

RESEARCH ARTICLE

Turkey's Energy Security Policy within the Framework of Development Plans

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ABSTRACT Since 1963, Turkey has adopted and attempted to implement a total of twelve different development plans. These plans include chapters on how Turkey's energy security will be ensured in the relevant periods. The subject of this study is how Turkey has dealt with energy security within the framework of development plans for more than 60 years after its first adoption and how the change in the understanding of energy security has taken place within this historical context. To this end, the study will commence with a conceptual evaluation of the development plans and energy security. Thereafter, the arguments pertaining to energy in the development plans adopted by Turkey will be presented, and the transformation of Turkey's energy security will be comprehended in comparison with international trends in the field of energy security.

Keywords

energy security • Turkey's energy policy • development plan • planning policy • government policy

Kalkınma Planları Çerçevesinde Türkiye'nin Enerji Güvenliği Politikası

ÖZ 1963 yılından itibaren Türkiye günümüze kadar on iki farklı kalkınma planını kabul edip, hayata geçirmeye çalışmıştır. Bu kalkınma planları içerisinde ilgili dönemlerde Türkiye'nin enerji güvenliğinin nasıl sağlanacağına ilişkin başlıklar bulunmaktadır. İlk kabulünden sonra 60 yılı aşan süre içerisinde Türkiye'nin enerji güvenliğini kalkınma planları çerçevesinde nasıl ele almış olduğu, enerji güvenliğine ilişkin kavrayış değişikliğinin bu tarihsellik içerisinde nasıl cereyan ettiği çalışmanın konusunu oluşturmaktadır. Bu amaçla çalışma öncelikle kalkınma planı ve enerji güvenliği kavramlarına ilişkin kavramsal bir değerlendirme ile başlayacaktır. Devamında Türkiye'nin kabul etmiş olduğu kalkınma planları içerisinde enerjiye ilişkin başlıklarda yer alan argümanlar ortaya konacak ve enerji güvenliği alanındaki uluslararası eğilimlerle karşılaştırmalı şekilde Türkiye'nin enerji güvenliğinin geçirmiş olduğu dönüşüm idrak edilmeye çalışılacaktır.

Anahtar Kelimeler

enerji güvenliği • Türkiye'nin enerji politikası • kalkınma planı • planlama politikası • hükümet politikası

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Development Plans

In order to facilitate the economic, social, and environmental development of their respective countries, states prepare development plans. There are a multitude of compelling reasons for the preparation of these plans. First and foremost, states establish a long-term vision and strategy through the implementation of development plans (Adeniyi et al., 1988, pp. 259–260). This vision serves to determine the future direction of the country's economic life and to guide the policy-making processes of governments. These plans, which are prepared with the primary objective of promoting economic growth and ensuring sustainable development, delineate strategies for the optimal and prudent utilization of economic resources and the advancement of the industrial, service, and agricultural sectors.

In order to achieve the most effective utilization of natural, human, and financial resources, states have developed plans that set out the manner in which these resources are to be employed (Dupont, 1996, p. 2). The objective of development plans is to accelerate economic development by reducing waste and ensuring more efficient use of existing resources. In addition to enhancing efficiency, development plans seek to enhance the competitiveness of countries in the global economy and facilitate their integration into international markets. In this context, issues such as foreign trade, attracting foreign direct investment, and international cooperation are also included in development plans.

It can be argued that development plans are also important for reducing economic and social imbalances between regions. The formulation of targeted strategies to address the specific needs of different regions is regarded as a crucial step in the pursuit of a more balanced development agenda. Furthermore, development plans may include crisis management and risk mitigation strategies, which benefit states in terms of preparedness for economic crises, natural disasters, or other unexpected situations.

The objective of development plans is to enhance the quality of life for all members of society and to guarantee social justice. To achieve this, policies are formulated in areas such as education, health, and social security (Dale, 2006, p. 58). The formulation of development plans with the objective of enhancing the general standard of living for society as a whole is conducive to the sustainability feature of development, which has become a crucial aspect in the contemporary era. Furthermore, the implementation of environmentally conscious policies and initiatives aimed at safeguarding environmental resources and ensuring their transfer to future generations is a crucial aspect of sustainable development.

Consequently, states endeavor to ensure orderly and sustainable progress in various areas of the economy and society by preparing development plans. The aforementioned reasons provide the rationale for this endeavor. Such plans facilitate the achievement of both short-term and long-term development objectives. Nevertheless, the realization of development, which is one of the principal objectives of the economy, in accordance with a plan to be prepared by the state power, was not an approach that was immediately accepted in the economic theories that dominated the early periods of the history of economic thought.

The prevailing sentiment against development plans prepared by the state is based on an underlying assumption that these plans will impede the natural and harmonious evolution of the economy, thereby disrupting the efficiency of market mechanisms. The Physiocratic school of thought, which emerged in France in the 18th century and posited that the economy is fundamentally based on agriculture, presumed that state intervention prioritizing non-agricultural sectors could result in the misdirection of resources. Classical liberals, a school of thought that has developed since the 18th century and advocates a free-market economy and minimal state intervention, argue that development plans restrict the economic freedoms of individuals and thus the private sector. This is because development plans would mean state control over economic decisions.

