

Prof. Dr. Ayşe YİĞİT ŞAKAR **Res. Asst. Asena Nur DAĞLI** **Res. Asst. Barış YÜKSEL**
İstanbul Arel University **İstanbul Arel University** **İstanbul Arel University**
aysesakar@arel.edu.tr asenadagli@areledu.tr barisyuksel@arel.edu.tr

USE OF GREEN ENERGY IN THE MANAGEMENT OF ORGANIZATIONS IN THE LOGISTICS SECTOR

Abstract

Today, developments around the world have revealed the importance of nature-friendly practices. Especially the crises in the field of energy and the food inflation that has arisen as a result show the fact that energy is an indispensable need for human beings. Renewable energy sources, which are an alternative to fossil energy sources, have not yet received the importance they deserve. Inadequate government incentives and high costs are the biggest barriers to green energy use by institutions.

In this study, various suggestions are given for the transition of institutions in the logistics sector to green practices. In order to test the strength of these suggestions in the sector, the suggestions were conveyed to the logistics sector employees through a questionnaire.

The results show that logistics industry employees support the use of green energy when the right incentives are offered.

Keywords: Green Energy, Management of Organizations, Logistics, Supply Chain

LOJİSTİK SEKTÖRÜNDEKİ ÖRGÜTLERİN YÖNETİMİNDE YEŞİL ENERJİ KULLANIMI

Özet

Günümüzde dünya genelinde yaşanan gelişmeler doğa dostu uygulamaların önemini gözler önüne sermiştir. Özellikle enerji alanında yaşanan krizler ve buna bağlı olarak ortaya çıkan gıda enflasyonu enerjinin insanoğlu için vazgeçilemez bir ihtiyaç olduğu gerçeğini göstermektedir. Fosil enerji kaynaklarına bir alternatif olan yenilenebilir enerji kaynakları hak ettiği önemi henüz görememiştir. Yetersiz devlet teşvikleri ve yüksek maliyetler kurumların yeşil enerji kullanımına en büyük engeldir.

Bu çalışmada lojistik sektöründeki kurumların yeşil uygulamalara geçişi için çeşitli öneriler verilmiştir. Bu önerilerin sektördeki gücünü test etmek amacıyla öneriler anket aracılığıyla lojistik sektörü çalışanlarına iletilmiştir.

Sonuçlar göstermektedir ki lojistik sektörü çalışanları, doğru teşvikler sunulduğunda yeşil enerji kullanımını desteklemektedirler.

Anahtar Kelimeler: Yeşil Enerji, Örgütlerin Yönetimi, Lojistik, Tedarik Zinciri

Kategori No: 4

Kategori Konu: Yeşil Enerji Uygulamalarının, Lojistik Sektöründeki Kâr Amaçlı Örgütlerde (İşletme, Kooperatif vb.) Uygulanabilirliği

1. Introduction

The transportation of products around the world has been a compulsory activity for ages. Logistics activities that regulate the transportation of products are carried on with increasing importance and needs. With the globalization experienced especially after the industrial revolutions, the world market has become a whole and logistics is the key point of this market.

Due to these developments in the industry, energy expenditures are increasing day by day. Transportation activities constitute a large part of energy expenditures. Transport activities in the world market are mostly carried out by road transport. The consumption of fossil fuels used during road transportation increases in proportion to the increasing transportation activities.

Environmental problems that arise with the consumption of fossil fuels irreversibly endanger human health and the balance of nature. Recent natural disasters, epidemics and climate changes have led people to environmentally friendly practices.

Due to the scarcity of non-renewable resources and the environmental problems experienced in the field of energy, the search for new energy fields has emerged. Renewable energy sources, which are described as green energy, promise great hope for the future of the world.

Energy transformations have high initial costs. These costs are hard to meet for institutions that are in constant competition. For this reason, many institutions are forced to postpone their green energy transformations.

In addition to environmental benefits, the transition to green energy also has economic benefits throughout the institution and the country in the long run. Thanks to green energy systems that prevent pollution caused by fossil fuels, environmental and cleaning expenditures are reduced.

Governments should also provide the necessary support to institutions for green energy transformations, which are a debt to nature. Government incentives for green energy transformations, especially in transportation activities, have the potential to greatly increase institutional transformations.

Especially in Türkiye, the rate of institutions being aware of government incentives is extremely low. For this reason, announcing the incentive programs is as important as organizing incentive programs.

In this study, the potential of incentive programs and further announcement of these programs to increase the use of green energy in the logistics sector has been investigated. In the study, organizational management, logistics, energy in the logistics sector and green energy in the logistics sector and the theoretical basis are explained. Then, in order to evaluate the current situation, the incentives in the world and in Türkiye are explained and the proposed incentive programs are explained. In order to create the analysis part of the study, a survey study was conducted with the logistics sector employees about green energy and incentives. This study was delivered to employees who are actively involved in the supply chain through Google Forms. The data obtained from the survey results were included in the correlation analysis via SPSS.

The results obtained support the recommendations of the study. According to the results, supply chain employees think that the current green energy use and government incentives are insufficient. In addition, it is

thought that green energy use will increase if government incentives are increased and announced more. In the last part of the study, the general situation is summarized and suggestions for future studies are given.

2. Management of Organizations

Today, social relations between people are carried out through organizations. Organizations have always existed in different fields throughout history and will continue to exist in the future. The definition of organization in the dictionary is “An association of institutions or persons who have come together to realize a common purpose or business”. Management is defined in the dictionary as “The job of ensuring that an institution or organization operates in accordance with laws, rules and certain conditions” (TDK, 2019). The job of managing organizations is not easy.

The main purpose of management is to enable organizations to carry out their work efficiently. The work in society is carried out through organizations and the task of management is to mobilize organizations to do that work. However, it is difficult to ensure efficient functioning of organizations. While understanding the behavior of an individual alone is a difficult task, understanding a group of individuals and the relationships between these individuals is a much more complex process. It is hard to imagine the management of larger organizations with thousands of people, hundreds of groups, and innumerable relationships between these people and groups. This difficulty has also led to the emergence of the concept of organizational behavior, which examines the emotions, thoughts, attitudes and behaviors of people in organizations. Despite this difficulty, the management of organizations should be ensured. Ultimately, the tasks of organizations will be fulfilled by human resources individually or as a team, on their own or with the help of technology (Nadler et al., 1982).

Human resources is not the only issue that organizational managers will deal with in order to successfully manage organizations and achieve goals. In addition to human resources, variables such as financial resources, infrastructure problems, cultural problems, the status of rival businesses and legal obligations are also issues that organizational managers should focus on in terms of organizational success. For the success of the organizations, it is necessary to know the causes of the existing and future issues specific to these issues and to solve them in a short time. At this point, what managers need to do is to evaluate the problems impartially and to be in constant communication with other members of the organization about these problems (Sarioğlu Uğur and Özdemir, 2016).

If the management of organizations is evaluated from the perspective of strategic management, it is possible to say that the rapid development of technology, the effect of globalization, new and innovative organizational forms and intense competition cause environmental change and uncertainty about the future in all organizations. In today's global world where there are significant uncertainties, organizations have realized that traditional management styles that provide organizational success in more balanced environments will not make an efficient contribution to organizations in an environment that is constantly changing and uncertain. Traditional management approaches, which are based on the optimization of efficiency in existing processes, limit the ability of organizations to respond to the changing environment (Sanchez, 1997).

As it is seen, there are various factors that affect the management of organizations and organizational success. Many parameters, from human resources in the organization to financial resources, from infrastructure problems to cultural problems, from the situation of competitors to legal obligations, from the development of technology to rapidly changing environments, push the managers of the organization to think about these issues.

In a rapidly changing world, adapting and responding to these changes at the same speed and becoming a leader in competition is possible with the presence of innovative managers who do not approach new management approaches with a conservative perspective.

3. Logistics

Countries import from other countries for their needs that they cannot meet on their own through their production; in the same way, they transport their surplus products to other countries through export. These mutual exchanges are called international trade. Today, there has been an increase in the international trade activities of countries due to the effect of globalization, liberalization of international trade, technological developments and changes in consumer structures. Countries aim to develop economically, especially by increasing their exports and increasing their share in world trade. The products that are the subject of the said trades, which are realized through mutual agreements, are taken from one point to another by different transportation modes every day. Therefore, at a point where international trade is mentioned, the logistics sector always shows itself. So much so that, in parallel with the increase in activities in international trade, the logistics industry has made a great progress today.

Logistics can be briefly defined as “the two-way flow of goods and services from one point to another”. It is stated that logistics is a military concept and was first defined by American Colonel Baker in 1905 as "Supplying, transporting, maintaining and renewing materials and personnel". The most understandable and detailed definition of logistics today is as follows: Logistics is a discipline in which the transportation and storage of goods, services and related information from the starting point to the destination and vice versa is planned, implemented and controlled to meet customer needs, and various activities are involved in this whole process. These activities include customer service, transportation, inventory (stock) management, warehousing, material handling, demand management, order management and packaging.

In the past, the logistics sector, which companies refrained from investing with the thought that it did not create a competitive advantage, with the desire to reduce costs, changing customer demands, the effect of globalization and the development of technology have started to be seen as a competitive tool by companies and the investments made have increased accordingly. There have been developments in the logistics sector with the effect of investments, and as a result of these developments over the years, the logistics sector has begun to be accepted as one of the variables that show the economic development of countries today. Studies in the literature also show that the investments made in the logistics sector and as a consequence improvements in the logistics sector have a direct and positive effect on the economic development of the countries. The fact that the countries that are at the top of the Logistics Performance Index (LPI) ranking published by the World Bank, which is accepted worldwide and provides various clues about the logistics development of countries, are also developed countries, which proves this situation and the importance of the logistics sector is understood here once again.

The largest share in logistics activities, both in terms of cost and in terms of implementation, belongs to transportation activities. Among the modes of transport consisting of road, air, rail, sea, river and pipeline, the most preferred one is the road, thanks to its flexibility. Considering that millions of products are transported from one point to another by road vehicles every day in the world, and that almost all of these vehicles operate with fossil energy sources, which have harmful effects on the environment and human health, it is seen that the logistics sector has the potential to lead to worrying results in terms of sustainability by increasing the use of fossil energy

aside from its contributions to the national economy. For this reason, an energy transformation in the logistics sector will pave the way for meeting human needs in a way that will not harm the environment and human health.

4. Energy in Logistics Sector

Today, energy resources are used all over the world and in almost all sectors. People continue to consume energy resources in the agriculture and transportation sectors, especially in the industry, and even in residences. From an economic point of view, it is possible to say that energy resources are an indispensable part of production processes and accordingly, they directly affect the economic growth of countries. Based on this, it is predicted that the demands for energy resources will continue to increase over the years.

Energy resources are examined in separate groups as renewable and non-renewable according to their use, and as primary and secondary resources according to their convertibility. Energy sources that have not been subjected to any energy conversion are called primary energy sources. The classification of energy resources is shown in Figure 1 (Yurtkuran, 2021).

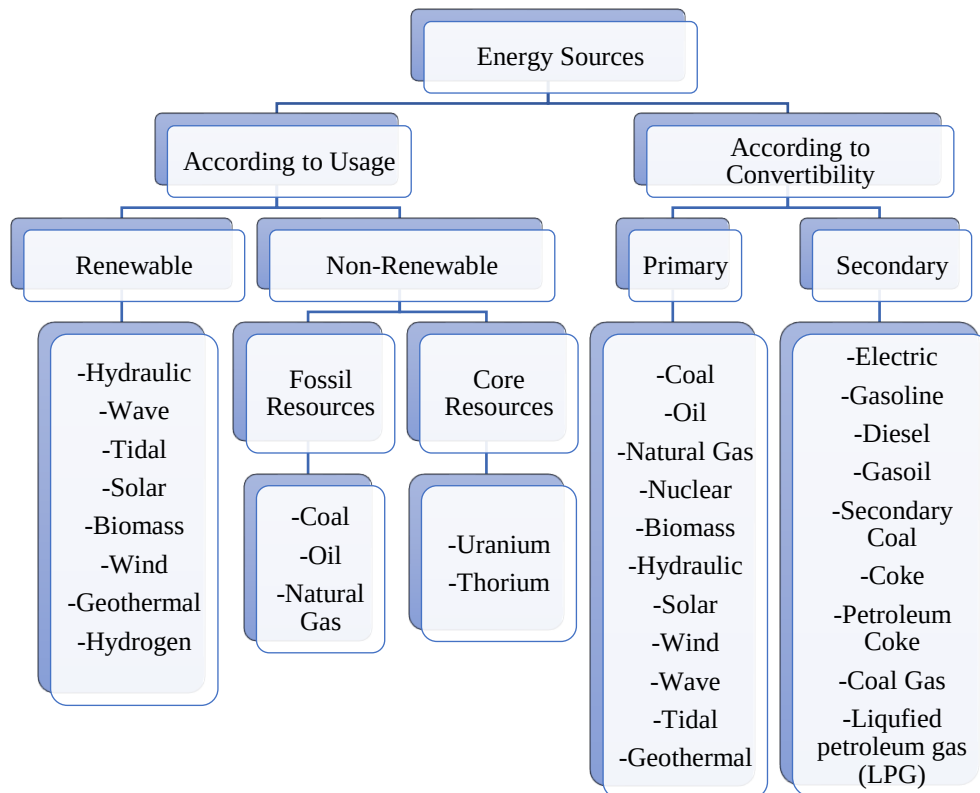


Figure 1. *The Classification of Energy Resources*

Resource: Adapted from (Yurtkuran, 2021).

