, and 2002. A total of 657 EIA decisions were made in the five-year period before publishing the next Directive on July 17, 2008.
- Certain provisions not included in the other Directives were added to the Directive that entered into force on July 17, 2008. According to this provision, the Final EIA Report of the Commission was to be reviewed in the Provincial Directorate of Environment and Urbanization and in the Ministry for ten working days in order to receive the reviews and recommendations of the public. Those reviews were to be considered during the Ministry's decision making process; the report was required to be replicated within three working days for each commission member, and the replicated EIA Report was to be submitted to the Ministry within five working days. A total of 1656 EIA decisions were made in the five-year period before publishing the next Directive on October 3, 2013. Four hundred ninety-one EIAs were finalized during the one year period between EIA Regulation publications.

3.3. Analysis of EIA decisions in terms of sector

An evaluation of EIA decisions reveals that the nature of these decisions varies considerably depending on the economic and development level of countries and their geographic conditions. For example, in Nepal, approved EIAs are most frequently related to the hydropower sector (25%), and least frequently related to hotels and tourism. In decreasing order, the most commonly approved EIAs following those relating to hydropower are those on transmission lines (14%), agriculture and forests (11%), roads (10%), industry (9%), waste management (5%), and drinking water (4%). Nearly 12% of the remaining EIAs are related to other areas (Bhatt and Khanal, 2010). In Malaysia, most EIAs are performed in the recreation and resorts, infrastructure, and quarry sectors (Memon, 2003). In association with the level of industrialization in the Netherlands, a gradual increase is observed in the number of EIAs related to developments in mining, industry, and energy fields (EU Legislation – Directive 85/337/EEC, 2008). According to a study conducted in Ireland; while the areas in which EIAs were most frequently performed between 1988 and 1991 were infrastructure investments (24%) and agriculture (17%), they were followed by mining (15%) and energy production (4%). The relatively high number of agriculture fields in Ireland is associated with its being an agricultural country (Lee and Dancey, 1993).

A sector-related analysis of the EIA decisions reveals that 966 decisions were made in the oil and mining sector, while 871 decisions

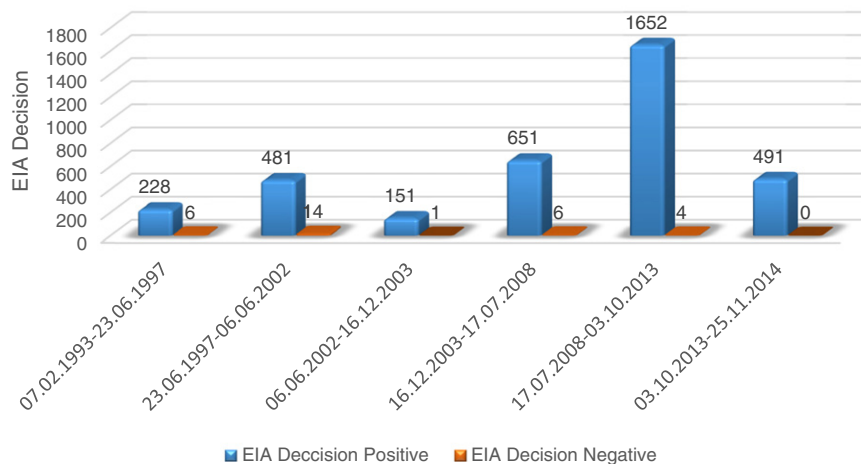


Fig. 6. EIA decisions based on Directives.

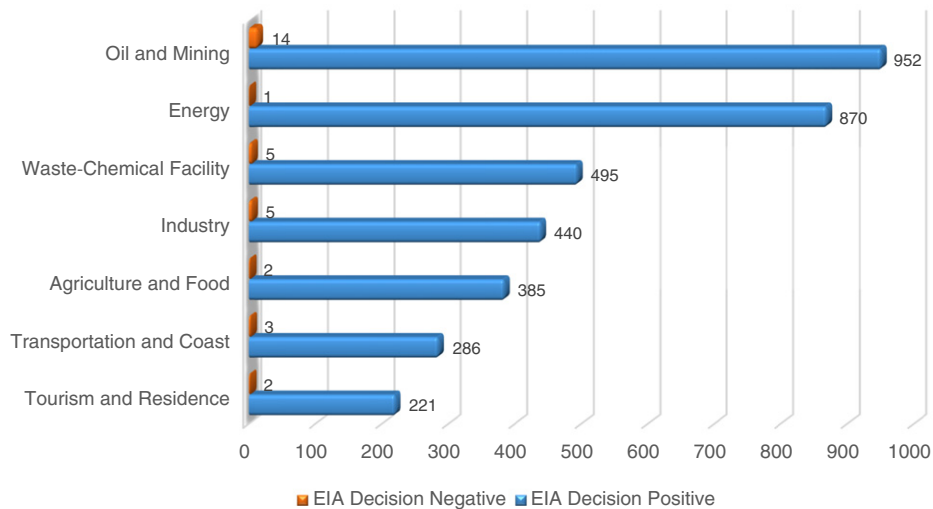


Fig. 7. Analysis of EIA decisions in terms of sector.

