



## Eastern Mediterranean and TRNC, Water and Electricity Policy and Projects and Energy

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## Abstract

On May 31st, 1990, a Technical Cooperation Agreement was signed between the Turkish Electricity Authority and the TRNC Electricity Authority. Both authorities are responsible for the provision of electricity in their respective countries. This agreement included everything and was carried out on several different fronts simultaneously. It is possible to relocate the Teknecik Power Plant to its existing position, in which case TEK would be responsible for the building of the Oil Power Plant. Another pact, which was signed on July 21, 1990, is noteworthy and significant. The consortium consisting of Transelektro (Hungary), Simens (Austria), Kutlutaş (Turkey), and Simko (Turkey) won the contract for the building of the power plant. The consortium was directed by SGP-VA (Austria), which is in Austria. Businesses in both Hungary and Austria have shown an interest in taking advantage of the prospects that are presented by the offer. However, when the Austrian businessman made a bid for the power plant in the South, the mention of the power plant constructed in the TRNC ignited serious political issues in Southern Cyprus. This was because the Austrian businessman was interested in purchasing the power plant. In the 13th Term Protocol of the Joint Economic Commission of the Republic of Turkey, it was required that the 2X60 MW Teknecik Power Plant should be ready for operation and that it should be an independent and dependable energy solution to the difficulty that the TRNC is having with its energy supply. In 1996, the first electricity generation unit of the Teknecik power plant, which had been wholly funded by Turkey and had a total cost of 125 million dollars, was put into operation. The distribution of electricity was ceased by the Greek Cypriots in March 1996, when the power plant located on Greek Cypriot territory became operational.

**Keywords:** *Water and Electricity Incoming from Turkey to TRNC, TRNC Projects, TRNC Projects and Eastern Mediterranean and Energy*



## Introduction

in 2003, the prosperous business that had been awarded the contract began operations at Kalecik, where it was supplied with a combined 35 megawatts of output from its two production units. However, since these power plants do not have a source of backup power, there are issues that develop, and it is certain that service will be disrupted even if just a single unit is not functioning correctly. After the referendum phase of the Annan Plan for the Settlement of the Situation in Cyprus was finished in 2004, there was an overall rise in the quantity of energy that was consumed. This expansion was accompanied by a resurgence in the vigor of the building sector as well as a significant improvement in the general level of people's living conditions. Because there was still a need for additional spare capacity, new generators at Kalecik with a combined output of 17.5 Megawatts were put into service.

However, there was a limitation placed on the transportation of the 87.5-Megawatt capacity that was generated at the Kalecik Power Plant to the locations where it was used in part. In 2008, when the high voltage line that runs between Tekneçik and Gecitkale was finally placed into operation, this issue was finally resolved.

## Research Method

Although the Guzelyurt region has the greatest number of registered wells, the bulk of the nation's water resources, and agricultural operations are found in other regions of the country. The TRNC Agriculture Master Plan lists the Guzelyurt region as the location of the greatest number of registered wells. In the TRNC, the average size of an irrigated agricultural plot is 9.75 decares, whereas the average size of a dry agricultural plot is 99.5 decares. According to the TRNC Agriculture Master Plan, just 4% of all agricultural lands in the TRNC are appropriate for agricultural irrigation, and only 18% of this total area consists of agricultural lands that are either very suitable or moderately acceptable for agricultural lands. In other words, only 4% of all agricultural lands in the TRNC are suitable for agricultural irrigation. Even if the 25,000 hectares (ha) of the TRNC agricultural areas that are the most appropriate for agricultural irrigation are opened for agricultural use with the most cutting-edge irrigation system and drip irrigation, the



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yearly water need will still be roughly 125 million m<sup>3</sup> of water. It is vital to provide sustainable irrigation management in the TRNC, which includes the selection of crop patterns and participatory irrigation. Additionally, the construction of a sound institutional framework is of utmost significance for the operation of the 2017 Agriculture Master Plan.

The provision of water services guarantees a just and equitable distribution of available water among a wide variety of producers. It is very necessary to provide recommendations on irrigation infrastructure to ensure the efficient management and monitoring of the groundwater resources that are already available while also exercising the utmost caution. There is a possibility that climate change may threaten the supply of water that originates in Turkey and is transported to the Turkish Republic of Northern Cyprus (TRNC). The General Directorate of State Hydraulic Works has created estimations for the total quantity of drinking water and utility water that the TRNC will need in the not-too-distant future. These estimates were developed by the General Directorate of State Hydraulic Works. According to this hypothesis, there is a growing tendency toward a depletion of the TRNC's water resources, while at the same time there is a rise in the amount of water that is required.

It will be of the utmost significance, when future evaluations of the TRNC's water budget are carried out, to make certain that potable water, as well as water that can be used for cooking and other activities, is not only accessible but also readily available. The TRNC need to begin with a logical and planned approach to the management of its current water resources as well as the water that it supplies to the public via pipelines. Additionally, the public ought to be educated on how to make effective use of water. This is of the utmost significance, not just strategically but also economically, so that we do not fall behind in the work being done on this matter and so that we may make the most of the lessons acquired by Turkey and other nations. A modern irrigation system is employed in around 97% of the citrus fields, in addition to all irrigated agricultural areas, as of the year 2016, it is anticipated that the total area used for citrus production in the TRNC would be close to 3,000 hectares. The irrigation system that is used in the TRNC is especially well-suited for making effective use of the water resources that are already available.