As can be seen in Figure 1, there are many energy sources that people use and can use. According to 2019 data, the most used among these resources in the world are oil and natural gas, which are in the category of non-renewable fossil resources, and electricity, which is a secondary energy source.

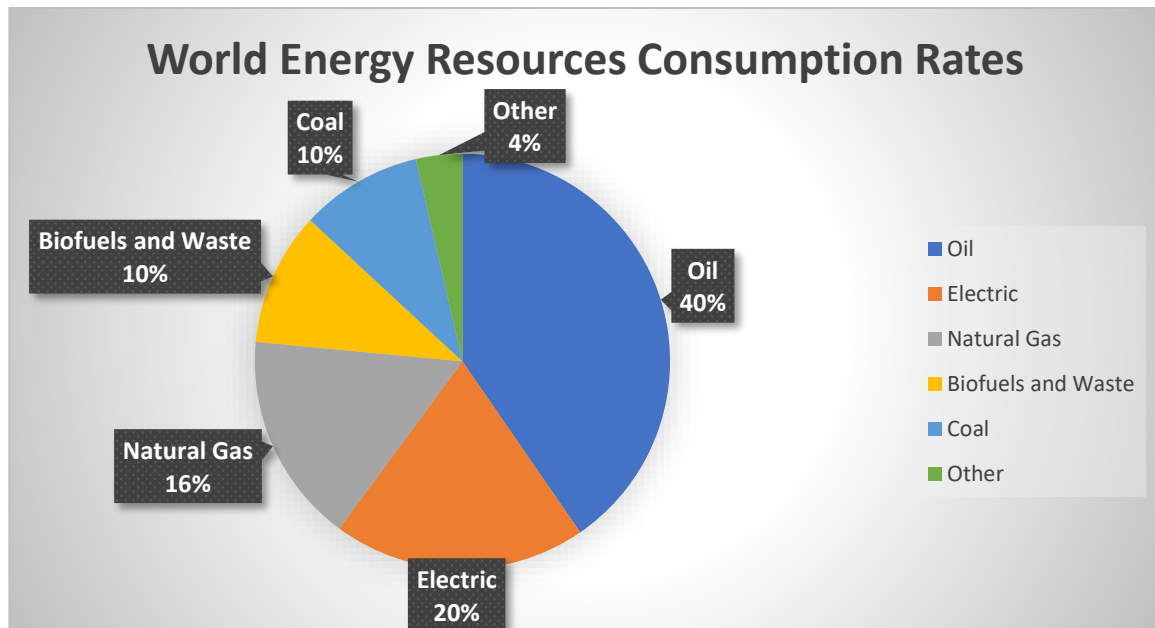


Figure 2. *Worldwide Energy Resources Consumption Rates in 2019*

Resource: Adapted from International Energy Agency (IEA) data.

In Figure 2, the rates of energy resources consumed worldwide in 2019, which were obtained by utilizing the International Energy Agency (IEA) data, are given graphically. According to the graph, the most consumed energy resources are oil with 40.4%, electricity with 19.7% and natural gas with 16.4%. The fact that the use of oil, natural gas and coal, which is in the category of fossil-based non-renewable energy sources, is over 65%, is thought-provoking about the environment and human health and its future.

As mentioned above, energy resources are used in many sectors. The logistics industry is one of them. Logistics is a sector that deals with the transportation and storage of goods, services and related information from the origin to the source point. The products go through many processes from the producer to the consumer, and in this process, raw materials, semi-finished products, auxiliary materials and final products are transported from the supplier to the producer and from the producer to the consumer. In addition, many logistics activities are involved in this process. Depending on the increasing world trade with the effect of globalization, the logistics sector has also made a lot of progress in recent years and has started to be one of the parameters taken into consideration when evaluating the economic development of the countries. The largest share in logistics activities belongs to transportation activities. Among the different modes of transport, the most prominent mode is road transport.

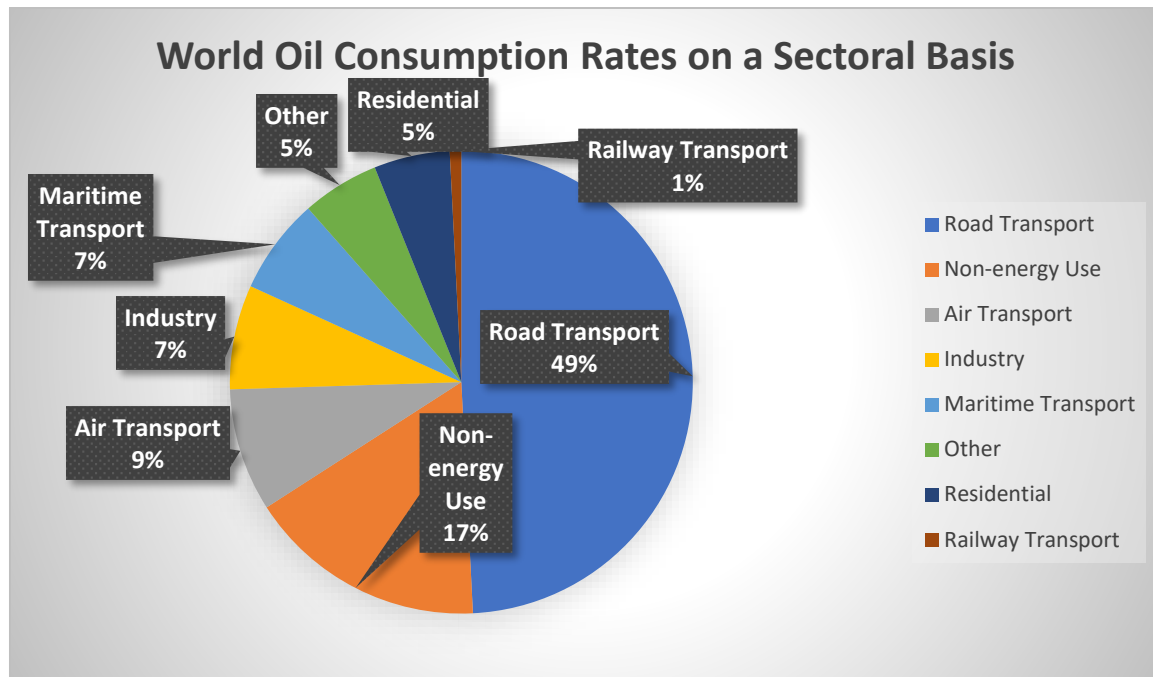


Figure 3. Worldwide Oil Consumption Rates on a Sectoral Basis in 2019

Resource: Adapted from International Energy Agency (IEA) data.

In Figure 3, oil consumption rates on a sectoral basis across the world in 2019, obtained by utilizing the International Energy Agency (IEA) data, are given graphically. According to the graph, nearly half of the world's oil consumption in 2019 belongs to road transport. Road transport is followed by non-energy uses with a rate of 17%. The total rate of transportation activities, which is the vital point of the logistics sector, is more than 65%.

Logistics, which has become a sector whose importance has increased considerably in recent years due to the changes and developments in the world, will continue to exist as long as both domestic and international trade continues. The investments made in the logistics sector, which is now accepted as a part of the development of the country's economies, are increasing day by day and this means that the increase in logistics activities is continuous. As seen in the figures above, oil is the most consumed energy source in the world in 2019, and more than half of oil consumption belongs to transportation activities. Considering that oil is a non-renewable fossil energy source and its share in logistics activities is quite high, it is seen that the possible energy transformation that will occur in the logistics sector in the future is very critical for the future of the world.

5. Green Energy in Logistics Sector

Energy resources, which are ready for the use of individuals and companies for both personal and economic reasons, are divided into two groups as renewable and non-renewable according to their use. Non-renewable energy sources are fossil fuels, especially oil, natural gas and coal, which are depleted when used and cannot be recycled. These energy sources are harmful to the environment and human health even by their nature. Besides, mistakes to be made during their production and processing can increase the size of the danger even higher. Renewable energy sources, on the other hand, are also called green energy sources, and they are resources that are obtained from natural resources and have sustainability features. Examples of these resources are hydraulic, wave, tidal, solar, biomass, wind, geothermal and hydrogen. The most important feature of renewable

energy sources is that they provide a healthier environment by reducing carbon emissions. However, today, about 80% of the world's energy comes from fossil fuels. This is a rate that may pose a problem for the future of the world, and it is a situation that reveals the necessity of increasing the production and consumption of renewable energy resources in every field and in every sector.

The high use of fossil fuels in the logistics sector, where the share of transportation activities is quite high, also raises question marks in terms of environmental health. Despite the significant developments in energy efficiency, the increase in the use of biofuels and the widespread use of electric vehicles, the transportation sector continues to be one of the sectors where renewable energy sources are used the least. However, in order to achieve the global climate target, existing technologies should be used to create a sustainable, durable and carbon-free transportation system, and resources should be allocated for new research (<https://home.kpmg/tr/tr/home/gorusler/2020/09/ulasim-sektorunun-karbonsuzlastirilmesi.html>).

Since emissions in the logistics sector, especially due to road transport, constitute the majority of the total emissions in this sector, the issue of increasing the use of renewable energy type fuels that will reduce carbon emissions generally comes to the forefront in studies on sustainability related to logistics. However, selection, maintenance and repair of transportation vehicles, minimizing routes, reducing traffic around the warehouse, reducing stocks, increasing combined transportation activities, designing buildings to receive natural light better and using energy-efficient lighting, using environmentally friendly packaging, choosing wooden pallets instead of plastic pallets and increasing river transport activities are among the other measures that make sustainability possible in the logistics sector (Çamlıca and Akar, 2014). The steps that companies and countries will take to realize all these measures are of great importance in order to leave a livable world to future generations.

6. Government Incentives in the Field of Green Energy in the World

With the globalization experienced throughout the world, the need for energy and competition have increased rapidly. However, while fossil fuels used in energy production harm the nature, green energy systems, which are an alternative, have high initial costs. This situation causes businesses that are afraid of falling behind in the competitive environment to avoid green energy.

Government incentives are provided as a solution to this problem. It is observed that the use of green energy is increasing worldwide, especially in European countries, thanks to government incentives.

In 2020, the German government published an incentive package of 130 million euros. The package contains the following titles:

- Limiting the charging of renewable energy sources per kilowatt hour to 6.5 cents/kWh in 2021 and 2022 (11 billion euros)
- 7 billion euros for hydrogen technologies
- Doubling government support for buyers in electric cars by the end of 2021
- 2 billion euro program for investments in new technologies by car manufacturers and their suppliers
- An additional 2.5 billion euros to expand electric vehicle (EV) charging infrastructure and support e-mobility research and development
- Financial support to municipalities, including 2.5 billion euros for public transport

- 1 billion Euro support to each sector for modern transport and aviation
- Additional 2 billion euros to save energy for buildings
- 700 million euros for the protection and sustainable management of forests

European Union (EU) countries have published many incentive programs in order to be more effective in the fight against the climate crisis. These incentives are as follows.

It is seen that the EU is among the successful countries in renewable energy production. It has been stated that by 2020 (in line with the 20-20-20 targets of the EU), at least 20% of the total energy demands of each of the member states should be provided from renewable energy sources. The Council of Europe updated this target to 27% for 2030 in October 2014. In order to achieve this target, many countries have been implementing important incentive policies, especially since the 2000s.

Renewable energy incentive mechanisms used in the EU are divided into two main groups as non-tax and tax incentives. The main incentives applied in the EU are used in the form of subsidies to increase income (Tariff Tax and Portfolio Standard, etc.) and tax incentives to reduce costs.

The main incentives for renewable energy production are fixed price guarantee, premium system, mandatory quota and green certificate applications, various tax incentives and investment loans. Among these incentives, tariff guarantee covering fixed price and premium guarantee, investment loans and subsidies on public expenditures, tax incentives on public revenues, compulsory quota and green certificate applications are a policy in the nature of regulation.

6.1. Incentives on Public Expenditures

These incentives consist of direct expenditures made under the public legal entity. The main capital of these incentives, which are provided in cash, is provided from the funds created with the budget revenue opportunities or through the budget.

1. The Tariff Guarantee application, which is the main incentive policy of the EU and differs according to the countries, is seen by the Commission as the most effective and minimum cost incentive mechanism. The price is determined according to the kWh of the electricity produced and differs according to the type of technology used. From this point of, technologies with high investment and maintenance costs, such as solar, benefit from a much higher tariff than wind.

- i. Fixed Price Guarantee is a long-term purchase agreement used to accelerate renewable energy investments. With this method, governments guarantee to purchase energy above the market price from producers who produce their energy needs annually using renewable energy sources. The amount of energy to be taken depends on the type of source and its economic viability.
- ii. In the Premium Guarantee Application, unlike the fixed price guarantee, a premium is paid to the producer above the market price instead of a fixed price. If the market price exceeds the determined minimum price, no premium payment is made.

2. Investment Loans are long-term loans with low interest rates, usually a certain percentage of total costs or per installed kWh, for the development of renewable energy investments. Attractive loans for investments in the EU also play an important role. This application, which contributes to the solution of the high capital cost problem, has been used effectively in Germany since the 1990s. Although it is highly politically feasible due to its advantages such as easing the burden on the public budget and spreading the cost over time, there are some problems in dealing with non-payers.

3. Subsidies, on the other hand, refer to grants made by the government to individuals or institutions in the form of goods, money or services. In this context, the government finances a certain percentage of the investment cost as a grant to support renewable energy production.

6.2. Incentives Given Over Public Revenues

Among the main tax incentive tools used are exemptions and exceptions, discounts, depreciation regime, forward and backward deduction of losses, tax holiday and tax deferral. In addition, taxation of fossil fuels at a higher rate or with additional taxes such as carbon tax constitutes tax measures.