The classical liberal approach posits that the resources of the free market are distributed in the most efficient manner and that market mechanisms produce the most efficient solutions through the balance of supply and demand. In contrast, development plans are perceived to disrupt the natural balance of the market, leading to the misallocation of resources and the concentration of capital in specific sectors. This, in turn, can result in the formation of monopolies. Consequently, classical liberals posit that the state should play a limited role in the economy, with its primary responsibilities being to guarantee the rule of law, protect property rights, and ensure the free functioning of markets.

Classical liberals also posit that state-led economic planning is inherently inefficient due to the increasing complexity and ever-changing conditions of the economy. Economic thinkers such as Friedrich Hayek argue that state-led planning is inherently incapable of acquiring the comprehensive information necessary to be as efficient as the market itself (Hayek, 1963, pp. 207–208).

Alternative views to these skeptical approaches to development plans were developed especially after the Great Depression of 1929. Indeed, the Great Depression led to a major collapse in the global economy; bank failures, business closures and high unemployment rates were widely experienced during the Depression. The states that had not yet overcome the residual effects of World War I on society felt a need to intervene in the economy and regain public confidence in order to ensure social and political stability during this period when public distrust of economic systems was particularly intense.

The Great Depression demonstrated that the prevailing assumption that free market mechanisms would be sufficient to stabilize the economy and ensure prosperity, which had been the dominant economic paradigm in the Western world until that time, was erroneous. Conversely, the view that planned state interventions were acceptable in order to correct market failures and ensure economic stability began to gain widespread acceptance. In this context, John Maynard Keynes, in particular, emphasized the necessity of state intervention and suggested that the state should implement public policies to increase demand in order to solve the problems of economic stagnation and unemployment (Keynes, 1953, pp. 379–380).

Another perspective that emerged during the Great Depression was that states could utilize development plans to enhance social welfare and ensure justice within society. In addition, the view emerged that socioeconomic measures such as social security systems, unemployment insurance, and public employment projects should also be included in development plans.

In order to expedite economic recovery during the Great Depression, governments resorted to the implementation of significant industrial and infrastructure investments on a large scale. Development plans were regarded as a means of ensuring the coordination of these large-scale investments and facilitating the realization of public infrastructure projects, such as roads, bridges, and dams, in a more efficient manner.

Apart from the 19th century planned war economy pursued by the Prussian Empire, the first example of systematic and state-led economic development plans in the modern sense was observed in the Union of Soviet Socialist Republics, which implemented its first five-year development plan in 1928. The success of this plan, which aimed to rapidly industrialize the Soviet economy and collectivize agriculture during the Great Depression compared to Western examples, inspired many other countries. Especially in the post-World War II period, many developing countries started to prepare development plans, and these countries used similar methods to the Soviets to plan their economic and social development.

The initial five-year development plan of the Soviet Union not only achieved its economic objectives but also demonstrated the capacity of central planning and state intervention to stimulate economic growth. It is noteworthy that policies analogous to development plans have been implemented in developed countries as well, including the United States of America, where the opposing views to the planned economy concept are quite dominant. In this regard, the “New Deal” program, devised by then-President Franklin D. Roosevelt in the United States, represents one of the most prominent examples of development plans. The “New Deal” program was designed to stimulate the economy, which had been significantly impacted by the Great Depression, through the implementation of public works projects, financial reforms, and social security measures at the state level.

Arthur Lewis states that a development plan consists of a review of current economic conditions, a list of proposed public expenditures, a discussion of possible developments in the private sector, a macroeconomic projection of the economy, and a review of government policies (Lewis, 1966, p. 1). In a manner comparable to Lewis’s analysis, Liou identifies four primary areas of concern for government intervention in the field of economic development: the promotion of economic growth, enhancement of social equity, facilitation of international transactions, and improvement of public sector management. (Liou, 1998, p. 4). Conversely, the perception of development plans as a mandatory blueprint imposed by the public sector on markets and the private sector is undergoing a transformation, particularly in recent years. Indeed, David J. Robinson defines development plans as a public policy solution to the challenges of a global, high-tech economy that takes the form of government incentives and subsidies to encourage private sector wealth creation but does not dictate a national

economic development strategy. Instead, Robinson argues that development plans are utilized as a means of fostering dynamic local or regional economies through the establishment of local and public-private partnerships. (Robinson, 2014, p. 1).

Development Plans and Energy Security

The concept of energy security is particularly suited to analysis in a variety of scientific disciplines. This characteristic of the concept enables it to be defined in a variety of ways. For instance, in their research, Carlos Pascual and Jonathan Elkind examine the concept of energy security from three distinct perspectives: “Geopolitics,” “energy interdependence,” and “climate change” (Pascual & Elkind, 2010, pp. 2–6). As outlined by Barton et al. (n.d., p. 5), the concept of energy security is discussed in the literature under the following headings: “financial aspects of managing energy risk,” “nuclear security,” and “energy efficiency and conservation.” In his study, Benjamin K. Sovacool highlights the diverse perspectives on the concept of energy security and examines how this concept has evolved (Sovacool, 2011, pp. 3–6).

An analysis of the various methods utilized to conceptualize the concept of energy security reveals that these methods can be grouped into three primary categories (Toprak, 2019, pp. 661–662). Firstly, it is important to note that some studies define energy security as “access to appropriate and accessible energy resources at low cost”. In studies falling into this category, the concept is addressed at a more local level. Another identifiable aspect of these studies is their focus on technical energy systems engineering concerns, such as increasing energy supply and improving infrastructure, or improving energy efficiency. Additionally, they tend to prioritize economic concerns, such as maintaining market functioning.