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The quantity of precipitation that has fallen during the last half century in the Turkish Republic of Northern Cyprus has decreased, while the amount of evaporation that has occurred has increased. This trend has occurred even though the Turkish Republic of Northern Cyprus is located in the same region. This is because to several variables, one of which being a rise in the quantity of water that is utilized in agricultural production. There are three different water sources, and two of them are surface water and groundwater. The third source is precipitation, which is the only thing that can replenish water sources. The only thing that can restore its water supplies is precipitation, and the island's usual annual precipitation is witnessing a constant reduction. However, precipitation is the only thing that can renew its water supplies. Although the island of Cyprus receives 4523 million m<sup>3</sup> of precipitation on a yearly basis, evaporation and transpiration account for the loss of 80% of the water.

The study that was carried out by Abdurrahim Korukcu and his colleagues in 2001 indicated that the annual water potential of Northern Cyprus is around 117.5 million m<sup>3</sup>/year. Additionally, there is roughly 900 million cubic meters of potable water. Most of the water that is used in the Turkish Republic of Northern Cyprus (TRNC) originates from coastal aquifers, while the water source for the Guzelyurt aquifer is located in the Troodos Mountains. The surface waters of the TRNC's rivers and streams get mixed together during the winter months. According to Turan (1998:563), the Troodos Mountains, which are situated in the Greek part of Southern Cyprus and have considerable flow rates in Cyprus, are the source of 10 streams and 38 streams that belong to Northern Cyprus. These mountains may be found in Cyprus. It is estimated that there is a total of 70 million cubic meters of surface water in the Northern Cyprus region.

37 dams were constructed between the years 1900 and 1997 to halt the flow of water into the ocean as a result of rainfall. This has led to a decline in the island's ability to maintain a healthy balance between the quantity of water generated and the amount of water charged, which has resulted in the capacity for the island to maintain a healthy balance being reduced. Recent developments in technology have made it feasible to extract groundwater at a price that is reasonable from a financial perspective. In the 1960s, there was a large rise in demand for the consumption of water, which led to the spectacular expansion of a variety of sectors. This growth was driven by increased



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need for water. The entire amount of irrigated agricultural land in the TRNC is 116,400 decares, which accounts for 79% of the total water use in low-income nations like the TRNC.

It has been determined that 174.6 million cubic meters of water has been used over the whole of the study region. The TRNC has a yearly water potential of 117.5 billion cubic meters, and the quantity of water that is used annually by everyone in the country is calculated to be 391 m3. According to the Falkenmark index, the TRNC is one of the nations that is presently facing absolute water shortage at the present time.

Because of the ongoing crisis in Cyprus, the economy of the KTC is in a precarious position. The economic vision of the country should seek to create an innovative and competitive economy that provides inclusive growth, creates local jobs, develops by protecting and improving the environment, and increases welfare to boost the businesses' ability to compete in international markets and broaden their access to those markets. This will allow the businesses to gain greater access to international markets. To boost the competitiveness of businesses, improve their operational efficiencies, and expand their production capacities, government policies should center their attention on foreign markets. To reviving and revitalizing the economy of the TRNC, the primary sectors that should be targeted are higher education, tourism, and the building and housing industries. Industry and agriculture must be organized as supporting (supplementary) sectors in order to make it possible to have a better level of interaction between the leading sectors that have been selected and the economy as a whole and to cut down on leakages.

It is the responsibility of the government to devise a strategy for the elimination of the administrative hurdles that are now in place for enterprises in Northern Cyprus, as well as to give the required support. According to the findings of the research, a strong attention on both customers and markets is one of the most significant aspects that contributes to the success of businesses. This is one of the most important factors that contributes to the success of organizations. The distribution of human resources is a topic that needs to get more attention. Because it takes into consideration the requirements of both consumers and staff, total quality management, also known as TQM, is an efficient way for removing flaws from a product. For companies to be able to increase their overall efficiency as well as their capacity to compete in



their respective markets, they need to be able to make efficient use of information and communication technology.

## Findings

ICT is an abbreviation for information and communications technology, which refers to the myriad of technological tools and resources that make it possible to generate, transmit, store, and manage information. The purchasing, selling, transferring, and exchanging of products, services, and information that takes place via the use of the internet and other computer networks (mainly the internet and intranet) is referred to as e-commerce. Inter-organizational systems are used by a variety of businesses to assist the gradual integration of their linkages with a wide variety of stakeholders. This, in turn, improves these businesses' capabilities to successfully compete in dynamic global marketplaces. In this section of the research, the information and communication technologies (ICT) and electronic commerce (E-Commerce) circumstances of the businesses will be studied by making use of the survey data received by the KTTO from the businesses that are situated in the TRNC. The acronyms ICT and E-Commerce stand for information and communication technologies and electronic commerce, respectively. The strategy of technology When it comes to coping with groundbreaking new technology, businesses have several alternatives accessible to them.