Income tax advantages; 40% of the expenditures made for renewable energy installation (machine, equipment, land, fixture, etc.) in Belgium and 50% of the cost of renewable energy equipment in France are still deductible from the income and corporate tax base.

Instead of investment or deduction in production, some countries apply direct income tax exemption. In the Czech Republic, income from energy sales to the grid is exempt from income tax for 5 years. In Luxembourg, the sale of electricity from low-capacity solar panels is exempt from income tax. There is an opportunity for accelerated depreciation in renewable energy investments. While power plants are generally amortized in a long period of 20-30 years, this period can be reduced to 15 years with accelerated depreciation. Research and development expenditures for renewable energy technologies can be deducted from the income tax base.

7. Government Incentives in the Field of Green Energy in Türkiye

There are many government incentives in the field of energy in Türkiye. However, these incentives are mostly incentives for energy saving. However, it is a very useful solution proposal to produce the energy that is obligatory for the industry from renewable sources. Institutions need government support to make this transition. In this context, the government incentives applied in Türkiye are as follows:

- Value-added tax (VAT) exemption
- Customs Exemption
- Corporate Tax Discount
- Social Security Institution (SSI) Employer Share Support
- Interest Support (TL Loans – 5 Points / Foreign Currency Loans – 2 Points)
- Land - Investment Place Allocation
- Investments in Hydroelectric Power Plants (Licensed Unlicensed) benefit from the General Investment Incentive System provided that an Investment Incentive Certificate is obtained (on the condition that it meets the minimum investment amount requirement).

- Solar energy investments and wind energy investments have been included in the scope of the 4th region incentives with the new amendment, regardless of the investment location, and have been able to benefit from corporate tax, SSI, VAT and Customs Tax supports. Those in the upper regions (5th and 6th regions) will benefit from the incentives of their region.
- Solar Energy System Investment Incentive Certificate and Wind Energy System Investment Incentive Certificate are obtained from the Ministry of Industry.
- Within the scope of unlicensed activity and limited to the contract power in the connection agreement, solar and wind power based electricity generation plant investments will benefit from regional investment incentives.
- Solar energy electricity generation investments of 240 KW and above will be able to benefit from investment incentives.
- Solar Energy System Investment Incentives and Wind Energy System Investment Incentive Certificate will benefit from regional investments.
- A regional investment incentive certificate can be obtained for Solar Energy Electricity production investments to be made on factory roofs, agricultural lands or barns.

In addition, if an open call is made for solar energy investments that can be associated with agriculture and if they are included in the call, 50% grant can be received within the scope of Agriculture and Rural Development Support Institution - Rural Development Investments Support Programme.

These incentives are limited, as well as many conditions are sought for application. In addition, the number of those who are aware of the incentives is quite low. For this reason, the rate of benefiting from incentives and the use of green energy remain at low levels.

8. Suggestions

In addition to being a great opportunity for the future of the world, the use of renewable energy also has the potential to provide many economic benefits in the long term. However, green energy systems have high initial costs. For this reason, institutions avoid energy systems transformation as much as possible. It is possible to benefit from various government incentives and sanctions to prevent this situation.

The incentives are quite inefficient in terms of use. It is expected that the use of green energy will increase at a high rate with properly prepared incentive projects. It is also very important to announce these incentive programs. It is thought that the suggestions below will increase the rate of green energy use.

- In order to guarantee the use of renewable energy, the energy produced from renewable sources can be sold at half the price of energy produced from fossil sources.
- Special Consumption Tax (SCT) and Value-added Tax (VAT) may not be charged on electric vehicle purchases.
- Interest-free and deferred loan support can be provided to businesses that want to establish a renewable energy system, especially in their logistics fleets.
- While businesses using renewable energy are exempt from environmental tax, government-guaranteed low interest rates can be provided.

- VAT and SCT may not be charged on renewable energy equipment such as solar panels, wind turbine parts, and these equipment may be exempt from income tax.
- Business properties with green building certification can be exempted from all taxes levied by the government.
- Half of the initial cost can be given as a grant for the farmer who wants to establish a renewable energy system in the agricultural sector, and interest-free deferred loan support can be provided for the remaining amount.
- Institutions that produce with renewable energy sources can be determined as priority during government-based purchasing transactions.
- 50% more environmental tax can be collected from businesses using energy produced from fossil fuels.
- CO₂ is the most important greenhouse gas causing global warming. In order to compensate for the negative externalities they spread to the environment due to CO₂ emissions, fossil fuel-powered motor land vehicles should be taxed at a high rate, while environmentally friendly vehicles with low CO₂ emissions should be taxed at a low rate (Yiğit Şakar, 2018).
- SCT and VAT rates on fossil fuel-based vehicles can be increased.
- Prepared incentive plans can be published regularly in industry and professional chambers, and a call center can be established that provides 24/7 free support to institutions that want to apply.

The use of renewable resources has become a necessity for the future of the world and humanity. Continuing to produce the energy that we use at a high rate in all areas of our lives from fossil sources is a massacre of nature. In particular, the logistics sector is one of the sectors that consume the highest rate of energy due to its structure. For this reason, an energy transformation in the logistics sector is of great importance for the environment. The problem of start-up costs, which is an obstacle to the transition of enterprises to green energy systems, can be easily solved with government support. In this way, while the nature is protected, the long-term economic benefits of green energy will improve both businesses and countries.

9. Analysis

Survey method was used to collect data in this study. The survey was applied to logistics industry employees who are actively working through Google Forms. As a result of the survey, a usable sample of 121 people was obtained. According to the results of the survey, while 103 people in the sample work in private sector organizations, 18 people work in public institutions. 72 people in the sample are between the ages of 18-39. 38 people in the sample are between the ages of 40-59. Finally, 11 people in the sample are in the 60+ age range. While 100 people in the sample are male, 21 people are female. The gender distribution also represents the gender inequality in the sector.

The histogram and pie charts of the distribution of the institutions where the survey participants work are as follows.

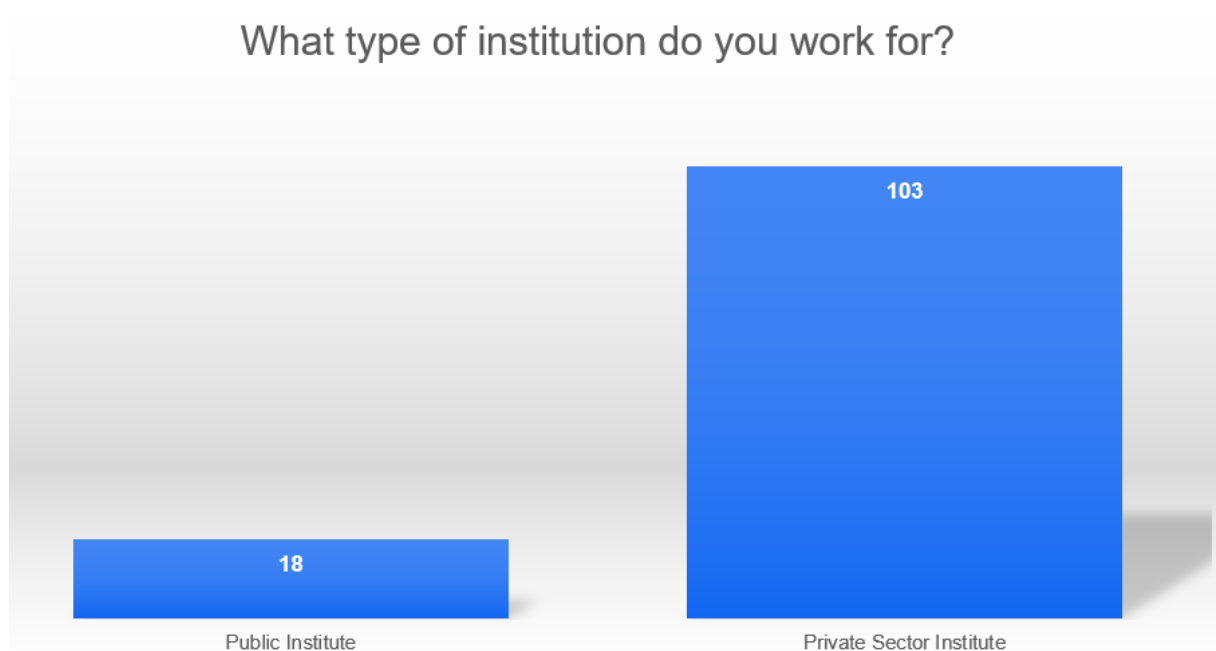


Figure 4. *Institutional Distribution Histogram Chart*

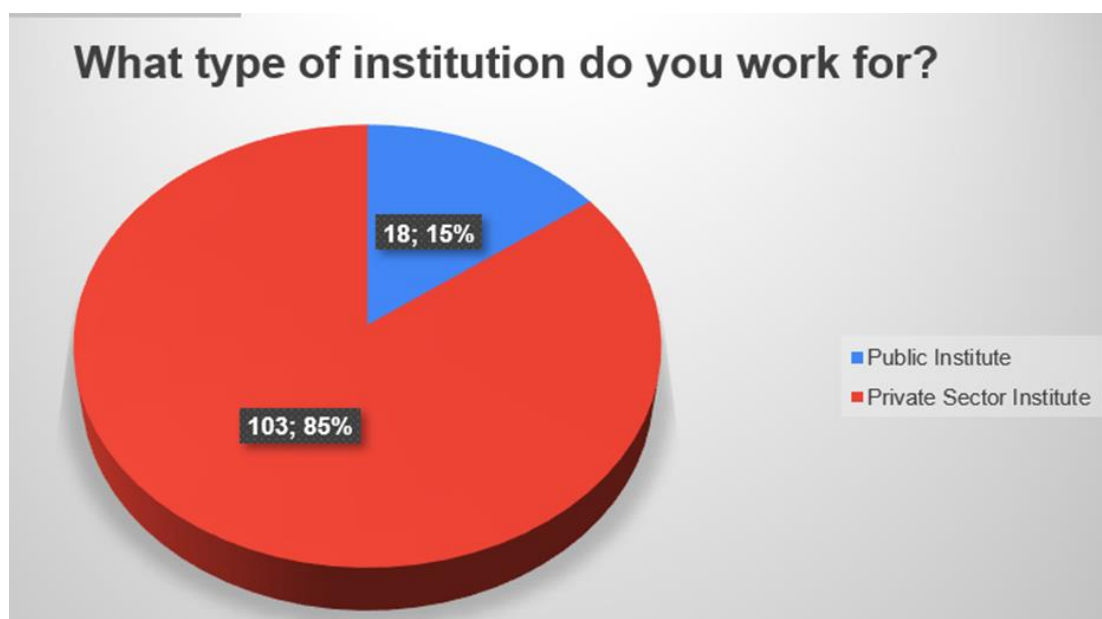


Figure 5. *Distribution of Institution Pie Chart*

According to these graphs, 85% of the participants work in private sector institutions, while the remaining 15% work in public institutions.

The histograms and pie charts of the size of the institutions in which the survey participants work are as follows.