It is also possible to identify a second approach to defining energy security that considers environmental adversities and the global context. In addition to some conceptual similarities, the main distinguishing feature of the studies in this category is their level of perspective and their emphasis on the sustainability of energy resources.

The final category of studies that can be used to evaluate approaches to the concept of energy security is one that defines and evaluates energy security within the context of international politics, geopolitics, and the security of energy resources. In this approach, Jan Kalicki and David Goldwyn define energy security as the assurance of access to energy resources necessary for the continuous development of national power (Kalicki & Goldwyn, p. 16). John Deutch proposed defining the concept as the nexus between the economic mobility of domestic and international energy markets and the foreign policy responses of nations (Deutch, 2007, p. 1). The work of Gal Luft and Anne Korin, which emphasizes how the concept varies according to a country’s political system, external connections, and physical location, can also be included in this category (Luft & Korin, 2009, pp. 5–6).

The following section will analyze Turkey’s development plans since 1963 in the context of energy security. In this examination, it will be attempted to ascertain which of the three basic approaches to energy security identified above has come to the fore. This section will also examine whether there is a unified understanding

of energy security among the development plans or whether different approaches are adopted in different plans. Finally, the following section will examine whether there is a relationship between Turkey's approach to energy security and international dynamics.

Energy Security in Development Plans Adopted by Turkey

The İzmir Economic Congress marked a pivotal moment in Turkey's economic history, as it signaled a shift towards a more balanced approach to economic development. This shift was evident in the country's initial attempts to reconcile the inherent limitations of a strictly planned Soviet-type economic structure, shaped directly and exclusively by state power, with the potential of a liberal economic structure, which is left entirely to the freedom of the market's own Dynamics (Atağenç, 2017, p. 97). Consequently, it was only after the establishment of the State Planning Organization (SPO) on September 30, 1960, that an official development plan, which would evoke a planned economy, could be formulated in Turkey (T. C. Resmî Gazete, 1960). Until this date, government programs have also served as a convenient source for analyzing data on development in general and energy security in particular. Indeed, the program of the Government of Ali Fethi Bey, which served between August 14th and October 27th, 1923, indicates that modifications will be made to the existing Mining Regulations in order to meet the local demand and enhance the export of coal and other minerals (Türkiye Büyük Millet Meclisi, 2013, p. 73).

In the program of the 7th İnönü Government, which was established on March 1, 1935, there are once again statements regarding the relief of the domestic market by making discounts on coal prices (Türkiye Büyük Millet Meclisi, 2013, p. 235). In the 1st Bayar Government established on November 01, 1937, modernization of production techniques and construction of storage facilities were envisaged to increase coal production and exports within the scope of "a three-year plan for the most important of the mines available" by order of Atatürk, and coal was defined as "the most important issue of the national cause" (Türkiye Büyük Millet Meclisi, 2013, pp. 267–269; 273).

While the Saraçoğlu governments placed a significant emphasis on the energy challenges associated with coal (Türkiye Büyük Millet Meclisi, 2013, pp. 365, 392), the subsequent governments of Peker, Saka and Günaltay placed a greater focus on energy security through coal and its relationship with economic activity (Türkiye Büyük Millet Meclisi, 2013, pp. 419, 489, 498, 559, 658, 682).

The Izmir Economic Congress marked a pivotal moment in Turkey's economic history, as it represented a shift towards a development model that combined elements of both a planned economy and a free market economy. This model was primarily focused on industry, and it was during this period that Turkey's economic policy preferences began to evolve significantly. In the post-war era, when the international system was characterized by a strict bipolar structure, Turkey began to align itself with the Western Bloc, both economically and in terms of military and political preferences. As a result of this preference, Turkey started to benefit from Marshall Aid and its development priority evolved towards agricultural development rather than

industrial development, as the title of the First Five-Year Industrial Plan adopted on April 17, 1934, suggests (Yıldırım, 2017, p. 56). Beyond Turkey's internal dynamics, the Barker, Martin, and Crush Reports commissioned by the government of the time on how the US grants could be utilized may have influenced this change of preference (Karadoğan, 2020).

In 1960, following the establishment of the SPO, a new process towards a planned economy was initiated with the relevant articles of the Constitution adopted in 1961. In this process, Turkey transitioned towards a planning approach wherein the state assumed a more prominent role in economic decision-making. This approach encompassed a mandatory planning framework for the public sector and a directive planning framework for the private sector. The development plans, the first of which was published in January 1963 as a requirement of the 1961 Constitution, serve as an important guide in terms of illuminating Turkey's economic policy preferences for the near future in five-year periods since then.

Turkey's Energy Security in the First Five-Year Development Plan (1963-1967)

The First Development Plan reveals that the determinations regarding energy security are focused on the excessive consumption of fuels such as wood, dung, agricultural wastes, which are defined as "non-commercial fuels" in the plan, and coal, lignite, petroleum products, and hydraulic energy, which are defined as "commercial fuels."

The data presented in the development plan indicates that the annual energy consumption in Turkey increased by an average of 4.3% from 1950 to 1960. By 1961, there was a relative balance between commercial and non-commercial fuels in total energy consumption in Turkey, with the share of non-commercial fuels in total consumption being 54% (T. C. Başbakanlık Devlet Plânlama Teşkilâtı, January 1963, p. 373).

