

The Effects of the Energy Policies in Northern Cyprus on the Environment

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Abstract

The study will first briefly present information on energy and its importance. Later on the energy policies of Northern Cyprus will be examined in detail. Furthermore, the attitudes and thoughts on the energy policies of Northern Cyprus of the people living in areas where the majority of energy production is conducted will be evaluated through the use of the attitude scale. This study has been designed as a quantitative research. The attitude scale has been used as a data collection instrument in the study. This study demonstrates that the energy policies in Northern Cyprus lacks energy planning and are very weak in terms of environmental security. In short, the energy policies in Northern Cyprus negatively affect the environment and risk human health. When taking into consideration the conditions of the country, the need to develop and enlarge the use of renewable energy usage in the country is important in terms of both the economy and ecology.

Keywords: Energy Policy, Northern Cyprus Energy Policy, Environmental Problems

1. Introduction

Together with globalization sweeping changes have occurred in the energy policies of all countries. The combination of liberal policies and globalization has added strength to developed countries. “Production” and “consumption” have gone far beyond the requirements. Gaining economic strength remains one of the primary goals of all countries. Since this is the case, energy has become an indispensable necessity for all countries. Representing one of the indispensable issues for the communities, energy is included among research topics of wide range of study areas. “The concept ‘energy system’ commonly refers to the energy chain that can be regarded as an entity consisting of energy production, conversion, transmission, distribution, and consumption” (Alanne and Saari, 2006). One of the reason making the energy an indispensable research issue is the relation between “energy” and “development” concepts. Regardless of

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its meaning, the concept of development cannot be considered separately from the concept of energy (economy, social, etc.). “Energy has become one of the main development indicators of all countries”(Acar, Bülbül, Gümrah, Metin, and Parlaktuna, 2007). Together with this, the fact that the economy remains the primary goal makes energy planning and politics a necessity. “In addition to the economic, political, legal and social aspects of the energy policies that are prepared, there are also environmental and security dimensions” (Uğurlu, 2009). If the environmental and security dimensions are missing from the energy policies that are prepared, it may not be possible for these policies to be fully successful. Due to this reason, all the necessary dimensions to the energy policies must be considered one at a time.

The concepts of energy, economy and ecology cannot be considered separate from each other. Because, “the economic activities of production and consumption require the use of energy, and the use of energy affects the environment in the forms of water pollution, air pollution and emission of CO₂ that causes global warming” (Chow, 2007). The countries’ economic structures and environmental factors play a significant role in the determination of energy policies. As time passes the decrease of non-renewable sources of energy in the world and the fact that the energy needs of the world are increasing have resulted in major problems. More than %85 of the energy that is used in the world is made up of non-renewable sources of energy. When taking this point into consideration, countries which are forced to make a choice between the “economy” and “ecology” fall into a major dilemma. “Whichever economic system is decided upon, it is not possible to talk about the economy or economic activities without energy” (Hekimler, 2006). Exactly at this point, renewable sources of energy are in a situation in which it can create the balance between the economy and ecology. Renewable sources of energy can be defined as “clean, inexhaustible sources which researched and taken from the animate and inanimate things hidden in this world and presented to the service of the people” (Yaman, 2007). The most important point to be made here is that this energy is “clean” and “inexhaustible”. As a result, people will be engaged in their activities through sources which are clean and inexhaustible.

Throughout history, the number of wars which began due to the need for energy sources cannot be undermined. Developed countries especially do not refrain from using force when they perceive a threat to their access to energy sources. Due to this reason, the energy policies determined by the countries gain more importance by the day. There are not many research papers in literature on the topic of Northern Cyprus’s energy policies and their effects on the environment. Thus in this study, it is aimed to conduct a detailed study on the energy policies of Northern Cyprus. In addition, the effects of the existing energy policies on the environment will also be analyzed in this respect. The study will first briefly present information on energy and its importance. Later on the energy policies of Northern Cyprus will be examined in detail. Furthermore, the attitudes and thoughts on the energy policies of Northern Cyprus of the people living in areas where the majority of energy production is conducted will be evaluated through the use of the attitude scale. The attitude scale that is prepared is aimed at measuring the attitude of the regional population about the effects on the environment of the energy policies in Northern Cyprus. Thus, the effects of the energy policies on the environment will be analyzed. Lastly, recommendations will be made on how to reduce the damage done on the environment by the energy policies in Northern Cyprus.