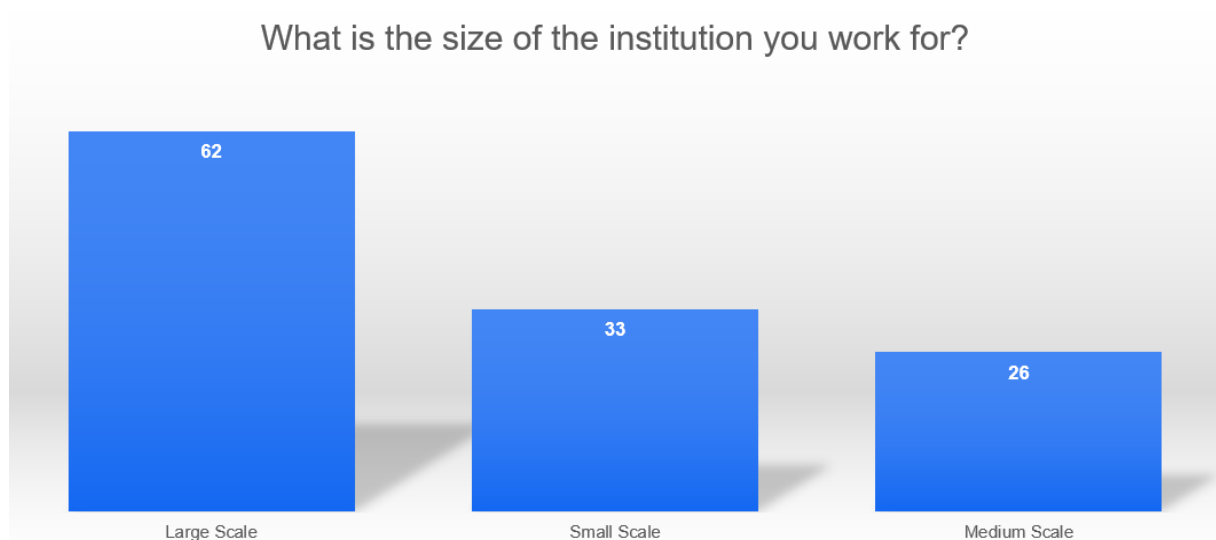


Figure 6. *Institution Size Histogram*

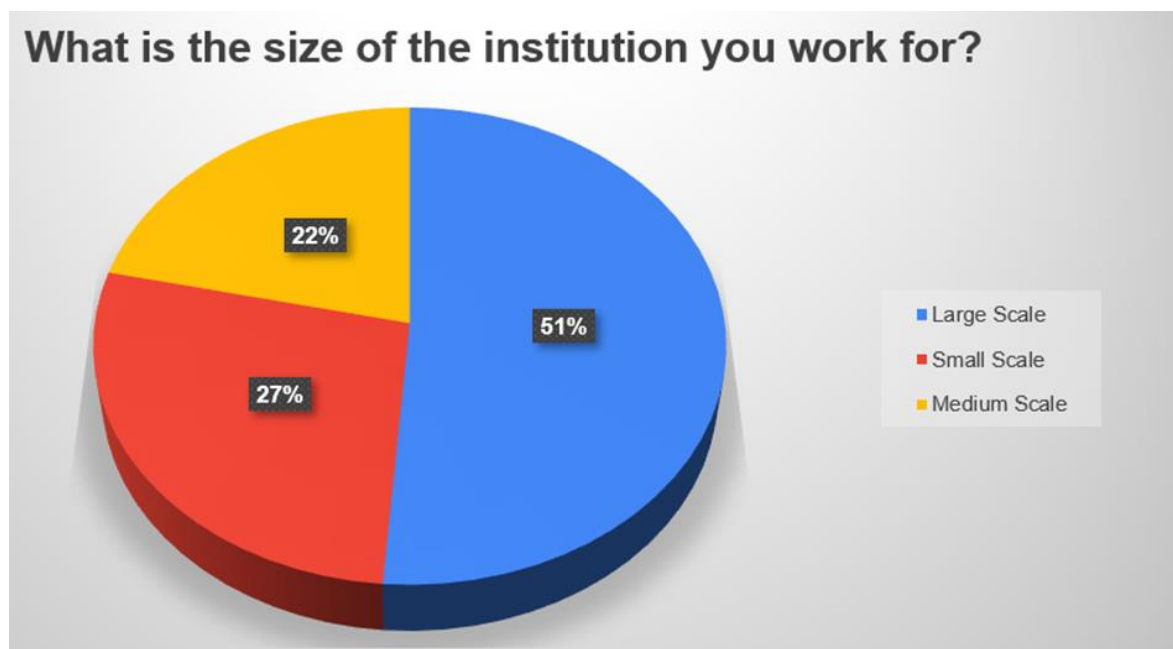


Figure 7. *Institution Size Pie Chart*

According to these graphs, 51% of the participants work in large-scale companies, while 22% work in medium-sized companies and the remaining 27% work in small-scale companies. According to these results, we can say that most of the participants work in large-scale institutions and therefore they have more corporate workplaces.

The histogram and pie charts of the age range distribution of the people participating in the survey are as follows.

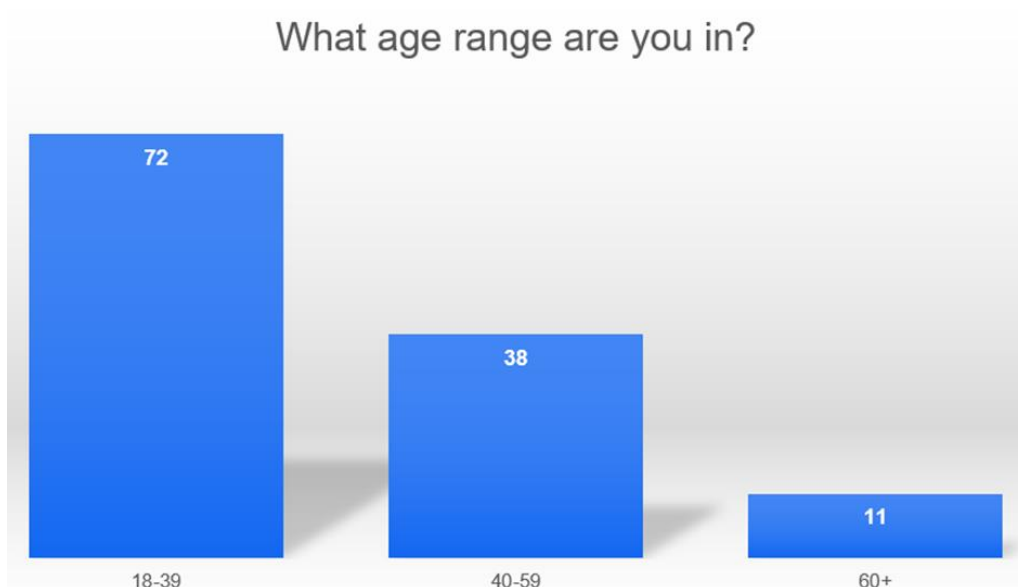


Figure 8. *Age Distribution Histogram Chart*

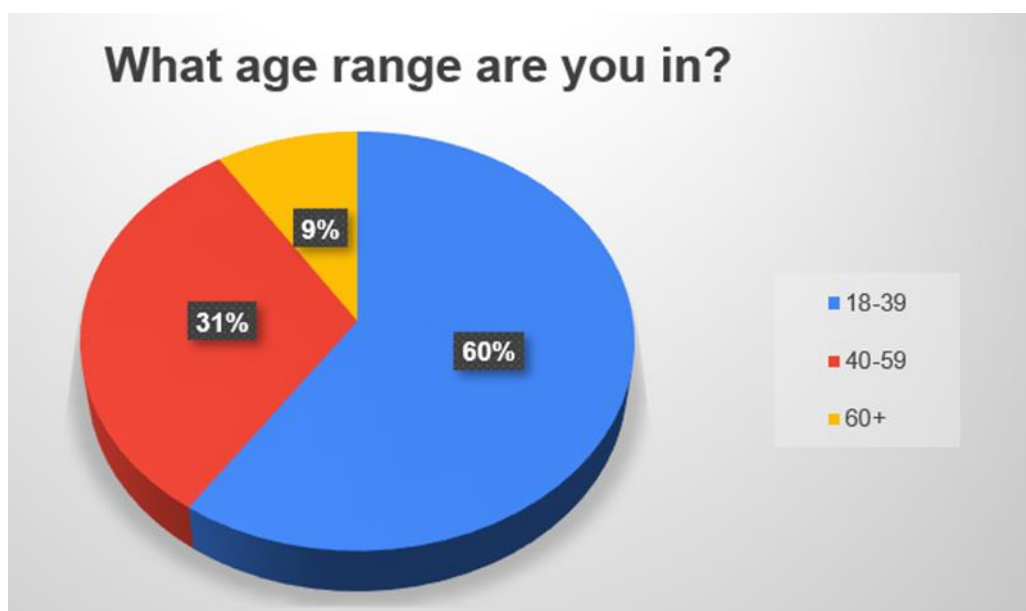


Figure 9. *Age Distribution Pie Chart*

According to these graphs, 60% of the participants are between the ages of 18-39, 31% are between the ages of 40-59 and the remaining 9% are over the age of 60.

The histogram and pie charts of the gender distribution of the participants are as follows.

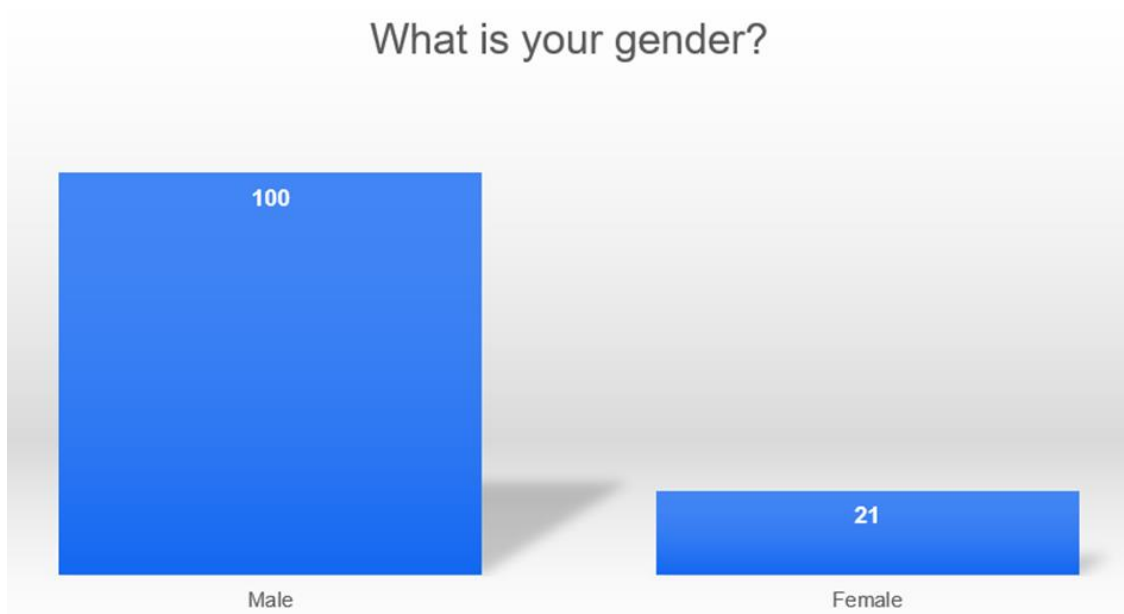


Figure 10. *Gender Distribution Histogram*

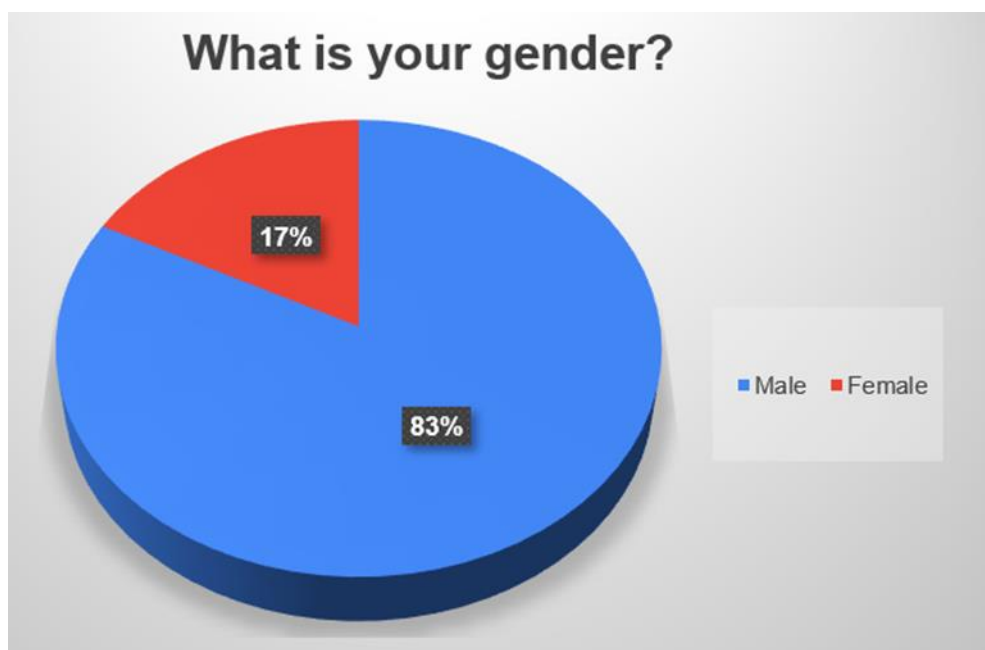


Figure 11. *Gender Distribution Pie Chart*

According to these graphs, 83% of the participants are male, while 17% are female. This distribution, which also reflects the gender inequality in the sector, is an accurate reflection of the sample.

The histogram and pie charts of the opinion of the participants whether they find the use of green energy sufficient in the institutions they work are as follows.