were made in power investments, 500 decisions on waste-chemical facilities, 445 decisions in industrial investments, 387 decisions in agriculture and food, 289 decisions in transportation and seashores, and finally 223 decisions in tourism – building sectors (Fig. 7). The highest number of negative EIA decisions was determined to be in the oil and mining sector (14), while the lowest number was revealed to be in the field of power (1).

In addition, an increase was observed between 1993 and 2014 in activities performed in the petroleum and mining sectors, while activities in the energy sector nearly doubled after the year 2007. Similarly, an increase was also observed after 2011 in activities within the agriculture and food sector (Fig. 8).

3.4. Analysis of EIA decisions in terms of region

Within the 21-year period between 1993 and 2014, 910 EIA decisions were made in the Marmara Region, while this number was 670 for the Aegean region, and 632 for the Central Anatolia Region (Fig. 9).

The highest number of EIA negative decisions was observed in the activities carried out in the Marmara Region (10) and the Aegean region (9).

An evaluation of EIA decisions in Turkey on a regional basis indicates an emphasis on energy activities in the Black Sea region; on food and agriculture activities in the Aegean region; on tourism in the Mediterranean region; and on industry, chemical waste facilities, and petroleum-mining activities in the Marmara Region (Fig. 10).

4. Conclusions

The implementation of the EIA tends to vary from one country to another. The main objective of the EIA Directive is to prevent the deterioration of the environment, and to ensure sustainable growth and a cleaner environment. Depending on the differences that exist between countries with respect to population, the level of industrialization and the level of economic development, differences are also observed in the sectors in which EIAs are implemented.

In Turkey, in the 21 years from 1993 to 2014, the EIA by-law has been revised seven times in total, by which the EIA examination and

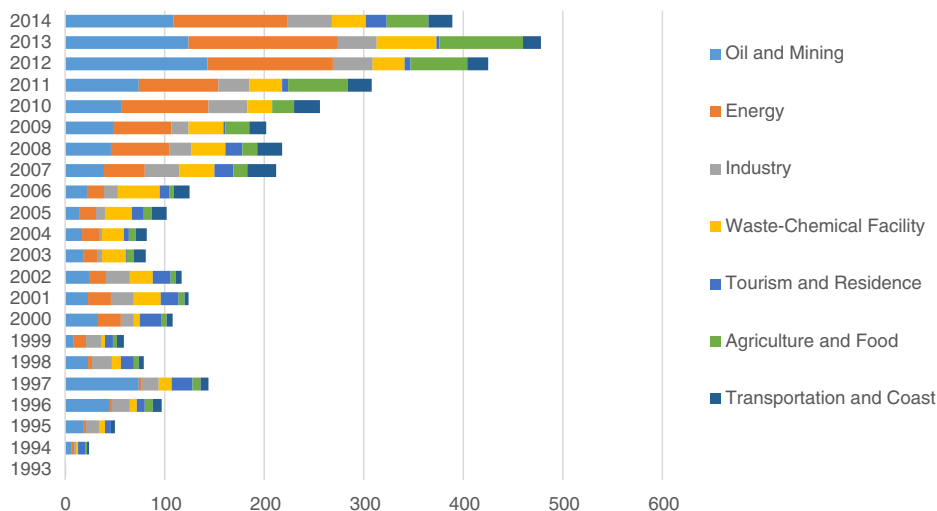


Fig. 8. Change in EIA activities between 1993 and 2014.