The Plan explicitly delineates the objective of reducing the consumption of non-commercial fuels. However, in the absence of significant changes in traditional energy consumption habits during the plan period, it is assumed that this balance will shift in favor of commercial fuels only after 1967 as other energy sources are consumed at a greater rate (T. C. Başbakanlık Devlet Plânlama Teşkilâtı, January 1963, p. 374).

As outlined in the plan, in 1963, wood constituted the largest share of primary energy sources, accounting for 28.3%. Conversely, the projection for 1977 predicts that the most consumed primary energy source will be fuel oil, with a share of 21%. It is notable that in 1963, when the plan was published, fuel oil was the least utilized energy source, with a share of 3.5%. In the same projection, it was assumed that petroleum products would rise to 20.5% of the primary energy resource utilization, thus moving from fourth place in 1963 to second place. A common feature of both assumptions is that the share of petroleum and its derivatives in total energy use will increase dramatically over the years. Nevertheless, despite the limited use of petroleum in Turkey as of 1963, only 20% of the domestic petroleum demand was met by domestic sources (T. C. Başbakanlık Devlet Plânlama Teşkilâtı, January 1963, pp. 374–375).

In the section of the Plan on measures to be taken regarding energy policy, it is stated that the public sector will be directed to use commercial fuels efficiently through budgetary measures, if necessary, and the private sector through training and promotion programs. Given the substantial role of heating in total household consumption, the conversion of stoves to utilize lignite coal, a domestic resource, and the subsequent promotion of their sales are also included among the proposed measures (T. C. Başbakanlık Devlet Plânlama Teşkilâtı, January 1963, pp. 375–376).

Finally, the plan includes the information that legal arrangements will be made to reduce or even eliminate elements such as smoke, dust, or soot that are harmful to health due to inappropriate consumption of energy resources (T. C. Başbakanlık Devlet Plânlama Teşkilâtı, January 1963, p. 376). It could be argued that this plan has contributed to greater recognition of the impact that energy resources have on the environment.

Turkey's Energy Security in the Second Five-Year Development Plan (1968-1972)

The data in the Second Development Plan indicates that total energy consumption has increased from 22 million tons of anthracite equivalents at the end of the previous development plan period to around 30 million tons. As previously anticipated within the previous plan, albeit for different reasons, the total consumption of non-commercial fuels remained unchanged, yet the proportion of these resources in total energy consumption decreased. The plan indicated that measures would be taken to ensure that the decrease in the share of non-commercial fuels is reflected in the absolute value of such resources (T. C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 1968, p. 553).

In the Second Development Plan, there was a shift in focus from the first plan, with an increased emphasis on the development of the manufacturing industry and the related increase in the rate of urbanization. Another point that was highlighted in the plan was the importance of ensuring a reliable and affordable energy supply to meet the growing demands of both the manufacturing industry and urbanization. At this juncture, it was postulated that the demand for petroleum products might well increase further in order to ensure energy security.

It is also worth noting that the demand for petroleum products in Turkey as of 1967 was higher than the rate envisaged in the First Development Plan. As a matter of fact, while the first plan anticipated that petroleum products and fuel oil would meet approximately 26% of the total energy need by 1967, this ratio was ultimately realized as 29.4% in 1967 (T. C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 1968, p. 554). The data in the plan suggests that demand for oil may exceed projections.

The data in the plan suggests that demand for oil may exceed projections. As part of the Second Development Plan, the possibility of natural gas being considered as a potential alternative to meet increasing energy demands in Turkey was explored. In light of the potential for natural gas to play a role in global markets, it was suggested that this energy resource, which has not yet been discovered in Turkey, could be

utilized through imports from neighboring countries that have this resource. The Second Development Plan indicates that natural gas exploration activities may receive increased attention during this period. This may contribute to both an increase in energy market prices and a diversification of energy resources to strengthen energy security.

Turkey's Energy Security in the Third Five-Year Development Plan (1973-1977)

Turkey's first two development plans projected an average economic growth rate of 7%. This average growth rate was comprised of an average growth rate of 12% in industry, 6.5% in the service sector, and 4% in the agricultural sector. While the targets for the agricultural and service sectors were met during this period, the share of the industrial sector in development did not reach the targeted level. Consequently, the Third Development Plan underscores the necessity to enhance the contribution of the industrial sector to development in accordance with the established targets. In this regard, the plan indicates that investments in the energy sector will be significantly augmented (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, p. vi)

The Third Development Plan indicated that the percentage of non-commercial energy sources utilized in general energy consumption had not been reduced as intended, despite the fact that the preceding two plans had set a goal to do so. This remained the case as of 1973. The reasons for this unfavorable situation were stated as the failure to develop domestic energy production possibilities and the failure to increase the utilization of lignite, a domestic energy source, for heating purposes.

Another negative aspect of the Third Development Plan is the inability to meet the petroleum demand. In the previous two plans, it was stated that the demand for petroleum products would increase. With the Second Plan, it was revealed that this demand was increasing at a rate beyond expectations. Indeed, the data presented in the Third Development Plan indicated that the share of petroleum in general energy consumption was projected to increase further, reaching 42.6% in 1972. However, the Third Development Plan determined that the lack of significant progress in oil production over the 10-year span since the initial publication of the first development plan had resulted in an increase in external dependence on energy resources (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, pp. 565–566).