Research done in the past has indicated that businesses that adopt a more proactive approach to information and communication technology assess and put into effect process improvements with a greater degree of thoroughness. Most of these businesses either licensed the technology, copied it from other businesses located in other countries, or attempted to adapt it so that it better suited their requirements. It is a country that lags other countries in the usage of the most recent technology, the acceptance of inventions, and the forging of collaborative connections in research and development between the business sector and educational institutions. Specifically, this refers to the United States of America. The fact that the TRNC receives a relatively low level of direct foreign investment is one of the factors that makes it difficult for the nation to successfully integrate cutting-edge technology. The amount of information technology (IT) utilization at the



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firm as well as its technical resources are the most critical aspects that influence the company's capacity to utilize its products or services for commercial purposes.

The TRNC governments received very poor evaluations from local companies regarding their ability to manage important global risks, their preparation for risks, and the efficacy of risks. To function effectively, businesses need a diverse set of skills and capabilities, including the creation of new goods, the management of international relations, the ability to adapt to the needs of customers, the design of business strategies, and the management of international relations. The data collected between 2008 and 2013 on a variety of internal and external capabilities of businesses located in the TRNC reveal that these competences are not adequate owing to the very low innovation capacity of the businesses in the nation. These data suggest that these competencies are not sufficient. In place of production methods that rely heavily on technology and information, older generations of process technologies or methods that require a lot of manual work are employed. The fact that Turkish Cypriots are in a stronger position than Greek Cypriots and that there are three fundamental forms of water transport is the single most crucial piece of information included in this work.

The Turkish Republic of Northern Cyprus (TRNC) is an entity that must exist to preserve the individual rights of Turks who live on the island of Cyprus. This protection is of the utmost importance. The manipulation of people's perceptions is accomplished via the use of ideas and strategies such as propaganda, information warfare, public diplomacy, soft power, covert operations, and psychological warfare. These ideas have the potential to make people feel either positively or negatively. It is now feasible to note that each of these notions serves the same function in general, and that the concepts that will be discussed here are the mechanism by which this will be accomplished. People living in democracies have the right and the ability to freely voice their thoughts and pick their own path forward within the political system. However, covert tactics like as propaganda, psychological warfare, and information warfare are employed to limit people's freedom of choice in modern democracies, even though these democracies espouse ideas such as freedom and equality. Because it includes changing people's perspectives on both themselves and the world, "perception management" is an activity that violates individuals' free will and restricts their ability to make their own decisions. Anti-Turkish groups attempted to





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establish a negative attitude about the TRNC Water Supply Project before to its implementation, and this served as a powerful strategic element for the Greek side of the TRNC. The project's implementation was delayed because of these efforts. It is critical that the genuine motivations of anti-Turkey organizations be brought to light and that action be taken to counteract such motivations. The purpose of this study is to shed light on the many facets that comprise the functioning of Turkey's perception.

## Discussion

In addition to the Water Supply Project, the Turkish Republic of Northern Cyprus (TRNC) is putting into action a growing number of pro-Greek perception control efforts. This was made abundantly clear when opposition parties in the TRNC started playing an active part in the political process. The level of life enjoyed by Turkish Cypriots who own property in Cyprus is far greater than that enjoyed by Turkish Cypriots who see Turkey as their primary residence. Despite this, the income level of the Greeks is greater than that of the TRNC Turks because they get money from Russia, cash from Europe, and revenue from tourism. This is the case even though the TRNC Turks have a bigger population. At a time when President Denktas was dealing with health concerns, the Annan Plan, which was devised and presented to the table along with the Greek Cypriot side, aspired to be exalted in the eyes of the public. This was done in conjunction with the Greek Cypriot side. The Greek Cypriot side assisted in the production of the Annan Plan, which was then brought to the table. Denktas, who had unfavorable opinions on the proposal, became the focus of a campaign designed to malign him with the slogan "Mr. President, no." At this point in the procedure, tens of thousands of students and members of civil society organisations located in the EU participated in protests. The laying of the foundation for the Alakopru Dam on March 7, 2011, marked the beginning of the TRNC Water Supply Project, which is being carried out jointly by Turkey and the TRNC. The complete completion of the project was signaled in 2015 by the beginning of water delivery to the Gecitkoy Dam in Northern Cyprus. Keser and Uurtay (2019) concluded that Turkey was not capable of finishing the project owing to a lack of the essential



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materials and the technological infrastructure. Additionally, the project could not be executed since Turkey could not serve as an example for other countries.

They claim that issues such as the TRNC pillar of the project cannot be the major objective for the Turkish Republic of Northern Cyprus (TRNC) and Turkish Cypriot populace even when the political system in Turkey and the political atmosphere in Northern Cyprus were good. The perception operations that are carried out within the scope of this project are carried out to raise the prestige of both Turkey and the TRNC in the eyes of the world community and to give major economic and social benefits to the people of the TRNC. This project is being carried out to increase the prestige of both Turkey and the TRNC in the eyes of the international community. Unfortunately, based on the perception operations put out against this idea by many nations, most notably the government of the TRNC, which led to substantial political tensions between the two countries, this effort has been met with opposition from many countries. It was attempted to turn Turkey's national initiative known as "Peace Water," which was named after the President of the Republic of Turkey, Mr. Recep Tayyip Erdogan, against Turkey by carrying out a number of different perception operations at the same time as a successful perception operation. Significant political problems have been developed because of the water project that the two nations are working on together.