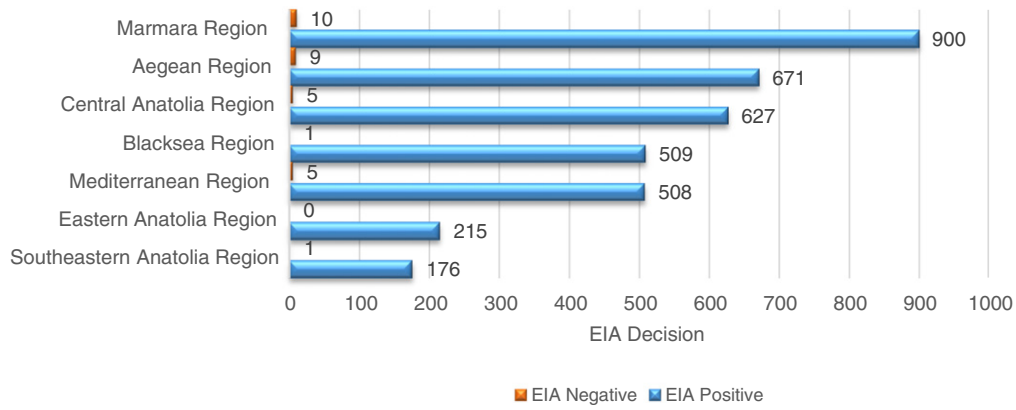


Fig. 9. Analysis of EIA decisions in terms of region.

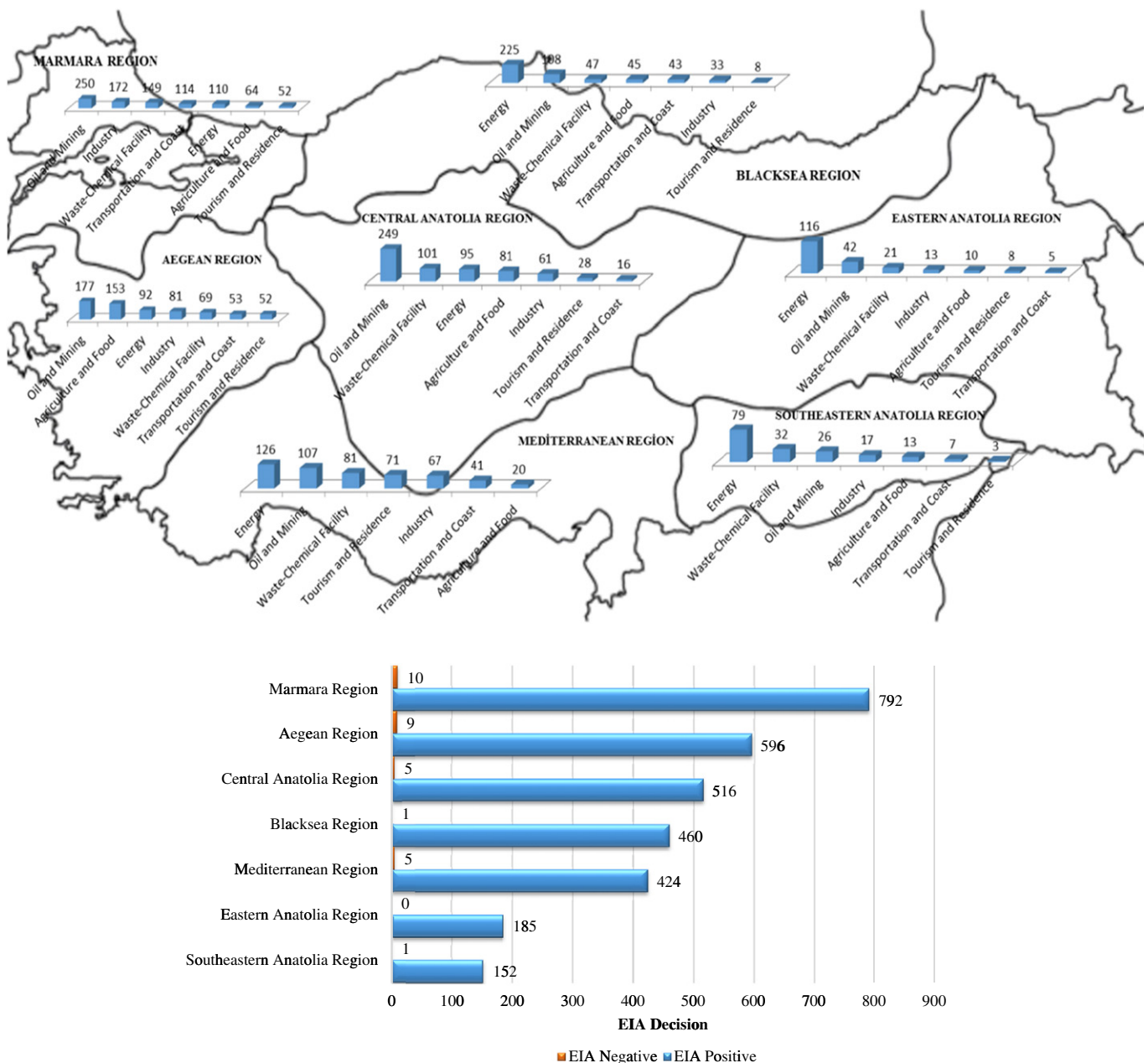


Fig. 10. The varying sectorial distributions of EIA activities across different regions of Turkey.