By the year 1970, 62% of the Turkish population still lacked access to electricity, and among those who did possess such access, the usage of household electrical appliances remained relatively limited (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, p. 573). Accordingly, the annual electricity consumption per capita in Turkey remains considerably below the global average. Nevertheless, the Third Development Plan has indicated that there will be a considerable increase in electricity consumption in the near future, due to further urbanization and the necessity of industry-oriented development. It has been asserted that the investments made by the previous development plans have been realized in accordance with the targets at the monetary level. Nevertheless, the success achieved in electricity transmission and distribution

could not be demonstrated at the point of generation. Consequently, short-lived, expensive, and foreign-dependent facilities using generation resources have been utilized since that period (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, p. 567).

In order to address the issue of inadequate energy supply to meet the growing demand over time, the Third Development Plan prioritizes the utilization of local resources in the coal, natural gas, and oil sectors. Investments will be directed toward the development of hydroelectric power plants, utilizing domestic resources, rather than thermal power plants, which contribute to Turkey's reliance on fossil fuels imported from foreign sources, intending to meet the growing electricity demand (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, p. 570).

Another noteworthy aspect of the Third Development Plan with respect to energy security concerns the inclusion of the utilization of geothermal and nuclear energy resources for energy resource diversification for the first time in the plan. With a view to the full utilization of nuclear energy in the longer term, the construction of a prototype nuclear power plant facility was a target during the Third Development Plan period (T. C. Başbakanlık Devlet Planlama Teşkilâtı, 1973, p. 570). Thus, it is desired to take a long-term step towards meeting the electricity demand in particular.

Turkey's Energy Security in the Fourth Five-Year Development Plan (1979-1983)

The Fourth Development Plan, which covers the five-year period between 1979 and 1983, asserts that during the preceding three plans, the governments failed to provide energy promptly in sufficient quantity and quality to meet the development targets set forth. As of 1979, the physical targets outlined in the previous plans had not been achieved. Consequently, it is asserted that the energy sector, with particular reference to electrical energy, has gradually become a problematic sector in the national economy (T. C. Başbakanlık Devlet Planlama Teşkilâtı, April 1979, p. 394).

As of 1979, even though Turkey has been unable to fully utilize the resources available within its borders and no significant progress has been made in this regard, the country's domestic production facilities have not been sufficiently developed. Consequently, the energy demand, which was below the global average, could not be met and was even subjected to further constraints. Furthermore, the objective of substituting non-commercial energy resources with commercial energy resources, which was established as a target in the initial development plan, has not been met (T. C. Başbakanlık Devlet Planlama Teşkilâtı, April 1979, p. 394).

As it became evident that Turkey's rising electricity demand could not be met by domestic resources in the near term, new relationships with neighboring countries were established. Turkey initiated the importation of electricity from Bulgaria for the first time in 1978, with the intention of establishing a similar agreement with the USSR. Turkey initiated the importation of electrical energy from Eastern Bloc countries, including Bulgaria and the USSR, not only due to the critical level of demand for electrical energy but also in conjunction with the Détente Era, which in the field of international relations is defined as a period of relaxation of the strict bipolar system of the Cold War.

During the specified period, the rate of oil consumption in Turkey continued to increase at a rapid pace. However, the onset of the Oil Crisis in October 1973 led to a fourfold increase in international oil prices in a relatively short period of time. Concurrently, Turkey's reliance on imported oil, which has not been able to develop its own oil production, has grown considerably. In order to reduce this dependency, the necessity of using alternative energy sources such as solar energy was included in the Fourth Development Plan for the first time. Additionally, the plan includes the implementation of austerity measures to reduce the necessity for oil and encourage the utilization of domestic resources in areas where local resources, such as lignite, can be employed in lieu of oil (T. C. Başbakanlık Devlet Planlama Teşkilatı, April 1979, p. 401).

In the Fourth Development Plan, it was determined that the most prudent course of action would be to prioritize the implementation of measures designed to meet Turkey's burgeoning energy needs through the utilization of domestic resources, to reduce the country's reliance on external sources. Consequently, it was determined that the public sector would assume responsibility for the operation of lignite resources, which are of strategic importance for electricity generation and heating. Furthermore, the use of anthracite, which is essential for industrial applications, for heating purposes would be terminated. Finally, efforts to transition to nuclear energy would be intensified (T. C. Başbakanlık Devlet Planlama Teşkilatı, April 1979, pp. 406–407).

Turkey's Energy Security in the Fifth Five-Year Development Plan (1985-1989)

The Fifth Development Plan, which was approved by the General Assembly of the Turkish Grand National Assembly (TGNA) on July 13, 1984, was prepared for the following five-year period, which commenced in 1985. In accordance with the prevailing economic policy trends of the era, the plan is significantly influenced by the First Wave of Neoliberalism, which has dominated the Western world since the early 1980s (Steger & Roy, 2010, pp. 21–49). In contrast to previous development plans, the Fifth Development Plan prioritizes the utilization of non-public resources for the exploration and production of energy resources, as well as the support of private sector and foreign capital initiatives in this regard (T. C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 1984, p. 103). Another noteworthy neoliberal issue in the Plan is the adoption of principles and policies regarding the prioritization of imported primary energy for energy consumption, provided that it is cheap or used in power plants in emergencies (T. C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 1984, p. 105).