Putting up such an effort back then already presented several challenges. The most essential information that can be gleaned from this piece of writing is that the political significance of the event, the link of Cyprus with the motherland, is on par with the significance of the provision of drinking water, and that the water coming from Turkey is significant on a strategic level, advantageous on an economic level, and politically significant. Atun said that the effect of the project enhances the bond between Turkey and Cyprus and makes Cyprus politically appealing. He highlighted that the Greek side vehemently rejected the notion of importing water from Turkey to address the water crisis in Cyprus. He also said that the effects of the project serve to strengthen the bond between Turkey and Cyprus and that it is a factor that contributes to Cyprus's attractiveness from a political standpoint. The growth of both industry and the human population is driving an increase in the amount of water that is required.



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Cyprus, which is the biggest island in the Eastern Mediterranean and the third largest island in the Mediterranean, is an island that nations have fought over for ownership for ages. Cyprus is the third largest island in the Mediterranean. The Ottoman state understood the need of retaining control over the island of Cyprus to preserve its authority over Anatolia and to guarantee the safety of its citizens who made their homes in that region. During the latter years of Ottoman sovereignty on the island, the British ultimately took control of it and made it their own. The Ottoman Empire leased the island to the United Kingdom in 1878 so that the British government could utilize it as a military base to preserve its ambitions and interests in the Middle East. During the First World War, the Ottoman Empire fought with Germany, and as a result, Great Britain was able to effectively take and annexed the island.

Because it was the year in which the Republic of Cyprus was established, the year 1960 is a significant year. Before the establishment of the Republic of Cyprus on the island, all of Cyprus was totally governed by the British. Despite this, Greek activities in 1963 that became known as "Bloody Christmas" started to alienate the Turks resident on the island, which ultimately led to the de facto dissolution of the republic. The war over Cyprus has emerged as a model for conflict resolution in the realm of international politics. Prominent governments in the area, as well as the United Nations, nations within the European Union, Russia, and Israel, have all placed a high importance on the guarantor states. Insects that make their homes in the island's marshes and marshes were to blame for the high number of cases of malaria that were recorded during the time when the island was governed by the British.

The absence of a reliable water supply on the island is neither the root cause of the issue, nor is it a factor that had a role in the escalation of the matter in any way. There is a deficiency in the number of ponds and/or dams that are available to be utilized for the purpose of storing the water that is created because of precipitation. The alarmingly high temperatures cause the water that has gathered in dams and/or ponds to evaporate at a pace that is unsustainable. The agriculture industry is the one that stands to gain the most from the current groundwater supplies that are available. Since the 1950s, the successful operation of this company has depended heavily on the extraction of groundwater from aquifers. However, because of low rainfall and an inadequate food supply,



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the Guzelyurt area of Turkey, which is located in the Guzelyurt region of Turkey, does not include an aquifer.

Each year, 20 cubic millimeters of water are removed from the soil for usage, which results in an increase in the overall quantity of salt in the soil. Agriculture, the production of agriculture, and the quality of agricultural goods have all been significantly impacted as a direct result of this. Since the beginning of the 21st century, there have been significant changes in many areas, such as the relocation of the focus of international interests to other regions, the expansion of the scope and scale of terrorism to incredible dimensions, and the beginning of a significant change in the concept of defense and security. The price of oil climbed, imperialist countries raised their demands for natural resources, and all these circumstances prompted nations to shift the policies they were following as a result. Because of its location at the intersection of three continents—Asia, Europe, and Africa—Cyprus is of significant significance on the international stage of geopolitics. During the time of the Cold War, the intelligence reports on Cyprus helped to the upkeep of the precarious power balance that existed between the Soviet Union and the soldiers of the allies.

Cyprus' strategic position in relation to ownership of the Mediterranean, the Middle East, and Cyprus is necessary for any player wanting to create influence and authority in the Eastern Mediterranean and the Middle East; as a result, it is an indispensable component. Cyprus' strategic position also includes possession of Cyprus. In order to be successful in business, the objective should be to attain that success via the application of a rational strategy to the management of water. In order to get things rolling, members of the general public in the TRNC should be informed about the many uses that water may serve and given the opportunity to participate in educational opportunities. It is necessary to modernize the municipal grid system, construct new dams to store the water, and transform existing regions into ponds. The construction of a wastewater treatment system is the first stage in the process of building an efficient and sustainable system for the management of water resources.

In the practice of agriculture, farmers should be encouraged to utilize contemporary irrigation rather than flood irrigation, and modern irrigation should be done instead of traditional flood irrigation. In order to bring the level of the groundwater back up, the necessary actions need to be



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taken. The need of building an efficient control system and deciding suitable disciplinary actions to be imposed in the event that the strategy is not carried out as planned was a topic that was discussed at length during the "Underground Resources and Earth Sciences Symposium" that took place in TRNC from November 19-21, 2008. The symposium was conducted in November 2008. It is vital to build an efficient control system and to determine suitable disciplinary measures to be done if the strategy is not carried out as expected in order to overcome these problems. Doing so will allow for the overcoming of these challenges. The water resources that are presently accessible to the people should serve as the foundation for this, and it is imperative that a centralized management system for water be put into place.

