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Financial Policies Implemented in the Field of Renewable Energy in Turkey

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ABSTRACT: *The increase in consumption and production along with the population throughout the world increases the need for energy. Fossil fuels, which are the traditional energy source, create havoc on human health and the environment. The majority of fossil-derived energies used on Earth cause a global warming problem due to the emission of greenhouse gases. Many countries around the world are implementing various regulatory policies and financial incentives in order to combat climate change, prevent the damage caused by fossil fuels to the environment and promote the use of renewable energy. However, agreement between countries on the financing of the environment, which is a global public good, is not yet sufficient. Turkey, which is poor in terms of traditional energy sources, will remain dependent on energy imports and may decrease by using its renewable energy potential. For the commissioning of renewable energy sources, both new technologies and installation costs require a lot of capital. Developed countries apply different financing and tax policies in the development and dissemination of renewable energy sources and in increasing their consumption. Turkey is also affected by the energy transformation spreading from developed countries to less developed countries. Taxes levied at both production and consumption stages deeply affect entrepreneurial and consumer behavior. In this study, the harms of fossil fuels, environmentally friendly energy sources, Turkey's energy needs, renewable energy potential and public revenue and expenditure policies applied in this area are explained. A comparison of the financial policies implemented in Turkey with some selected countries is being made.*

KEY WORD: *Fossil fuels, renewable energy, global warming, financial incentive, tax*

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I. Introduction

Human beings carry on production and consumption activities initially in order to survive, and later in order to get more pleasure and/or profit. As with any human activity, externalities can arise as a result of economic production and consumption activities. Positive and negative externalities are closely related to the individual, society, companies and the state. The positive or negative impact of one production or consumption activity on another production or consumption activity is called externality. In other words, the economic activities of both sides affect third parties. Positive externalities are supported by government and international institutions with facilities such as incentives, premiums, subsidies. However, negative externalities will negatively affect not only the person and nature of today, but also the future generation and nature. In order to use natural resources rationally and effectively and to move them to the future, the state has to combat negative externalities that bring with them many disadvantages by imposing rules and penalties, conducting inspections or implementing incentive policies.

Global climate change or global warming is one of the global public goods that affect economic, social and individual life deeply. Minimizing the carbon footprint or carbon emission, which is a negative externality, depends on combating it on a global scale. The state can use taxes and expenditures, which are instruments of fiscal policy, to reduce such negative externalities. In recent years, the use of fossil fuels has begun to manifest itself in scientific studies as well as in the visual and print media due to the damage it causes to the environment and human health. The spread of social consciousness has been effective in the spread of electric vehicles.

In order to reduce carbon emissions, it is emerging as a policy to make renewable energy sources attractive. Governments should use their economic policies effectively to direct individuals, firms, credit institutions, and their central and local organizations to renewable energy sources.

Turkey meets most of its energy needs by importing. Energy imports, on the one hand, lead to a loss of foreign exchange, on the other hand, endanger the security of supply. Turkey's renewable energy potential is quite high in areas such as solar, wind and hydropower. Evaluating, encouraging renewable energy sources, providing

some guarantees will reduce Turkey's foreign dependence and will have positive contributions to its foreign trade. In addition, it may also be a way out of solving global warming and carbon footprint problems.