The Fifth Development Plan anticipates that petroleum will retain its preeminent position in the overall energy consumption landscape, while the share of lignite and anthracite will be augmented as domestic and cost-effective energy sources. The reduction of the proportion of non-commercial energy sources in overall energy consumption, a goal that has been in place since the initial development plan, has been sustained in the Fifth Development Plan (T. C. Başbakanlık Devlet Planlama Teşkilatı Müsteşarlığı, 1984, p. 103).

Upon comprehensive examination of the Fifth Development Plan, it becomes evident that the intention was to implement more pragmatic and flexible policies, in contrast to the prevailing views in previous development plans. This was done to address the potential challenges that Turkey might face in the development process between 1985 and 1989. This change is attributable to intrinsic reasons, namely the inability to achieve the desired goals of the previous plans. Nevertheless, it can be contended that this shift also had external causes, as the crises in various regions, such as Latin America and Europe, which emerged in the early 1980s, popularized neoliberal views during this period.

Turkey's Energy Security in the Sixth Five-Year Development Plan (1990-1994)

The Sixth Development Plan was approved by the General Assembly of the TGNA on June 22, 1989, and covers the development plans for the years 1990 to 1994. The Plan states that the primary objective of the energy policy is to ensure the timely, reliable, affordable, and high-quality provision of energy to all segments of the population (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1989, p. 257). This statement makes it evident that Turkey's energy policy has undergone a transformation from a strategy of suppressing energy demand due to the inability to meet minimum domestic demand to one of enhancing the quality of energy supply.

In the Sixth Development Plan, similar to the Fifth Development Plan, it was stated that there would be no discrimination in the use of domestic or foreign energy resources, provided that the resource is cheap. The rationale for this assertion is that domestic resources have limited reserves and are inefficient to the extent that they cannot meet modern energy demands (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1989, p. 257).

In order to diversify energy sources during the Plan period, it is the objective to expand the consumption of natural gas as an alternative to petroleum products and lignite. Another objective set forth in the plan is to reduce the proportion of non-commercial energy consumption to 10%. In accordance with the Fifth Development Plan, it was indicated that substantial investments had been made in electricity generation during the previous period and that investments in this area would be reduced and redirected towards transmission and distribution in the Sixth Period (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1989, p. 258).

The Sixth Development Plan states that privatization efforts in the energy sector will be continued and that initiatives to increase the share of the private sector in investments will be encouraged to reduce the public financing burden (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1989, p. 259). This assertion implies that Turkey has formulated policies that will be executed in conjunction with the private sector to a considerable extent on the axis of efficient utilization of public resources, saved from the strategic-security axis, where the rigorous control of the public sector is paramount to fulfill the requirements related to energy security.

Turkey's Energy Security in the Seventh Five-Year Development Plan (1996-2000)

The Seventh Development Plan, which was approved by the General Assembly of the TGNA on July 18, 1995, covers the period between 1996 and 2000. The Seventh Development Plan notes that, in the forty years since the first development plan, average annual increases in primary energy consumption and electricity consumption have lagged behind the rate of increase in developed countries (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1995, p. 136).

The production of oil, which accounts for the majority of Turkey's primary energy consumption, reached a historic high in 1991, with 4.5 million tons of oil produced. This production level remained the highest in Turkey until 1995. Nevertheless, despite the 20% increase in the share of oil obtained from domestic reserves in total oil supply, the production amount began to decline in subsequent years, despite the rising oil demand (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1995, p. 136). Turkey's emphasis on oil production partnerships with Egypt, Kazakhstan, Azerbaijan, and other Central Asian states, rather than the utilization of local reserves to meet its growing oil demand, is one of the most notable aspects of the plan. Following the conclusion of the Cold War, energy collaboration with states seeking to direct their national energy resources toward global markets will continue to represent a significant aspect of Turkey's foreign policy agenda over the next two decades.

As of 1994, the existing power plants in Turkey were capable of producing 101 billion kilowatt-hours (kWh) of electricity. Conversely, the demand for electricity in Turkey remained at 78 billion kWh in the same year (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1995, p. 137). Consequently, it can be posited that the issue of demand suppression resulting from the inability to meet the electricity demand outlined in the Fourth Development Plan has been entirely resolved since the mid-1990s. Nevertheless, the plan also included a caveat that this favorable situation regarding the fulfillment of electricity demand could potentially become a disadvantageous one in the near term. Indeed, the plan indicates that investments in electricity generation between 1977 and 1987 declined to half the level in the 1990s. Furthermore, the anticipated contributions from the private sector could not be realized through privatization efforts. Public investments also decreased, and the challenges associated with current environmental legislation and its implementation negatively impacted the planned continuation of investments in the sector. These factors collectively pose a risk of a potential electricity deficit soon (T. C. Başbakanlık Devlet Planlama Teşkilatı, 1995, p. 137).

The evaluations in the Seventh Development Plan indicate that the neoliberal policies in the field of energy, which emerged as a prominent feature in development plans under the Fifth Development Plan, did not achieve the targeted level of success. One of the defining characteristics of the plan is its legal evaluation of the inadequacy and incompatibility of existing legal regulations. The 1992 United Nations Conference on Environment and Development, also known as the Rio Conference or the Earth

Summit, represents a departure from previous development plans in that it places a greater emphasis on environmental awareness, particularly in the context of energy.