Water outflow should be constantly regulated, and pollution, whether it be from building chemicals or agricultural chemicals, should under no circumstances be accepted. These are all results of urbanization, and they should not be. The quantity of water that is lost in urban distribution systems has reached proportions that cannot be tolerated. When it comes to network systems, it is of the utmost significance to replace them as soon as humanly feasible after they have reached the end of their economically useful life. It is essential to place a heavy emphasis on public education on water conservation in order to cultivate clients who are educated. The response that may be offered to the problem of water supply from Turkey is not a solution. The construction of a hydroelectric power plant at Alakopru Dam resulted in enormous economic and political benefits for the Turkish Republic of Northern Cyprus (TRNC).

Because to the project, a greater range of agricultural goods has been produced, the pace at which groundwater is extracted has been enhanced, and the requirement for drinking water and water for utilities has been satisfied. TRNC's ambition of becoming a 'green island' has been rekindled, as has its potential to compete with the Greeks in the economic arena, the rise in employment, the increase in the value of the TRNC's lands, and the fact that it has become a strategic strength against the Greeks. It is possible that the hydroelectric power plant that was erected at the Alakopru Dam was responsible for both the creation of energy and the suppression of the tea thefts.

The Turkish Republic of Northern Cyprus (TRNC) and Turkey are collaborating on a water project in order to provide the previously parched island with potable water. This project is innovative on



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a global scale due to its use of underwater pipes. Transporting natural gas and natural gas hydrocarbon resources, which are speculated to exist in the waters off the coast of the Mediterranean Sea, to Europe is yet another concern that has risen to the forefront in recent years. Because natural gas and hydrocarbons collected from the earth in Turkey may be carried to Europe through pipelines in the same manner that water is delivered to Europe, Turkey and Cyprus seem to be a possible solution to the problem. The only tangible factor that can strengthen the hand in the continuing discussions with the Greeks today is the isolation, isolation, and embargo process that was strongly used on the island in 1974. This process was intensely imposed on the island. This study endeavor makes an attempt to understand what is known as the "Water of Peace" on the island in 1974 when the practice of isolating, isolating, and embargoing was carried out to a significant degree.

Due to the lack of access to potable water in the TRNC, several discussions and experiments have been carried out over the course of a number of years in order to examine the efficacy of different approaches to water distribution. On the other hand, as a direct consequence of the water supply project, an annual transfer volume of about 75 million cubic meters of water was achieved. The Greeks, whose views against the people of the TRNC and Turkey in general are constant, have made several attempts to discredit this project, which has the potential to be of tremendous use to the people of the TRNC. One of the qualitative research methods known as discourse analysis is used to the task of evaluating the findings obtained from semi-structured interviews conducted with industry professionals who are actively involved in both the Water Supply Project and TRNC politics. Both the Turkish Republic of Northern Cyprus (TRNC) and the Turkish Republic of Northern Cyprus (TRNC) have reached an agreement to construct a pipeline that will stretch for 23 kilometers and have the capacity to provide 75 million m<sup>3</sup> of water to the Mediterranean coast annually.

This quantity will be enough to satisfy the requirements for home use and drinking water for the next fifty years. The Alakopru Dam, which is located in Turkey and was constructed on the Turkish portion of the Dragon (Anamur) Stream, is 88 meters tall and has a storage capacity of 130.5 million cubic meters. The water, which began to build up behind the dam in January 2015, is transferred via a pipeline that is 23 kilometers long and 1,500 millimeters in diameter and is pushed



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into the balancing pond that is located on the Mediterranean coast. In order to go around the Mediterranean area, a system of hanging pipes was devised, which is not used anywhere else in the globe. The Gecitkoy Dam consists of a 66-kilometer-long waterway that is supported by 134 hangers that are positioned 250 meters below the water's surface.

A maritime route that is 66 kilometers in length is formed by high-density polyethylene (HDPE) pipes that are 500 meters long and have a diameter of 1,600 millimeters. A pipe that is three kilometers long and originates from the Guzelyali pumping station is used to convey the water that is gathered from the stretch of the sea line that is located in Northern Cyprus to the Gecitkoy Dam. New water distribution pipes, such as the Nicosia pipeline, the Kyrenia pipeline, the Nicosia-Iskele-Magusa pipeline, and the Iskele-Dipkarpaz pipeline, are going to be constructed on the island of Cyprus in the next years. 50.3% of the water that is carried will be utilized for drinking reasons, while the remaining 49.7% will be used for agriculture. In the near future, irrigation systems were going to be installed on 50,000 acres of land in the Mesarya Plain.