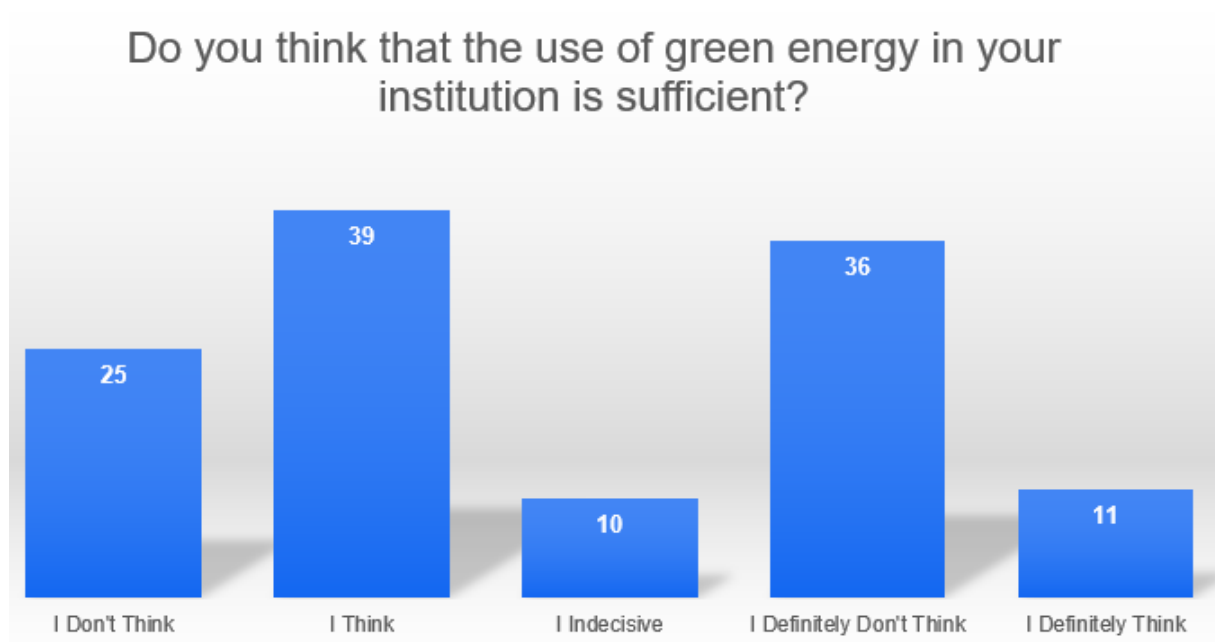


Figure 12. Histogram of Green Energy Utilization Adequacy

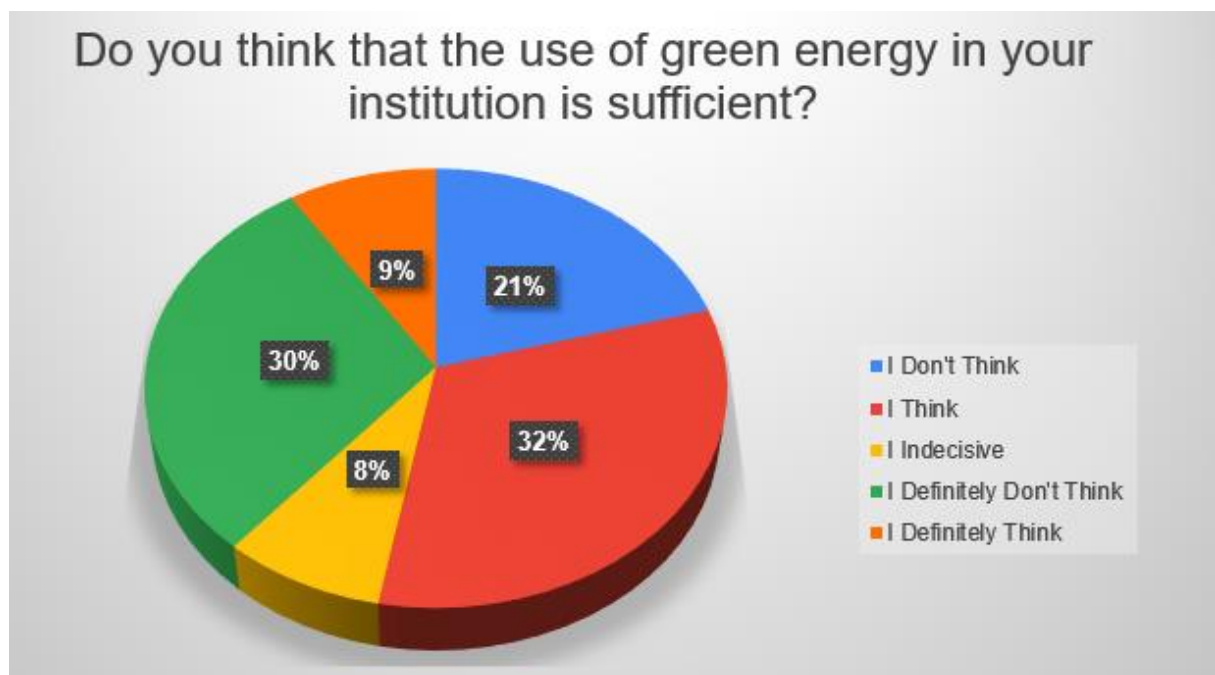


Figure 13. Pie Chart for Green Energy Use Adequacy

As seen in the graphs above, 30% of the participants definitely do not think that enough green energy is used in the institution they work, while 21% do not. 8% of the employees remained undecided on this issue. 32% of the employees think that enough green energy is used in the institution they work for, and 9% of the participants definitely think that enough green energy is used in the institution they work for.

The histogram and pie charts regarding the demands of the participants to increase green energy use in the institution they work in are as follows.

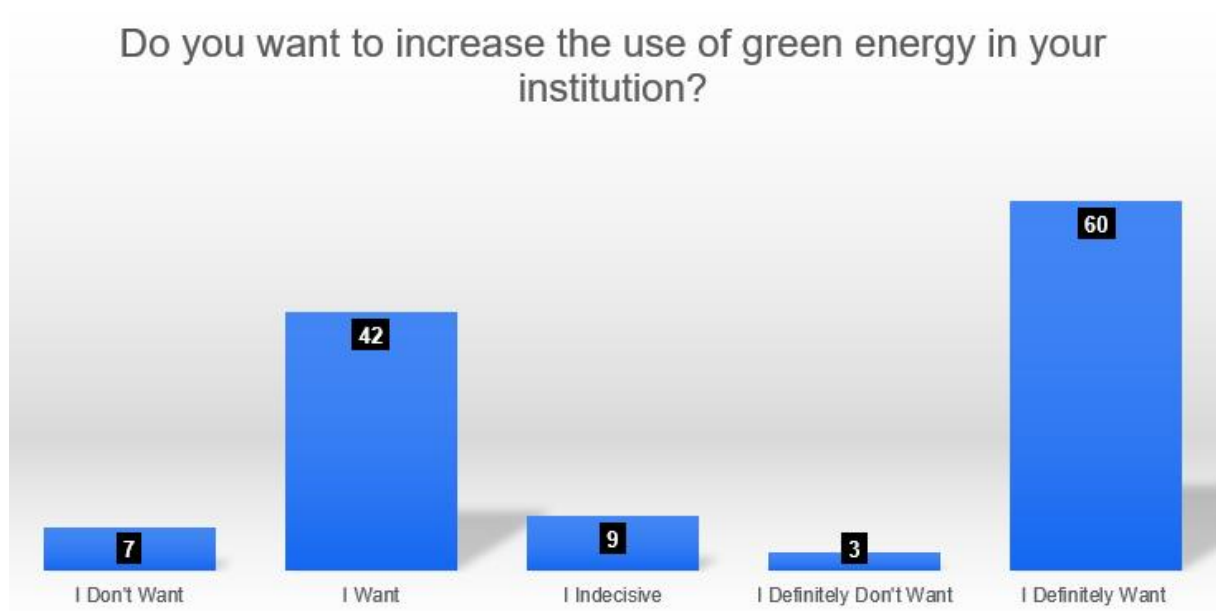


Figure 14. Histogram of Green Energy Use Increase Demand

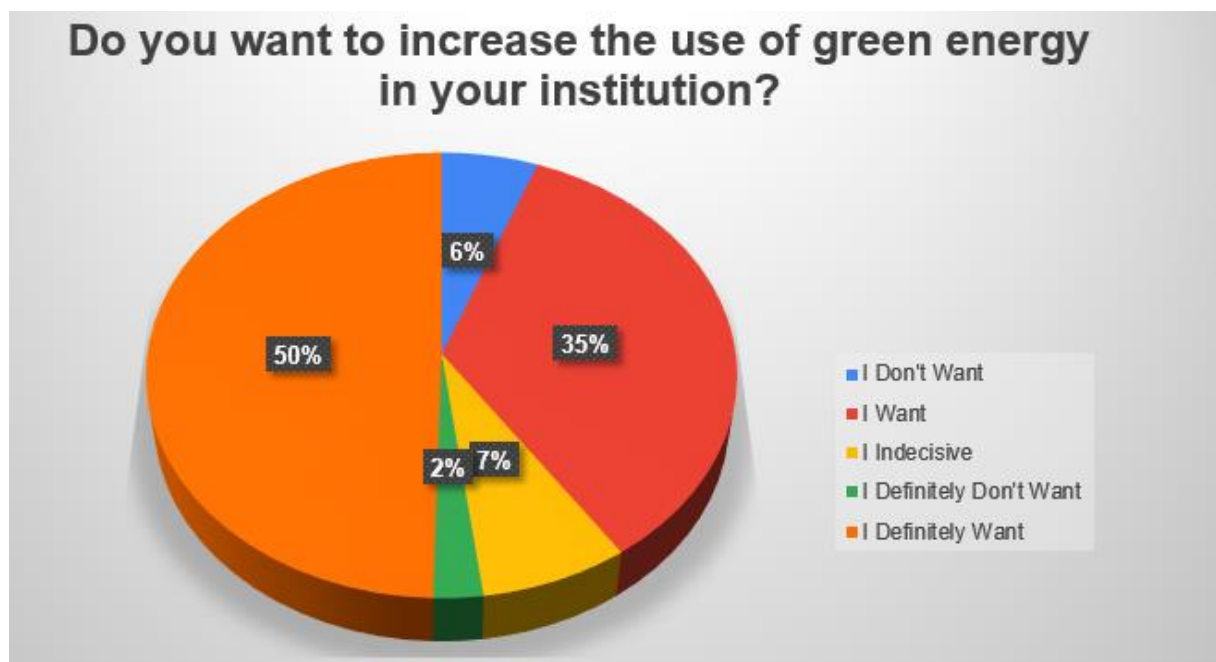


Figure 15. Distribution of Green Energy Usage Increase Demand Pie Chart

According to the graphs above, 50% of the participants definitely want to increase the use of green energy, while 35% want it to be increased. 7% of the participants are undecided on this issue. While 6% of the participants do not want to increase the use of green energy, only 2% definitely do not.

The histogram and pie charts for the adequate announcement of government incentives for green energy are as follows.

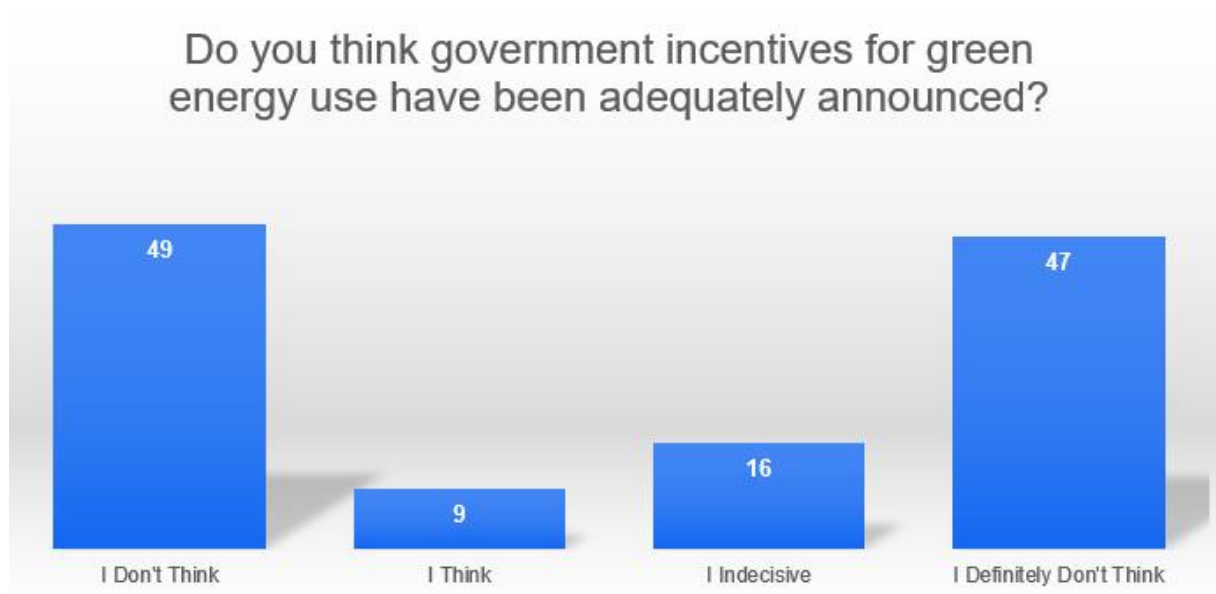


Figure 16. Adequate Announcement of Government Incentives Histogram

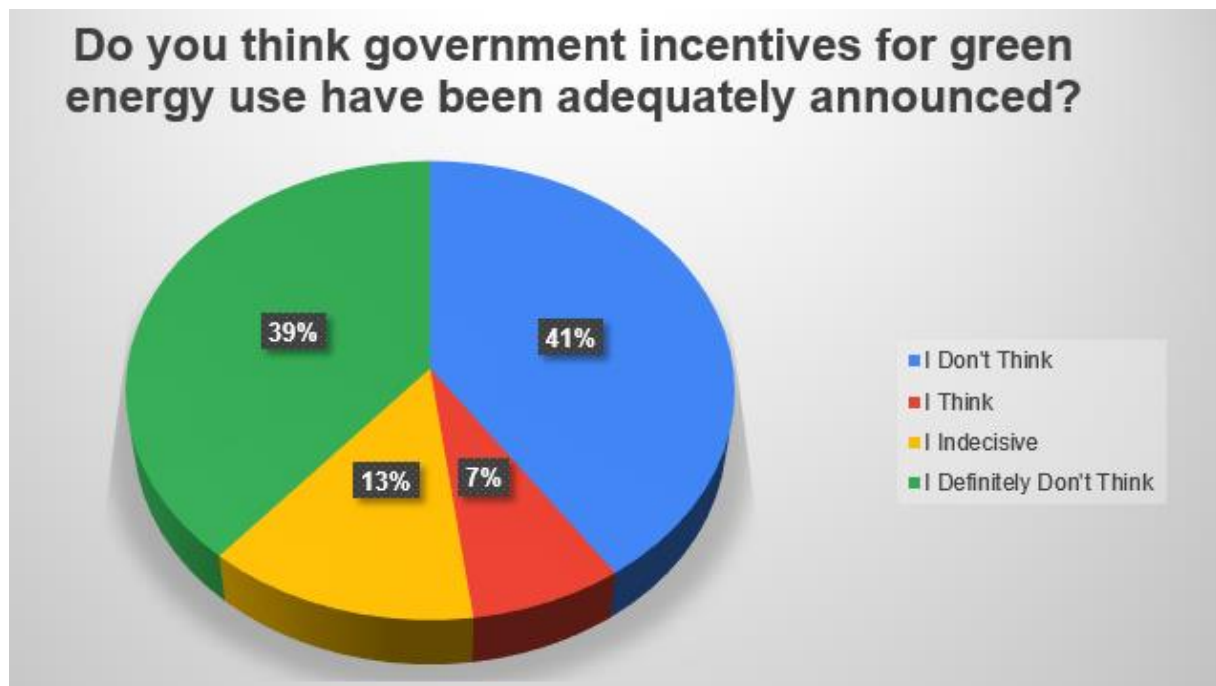


Figure 17. Adequate Announcement of Government Incentives Distribution Pie Chart

While 39% of the participants definitely do not think that government incentives are adequately announced, 41% do not. 13% of the participants are undecided on this issue. Only 7% of respondents think that government incentives are sufficiently announced.