Turkey's Energy Security in the Eighth Five-Year Development Plan (2001-2005)

The Eighth Five-Year Development Plan was approved by the General Assembly of the TGNA on June 27, 2000, under the title "Long-Term Strategy and the Eighth Five-Year Development Plan" with a reference to the centennial of the republic and projections for 2023. The Plan indicated that the per capita primary energy consumption of 1,158 kg of oil equivalent and electricity consumption of 1,840 kWh as of the end of 1999 represented an increase compared to the previous periods. However, it was emphasized that the current consumption rates were still below the world averages of primary energy and electricity consumption (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2000, p. 142).

As indicated in the First Five-Year Development Plan, Turkey had succeeded in satisfying approximately 85% of its total energy demand by the end of 1961 (T. C. Başbakanlık Devlet Planlama Teşkilatı, January 1963, p. 373). According to data derived from the Fourth Five-Year Development Plan, by the end of 1977, domestic resources had enabled Turkey to meet approximately half of its total energy demand (T. C. Başbakanlık Devlet Planlama Teşkilatı, April 1979, p. 395). By the beginning of the 21st century, this ratio in total energy consumption had declined to 38%. The Plan posits that the precipitous rise in external dependence is attributable to Turkey's dearth of energy resources, despite the exponential surge in energy consumption driven by population growth, urbanization, industrialization, technological expansion, and an increase in per capita income (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2000, p. 142).

The Eighth Five-Year Development Plan demonstrates that the environmental awareness initiated in the previous development plan has been sustained. Indeed, the assertion that energy resources possess characteristics that negatively impact the environment at both the production and consumption stages, the recognition of environmental issues as a significant cost factor, and the assertion that the establishment of unified policies on a global scale is necessary to address global pollution are clear indications of this awareness. The Plan explicitly emphasizes the sustainability of development and targets energy consumption and supply in the minimum amount and at the minimum cost that will minimize environmental damage while supporting economic and social development. The Plan posits that while per capita energy consumption is no longer considered an indicator of development, maximizing the production and welfare that can be obtained from unit energy is considered a modern goal (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2000, pp. 142–143).

The discrepancy in the actual investment levels for energy in comparison to those outlined in the Sixth and Seventh Five-Year Plans can be attributed to a lack of successful partnerships with private sector entities. To address this issue, it has been proposed that the requisite legal and institutional reforms be implemented to

guarantee the full participation of the private sector in investment and operational activities throughout the entire energy value chain, with a particular focus on the electricity and natural gas sectors. Another recommendation is to involve the private sector in energy investments with a well-functioning project selection, evaluation, supervision, and operation approach, rather than relying on excessive guarantees (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2000, p. 146).

Turkey's Energy Security in the Ninth Development Plan (2007-2013)

The Ninth Development Plan was approved by the General Assembly of the TGNA on June 22, 2006. Unlike other development plans, it covers a seven-year period between 2007 and 2013. The Ninth Development Plan highlighted the necessity for diversification of energy source types and source countries, as well as the importance of considering environmental sensitivity in meeting energy demand (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2006, p. 77).

In the aftermath of the 2001 economic crisis, the regulatory and supervisory role of the public sector in Turkey has become more pronounced in numerous sectors, including the energy sector. In this context, it was proposed that the public sector would withdraw from the energy sector, except for electricity transmission, and that a conducive environment would be created through legislative arrangements, if necessary, for the private sector to fill any gaps that may arise in the energy sector promptly and to commence new generation investments in line with supply-demand projections (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2006, p. 77).

The storage of oil and natural gas resources, which previously held the first two positions in total energy consumption, has also been included in the energy agenda as a result of this development plan. In order to diversify electricity supply, the goal of building a power plant using nuclear energy has been revived, and detailed plans and programs for the storage and disposal of nuclear waste and informing the public are included in the plan (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2006, p. 77).

Another objective outlined in the Ninth Development Plan is to utilize Turkey's geostrategic position to become a transit country between energy-producing countries in Central Asia and the Middle East and net energy-consuming countries in Europe (T. C. Başbakanlık Devlet Planlama Teşkilatı, 2006, p. 78). This objective can be considered a preliminary step towards multilateral energy cooperation projects, which are initially shaped by bilateral diplomacy and subsequently by multilateral shuttle diplomacy. However, it is likely that the role of Turkey will evolve from that of a transit country, which serves only as a passive bridge between source and destination countries, to that of an energy terminal, which will provide Turkey with a relatively more active position.

Turkey's Energy Security in the Tenth Development Plan (2014-2018)

The Tenth Development Plan, which was approved by the General Assembly of the TGNA Assembly on July 1, 2013, covers the period between 2014 and 2018. As is the case with all other development plans that preceded the Ninth Development Plan, the Tenth Development Plan covers a five-year period. In contrast to previous

development plans, this one was not prepared by the State Planning Organization, which was abolished in 2011. Instead, it was prepared by the Ministry of Development, which was established by the 61st Government to replace the abolished organization.

Due to the 2008 global economic crisis, the plan states that the increase in per capita energy consumption remains below the world average and emphasizes the privatization of the energy sector. The Tenth Development Plan anticipates that all electricity distribution facilities will be operated exclusively by the private sector by the end of 2013. The plan indicates that a similar privatization approach may be applicable to the natural gas sector (T. C. Kalkınma Bakanlığı, 2013, p. 102).