In honor of the beginning of the event, water brought all the way from the Taurus Mountains was brought to the island on October 28, 2015, at a ceremony that took place in Nicosia. In recent years, there was a battle that occurred in the area of the Eastern Mediterranean where energy resources were discovered. The question of whether or whether these resources can serve as a mediator in the resolution of numerous disputes has been stoked by this development. The unique discovery of major hydrocarbon resources in Israel has attracted the interest of international actors and stakeholders such as the European Union (EU) and the United States (US), as well as France, Italy, and Greece. Under international law, Turkey has the right to safeguard its exclusive economic zone and to seek a fair share of energy reserves along the maritime boundaries of the Turkish Republic of Northern Cyprus (TRNC). In addition, Turkey has the right to demand a fair allocation of energy reserves. The production of alternative policies that will contribute to the stability of the area and help address the issues is seen to be the best way to satisfy the rights and obligations that have arisen as a result of international law and bilateral agreements. This belief is supported by the fact that these rights and duties should be fulfilled. Both Turkey's plans for energy reserves in the Eastern Mediterranean, Cyprus, and the Region, as well as the viewpoint of state authorities, need to be analyzed in detail in order to be of the utmost importance.



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ENI, an Italian energy corporation, owns the vessel known as "Saipem 12000" and runs it. The Turkish navy put a halt to it in February of 2018, on the grounds that there were military drills going on in the area. In 2004, Turkey provided the United Nations with a report that included specifics on the state of the continental shelf in the Eastern Mediterranean. In 2011, Turkey and the TRNC signed an agreement on the continental shelf after the signing of the previous agreement. The announcement that Turkey's maritime boundaries extend to the territorial seas of its islands in the area was made on the 13th of November, 2019, and it was said that these borders do not interfere with the continental shelf or the projection of Turkey's coastline. The Memorandum of Understanding on Limitation of Maritime Powers in the Mediterranean was signed by Turkey on November 27th, 2019, with the Libyan Government of National Accord.

The "Security and Military Cooperation Agreement" was signed between Libya and Turkey on the 30th of December, 2019, after the signing of this agreement between the two countries. The effort made by the system to solve these concerns has resulted in fresh arguments on the system's usability to a certain degree. Since the signing of the Exclusive Economic Zone agreement with Egypt in 2003, the Greek Cypriot Administration has been unilaterally continuing its energy activities in the Eastern Mediterranean, completely neglecting the rights of the Turkish people, who were a founding element of the Island of Cyprus. They began their journey from the approach that was located in the center, taking use of the geographical positions of the islands, particularly Cyprus, Rhodes, and Meis, as well as the roads that connected these islands to one another in the middle. They are able to exert their maritime jurisdiction in the seas between Turkey and Cyprus and in the waterways between Turkey and Greece by acting in this fashion since both Turkey-Cyprus and Turkish-Greek maritime jurisdictions are part of Anatolia.

Turkey is confronted with two distinct challenges on account of the contentious topic of maritime jurisdictions in the Eastern Mediterranean. The fundamental objective that Greece and the Greek Cypriot Administration have set for themselves is to confine Turkey to a restricted maritime zone off the coast of "Antalya Bay." This would be a disservice to Turkey, which is entitled to vast portions of the continental shelf in the Eastern Mediterranean owing to the length of its coasts in that region. GASC has created thirteen reserve exploration license zones inside the confines of the EEZ in the south of the Island of Cyprus, which is bounded on three sides by Egypt, Lebanon, and





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the Mediterranean Sea. The "East-Mediterranean Pipeline Project (East-Mediterranean)" was an offer made by the Greek Cypriot Administration with the cooperation of the European Union. This offer was made in collaboration with Israel on the sale of natural gas resources located in Greece and Italy.

This is a step in the direction of accomplishing the objective. The natural gas transmission line that will be created as a direct consequence of this project has the potential to be both the most costly (with an estimated cost of 17 billion dollars) and the longest in terms of distance (with a distance of roughly 1,900 kilometers). The East-Med project seeks to convey the natural gas reserves in the area via a pipeline that will be built on the route that will travel through Israel, Cyprus, Greece, and Italy. The route will be constructed along the path that will be described in the previous sentence. By developing an LNG plant inside the Greek Cypriot Administration with the backing of both the United States of America and the European Union, the Vasilikos project is an endeavor to make the Greek Cypriot Administration a commercial hub in the energy sector. This will be accomplished by making the Greek Cypriot Administration a part of the project. The intention is to move the gas that is extracted from the Aphrodite and Leviathan fields to this new facility that is going to be constructed in the near future and then run it from this location.

It is anticipated that work will soon begin on the development of this brand-new building in the not-too-distant future. In accordance with these plans, the Greek Cypriot Administration even went so far as to make concessions to the United States and France and provide permission for these nations to construct military bases on the island in order to secure these accords. The United States of America has made it public knowledge that it has made the decision to withdraw its funding for the "East-Med" project, which is scheduled to begin supplying EU members with gas originating in Israel at the beginning of the year 2022 (2022). Turkey has voiced its objection to these accords, arguing that the exclusive economic zone (EEZ) regions and the continental shelf are neglected, as well as the fact that the Greek Cypriot Administration serves as the sole true representative of Cyprus. In spite of this, Israel, Egypt, Greece, and the Gulf Cooperation Council all made efforts to discourage regional players like Turkey, Lebanon, and Libya from attending the Eastern Mediterranean Gas Forum that was held in Cairo (Tarhan, 2020).