2. Energy and the Importance of Energy

The concept of energy can define in a variety of ways. The clearest definition can be stated as follows, “Energy is necessary for people to continue their daily lives. The evolution of societies has been dependent on the energy sources” (Keles and Hamamci, 2005).Energy sources are divided into two; renewable energy and non-renewable energy. Coal, petroleum, gasoline etc. are all examples of non-renewable sources of energy. On the other hand, the solar, wind, water etc. are all sources of renewable

energy. In globalizing world renewable energy is very important. “A sustainable energy future depends on an increased share of renewable energy, especially in developing countries” (Goldemberg, 2007). The existing energy sources of the countries, are of great importance within the country’s economy. The countries are preparing policies in order to establish sustainable and secure energy. Countries which have renewable energy sources are at an advantage when compared to other countries in terms of economy and sustainability. Since the renewable and non-renewable energy sources in the country have a direct impact on the economy of the country, all kinds of economic and ecological results should be considered when preparing energy policies. In short, secure energy usage is very important. When looking at it from this perspective, states cannot determine their energy, economy and environmental policies independently from each other. “A projection study conducted by the German Ministry of Economy, states that the energy need of the world will increase by 60% until the year 2030 and that 2/3 of this increase will result from the demand coming from the developing countries” (Hekimler, 2006). In addition to this, when taking into consideration that developed countries will also have energy needs, a huge demand for energy and a large gap to meet this demand will appear.

When the environmental pollution resulting from energy reaches high levels, it can become a threat to human health. As the level of urbanization in the world increases, the population density and development in industrial cities as well as increase in the rate of production have all contributed to strengthening the relationship between the environment and energy. “Globally, buildings are responsible for approximately 40% of the total world annual energy consumption. Most of this energy is for the provision of lighting, heating, cooling, and air conditioning” (Omer, 2008). In addition, the fact that global production and capital have no limitations within the globalizing world, it makes the whole situation more complex. Thus, the concept of “sustainable development” which refers to “the smart usage of environmental values and natural resources without squandering them by taking into consideration the rights and benefits of future generations” is gaining more importance by each passing day (Keles, 1998). The lavish usage of non-renewable sources of energy towards the goal of economic development is to the detriment of environmental resources as well as future generations. While the relationship between energy and the economy has been accepted since the 1970’s the relationship between the energy and the environment has not been given the same importance (Rosen and Dincer, 2001). One of the most important reasons for this is that environmental problems are neglected and that the concept of “Environmental Justice” has not been fully adopted. “environmental inequalities being studied in areas such as transportation, health, housing, and smart growth/land use, water, energy development, brownfields, and militarization” (Sze and London, 2008). If environmental justice is not enabled, then environmental inequalities arise. It is obvious that the pressure imposed on environmental resources affect the environmental justice adversely. Therefore, the term of environmental justice has gained new meanings in due course.

The increase in energy usage across the world and the resulting damage to the environment has reached such large proportions that the issue is now beginning to get the attention of international organizations. At this point especially the European Union and the United Nations have tried to take a variety of precautions regarding the energy problem prevalent in the world. The increase in energy prices in relation to the rise in demand and the development of state economies which are dependent on energy have become a danger to the competitiveness and security of the countries in question. In addition to all these problems, the increase of environmental problems such as climate change with every passing day has made this subject all the more important. Taking all these factors into consideration, the EU, has developed the “Energy 2020 Strategy” with the slogan of competitive, sustainable and secure energy. The aim here is to reduce the emission rate and energy prices as well as use energy in a secure and competitive manner (http://europa.eu/pol/ener/index_en.htm).

The support of the international organizations, the technological developments across the world and the problems evident in the area of non-renewable sources of energy are all factors leading humankind towards the use of renewable sources of energy. After all, demand increases as time passes by. Given that the need for energy consumption in line with the demand exceeds % 2 per year, it is evident that renewable sources of energy is a need. It is very obvious that energy consumption, economic activities and environmental issues cannot be considered separate from each other. "Understanding this relationship is important from both an environmental and a socio-economic point of view, as energy consumption is crucial to economic activity and human environmental impact" (Recalde and Ramos-Martin, 2012). Through the use of renewable sources of energy, environmentally friendly energy is produced and used without compromising the level of energy usage. Needless to say this situation is not the same for every country. First of all not every country may have sources for renewable energy. It is also difficult to state that countries which have sources of renewable energy are using them efficiently. As a result when countries which have renewable sources of energy are determining their energy policies they need to take into consideration all these factors. Secure, sustainable and environmentally friendly energy can only be obtained in this manner.