Another noteworthy aspect of the Tenth Development Plan is the inclusion of concrete steps regarding the utilization of nuclear energy, which had previously remained at the planning stage. In this context, Turkey signed agreements with the Russian Federation for the construction of a nuclear power plant in Mersin Akkuyu and with Japan for the construction of a second nuclear power plant in Sinop. The signing of agreements with the United Arab Emirates for the utilization of Afşin-Elbistan lignite deposits in electricity generation and with Azerbaijan for the realization of the Trans-Anatolian Natural Gas Pipeline (TANAP) project were indicative of Turkey's growing engagement with the international energy sector (T. C. Kalkınma Bakanlığı, 2013, p. 103).

The Tenth Development Plan indicated that the construction of the Tuz Lake Natural Gas Underground Storage Project was initiated in accordance with the objectives of the Ninth Development Plan. Additionally, the domestic coal fields were opened to the private sector for electricity generation, and the incentive system for electricity generation from renewable energy sources was improved. Furthermore, domestic equipment manufacturing was supported to ensure energy supply security (T. C. Kalkınma Bakanlığı, 2013, pp. 102–103).

The Tenth Development Plan, like its predecessor, the Ninth Development Plan, reiterated the objective of becoming a net energy exporter and importer country. To achieve this goal, it was proposed that Turkey should utilize its current geostrategic position effectively. It was also noted that the TANAP, which has the potential to make Turkey an important actor in the international energy market, will be completed within the specified period (T. C. Kalkınma Bakanlığı, 2013, p. 105).

Turkey's Energy Security in the Eleventh and Twelfth Development Plans (2019-2028)

The Eleventh Development Plan was approved by the General Assembly of the TGNA on July 18, 2019. The Plan was prepared by the Strategy and Budget Presidency, which was established under the Presidency following the merger of the General Directorates of Budget and Financial Control of the Ministry of Development and the Ministry of Finance after the 2018 General Elections.

A remarkable feature of the development plans prepared since the Ninth Development Plan has also been observed in the Eleventh Development Plan, and unlike the

development plans prepared in the 20th century, the last three development plans have been prepared in a much more compact manner. The most important reason for this change seems to be that, in contrast to the extensive and detailed sectoral analyses and interpretations of the previous development plans, the weight in the sector has started to be largely transferred to the private sector and the public sector has been limited to the task of regulation and supervision. In addition, the planning and reporting tasks related to strategic plans are no longer organized by a single institution, and each public institution can directly share its strategic work in its field with the public without waiting for development plans. Therefore, the Eleventh Development Plan does not provide information on Turkey's energy policy at the macro level, but instead provides information on micro-level policies for completing existing projects, supporting future projects, and taking measures to encourage conservation (Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2019, pp. 112–114).

The Twelfth Development Plan, which covers the years 2024–2028, was approved by the General Assembly of the TGNA on October 31, 2023. The plan's objective is to ensure a continuous, high-quality, sustainable, secure, and affordable energy supply, in accordance with the net zero emission target for 2053. In this context, the diversification of energy sources, the maximization of energy self-sufficiency through the utilization of domestic and renewable energy resources, the incorporation of nuclear technology in electricity generation, the enhancement of energy efficiency, the prioritization of localization in energy technologies, the integration of new technologies, and the achievement of a competitive structure that fortifies Turkey's strategic position in international energy trade represent the principal objectives (Türkiye Cumhuriyeti Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı, 2023, p. 105).

Conclusion and Evaluation

The TGNA has formally endorsed a total of twelve distinct development plans up to the present date. In these development plans, the extent to which the plans presented in previous periods have achieved their goals has been analyzed, along with the headings on how Turkey's energy security will be ensured in the relevant periods. In this regard, it was observed that if the planned targets were not met, they were analyzed in conjunction with their macro- and micro-political reasons.

The study identifies three distinct approaches to energy security. A review of the sixty-year history of development plans reveals that the dominant view on energy security in the first four development plans is close to the first approach presented in the study, which defines energy security as “access to appropriate and accessible energy resources at low cost.” A common feature of the policies and principles presented in the first four development plans is the emphasis on technical energy systems engineering concerns such as “increasing energy supply/infrastructure” or “increasing energy efficiency,” as well as economic concerns such as “maintaining market functioning”.

Another approach to the concept of energy security presented in the study was the examination of studies that defined and evaluated energy security within the framework of international politics, geopolitics, and the security of energy resources. Indeed, the

emphasis on Turkey's geostrategic position in international energy markets in the last four development plans approved since the ninth development plan demonstrates that these development plans have addressed energy security within this approach.

In the study, it is stated that there is a final approach that defines energy security in terms of environmental negativities and at a more global level. The development plans that are closest to this approach, which differs from the other two energy security approaches in terms of the level of perspective and the emphasis on the "sustainability" of energy resources, are the Seventh Development Plan and subsequent development plans. The 1992 United Nations Conference on Environment and Development, also known as the Rio Conference or Earth Summit, had the effect of influencing Turkey's development plans in a manner that was consistent with the global increase in environmental awareness. Unlike the development plans previously in place that had focused solely on the provision of inexpensive and continuous local energy demand, the development plans prepared since the mid-1990s have made more notable references to environmental sensitivity and sustainability.

Consequently, Turkey's approach to energy security has been consistently modified by both internal factors, such as concerns regarding the country's inability to meet domestic energy demands, and external factors, including the utilization of its geostrategic position in international energy markets. This indicates that all three approaches to energy security identified in the literature have been intermittently adopted by Turkey. The fact that development plans have sometimes included detailed analyses of measures to meet domestic demand and sometimes included international cooperation projects or global environmental sensitivities has been an important indicator of this transformation.

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