II. Renewable Energy and its Importance

Energy, which etymologically means the ability to do a job or create an effect, can be defined as the capacity of matter to do a job (Spurgeon and Flood, 2002; Ozsoy, 2016). In terms of increasing national income and ensuring prosperity in an economy, it is very important to meet the energy needs for economic and social life (Yavuzcan, 1972). While the utilization of energy is important in an industrial sense at the micro level: it is important in terms of economic development and growth at the macro level (Ockwell, 2008). Today, due to economic, social and environmental factors, the issue of energy maintains its place on the agenda (Najam and Cleveland, 2003). Sources that perform energy production by different ways and methods are called energy sources (Çepik, 2015). Energy sources whose reserves are not unlimited and whose consumption is faster than their production are called non-renewable energy sources (Erdener et al., 2013). Due to the fact that non-renewable fossil fuels will be depleted in the near future and the carbon they release to nature, there have been numerous discussions and studies about renewable energy sources.Tue. Renewable energy, unlike fossil fuels such as oil, coal, lignite and uranium, is defined as a collection of natural resources that are endlessly and constantly renewing themselves (Teske, Zervos and Schafer, 2007). According to another definition, energy that occurs directly or indirectly from the sun or the heat generated inside the earth, consisting of natural and renewable energy, including solar, wind, biofuel, geothermal, hydropower, marine and ocean resources, and hydrogen obtained from renewable sources, and is constantly renewed, is called renewable energy (IEA, 2016).

Increasing economic activities make us feel the need for energy and the lack of resources every day (Gündüzöz and Can, 2015). In fact, this situation shows that energy needs not only an economic, but also a social and political approach. In the face of increasing environmental problems on a global scale and the need for immediate access to sustainable energy sources, renewable energy sources have become very important today. While the negative effects of global climate change are being experienced, public authorities and decision-makers must find and implement effective and rational strategies to promote the immediate adoption of renewable energy technologies. One of the main actors in these strategies to be implemented should be the development and dissemination of policies to promote renewable energy sources and even their use. Currently, the traditional and widely used energy sources are fossil fuels, which have been fueling industrialization and growth for centuries. However, the environmental damages of these resources, which are manifested as global climate change, environmental pollution and the inability of resources to be exhausted and transferred to future generations, have necessitated a paradigm shift in energy production and consumption patterns.

Renewable energy sources, which employ labor and are a source of economic development, create more job opportunities compared to production technologies. Renewable energy sources are now cheaper in many countries and create three times more jobs compared to fossil fuels (UN, no date). in 2018, the renewable energy sector provided employment opportunities for 11 million people all over the world (IRENA, 201). In addition, since it is a domestic resource that nature can constantly renew in developing countries, they ensure security of supply by reducing dependence on imported fossil fuels (World Energy Outlook, 2013). One of the biggest problems of today's world is the safe supply of energy. Because the production and use of energy in its current form is no longer sustainable. Keeping the global warming rate below 1.5 degrees is essential to prevent irreversible changes both for humanity and for the planet we live in (WWF, 2011). Renewable energy to be produced from natural sources such as sunlight, wind and water will open the door to a cleaner and more sustainable world Jul. For example, the United States, in its energy-led economic development strategies, makes long-term and energy-oriented plans consisting of both renewable and non-renewable resources Decoupled between large and small cities. The aim of this energy-oriented development strategy is to prevent urban sprawl and create global energy centers. Furthermore, ensuring security of supply is also important for ensuring a long-term economic success when global Sunday conditions change (Steenblik, 2007; Robinson, 2015). The renewable energy sector uses capital intensive technologies. Within this framework, there are many methods by which governments can promote renewable energy production. The first of these is to apply incentives that will increase the gross revenues of producers from the sale of renewable energy and reduce their net costs, and the other is to stimulate the demand for renewable energy (Marata et al., 2010). This policy requires to be applied to both the production and consumption side.

Developing countries are growing faster than developed countries. While OECD countries showed a growth rate of 2.2% between 1990 and 2011, the USA grew Decently by 2.5%, European countries by 2.0%, non-OECD countries by 5.0% and the world as a whole by 3.3%. between 2011 and 2020, these Deciencies are 2.2% in OECD countries, 2.9% in USA, 1.5% in European countries, 5.8% in non-OECD countries and 4.0% worldwide (World Energy Outlook 2013). Faster growth means more production and resource use. Since resource intensive use in developing countries depends on fossil fuel imports, steps should be taken to make renewable energy policies attractive in these countries. The International Energy Agency estimates that $ 10 trillion will be invested

in renewable energy sources between 2001 and 2030. It is estimated that the share of renewable energy sources in the energy production of OECD countries will be 25% (Kaplan Dönmez, 2023).