2.1 Energy Policies of Northern Cyprus

While analyzing the energy policies of Northern Cyprus, the "Ministry of Economy and Energy" comes across as the main institution which determines energy policies. Among the missions of the Ministry is to develop the country's resources in terms of renewable energy in order to increase the competitiveness of the country on the international arena as well as instill energy conservation principles to the new generations ([http://www.kktceeb.com/bakanlik-bilgileri2.php?cod=3&Vizyon ve Misyon](http://www.kktceeb.com/bakanlik-bilgileri2.php?cod=3&Vizyon+ve+Misyon)). In accordance with this goal, the "Electricity Authority" has been established in conjunction with the ministry. Electricity Authority served as a state office until March of 1975 and after this date the state office in question became known as the Cyprus Turkish Electricity Institution. In this regard, the electrical energy production, transmission, maintenance and repair in Northern Cyprus are among the tasks of the institution (<http://www.kibtek.com/Hakkimizda/kurulus.htm>).

As in many countries, the electricity energy production in Northern Cyprus is provided completely through the use of petroleum and the renewable energy sources in the country do not play an effective role. There are three separate power plants in Northern Cyprus; "Teknecik", "Dikmen" and "Kalecik" (Ilkan, Doğanalp and Ozerek, 2011). In addition to this there are non-renewable energy projects implemented with EU support. However, when making a general assessment, it can be stated that the energy policies in the country are connected to non-renewable sources of energy. The level of production and usage of renewable sources of energy is at a minimal level in the country. When taking into consideration the geographical and climatic conditions of the country, investments regarding the sun and wind will produce effective results. The EU has designated a budget of €4,000,000 (four million euros) for solar power plants and entered the tender phase regarding the subject. Their work regarding wind power is continuing (http://www.kibtek.com/AB_Projeler/yen_enerji1.htm). According to the Minister of Economy and Energy who is responsible for determining the energy policies of the country, the main goal is to provide high quality, uninterrupted and cheap electric energy. In addition, the Minister in charge of energy is focusing on the need to reduce electricity production costs to a competitive level in important sectors such as industry, tourism, education and trade

(http://www.ktemo.org/index.php?option=com_docman&task=doc_view&gid=189). The Republic of Turkey is giving major support to the energy investments in Northern Cyprus. For this reason, the Minister

of Economy and Energy in Northern Cyprus has stated that they are always ready to energy investments that may come from Turkey (<http://www.abhaber.com/haber.php?id=26959>).

Even though the energy in the country is obtained from non-renewable sources of energy, when looking at the legislation in Northern Cyprus, it can be seen that there is “renewable energy law” numbered 47/2011 (Renewable Energy Law, 2011). The purpose of law number 47/2011 is to “spread the use of renewable energy sources in electricity production and heating, to ensure that these resources are distributed back into the economy through an economic and quality assured manner, to increase the variety of sources, to decrease the greenhouse gas emissions, protection of the environment, to develop the manufacturing sector which is necessary to realize these goals, to support the sustainable energy production, to decrease the import of energy and ensuring supply security” (47/2011 numbered law) (Renewable Energy Law, 2011). In addition to a question mark regarding how effective the use of the law which came into effect in 2011 will be, it can be seen that renewable energy sources are being supported by the government. It is also clear that there isn’t enough being done in regards to the energy planning of the country. The fact that development plans are not completed in time, sustainable urban planning is not done and the population increase cannot be calculated within the country are all negatively affecting the energy planning. In short, it is not possible to talk about a sustainable energy planning in Northern Cyprus.

When a general assessment is conducted, it can be seen that energy policies in Northern Cyprus encompasses both renewable and non-renewable energy sources. Although renewable energy sources are set as government policy, we see that in application only non-renewable energy sources are utilized. Of course such a situation negatively affects both environmental resources and human health. Cyprus became an EU member in 2004. However due to the political problems on the Island, it is divided into two sections as north and south. Republic of Cyprus represents the southern part of the island. Whereas, North of the island which is under the control of the Turks, the Turkish Republic of Northern Cyprus exists. Under this current political situation, while Southern Cyprus has to abide by the EU legislation, the same is not the case for Northern Cyprus. In short, the South of the island realizes the energy policies in accordance with the EU legislation. As for Northern Cyprus, it does not see itself has having to abide by EU legislations. Even though Northern Cyprus is trying to do what it can to follow the EU criteria on the subject in case a permanent agreement is reached on the island, we see that this effort has not been concluded as of today.