The histogram and pie charts for the need to announce more government incentives are as follows.

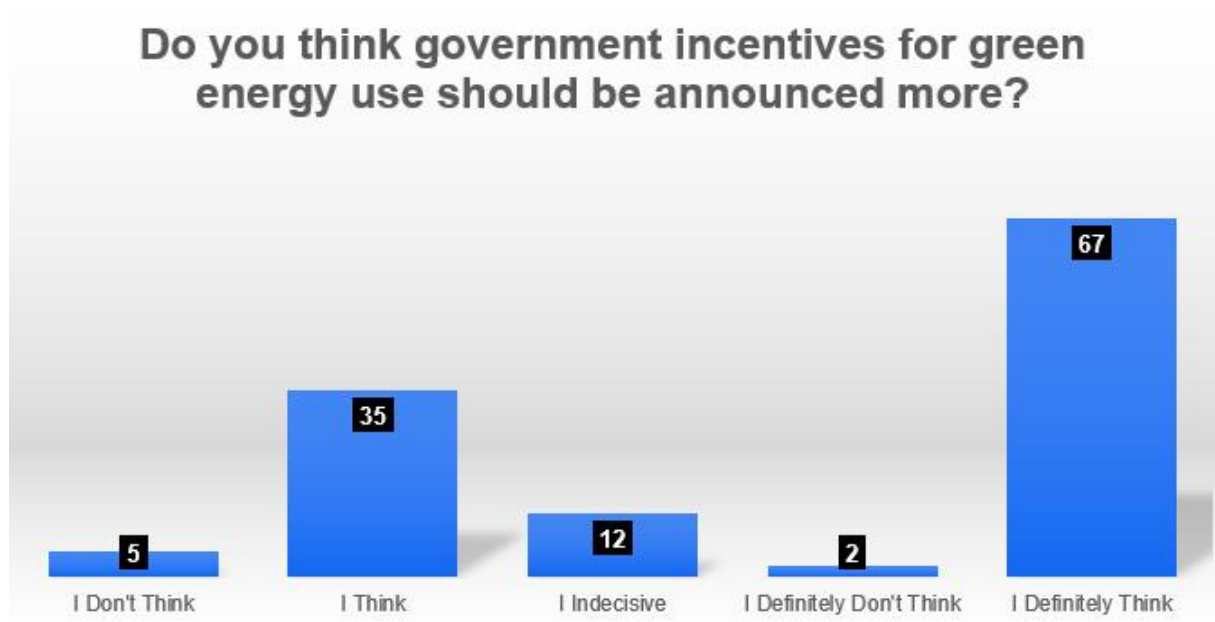


Figure 18. Histogram Chart for the Need for More Announcement of Government Incentives

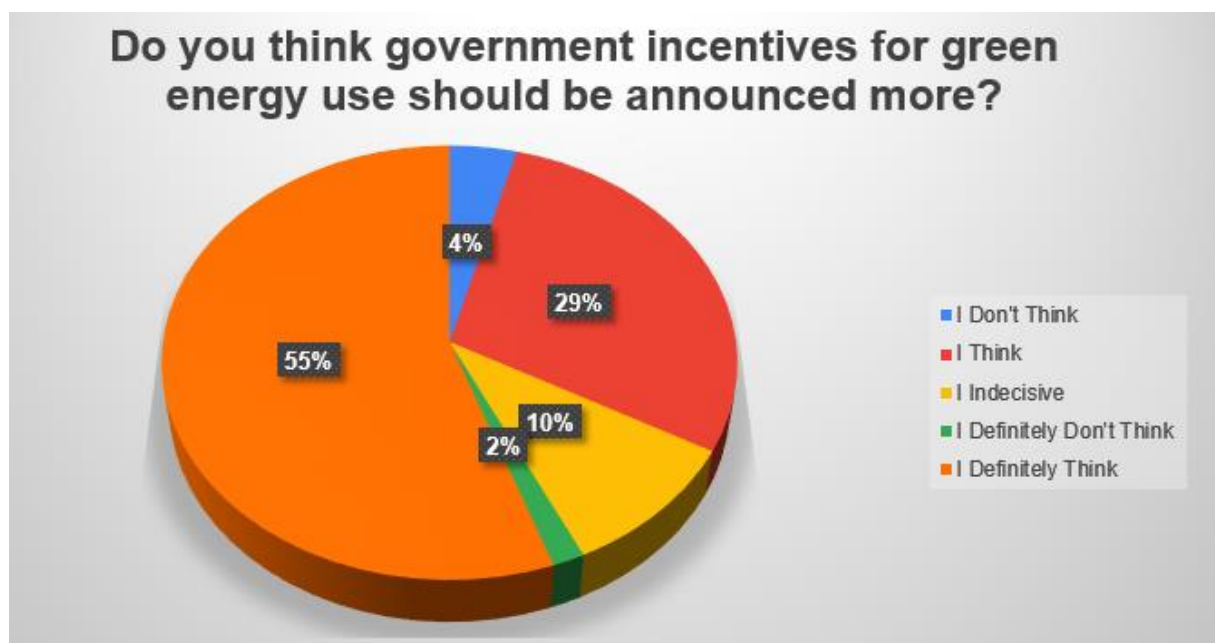


Figure 19. Distribution of Need for More Announcement of Government Incentives Pie Chart

According to the graphs above, 55% of the participants definitely think that government incentives about green energy should be announced more, while 29% think that they should be announced more. 10% of the participants are undecided on this issue. While 4% of the participants do not think that government incentives should be announced more, 2% definitely do not think so.

The histogram and pie charts of the necessity of increasing government incentives are as follows.

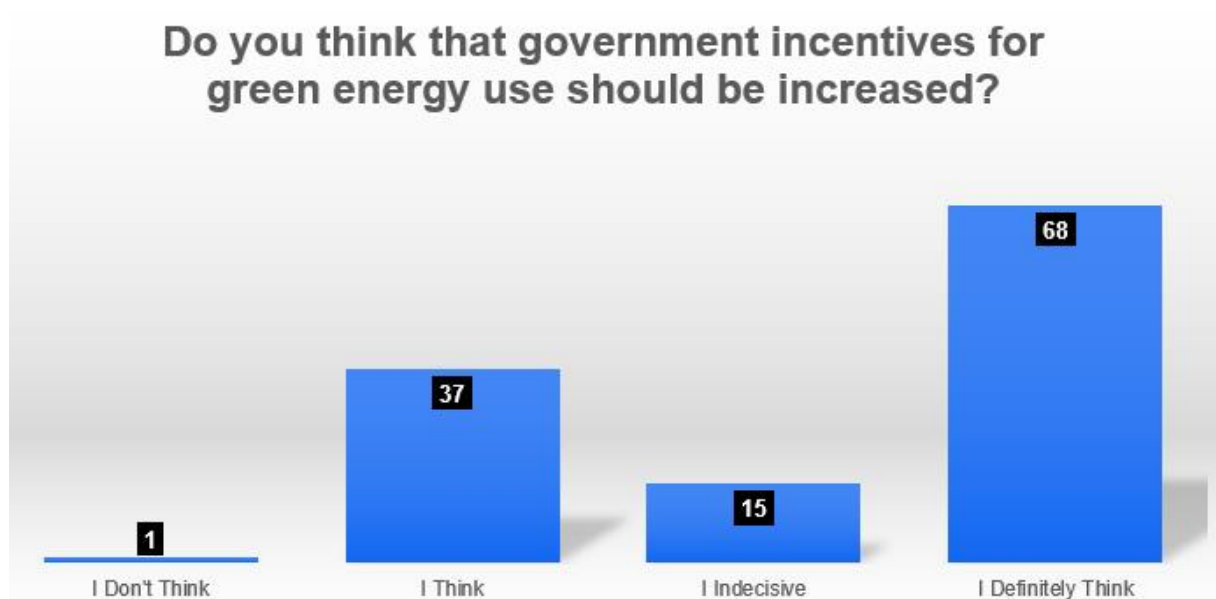


Figure 20. *Histogram of the Need to Increase Government Incentives*

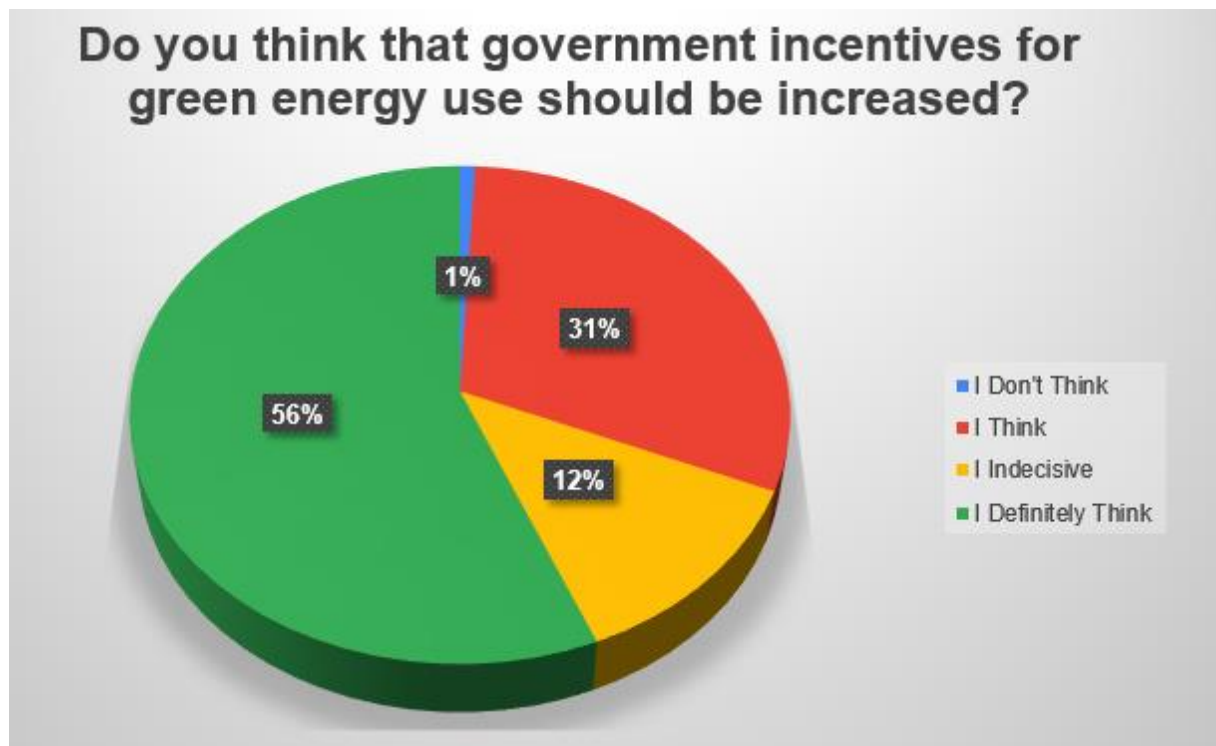


Figure 21. *The Distribution of the Need for Increasing Government Incentives Pie Chart*

As can be seen in the graphs above, 56% of the participants definitely think that government incentives should be increased, while 31% think that they should be increased. 12% of the participants are undecided on this issue. Only 1% of respondents do not think that government incentives should be increased.

The last multiple-choice question of the survey is “Will an increase in government incentives increase green energy use?” is in the form. The histogram and pie charts of the answers to this question are as follows.