Differences in renewable energy conditions between countries and regions of companies operating in energy-intensive industries greatly affect workplace selection Deci-sions. This interaction, which is becoming increasingly important between climate change and industrial policies, makes the Decarbonized and cheap energy scenario of renewable energy-based production processes effective (Samadi et al., 2023: 9). At this point, it would be appropriate to go to specific applications in customs duties to be applied to imported technologies in developing countries with renewable energy potential. Many developed countries began to take into account the protection of nature in the 1970s. However, the pollutants caused by economic actors have crossed even the country's borders by air and have moved to a dimension that affects and concerns the whole world globally. These pollutants have damaged the health of humans and other living things, increased the acid content in water and soil, faced the danger of extinction of some living species, impaired the properties of metal surfaces and structures.

Although it began to be used for peaceful purposes after the World Wars and produced 17% of the world's total electrical energy, its attractiveness gradually decreased due to the Chernobyl Nuclear Disaster. As of today, more than 1000 nuclear reactors are in operation for commercial, industrial, military or research reasons. However, the new operation and commissioning of the reactors bring about great discussions. In addition to global concerns, the depletion of fossil fuel reserves highlights renewable energy sources that are harmless to nature, clean and more cost-effective.Jul. It is estimated that the life of oil remains 50 years and natural gas remains 200 years (Özkaya, no date; Yıldız, 2023). Since renewable energy sources that are inexhaustible and sustainable are available all over the world, global and national applications have been initiated to produce and use more.

Countries offer various incentives and assistance at various levels for the production of energy from renewable sources in order to ensure the sustainability and security of energy policy. The following is a summary of these incentives and assistance (Kaplan Dönmez, 2023);

-To support the products used in renewable energy production,

-To encourage labor, capital and natural resources in terms of factors of production,

-To support the manufactured products with tax deductions or tax exemptions,

- To support the products produced with the market price,

-To provide support within the scope of storage and distribution infrastructures for manufactured products,

-To support the consumption phase of the products,

-To provide incentives for the vehicles in which the products are used.

III. Renewable Energy Sources

Renewable energy sources consist of solar, wind, geothermal, wave, tidal, hydroelectric, biomass, landfill gas, wastewater treatment plant gas and biogas (ÇŞIDB, no date). Below we will provide information about a few of the renewable energy sources.

3.1 Solar Energy

Solar energy is the most voluminous energy source for obtaining clean, safe unlimited power.Jul. The energy provided by the sun is both renewable and a clean energy source since it does not cause air pollutants or greenhouse gases (Twi-global.). The origin of all fuels except nuclear fuel is the sun. Not only the earth, but also other planets are energized by the sun. For this reason, it is characterized as an unlimited energy source in relation to the sun. Since fusion reactions occur in the sun, the resulting mass difference evolves into thermal energy. This evolved energy is distributed to the planets. Initially, the sun was used to heat the most water (Morse, 1977). It is used for the production of heat and electricity through the systems established at the current point today. It is used in two different ways as thermal solar technologies and photovoltaic systems (solar cells) by using the sun (Çakar et al., 2009). Thermal solar systems are installed to provide heat. The power of this heat is also used for the purpose of electricity generation (Sevim, 2015). Solar energy systems are heating, cooling, lighting, electricity and fuel sources. The production cost of the panels, which are the main material of this system, has been gradually decreasing, especially since 2008 (KPMG, 2015).