2.2 The Effects of the Energy Policies in Northern Cyprus on the Environment

The environmental pollution in the world continues to increase as the days pass by. While on the one hand factors such as globalization, advancements in technology, increase in the rate of urbanization provides people a more comfortable and nicer life, on the other hand it takes away the environment, which is the most important value. Northern Cyprusⁱ is a country that is not recognized on the international level. Production is not at the desired rate. Northern Cyprus population is approximately 294 thousandⁱⁱ and the industry sector is not very developed. In such a country one cannot expect environmental problems to occupy higher levels. However the situation in Northern Cyprus displays a situation that is different from what is expected. The energy policy in the country results in many environmental problems.

In the constitution of Northern Cyprus there are relevant articles about environmental protection, history, culture and nature. Furthermore, the environment law which came into effect in 1997 is also one of the legal bases that can be effectively used to protect the environment. According to the 40th Article of the Constitution (Constitution of North Cyprus, 1985), “everyone has the right to live in a healthy environment. Improving and protecting the environment as well as preventing environmental pollution, is the task of the state, individuals and legal personalities.” However, just because there are laws present within a state it does

not mean that they are implemented. While on a legal basis everything seems to be working in an order. But, in application it can be seen that the energy policies in Northern Cyprus greatly harms the environment.

The work performed on the Teknecik Power plant located in Esentepe, shows us that the energy policies in Northern Cyprus have a negative impact on the environment. The fact that there are no filters in the electricity power plant, results in irreversible environmental damage. The damage caused by the thermal power plant to the environment coupled with the plant working without a filter all culminate in a great fear in the regional population. The citizens that reside in the region have had negative reactions to the situation. In protests that have been conducted, the citizens in attendance stated that the olive trees growing in fertile soil all dry up within 10-15 years. In addition they stated that the vineyards no longer yield grapes due to the damage incurred to the environment and that the cases of cancer in and around the region have increased. Furthermore the number of people who have respiratory illnesses in the region is continuing to increase and that this situation needs to be fixed as soon as possible

(<http://www.starkibris.net/index.asp?haberID=105601>). All the environmentally friendly institutions and organizations in the country state that, the thermal plants cause an environmental catastrophe and this causes harm to the health of the regional population. However the state officials have not given the necessary attention to the matter. In the official statements made on the subject, it is stated that this topic should not be exaggerated and that due to economic reasons all this time there has not been a filter installed and that the filtration system will be implemented as soon as possible. As a result when taking into consideration the economic situation in the country it can be seen that there are no obstacles in the way of the state for implementing the renewable energy policy. However aside from the renewable energy sources not being implemented, the non-renewable energy sources that are in use have reached a level which causes serious damage to the health of the regional population.

3. Methodology

This study has been designed as a quantitative research. The attitude scale has been used as a data collection instrument in the study. As it is known, “the attitude scale is composed of a series of surveys which have been prepared to ensure that the individual responds to sentences/statements which have been prepared to expose the inner world of the person in question” (Tavsancil, 2005). The attitude scales “are used in determining certain attitudes and values of the individuals”(Özgüven, 1998).As for this reason, in the research conducted, it has been determined that the attitude scale is the most feasible method for determining the opinions of the people living in the region where a large portion of the energy production is conducted regarding the energy polices of Northern Cyprus. The attitude scale used in the study has been developed by researchers. The opinions of the experts as well as relevant literature have been consulted in the process of developing the scale. After the scale has been developed, pilot implementation and pre-trials have been conducted before finalizing the scale. The main purpose of the scale is to measure the attitudes and opinions of the local population towards the Teknecik plant.