evaluation periods have been shortened with amendments to the EIA by-law. Conflicts with the legislation of other institutions and organizations, as well as issues of priority of enforcement, the lengthy processes involved in obtaining an EIA decision (which cause difficulties for investors) and the European Union harmonisation process have been important factors leading to amendments to the EIA by-laws. The fundamental objective in harmonising the EIA by-law with the EIA approaches of the EU is to create an EIA process that is specific to Turkey, while also being fully aligned with the EU Directive.

In Turkey, pursuant to the amendments to the first EIA by-law, the 1993 EIA by-law did not differentiate between the activities to be evaluated within the context of the EIA in the “Elimination” phase in terms of capacity, differentiating only on sectorial grounds. This by-law is the one with the longest examination evaluation period. This phenomenon has long been seen as a bureaucratic obstacle by the private sector (industrialists) (Calgüner, 1999), and the by-law issued in 1997 was prepared with the intention of resolving the problems faced by the operators. In the 1997 by-law, differentiations in terms of capacity became an important criterion in the elimination process, with sectors being assessed differently based on their respective capacities. In 2001, “Turkey’s National Program for the Adoption of the Acquis” entered into force. In the horizontal legislation section of the Environment chapter, harmonisation of the 1997 EIA By-law with the EU EIA Directive was defined as a “short-term priority”. The “Public Participation” phase entered into effect with the enactment of the 2002 by-law, which was adopted in line with the EU Directive. The transposition of the national and international law documents to the 2002 by-law was one of the improvements brought by this by-law to the 1997 by-law, after which, the 2003 by-law was prepared in an attempt to shorten the EIA process. Among the main reasons for shortening the processes was to eliminate the barrier of lengthy procedures for industrialists. Within the framework of the EU acquis alignment process, the 2008 EIA by-law strengthened the issue of public access to information. Within this context, the 2008 By-law includes provisions on public consultation in the EIA Report finalized by the Examination Evaluation Commission, established within the structure of the Ministry, definition of the public and public concerned, harmonisation of threshold values provided in the Annex-I and Annex-II with the Annexes of the Directive (Alica, 2011). The by-law published in 2013 amended the annexes, and the electronic submission of EIA applications was launched, while the 2014 by-law brought amendments to the scope of the by-law.

During this 21-year period, a total of 3,684 EIA decisions were made, 31 of which were negative. During this period, the EIA Regulation dated 1993 was determined to have the narrowest scope with several uncertainties in terms of implementation. Treatment, recovery, animal breeding, culture fishing, and yeast factories were not covered under Annex 1 of the Regulations dated 1993, 1997, and 2002. Tourism and accommodation facilities were not covered under Annex 1 of the Regulations dated 1993 and 2002, while such facilities were mentioned as ≥ 200 rooms in the Regulation dated 1997, and as ≥ 500 rooms in Regulations dated 2003, 2008, 2013, and 2014. Wind, geothermal, and solar power plants were included in the Regulations dated 2013 and 2014. Mass housing projects with ≥ 1000 houses were covered under Annex 1 of the Regulation dated 1997, while this figure scaled up to ≥ 2000 in Annex 1 of the Regulation dated 2013. Nevertheless, mass housing was removed from the list in 2014. Hospitals, shopping malls, and golf courses were only covered under Annex 1 of the Regulation dated 2013, and they were removed from the list of the Regulation dated 2014. Such amendments within the scope of the regulation, and the widening thereof, increased the number of EIA decisions, as well.

During this 21-year period, the greatest number of EIA negative decisions was delivered in the oil and mining (966) and power (871) sectors. It is clear that the Marmara Region has the highest investment rate, followed by the Aegean Region.

The long EIA review, assessment, and decision-making procedures in the EIA Directive published in 1993, slowed down the EIA process,

as well. It is observed that the uncertainties in EIA procedures were removed, procedures were shortened, and as a result, the number of EIA decisions increased thanks to the revisions made in line with harmonisation with EU acquis.

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