3.2 Wind Energy

Wind is actually formed due to temperature, density and pressure differences caused by the sun heating the earth to different degrees. While a low pressure area occurs with the heating of the air, a high pressure area occurs with the cooling of the air (Altuntasoglu, 2006). After the initial investment cost of the wind energy system, there are no raw material problems and the operating costs are very low (Koç and Şenel, 2015). Besides its long coastline, Turkey is a country with a high wind energy potential among European countries with its regions that receive regular and continuous wind (Özkan, Uslu and Gedikli, 2022). Wind energy as an alternative energy source has become an important solution tool for countries after the oil crises. J., a pioneer in the transition from

wind and water power to steam power. Semeaton has started electricity production with wind turbines made in Denmark (Britannica, 2024). after 1918, the metropolitan centers were illuminated with electricity obtained from wind energy. Increasing investments in wind energy have facilitated the transition to mass production of energy-generating equipment since the 1980s.

3.3 Hydroelectric Energy

Hydroelectric energy is a type of energy obtained as a result of converting water into kinetic energy by taking advantage of the pressure and velocity force (Dinçer et al., 2017). This renewable energy source depends on the water cycle. Water is transferred to one or more hydraulic turbines, which are activated by the high pressure of water. The movement of each turbine is converted into electrical energy thanks to an alternator. The amount of water does not decrease because the water used is then released back into the river. The amount of hydroelectric energy may vary depending on precipitation and electricity demand. Hydroelectric energy is presented as an alternative to fossil fuels because it does not leave waste and does not emit carbon. Hydroelectric power plants have advantages such as not polluting the air, meeting the water requirements of agricultural lands, preventing flooding and creating employment. The disadvantages are the transportation of the surrounding residential areas as a result of sudden floods, transportation difficulties during construction, tree slaughter and ecological degradation.

Although the world's interest increased with the hydroelectric power plant built in the USA in 1882, the demand for traditional energy sources in the Industrial Revolution interrupted the demand for the power of water (Schlager and Weisblatt, 2006). Today, with the help of technological development, the number of power plants established is increasing because they have the accumulation and technology to use water power effectively and efficiently. As a matter of fact, the world's largest hydroelectric power plant was established in China in 2012.

3.4 Geothermal Energy

Geothermal energy is a natural energy source obtained from hot water or steam located underground. It usually gains intensity in active fractured fault lines, geysers, volcanic and igneous regions (Razdan et al., 2008). Since the waste generated during the production stage is fluid and harmful to the environment, it is reinjected underground. Many countries practice reinjection. However, it is seen that this is not paid attention to in geothermal power plants in Turkey (Şenpınar and Gemçoğlu, 2006). With the developments in the technological field, it enables the production of energy even from geothermal sources with low temperature. The combined power plants established are used in various fields ranging from high-temperature fluids coming to the earth to residential heating from greenhouses (Işıksoluğu, Kurban and Dokur, 2012). It is known that many years ago, the ancient Chinese and Japanese used it in bathing and cooking. Geothermal energy was the subject of trade in Europe in the Middle Ages, spa operations were carried out in Germany and France in that era (Schlager and Weisblatt, 2006).

3.5 Biomass and Biogas Energy

Biomass is obtained from wood, agricultural wastes, sewage and industrial wastes. By burning biomass resources, it was first used in bathing, heating and cooking. So much so that it was the largest source of annual energy consumption in the United States until the mid-1800s (EIA, 2024a). In the following years, with the development of urbanization and industrialization, it has also started to be used in electricity production. The use of biomass and biofuels produced from biomass has positive and negative effects on the environment. Carbon dioxide (CO2) is released by the burning of fossil fuels and biomass. But on the other hand, source plants for biomass capture as much CO2 through photosynthesis as biomass releases when burned, which makes biomass a carbon-neutral energy source (EIA, 2024b). The use of energy forest plant agriculture in Turkey is appropriate in terms of material formation (Topal and Arslan, 2008) and this potential should be evaluated.

Biogas energy is usually used in human and animal feces and vegetable waste. It is also called fertilizer gas. Biogas burns with a clear, electric blue flame, is invisible in daylight, is hotter than coal or oil gas, and is odorless. It is non-toxic and does not darken cooking pots. The waste generated at the end of production is used as enriched fertilizer. Biogas technology allows both energy to be obtained from waste and/or residual products of organic origin and to recycle the waste into the soil (Yılmaz et al., 2017).