The attitude scale used in the study has been designed as the likert scale. “In the likert scale the target audience is required to respond to every situation. Typical response options include “strongly agree”, “agree”, “disagree”, “undecided”, “disagree”, and “strongly disagree”(Balci, 2001). Accordingly, in this study, individuals have marked the choice which corresponds to their opinion on the matter. All answer choices have been scored according to the scoring system. In order to interpret the results obtained, the scoring system has been implemented. According to the scoring system, in cases where the article is true, “strongly agree” is 5, “agree” is 4, “undecided” is 3, “disagree” is 2 and “strongly disagree” is 1 point. In negative cases, the opposite is the case, “strongly disagree” is 5, “disagree” is 1 point. The participants have been asked to fill out the individual information form first. The personal information form has been designed to

evaluate whether or not the goals within the research change according to certain variables. The personal information form includes information regarding the gender, age and education levels of the participants. The responses given by the participants have been figuratively analyzed according to frequency and percentage.

4. Findings

As stated before, the attitude scale has been used in the study. In this section, the distribution of the participants to the study according to their individual characteristics has been relayed first. Afterwards, the distributions of the items which are considered as important outcomes of the attitude scale have been included. The distribution of the participants to the study according to their personal characteristics is shown below in Table 1. In the tables within section, participant responses such as “Strongly Agree” (SA), “Agree” (A), “Undecided” (U), “Disagree” (D), “Strongly Disagree” (SD) have been stated.

Table 1. Characteristics of the Participants

		n	%
Gender	Women	48	55%
	Men	39	45%
Education	Middle School and below	4	4.5 %
	High School	28	32 %
	Undergraduate and above	55	63.5%
Age	17-25	19	22%
	26-50	30	35%
	51-60	29	33 %
	60 and above	9	10 %

As can be seen in the table above, a total of 87 participants living in the region of which 48 are women and 39 are men have participated in the study. The education levels of the participants are as follows; %4.5 Middle School and below, %32 High School graduates and %63.5 Undergraduate and Graduate level education. When we look at the age ranges of the participants; %22 are between 17-25, %35 are between 26-50, %33 are between 51-60 and the remainder of the participants are 60 or above.

According to the results obtained from the scale, it can be seen that the regional population has negative views regarding the thermal power plant. According to the responses of the participants to the scale, one of the most interesting topics is related to the way politicians regard the matter. The opinions of the participants regarding the point of view of the politicians on the matter can be seen in Table 2.

Table 2.The attitudes of the participants regarding the views of politicians on the matter

No	Items	SA	A	U	D	SD	Total
1	Politicians take environmental issues seriously.	1	6	2	6	72	87
		1%	7%	2%	7%	83%	100%
7	Politicians are not sensitive enough to environmental issues	73	14	0	0	0	87
		84%	16%	0%	0%	0%	100%
6	Politicians only come to the region to ask for votes.	26	31	15	11	3	87
		30%	36%	17%	13%	4%	100%
8	Governments only act in relation to their economic worries and do not take the environment seriously.	68	11	2	4	2	87
		78%	13%	2%	5%	2%	100%
2	The lack of a filtration system in the power plant is due to the negligence of the local authorities.	2	7	5	62	11	87
		2%	8%	6%	71%	13%	100%

As can be seen above in Table 2, those who responded “strongly disagree” to the judgment that “Politicians take environmental issues seriously” is quite high (83%). The responses given to the 7th Article of the attitude scale confirms the 1st Article. As can be seen above in Table 2, all of the participants believe that politicians are not sensitive enough regarding environmental topics. Furthermore, the attitude scale results demonstrate that the politicians act in their own self interest and that they only approach the regional population in order to ask for votes. According to the responses given to the 6th Article in the scale, it can be stated that politicians only come to the region during election times and only pretend to be interested in such type of problems. Also when analyzing the results in Table 2, a large segment of the participants do not agree with the notion that: “the fact that there is no filtration system in the power plant can be attributed to the neglect of the local authorities”. Based on this judgment of the participants, it is possible to state that they hold the central governments more responsible than the local authorities for the lack of a filtration system in the power plant. Another finding from the scale is that the participants believe that the governments only act in relation to their economic worries. Results in Table 2 demonstrate that all the participants agree with the statement that “Politicians are not sensitive enough in regards to environmental issues”. In other words, one can state that the participants do not believe that politicians take environmental issues serious enough.

Another finding which was made in the study is related to the energy policies under implementation. In Table 3 below, the findings in relation to the participants view on energy protection policies.