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Disappointingly, the Greek public's response to the decision made by the United States government to discontinue its funding for the "Eas-tMed" plan in the first few years of 2022 was negative. E-mail, rather than a letter, was used to communicate the United States of America's concerns to Greece, Israel, and the Greek Cypriot Administration on the project that is going to be carried out in the Eastern Mediterranean. The United States of America expressed these concerns to the recipients in question. The United States of America took a position against the project in the Eastern Mediterranean because of the negative effects it would have on the economy and the environment. The United States of America, as stated in a letter that was written by George Washington, placed a great deal of significance to the development of electricity-based energy projects in the area, despite the fact that there were misgivings about the economic sustainability of this endeavor. The need of collaboration in the exploration, drilling, sharing, and exporting of energy resources in the Eastern Mediterranean has been thrust to the forefront of the debates as a result of the setting in which these negotiations are taking place.

When it comes to appraising, processing, and transporting the deposits from the area to markets all over the globe, Turkey is one of the most essential nations. When it comes to the transportation of the ores and other resources that are taken from the Black Sea area, Turkey is one of the most significant nations. The cooperation strategies of Turkey on energy reserves and extraction in the Eastern Mediterranean might potentially lead to two distinct results depending on the policies of the countries that are geographically next to Turkey. Turkey will maintain its participation in energy cooperation in the area so long as the riparian nations continue to utilize their elections to safeguard the human rights and liberties of the Turkish Cypriot population. If, on the other hand, these riparian nations exercise their preferences in the other way, then Turkey may be forced to risk the possibility of confrontations in the area in order to preserve the rights and interests of the Turkish Cypriots.

In Turkey's efforts to find a solution to the continuing crisis in Cyprus, while also insuring that the largest number of countries would profit from the newly accessible energy resources, it has run into resistance from the government of Greek Cyprus. Under the auspices of Turkey, England, Greece, and EU authorities, the Turkish Republic of Northern Cyprus (TRNC) and the Greek Cypriot Administration (GCA) convened to discuss, but the talks were unsuccessful in the end.



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Following the discovery of the reserves in the Eastern Mediterranean, there was a subsequent surge in the number of diplomatic activities that were carried out. A cooperation agreement between Turkey and the Turkish Republic of Northern Cyprus (TRNC) has been developed. This understanding takes into account the interests of all relevant sectors. In response to the real scenario plan developed by the Greek Cypriot Administration, Turkey initiated hydrocarbon exploration and drilling operations in the territorial seas of the island using its own national ships.

Turkey has made a significant step toward achieving its aim of profiting significantly from prospects inside its own borders by significantly increasing its oil, offshore, and exploration-drilling activities within the country. Even in the first quarter of the 21st century, the Eastern Mediterranean has not lost any of its significance or value, and on the contrary, both aspects are slowly becoming more significant and valuable with each passing day. However, it has been said that political techniques would take precedence over economic demands in the design of natural gas exploration, drilling, and export projects and operations. This will have ramifications that will adversely impact the energy security of the area.

The most significant takeaways from this piece of writing are the assertions that water is essential to the survival of all living things and is the single most critical factor in preserving a certain standard of life for humans. The Ottoman Empire recognized the significance of keeping the sovereignty of the island of Cyprus as a means of doing so as a means of safeguarding both the safety of Anatolia and its supremacy in the regions that surrounded it. Following the conquest of the island by the Ottoman Empire, the region was under to Ottoman authority for a period of 307 years. The island was governed by the Ottoman Empire until its latter years, when it was finally taken over by the British, who thereafter claimed it as their own. The island was granted to Great Britain by the Ottoman Empire in the year 1878 so that the British government could utilize it as a military base to secure its goals and interests in the Middle East.

During the First World War, the island of Cyprus, which is now part of the country of Cyprus, was conquered by Britain. Cyprus was situated in what is now the country of Cyprus. The year 1960 marked the beginning of the Republic of Cyprus. In spite of this, the Greek actions that took place in 1963 and became known as "Bloody Christmas" started to alienate the Turks who were residing



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on the island at the time. Because of the lack of success in finding a solution to the Cyprus crisis, this predicament has become a paradigmatic illustration of how to handle a problematic situation in the realm of international politics. When the island was under British control, a significant number of documented cases of malaria were caused by mosquitoes and other insects that made their homes in the island's swamps and marshes.

Both the construction of drainage systems and the planting of eucalyptus trees in England's efforts to rid the globe of malaria contributed to the reduction in the quantity of water that was trapped in swamps. However, the measures that were undertaken to combat malaria have resulted in considerable harm to the water resources that were previously there. The year 1959 was the first time that a research on Cyprus' water reserves was made available to the general public. According to the findings of the experts, the water crisis in Cyprus has been a significant issue for more than half a century, and it is anticipated that the island would experience a lack of water by the year 2025. This is because there has been a reduction in the overall quantity of precipitation. In addition to the water loss that has been documented on the island over the course of the last forty years, there is a deficiency in the number of ponds and/or dams that are able to be utilized to store the water that is created as a result of precipitation.

This has resulted in the water that was gathering in dams and/or ponds evaporating at an unsustainable pace, which has prevented the local population from meeting even their most fundamental requirements. The fact that the island does not have a stable supply of water is neither the primary cause of the problem, nor is it a factor in any of the problems that have worsened. The agricultural industry is the one that puts the greatest pressure on the groundwater resources that are already in existence. Since the 1950s, extracting groundwater from aquifers has been an essential component in guaranteeing the TRNC's continued prosperity and well-being as a nation. The Guzelyurt aquifer is the biggest underground water reservoir in the TRNC. It supplies 20 cubic millimeters of water per year, which is then extracted and utilized for a variety of reasons.