IV. Incentives Applied in The Field of Renewable Energy

Fossil fuels, which are traditional energy sources, have a serious weight in the world economy. In an environment where health, nature and future concerns are experienced, orientation to renewable energy sources is not a choice but a necessity. In order to be a serious alternative to fossil resources and to compete, it is necessary to put into operation multifaceted incentive mechanisms for renewable resources (Eser and Polat, 2015). Because although renewable energy products are economical, the establishment costs are quite high.

Incentive mechanisms for renewable energy sources are mentioned below (Akdoğan, 2018; REN21, 2021).

4.1 Tariff Guarantee

Within the scope of the tariff guarantee, Fixed Price Guarantee (Feed-in Tariff) and Premium Guarantee (Feed-in Premium) policies are applied. In fact, this policy is a price-based incentive system applied to determine the price (Akdoğan, 2018). Tariff guarantee is a guaranteed purchase agreement with a long maturity to accelerate and make investments attractive. There are many examples of countries that support this policy (Bayraç and Çildır, 2017). In the tariff guarantee method, a fixed price guarantee is most preferred. Here, the public commits to a price that it determines per unit of energy that it will purchase. An agreement is made between the public and the company for a period of 15-20 years. Since the investor company receives a long-term purchase guarantee, the sales risk is eliminated (Romano et al., 2015).

4.2 Quota Obligations

Quota obligations require that a certain minimum proportion of the amount of electricity produced or sold be provided from renewable energy sources (Behrent, 2011). It is necessary to operate an official document related to the inclusion of renewable resources in the portfolio in accordance with the legislation. These certificates, defined as green certificates, mean a proof on behalf of the companies subject to the quota. Some penalties are imposed on unsuccessful companies that fail to meet their quotas (Şimşek and Şimşek, 2013). This quantity-based mechanism requires companies to produce a certain proportion of electricity with renewable energy (Abolhosseini and Heshmati, 2014).

4.3 Renewable Energy Certificates

Renewable Energy Certificates are documents proving the 1 MWh of electrical energy produced. The purpose of these documents, also called Tradable Green Certificates, is to increase production by making renewable energy sources attractive and to increase the proportion of renewable energy in the energy market. Green certificates are documents that have an economic value, create free market conditions and facilitate renewable energy trade. Companies or consumer segments with quota obligations can purchase these certificates and fill their quotas (Ulusoy, 2017). Green certificates are applied as voluntary and mandatory systems according to the country-by-country and renewable energy requirements (Özcan, Ergün and Ocaklı, 2021).

4.4 Tender Method

The purpose of this method is to identify investors according to the tender or open reduction procedures for energy investment determined by the public. Choosing an investor in this way is the creation of a competitive environment in the energy market (Akdağ and Gözen, 2020). In the tender method, the bidder who offers the lowest price for the investment will have won the tender. The company that wins the tender with this method, which will reduce investment costs (Kaya and Bayraktar, 2021), is rewarded with supports such as fixed price guarantee, premium guarantee, green certificates, investment grants or capacity payouts (Energpedia, 2022). This method provides economical energy to consumers by creating a competitive environment, increasing service quality and reducing energy costs (Deloitte, 2011).

4.5 Net Metering System

This system is a policy that allows subscribers who generate the electricity they will consume to balance some or all of their electricity consumption with the electricity they get from renewable energy sources (Poullikkas 2013). A bi-directional meter will be used to make clear measurements. If the amount of electricity generated exceeds the amount of electricity consumed, the remaining amount of balance is transferred back to the electricity network and the electricity consumed is balanced in a future period (Doris et al., 2009). This system is to increase the use of renewable energy by consumers. In general, it is an application for facilities such as solar and wind that produce low production. this system, which was first applied in the USA in the 1980s, is applied in 72 countries (REN21, 2021).