Table 3. The views of the participants regarding energy policies

No	Items	SA	A	U	D	SD	Total
3	Policies of Northern Cyprus are unsuccessful in every manner.	70	15	2	0	0	87
		81%	17%	2%	-	-	100%
4	The Renewable energy law will be successful in its implementation.	1	5	7	21	52	87
		1%	6%	8%	25%	60%	100%
9	The energy policy of Northern Cyprus negatively affects the environmental policies.	63	21	0	3	0	87
		72%	24%	-	4%	-	100%
11	I do not believe that the Northern Cyprus energy law will be implemented.	42	26	12	5	2	87
		48%	30%	14%	6%	2%	100%
13	The energy policies in Northern Cyprus are sustainable.	3	7	4	28	45	87
		4%	8%	5%	32%	51%	100%
14	The environmental policies in Northern Cyprus are more important than energy policies.	5	7	2	35	38	87
		6%	8%	2%	40%	44%	100%
15	The energy policies and energy planning of the country is effective.	7	10	7	23	40	87
		8%	12%	8%	26%	46%	100%
17	The energy policies in Northern Cyprus will cause migration in the region.	41	35	6	3	2	87
		47%	40%	7%	4%	2%	100%
18	Energy policies threaten our health.	31	35	10	5	6	87
		36%	40%	11%	6%	7%	100%

As can be seen in the above Table 3, one of the most interesting results of this study is, the response given by the participants to the 3rd article. Almost all of the regional population which has participated in the study (98%) assesses the energy policies in Northern Cyprus as a failure. This finding clearly demonstrates that the regional population are strictly dissatisfied from the energy policies. When all the responses given by the participants to all other articles are analyzed, it can be understood that the participants believe that while politicians are creating energy policies they have no purpose of protecting the environment. Another important finding obtained from the scale is that, the opinion of the participants believes that the energy policy of Northern Cyprus negatively affects the environmental policies. It has been determined that 96% of the participants agree with the related article. As a result, it can be stated that the participants do not positively evaluate the impacts of the energy law on the environment. In addition, as can be seen from the table above, it has been determined that the regional population does not believe that the law will be implemented or that the law is sustainable and that energy policies attribute to the increased

migration in the region as well as threaten the health of the regional population. On top of this, the attitudes of the participants regarding the statement that “the renewable Energy Law will be successfully implemented” have not been positive. The opinions those since the laws in Northern Cyprus are not implemented that the renewable energy policies will not be implemented are widespread.

It can be understood from the responses given in the study that the participants believe that renewable energy sources must be utilized and that a filter must be added to the current power plant. Another finding which was gathered from the study shows that women are more sensitive compared to men when it comes to issues regarding the environment and health. Furthermore, most of the participants which believe in the power of civil society are women. A distinct difference between age levels has not been prevalent in the study. When we look at it from the perspective of education levels, the scale results show that even though not at a large scale, the undergraduate and graduate level citizens are more pessimistic when compared to other segments. This situation can be considered as one that is expected. However more work needs to be conducted in order to ensure that the attitude of all the members of society regarding this topic is improved that they are more informed on the subject.

Based on the findings from the study, it can be stated the energy policies in Northern Cyprus are generally not sustainable and effective. Furthermore, it has become clear that energy policies are made on a daily basis and that they are harmful to the environment and well as the health of human beings. Despite the importance of renewable energy sources being accepted by the regional population, it cannot be seen as a solution to the problem. The regional population wants the necessary precautions to be taken as soon as possible in order to solve the current problem in the Teknecik power plant. According to the citizens, if the opposite were to be the case, the rate of diseases in the region will increase and in parallel to this the population will begin to migrate from the area.

5. Conclusion

In conclusion, the need for energy in the world is increasing in relation to the level of urbanization and population increase. In spite of the increase in the need for energy, the sources of non-renewable energy are decreasing. In parallel to all of this the increase in the level of energy usage in the world plays an active role in the increase of environmental problems. Today, energy policies are discussed both at the national and international level. Many international organizations are making statements which underline the need for energy policies to be sustainable and also the need to focus on environmental security. Countries have accepted that the balance between the economy and ecology is closely related to the principle of sustainability. For this reason, a consensus has been reached on the need to carefully use energy resources. Thus energy planning has become mandatory in order to achieve sustainable energy policies.

Energy policies in Northern Cyprus are far from sustainability. This study demonstrates that the energy policies in Northern Cyprus lacks energy planning and are very weak in terms of environmental security. While the issue of whether or not energy policies are implemented in the country is a source for great debate, the citizens hold the politicians responsible for this situation. The lack of a filter in the Teknecik electricity power plant damages both the environment and human health. The research also demonstrates that the local population is disturbed from this situation. In short, the energy policies in Northern Cyprus negatively affect the environment and risk human health.