## Conclusion

Due to the importance and value of the Eastern Mediterranean region in the first quarter of the 21st century and the presence of important straits, channels, and connections between the oceans and seas in the study area, the importance and value of the Eastern Mediterranean region is increasing day by day. Studies on energy reserves are expanding at a rate that is far quicker than in years past as a natural consequence of improvements in technology. Existing hydrocarbon reserves in the Eastern Mediterranean are of great importance for the growth of the region and its neighboring countries, and this will change the rules of the game on a global scale. Political strategies will take precedence over economic needs in the design of natural gas exploration, drilling, and export projects and operations. The Eastern Mediterranean is home to some of the world's most important hydrocarbon reserves.

## References

- Başeren, SH Tension in the Eastern Mediterranean. (TÜDAV), <http://tudav.org/calismalar/denizalanlari/munhasir-Ekonomi-bolge/doguakdeniz-serhat-h-baseren/>
- Beyoglu, M. (2014). “Maritime Safety in the Context of Illegal Activities in the World's Seas; Türkiye Example”. Sakarya University Institute of Social Sciences. Doctoral Thesis. June 2014.
- Fact, (1992). Local Government In Sweden, Fact Sheets on Sweden. The Swedish Institute Stockholm. (pp 1-5), Stockholm, Sweden.
- Chapter 96 Roads and Buildings Law and Regulations (1983). Nicosia, TRNC
- Gurkan HM (2006). Pages from the History of Cyprus. Gallery Culture Publications. Nicosia, TRNC
- Hanedan, A. (2000). Participation in planning: A Participation Model Approach. Master Thesis, Karadeniz Technical University, Institute of Science and Technology. Trabzon, Türkiye.



- Keser, Ulvi; Ak, Gokhan (2018). “What to Do in the Eastern Mediterranean in the Context of the Cyprus Problem and the Law of the Sea”. *Journal of Cyprus Studies and Studies*, I/2, 95-107.
- Keser, Ulvi; Uğurtay, Uğur D. (2019). *Strategic Power in Cyprus in the Context of Psychological Warfare: Water*. 1st Edition, Hyperlink Publications.
- Maden, Tugba Evrim (2013). “A big step in water transfer between basins: TRNC Drinking Water Supply Project”. *Middle East Analysis*, 5(50), 102-111.
- Ozdog, Umit (2016). *Perception Management, Propaganda. Psychological Warfare*, 6th Edition, Ankara: Crypto Press Publication.
- Ozer, A. (1990). *Reforms in management techniques in France and the latest situation in local governments in our country*, TIT Publications, (pp.36). Istanbul, Türkiye Ozer, MA (1999). *The emergence and development process of local governments in the West*, Turkish Administration Journal, (pp.105). Istanbul Türkiye.
- Serter, VZ (1976). *Cyprus History*. Nicosia, TRNC
- Serter, VZ (1979). *Turkish Cypriot Struggle History*. Nicosia, TRNC
- Social, M. (1967). *Local government in turkey*, Paitme (Todaite) publication, (pp.7). Ankara Türkiye.
- Sumer, Vakur (2015). “A River Beneath the Mediterranean: Evaluations on the Transport of Water from Turkey to Cyprus”. *Center for Middle Eastern Strategic Studies*, (32), 1-10.
- Tarhan, Mohammed. (2021). “Turkey-Libya maritime jurisdiction agreement has secured rights and balances in the Eastern Mediterranean” *Anadolu Agency*-26.11.2021.
- Tarkan, T. (1975). *Cyprus (General Lines)*. Ataturk Univ. Arrow. ( Vol. 417), Faculty of Literature. Arrow. ( Vol. 77), Textbook Series ( Vol. 4) . Ankara. Türkiye
- Turkey Transport and Communication Strategy-Target 2023, Ministry of Transport, Maritime Affairs and Communications, (2011).



# CURRENT SCIENCE

- Ulusoy, MK (2018). Natural Gas and the Cyprus Problem. <https://www.sde.org.tr/mervekaracaer-ulusoy/genel/dogal-gaz-ve-kibris-sorunu-1-kose-yazisi-4290>
- Yayci, C. (2012). The Problem of Sharing Maritime Jurisdiction in the Eastern Mediterranean and Türkiye. *Wise Strategy*, 4(6), 1-70.
- Yıldırım MT Ünügür, M. (2002). Data Acquisition with Topological Tools at the Interface of Building Function and Building Form. *ITU Journal, A Architecture Planning Design* 1(49). Istanbul Türkiye.
- Yıldırım MT Ünügür, M. (2004). Relation of Formation Approaches in Architectural Design. *Journal of Gazi University Faculty of Architecture*, 19 (1). Ankara Türkiye.
- Yıldırım, MT (2002). Data Acquisition by Using Graph Theory in Functional Building Shape Relationship. *Journal of Gazi University Faculty of Architecture*, 17 (3). Ankara Türkiye.