4.6 Biofuel Obligation

Various incentive policies are applied to biofuels produced from agricultural crops and waste in many countries. For example; supporting products to be used in production, encouraging factors such as labor, capital, natural resources, introducing tax discounts, exceptions or exemptions to manufactured products, applying price support, offering support for storage and logistics activities, conducting practices that will encourage consumption (Çelebi and Uğur, 2015). This method is intended to reduce the poverty of farmers and increase their well-being (Mojifur et al., 2015).

4.7 Heat Obligation

In many countries, solar, biomass and geothermal resources, as well as heating and cooling systems in residential, commercial and industrial buildings, are promoted in order to reduce greenhouse gas emissions and

reduce fossil fuel consumption. The European Parliament has called on member states to phase out inefficient and outdated fossil fuel boilers and recommended credit support for renewable heat (REN21, 2017). On average, 50% of energy consumption is due to heating and cooling from fossil fuels. This rate is more than 40% of carbon dioxide emissions. For this reason, states are implementing policies to promote renewable heat technologies (IRENA, 2020).

4.8 Tax Exemptions and Exceptions

The financial incentives introduced to renewable energy sources are intended to reduce the cost and support production during the installation of the system and the purchase of equipment. The most frequently applied financial incentives are tax exemptions, exceptions and discounts, as well as subsidies, grant and loan incentives (Fowler and Breen, 2014). These practices, which lightened the tax burden, which is a cost element, had a positive impact on the establishment of facilities (Liu, Zhang & Feng, 2019).

4.9 Public Investments, Loans, Grants, Capital Subsidies or Discounts

The costs of renewable energy facilities at the installation stage are high. Therefore, governments can provide financial support in the form of grants, subsidies and loans (Akdoğan, 2018). For this reason, any kind of support to be given at the beginning of the investment is important (IEA, 2009). The loans to be provided by international credit institutions and funds within the scope of the support have low interest rates and long maturities (Liptow and Remler, 2012).

V. Incentives Applied in Turkey

Turkey, in order to promote the production and use of renewable energy sources, the Law on the Use of Renewable Energy Sources for Electricity Generation dated 10.05.2005 and numbered 5346 is the first legal regulation on the subject.

It is thought that Turkey has not been able to sufficiently differentiate incentive applications for renewable energy sources for many years. stamp tax exemption is the only type of tax incentive applied in this area until 2012 (Sezer, 2012). As in the EU countries, an incentive mechanism to increase production and demand for renewable resources such as real estate, special consumption tax and other taxes has not been established in Turkey (Eser and Polat, 2015).

In addition to General, Regional, Priority and Strategic Investment Incentive applications for investments in the energy sector, Turkey, the state provides the following incentives for investments in electricity generation based on renewable energy sources (Investinmanisa, 2023; KPMG, 2016):

1.100% Exemption from Customs Duty and VAT,

2. 10-year Tariff Guarantee (FiT) application,

-FiT application that differs depending on the type of source,

-Additional premiums for domestic components,

3.Network connection priorities,

4.Lower licensing fees,

- 10% of the licensing fee (associate license and license fees),

-Annual license fee exemption for the first eight years of operation,

5.License exemption in exceptional cases,

6.Some practical conveniences for project preparation and provision of land,

7. Providing a 50% discount on the cost of using the transmission system valid for 5 years from the date of commencement of the activity,

8. Exemption of documents and transactions related to power plants and concluded during the investment period from stamp duty and fees,

9. It is the fact that renewable energy-derived power plants and other similar investments with a specified capacity can operate without any production license.

With the final arrangement, VAT exemption and customs duty will be provided to solar and wind energy investors in addition to 30% tax deduction, insurance premium employer share support for 6 years (TRT, 2022).

Turkey is a country that lacks underground energy resources. The increase in the economy and population in the last few decades has not only increased the energy demand in the country, but also increased the dependence on imports. Turkey has to go down the path of restructuring its energy system in order to rationalize the increase in energy needs, offer affordable energy prices to consumers and slow down the rate of import growth.