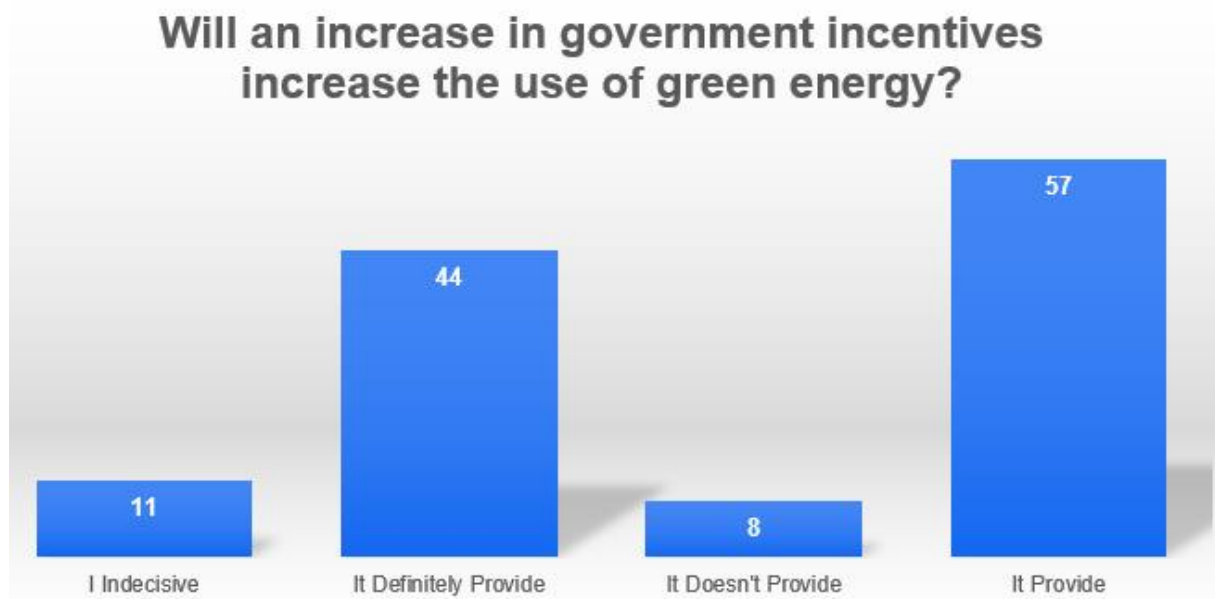


Figure 22. Histogram of the Effect of Increase in Government Incentives on Green Energy Use

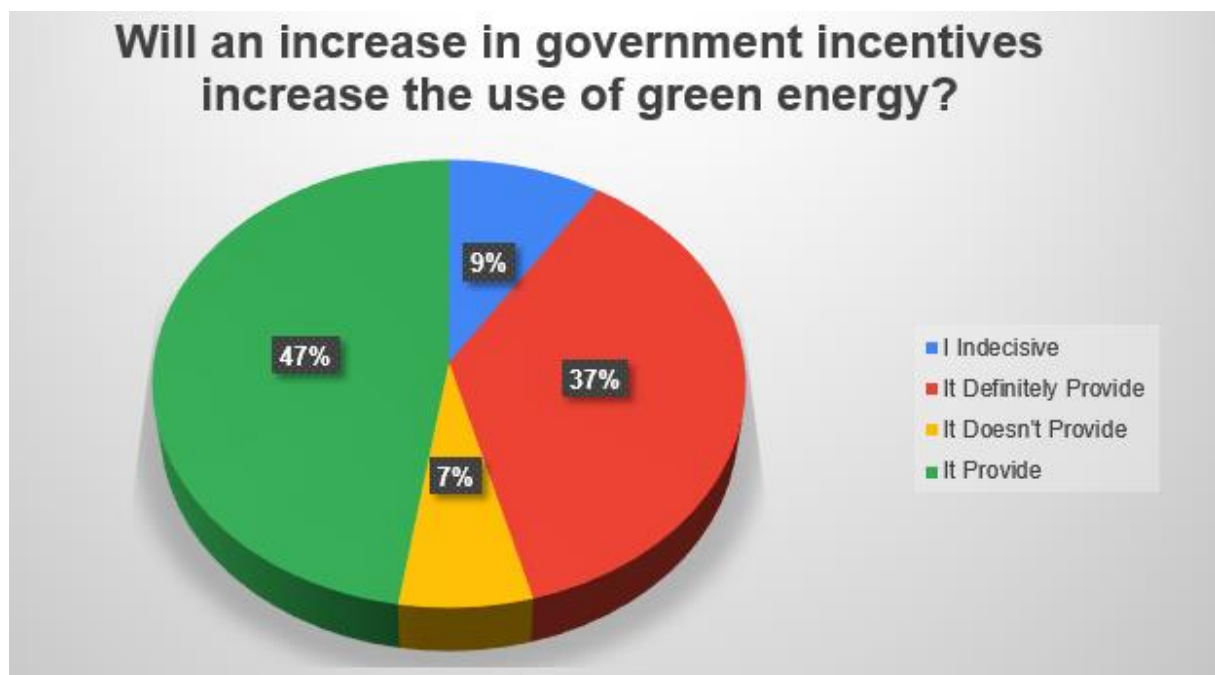


Figure 23. The Effect of Increase in Government Incentives on Green Energy Use Pie Chart

As can be seen from the graphs above, 37% of the participants definitely think that the increase in government incentives will increase the use of green energy, while 47% think that it will. 9% of the participants were undecided on this issue. Only 7% of the respondents do not think that the increase in government incentives will increase the use of green energy.

As can be seen from the graphs above, 37% of the participants think that the increase in government incentives will definitely increase the use of green energy, while 47% think that it will. 9% of the participants were undecided on this issue. Only 7% of the respondents do not think that the increase in government incentives will increase the use of green energy.

When the survey results are examined, it is seen that the data supports the main idea of the study. Logistics sector employees generally think that green energy use and government incentives for green energy use are insufficient. In addition, announcing the existing incentives is insufficient according to the participants. According to the participants, government incentives have the potential to increase the use of green energy. For this reason, more energy incentives should be given and these incentives should be announced more.

10. Correlation Results

The data used in this study were obtained through the likert scale using the survey method. The data obtained are not suitable for normal distribution due to its structure. For this reason, the Two Tailed Spearman Correlation test, which is a non-parametric analysis method, was applied in accordance with the data. The test was carried out through the SPSS program and the test results are presented in the appendix as a table. The correlations found according to the test results and the estimated reasons for these correlations are as follows.

According to the test results;

There is a very significant ($p < 0.01$) and negative correlation between institution type privatization and green energy use adequacy. Due to the conditions of government institutions, the rate of green energy use is much higher than that of private sector institutions. For this reason, employees of private sector institutions think that the use of green energy is more inadequate. There is a positive and significant ($p < 0.05$) correlation between institution type privatization and green energy usage increase demand. As seen in the previous correlation, private sector employees are more aware of the necessity of increasing green energy use than public institution employees. For this reason, they want to increase the use of green energy more than the employees of public institutions. There is a negative and significant correlation between institution type privatization and the idea of announcing government incentives at an adequate level. This result is seen as a predictable result considering the opinions of the employees in the private sector about the inadequacy of green energy use.

A positive and very significant correlation was found between the size of the institution and the demand for green energy use increase. As the size of the institution increases, the level of awareness of the employees increases with the institutionalization. Therefore, this result becomes explainable. There is a positive and very significant correlation between the size of the institution and the demand to increase the announcement of government incentives. The reason for this correlation is the positive relationship between the level of employee awareness and the size of the institution, just like the previous correlation. There is a positive and significant correlation between the size of the institution and the necessity of increasing government incentives. Again, the relationship between institutionalization and the level of awareness explains this result.

There is a positive and very significant correlation between age and the idea that green energy use is sufficient. Green energy is a concept that has become widespread recently. Therefore, like every trend, it is more common among the younger generation. For this reason, young people support the use of green energy more than the elderly. While the older generation thinks that green energy use is sufficient, this level is not enough for the younger generation. There is a negative and very significant correlation between age and green energy use increase demand. This result is due to the fact that the concept of green energy is new, as in the previous correlation. There is a positive and significant correlation between age and the idea of adequately announcing government incentives. The reason for this correlation is that the concept of green energy is a new concept. There is a negative and very

significant correlation between age and the demand to increase the announcement of government incentives. Since the older generation is not aware of the need for green energy, they do not care about the announcement of incentives. There is a negative and very significant correlation between age and the necessity of increasing government incentives. This result, like other correlations, is explained by the newness of the green energy concept.

There is a negative and very significant correlation between the idea of green energy use adequacy and the demand for increasing green energy use. Considering the natural relationship between the adequacy of green energy use and the demand for its increase, this result is quite logical. There is a positive and very significant correlation between the idea of green energy use adequacy and the adequacy of announcing incentives. Considering the relationship between awareness of the need for incentives and awareness of green energy use, this correlation can be understood. There is a negative and very significant correlation between the idea of green energy use adequacy and the demand to increase the announcement of incentives. The relationship between green energy use and the adequacy of announcing incentives explains this result. There is a significant and negative correlation between the idea of the adequacy of green energy use and the need to increase incentives. The explanation for this correlation is the relationship between incentives and green energy use.

There is a negative and very significant correlation between the demand for increasing green energy use and the adequacy of announcing government incentives. The existence of a relationship between green energy use and government incentives explains this result. There is a positive and very significant correlation between the demand for increasing the use of green energy and the demand for increasing the announcement of government incentives. The reason for this correlation is the relationship between green energy use and government incentives, as in the previous correlation. There is a positive and very significant correlation between the increase demand for green energy use and the increase demand for government incentives. The intersection of the masses who are aware of the need to increase the use of incentives and green energy explains this correlation. There is a positive and very significant correlation between the demand for increasing green energy use and the thought that incentives increase green energy use. This correlation is actually the thought that is expected and forms the basis of the study.

There is a negative and very significant correlation between the idea that government incentives are announced sufficiently and the idea that government incentives should be announced more. This correlation is a necessary outcome. There is a negative and very significant correlation between the idea that government incentives are adequately announced and the need to increase their incentives. The intersection of the audience that is aware of the necessity of increasing the incentives and the audience that is aware of the importance of its announcement explains this correlation. There is a negative and very significant correlation between the idea that government incentives are adequately announced and the idea that incentives will increase green energy use. Aware of the importance of announcing incentives, the audience is also aware that incentives increase the use of green energy. Therefore, this correlation is a predictable outcome.

There is a positive and very significant correlation between the idea that government incentives should be announced more and the need to increase government incentives. This correlation is a highly anticipated result, considering the audience aware of the importance of incentives. There is a positive and very significant correlation between the idea that government incentives should be announced more and the idea that incentives will increase

green energy use. The similarity of the audiences, who are aware of the importance of announcing incentives and incentives, explains this correlation.

There is a positive and very significant correlation between the idea that government incentives should be increased and the idea that incentives will increase green energy use. This correlation is the idea that forms the basis of the study.

When the correlation results are examined, the data supports the main idea of the study. The concept of green energy is mostly embraced by young participants. In addition, the audience that is aware of the importance of government incentives and the audience that support the use of green energy are extremely parallel. Finally, the main idea of the study, "the increase in government incentives will increase the use of green energy" was also supported as a result of the analysis.

11. Conclusions

Research carried out within the scope of the study has revealed the increased energy use as a result of industrialization. This use reaches the ceiling level especially during logistics activities. Transportation within the scope of logistics activities has the highest energy expenditure and therefore the highest cost output.

It is not possible to renew the fossil energy used during transportation activities. However, while it is possible to make the used energy reusable with the use of green energy, cost savings can also be made thanks to this reuse.

In recent years, environmental awareness has become widespread throughout the world. With this expansion, countries organize some incentive programs for environmental practices. A green transformation, especially in the field of energy, has great opportunities for the environment and economically. For this reason, green energy incentives are of great importance. There are many incentive programs on the agenda, especially in European countries. However, since the incentive programs in Türkiye are not sufficiently announced and contain many application conditions, they do not see the expected demand.

The achievement of incentive programs has the potential to enable institutions to transition to green energy systems without fear of economic difficulties. This means that states fulfill their environmental obligations in international cooperation.

This study was prepared to measure the effect of government incentives on the transition to green energy in the logistics sector. The sample of the study consists of supply chain employees. The survey study, which was created to measure the relationship between green energy and government incentives, was delivered to supply chain employees through Google Forms. The data obtained from the survey results are explained in the analysis section on the basis of questions. In addition, these data were subjected to correlation analysis via SPSS and the correlations between the answers were tested. According to the results obtained, supply chain employees find the use of green energy and government incentives insufficient. In addition, there is a wide crowds who think that government incentives should be announced more. According to the correlation results, the young generation supports the use of green energy more. Again, according to the information obtained from the correlation results, there is a significant correlation between the demand for increasing green energy use and the demand for increasing government incentives. The correlation analysis resulted in support of the aim of the study. It is recommended that

this survey be applied to company owners for future studies. In addition, the change in green energy use of institutions receiving government incentives will be a supportive study in terms of literature.

12. References

- Bayraç, H. N., & Çildir, M. (2017). AB yenilenebilir enerji politikalarının ekonomik büyüme üzerindeki etkisi. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 13(13), 201-212.
- Çamlıca, Z., & Akar, G. S. (2014). Lojistik sektöründe sürdürülebilirlik uygulamaları. *Gümüşhane Üniversitesi Sosyal Bilimler Enstitüsü Elektronik Dergisi*, 5(11), 100-119.
- International Energy Agency (2021). *Key World Energy Statistics 2021*. Retrieved from <https://www.iea.org/reports/key-world-energy-statistics-2021/final-consumption> on 02.09.2022.
- Nadler, D. A., Tushman, M., & Hatvany, N. (1982). Managing organizations. *Organizational Dynamics*, 35-47.
- Retrieved from <https://home.kpmg/tr/tr/home/gorusler/2020/09/ulasim-sektorunun-karbonsuzlastirilmesi.html> on 03.09.2022.
- Retrieved from https://temizenerji.org/2020/06/05/almanya-ekonomik-tesvik-paketi-ile-enerji-donusumune-destek-verecek/?gclid=CjwKCAjw6raYBhB7EiwABge5Ks4ItaVNacDrjoPR65V3IwRfNBxqkAvxG-5N_6XkNjzSDW8ZvsC1xoCv58QAvD_BwE on 31.08.2022.
- Retrieved from <https://www.aa.com.tr/tr/ekonomi/devletten-girisimciye-yenilenebilir-enerji-destegi-/1430130> on 01.09.2022.
- Retrieved from <https://www.piagrid.com/enerji-tesvik-ve-destekleri> on 01.09.2022.
- Retrieved from <https://www.plusglobal.com.tr/enerji-sektoru-tesvik-ve-destekleri> on 01.09.2022.
- Retrieved from <https://www.potansiyelenerji.net/sayfa/devlet-tesvikleri/> on 02.09.2022.
- Retrieved from <https://www.trthaber.com/haber/ekonomi/yenilenebilir-enerji-yatirimlari-tesviklerle-artacak-655725.html> on 01.09.2022.
- Sanchez, R. (1997). Preparing for an uncertain future: Managing organizations for strategic flexibility. *International Studies of Management & Organization*, 27(2), 71-94.
- Sarioğlu Uğur, S., & Özdemir, L. (2016). Örgütsel yönetim sorunlarına genel bir bakış ve bir araştırma. *Kesit Akademi Dergisi*, 2(6), 351-377.
- Teke, O. (2013). Dünyada ve Türkiye’de yenilenebilir enerji Ar-Ge stratejilerinin değerlendirilmesi. *Mühendis ve Makine Dergisi*, 54(640), 54-62.
- Türk Dil Kurumu (TDK) (2019). *Örgüt*. Retrieved from <https://sozluk.gov.tr> on 01.09.2022.
- Türk Dil Kurumu (TDK) (2019). *Yönetim*. Retrieved from <https://sozluk.gov.tr> on 01.09.2022.
- Yiğit Şakar, A. (2018). Ulusal enerji verimliliği eylem planı 2017-2023 çerçevesinde enerji verimli taşıtların özendirilmesine yönelik vergi teşviklerinin değerlendirilmesi. *Yaklaşım Dergisi*, Year: 26, Number: 302, 12-23.

Yurtkuran, S. (2021). Enerji tüketimi, ekonomik büyüme ve lojistik arasındaki ilişki: Türkiye örneği. *Fırat Üniversitesi Sosyal Bilimler Dergisi*, 31(3), 1245-1260.

13. Appendix

13.1. Survey

USE OF GREEN ENERGY IN THE MANAGEMENT OF ORGANIZATIONS IN THE LOGISTICS SECTOR

This study was created to be used in the academic study named "Use of Green Energy in the Management of Organizations in the Logistics Sector". The answers given will be kept confidential and will not be shared with any person or institution other than the study owners. Please answer the following questions by ticking the answer closest to you.

1. What type institution do you work for?

Mark only one oval.

- ☐ Private Sector Institute
- ☐ Public Institute

2. What is the size of the institution you work for?

Mark only one oval.

- ☐ Small Scale
- ☐ Medium Scale
- ☐ Large Scale

3. What age range are you in?

Mark only one oval.

☐ 18-39

☐ 40-59

☐ 60+

4. What is your gender?

Mark only one oval.

☐ Male

☐ Female

5. Do you think that the use of green energy in your institution is sufficient?

Mark only one oval.

☐ I Definitely Don't Think

☐ I Don't Think

☐ I Indecisive

☐ I Think

☐ I Definitely Think

6. Do you want to increase the use of green energy in your institution?

Mark only one oval.

☐ I Definitely Don't Want

☐ I Don't Want

☐ I Indecisive

☐ I Want

☐ I Definitely Want

7. Do you think government incentives for green energy use have been adequately announced?

Mark only one oval.

- ☐ I Definitely Don't Think
- ☐ I Don't Think
- ☐ I Indecisive
- ☐ I Think
- ☐ I Definitely Think

8. Do you think government incentives for green energy use should be announced more?

Mark only one oval.

- ☐ I Definitely Don't Think
- ☐ I Don't Think
- ☐ I Indecisive
- ☐ I Think
- ☐ I Definitely Think

9. Do you think that government incentives for green energy use should be increased?

Mark only one oval.

- ☐ I Definitely Don't Think
- ☐ I Don't Think
- ☐ I Indecisive
- ☐ I Think
- ☐ I Definitely Think

10. Will an increase in government incentives increase the use of green energy?

Mark only one oval.

☐ It Definitely Doesn't Provide

☐ It Doesn't Provide

☐ I Indecisive

☐ It Provide

☐ It Definitely Provide

This content is neither created nor endorsed by Google.

Google Forms

13.2. SPSS Output

Your temporary usage period for IBM SPSS Statistics will expire in 4855 days.

```
GET DATA
  /TYPE=XLSX
  /FILE='C:\Users\asena\Desktop\spss data yeşilenerji.xlsx'
  /SHEET=name 'Sayfa1'
  /CELLRANGE=FULL
  /READNAMES=ON
  /DATATYPEMIN PERCENTAGE=95.0
  /HIDDEN IGNORE=YES.
EXECUTE.
DATASET NAME DataSet1 WINDOW=FRONT.
NONPAR CORR
  /VARIABLES=WhattypeofinstitutiondoyouworkforWhatisthesizeoftheinstitutionyouworkfor
    Whatisyouragerange Whatisyourgender Doyouthinkthattheuseofgreenenergyinyourinstitutionissufficient
    Doyouwanttoincreasetheuseofgreenenergyinyourinstitution
    Doyouthinkgovernmentincentivesforgreenenergyusehavebeenadequate1
    Doyouthinkthatgovernmentincentivesforgreenenergyusesshouldbeannou
    Doyouthinkthatgovernmentincentivesforgreenenergyusesshouldbeincre
    Willtheincreaseingovernmentincentivesincreasetheuseofgreenenergy
  /PRINT=SPEARMAN TWOTAILNOSIG
  /MISSING=PAIRWISE.
```

Nonparametric Correlations

Notes

Output Created		15-SEP-2022 00:52:13
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	121
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		NONPAR CORR /VARIABLES=Whattypeofi nstitutiondoyouworkfor Whatisthesizeoftheinstituti onyouworkfor Whatisyouragerange Whatisyourgender Doyouthinkthattheuseofgr eenenergyinyourinstitutioni ssufficient Doyouwanttoincreasetheu seofgreenenergyinyourinst itution Doyouthinkgovernmentinc entivesforgreenenergyuse havebeenadequate1 Doyouthinkthatgovernmen tinentivesforgreenenergy useshouldbeannou Doyouthinkthatgovernmen tinentivesforgreenenergy useshouldbeincre Willtheincreaseingovernm entinentivesincreasetheu seofgreenenergy /PRINT=SPEARMAN TWOTAIL NOSIG /MISSING=PAIRWISE.

Notes

Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00
	Number of Cases Allowed	241979 cases ^a

a. Based on availability of workspace memory

[DataSet1]

Correlations

			What type of institution do you work for?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	-,016
		Sig. (2-tailed)	,859
		N	121
	What is your age range?	Correlation Coefficient	-,097
		Sig. (2-tailed)	,288
		N	121
	What is your gender?	Correlation Coefficient	-,299 ^{**}
		Sig. (2-tailed)	,001
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,255 ^{**}
		Sig. (2-tailed)	,005
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,199 [*]
		Sig. (2-tailed)	,029
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	-,217 [*]
		Sig. (2-tailed)	,017
		N	121

Correlations

			What is the size of the institution you work for?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	-,016
		Sig. (2-tailed)	,859
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	What is your age range?	Correlation Coefficient	-,296**
		Sig. (2-tailed)	,001
		N	121
	What is your gender?	Correlation Coefficient	,048
		Sig. (2-tailed)	,602
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,060
		Sig. (2-tailed)	,512
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,309**
		Sig. (2-tailed)	,001
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	,031
		Sig. (2-tailed)	,735
		N	121

Correlations

			What is your age range?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	-,097
		Sig. (2-tailed)	,288
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	-,296**
		Sig. (2-tailed)	,001
		N	121
	What is your age range?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	What is your gender?	Correlation Coefficient	-,040
		Sig. (2-tailed)	,662
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	,192*
		Sig. (2-tailed)	,035
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	-,313**
		Sig. (2-tailed)	,000
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	,216*
		Sig. (2-tailed)	,018
		N	121

Correlations

			What is your gender?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	-,299**
		Sig. (2-tailed)	,001
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	,048
		Sig. (2-tailed)	,602
		N	121
	What is your age range?	Correlation Coefficient	-,040
		Sig. (2-tailed)	,662
		N	121
	What is your gender?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,093
		Sig. (2-tailed)	,308
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,102
		Sig. (2-tailed)	,265
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	,170
		Sig. (2-tailed)	,062
		N	121

Correlations

			Do you think that the use of green energy in your institution is sufficient?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	-,255**
		Sig. (2-tailed)	,005
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	-,060
		Sig. (2-tailed)	,512
		N	121
	What is your age range?	Correlation Coefficient	,192*
		Sig. (2-tailed)	,035
		N	121
	What is your gender?	Correlation Coefficient	-,093
		Sig. (2-tailed)	,308
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	-,489**
		Sig. (2-tailed)	,000
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	,295**
		Sig. (2-tailed)	,001
		N	121

Correlations

			Do you want to increase the use of green energy in your institution?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	,199 [*]
		Sig. (2-tailed)	,029
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	,309 ^{**}
		Sig. (2-tailed)	,001
		N	121
	What is your age range?	Correlation Coefficient	-,313 ^{**}
		Sig. (2-tailed)	,000
		N	121
	What is your gender?	Correlation Coefficient	,102
		Sig. (2-tailed)	,265
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,489 ^{**}
		Sig. (2-tailed)	,000
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	-,395 ^{**}
		Sig. (2-tailed)	,000
		N	121

Correlations

			Do you think government incentives for green energy use have been adequately announced?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	-,217 [*]
		Sig. (2-tailed)	,017
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	,031
		Sig. (2-tailed)	,735
		N	121
	What is your age range?	Correlation Coefficient	,216 [*]
		Sig. (2-tailed)	,018
		N	121
	What is your gender?	Correlation Coefficient	,170
		Sig. (2-tailed)	,062
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	,295 ^{**}
		Sig. (2-tailed)	,001
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	-,395 ^{**}
		Sig. (2-tailed)	,000
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	1,000
		Sig. (2-tailed)	.
		N	121

Correlations

			Do you think that government incentives for green energy use should be announced more?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	,168
		Sig. (2-tailed)	,066
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	,236**
		Sig. (2-tailed)	,009
		N	121
	What is your age range?	Correlation Coefficient	-,384**
		Sig. (2-tailed)	,000
		N	121
	What is your gender?	Correlation Coefficient	,079
		Sig. (2-tailed)	,387
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,345**
		Sig. (2-tailed)	,000
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,604**
		Sig. (2-tailed)	,000
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	-,495**
		Sig. (2-tailed)	,000
		N	121

Correlations

			Do you think that government incentives for green energy use should be increased?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	,159
		Sig. (2-tailed)	,082
		N	121
	What is the size of the institution you work for?	Correlation Coefficient	,229 [*]
		Sig. (2-tailed)	,012
		N	121
	What is your age range?	Correlation Coefficient	-,398 ^{**}
		Sig. (2-tailed)	,000
		N	121
	What is your gender?	Correlation Coefficient	,023
		Sig. (2-tailed)	,804
		N	121
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,199 [*]
		Sig. (2-tailed)	,029
		N	121
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,592 ^{**}
		Sig. (2-tailed)	,000
		N	121
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	-,433 ^{**}
		Sig. (2-tailed)	,000
		N	121

Correlations

			Will the increase in government incentives increase the use of green energy?
Spearman's rho	What type of institution do you work for?	Correlation Coefficient	,092
		Sig. (2-tailed)	,318
		N	120
	What is the size of the institution you work for?	Correlation Coefficient	-,108
		Sig. (2-tailed)	,242
		N	120
	What is your age range?	Correlation Coefficient	-,068
		Sig. (2-tailed)	,458
		N	120
	What is your gender?	Correlation Coefficient	-,015
		Sig. (2-tailed)	,867
		N	120
	Do you think that the use of green energy in your institution is sufficient?	Correlation Coefficient	-,120
		Sig. (2-tailed)	,190
		N	120
	Do you want to increase the use of green energy in your institution?	Correlation Coefficient	,287**
		Sig. (2-tailed)	,001
		N	120
	Do you think government incentives for green energy use have been adequately announced?	Correlation Coefficient	-,520**
		Sig. (2-tailed)	,000
		N	120

Correlations

			What type of institution do you work for?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	,168
		Sig. (2-tailed)	,066
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	,159
		Sig. (2-tailed)	,082
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	,092
		Sig. (2-tailed)	,318
		N	120

Correlations

			What is the size of the institution you work for?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	,236**
		Sig. (2-tailed)	,009
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	,229*
		Sig. (2-tailed)	,012
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	-,108
		Sig. (2-tailed)	,242
		N	120

Correlations

			What is your age range?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	-,384**
		Sig. (2-tailed)	,000
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	-,398**
		Sig. (2-tailed)	,000
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	-,068
		Sig. (2-tailed)	,458
		N	120

Correlations

			What is your gender?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	,079
		Sig. (2-tailed)	,387
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	,023
		Sig. (2-tailed)	,804
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	-,015
		Sig. (2-tailed)	,867
		N	120

Correlations

			Do you think that the use of green energy in your institution is sufficient?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	-,345**
		Sig. (2-tailed)	,000
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	-,199*
		Sig. (2-tailed)	,029
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	-,120
		Sig. (2-tailed)	,190
		N	120

Correlations

			Do you want to increase the use of green energy in your institution?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient	,604**
		Sig. (2-tailed)	,000
		N	121
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient	,592**
		Sig. (2-tailed)	,000
		N	121
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient	,287**
		Sig. (2-tailed)	,001
		N	120

Correlations

		Do you think government incentives for green energy use have been adequately announced?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient
		Sig. (2-tailed)
		N

Correlations

		Do you think that government incentives for green energy use should be announced more?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient
		Sig. (2-tailed)
		N

Correlations

		Do you think that government incentives for green energy use should be increased?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient
		Sig. (2-tailed)
		N

Correlations

		Will the increase in government incentives increase the use of green energy?
	Do you think that government incentives for green energy use should be announced more?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Do you think that government incentives for green energy use should be increased?	Correlation Coefficient
		Sig. (2-tailed)
		N
	Will the increase in government incentives increase the use of green energy?	Correlation Coefficient
		Sig. (2-tailed)
		N

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).