Due to its dependence on oil and gas imports, Turkey should first take into account energy supply security when determining its energy strategy. The policy it will follow is not limited to increasing oil and gas exploration and production in the country. Diversification of oil and gas supply sources and related infrastructure, increasing renewable energy production and policies aimed at energy efficiency are also important for energy sustainability. Turkey has made significant progress in energy diversity over the past decade. In particular, renewable electricity

generation has tripled in the last decade. The commissioning of Turkey's first nuclear energy facility in 2023 will further diversify the country's energy mix (IEA, 2022).

The highest installed capacity among renewable energy sources in the world and in Turkey belongs to hydraulic energy in 2021, hydraulic energy accounted for 58.6% of the installed capacity based on renewable energy in Turkey and 42.5% in the world. The largest installed capacities in the world after hydraulic energy were solar (26.7%), wind (25.8%), bioenergy (4.5%) and geothermal (0.5%), respectively. In Turkey, the largest installed capacities after hydraulic energy are expressed as wind (19.7%), solar (14.5%), bioenergy (4.1%) and geothermal energy (3.1%), respectively (Ritchie, Roser & Rosado, 2022; T.C. Ministry of Energy and Natural Resources, 2022).

Despite the progress made towards liberalizing energy markets and diversifying energy sources, the government must ensure that policies aimed at strengthening energy security, including the growth of coal-fired generation, do not hinder the country's long-term decarbonization efforts.

As a country where energy demand is increasing rapidly, Turkey adopts and implements incentive and financing policies for renewable energy sources in order to meet its need for energy resources and at the same time support environmental sustainability. These policies aim to both increase local energy production and support sustainability goals by minimizing environmental impacts. In this statement, the importance, application areas and effects of incentive and financing policies on renewable energy sources in Turkey will be discussed.

Since 2017 the tender system has been implemented to encourage renewable energy investments. In addition, Turkey's lack of a separate tax incentive policy for renewable energy, excluding general tax incentives, is considered a deficiency compared to other countries (Çelikkaya, 2018). Turkey has a great renewable energy potential due to its geographical location. However, due to the costs and incomplete regulations, the renewable energy production rate is not satisfactory (Biberci et al., 2017). Jul-Jul's potential clean and renewable resources such as wind, solar and geothermal should be determined and the ratio of these clean resources in total energy consumption should be increased (Pamir, 2003).

VI. Result

Turkey is a country that meets a very large part of the energy it consumes with imports. Due to the security of energy supply, a clean environment and lack of foreign exchange, it is a necessity for Turkey to realize potential renewable energy sources Jul. Although a wide-ranging incentive cannot be applied during the installation phase of renewable energy, important steps are being taken regarding tax incentives. Despite everything, a separate tax incentive policy should be adopted for renewable energy production, distribution, marketing, logistics, employment and consumption.

Although the importance of generating energy is great, it is just as important to save energy and use energy efficiently. In this context, the awareness of using energy correctly should be included in the education system. In October, in order to increase investments in renewable energy production in Turkey, the state should implement supportive policies such as tax breaks and credit facility in addition to incentives. The first goal of Turkey's energy policies should be aimed at domestic resources and domestic producers. In this context, Turkey should prepare and implement its renewable energy policies in a fast and planned manner. It should increase the share of resources that it is rich in reserves in energy production to reduce the share of energy resources that it imports.

Bureaucratic complexities should also be reduced for those who want to take advantage of these incentives within the tax incentive mechanisms in the field of renewable energy. It is obvious that in order to achieve success in the field of targeted renewable resources in Turkey and to become one of the leading countries, tax incentives specific to the areas of investment, production, energy sales and promotion should be urgently included. At this point, an effective tax incentive system should be created in a short time by taking advantage of the experiences of exemplary countries. A large number of tax liabilities such as income and corporate tax, value added tax, special consumption tax, stamp duty, customs duty, financial burdens on employment that may be in question at all stages from production to consumption will need to be reviewed taking into account environmental sensitivity.

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