There is a need for new regulations for renewable and non-renewable energy sources within the country. The need for new regulations to be in line with the regulations of the European Union is also important for future political developments that may arise on the island. The need for the regulations to be implementable is just as important as for them to be existent. Furthermore, the Teknecik power plant needs to be brought in line with international standards as soon as possible. This situation carries great importance

both in terms of environmental and human health. The fact that the local population living in Northern Cyprus have negative views regarding the impact on the environment of their country's energy policies is enough to give us clear and important messages. The energy policies in this country don't place any importance on environmental security or human health. This situation needs to be fixed as soon as possible. When taking into consideration the conditions of the country, the need to develop and enlarge the use of renewable energy usage in the country is important in terms of both the economy and ecology. Thus the energy policies in Northern Cyprus will achieve a competitive, environmentally secure and sustainable structure. Otherwise, it does not seem possible to live in a healthy environment with the current energy policies.

Referances

Acar C., Bulbul S., Gumrah F., Metin C., Parlaktuna M., *Petrol ve Doğal Gaz*, (METU Publications: Ankara, 2007),3.

Alanne, K. and Saari, A., "Distributed Energy Generation and Sustainable Development. Renewable & Sustainable Energy Reviews", *Elsevier*, 1, (2006),539-558.

Balcı, A. *Sosyal Bilimlerde Araştırma Yöntem Teknik ve İlkeler*, (PEGEMA Publications: Ankara, 2001),137.

Chow, G.C., "China's Energy and Environmental Problems and Policies", *CEPS Working Paper No. 152*, (Princeton University) August 2007. (<http://www.princeton.edu/ceps/workingpapers/152chow.pdf>) (accessed 15 June 2012).

Constitution of North Cyprus, (1985).

Receied:https://yenianayasa.tbmm.gov.tr/docs/kktc_anayasa.pdf(accessed 19 June 2012).

Goldemberg, J. "Ethanol for a Sustainable Energy Future", *Science*, 315, (2007),808-810. (<http://www.sciencemag.org/content/315/5813/808.short>)

Hekimler, A. "Türkiye'de Artan Enerji Gereksinimi Çerçevesinde Son On Yıldaki Ekonomik Gelişmeler" (2006), Recevied: (<http://www.konrad.org.tr/Enerji/05HEKIMLER.pdf>) (accessed 20 July 2012).

http://europa.eu/pol/ener/index_en.htm - *An official web site of EU*. (accessed 22 July 2012).

<http://www.abhaber.com/haber.php?id=26959> - *EU-Turkey News Network*. (accessed 19 June 2012).

[http://www.kktceeb.com/bakanlik-bilgileri2.php?cod=3&Vizyon ve Misyona](http://www.kktceeb.com/bakanlik-bilgileri2.php?cod=3&Vizyon+ve+Misyona) - *An official web site of North Cyprus Ministry of Economy and Energy*(accessed 19 June 2012).

http://www.kibtek.com/AB_Projeler/yen_enerji1.htm - *An official Web site of North Cyprus Electricity Authority*. (accessed 22 July 2012).

<http://www.kibtek.com/Hakkimizda/kurulus.htm> - An official Web site of North Cyprus Electricity Authority (accessed 22 July 2012).

http://www.ktemo.org/index.php?option=com_docman&task=doc_view&gid=189 – An Official web page of Cyprus Turkish Electrical Engineers Association (accessed 02 August 2012).

<http://www.starkibris.net/index.asp?haberID=105601> – Star Kıbrıs Newspaper. (accessed 02 August 2012).

Ilkan M., Doganalp A., and Ozerek C, “KKTC’de Yenilenebilir Enerji Kaynakları Potansiyelinin Değerlendirilmesi ve Çevre İlişkileri. Bilinçli Enerji Yaşanabilir Enerji”, *EMOBİLİM*, July 2011, 48.

Keles, R. *Kentbilim Terimleri Sözlüğü*, (2nd Edition), (Imge Kitabevi: Ankara, 1998), 112.

Keles R. and Hamamcı, C. *Çevre Politikası*, (5th Edition), (Imge Kitabevi, Ankara, 2005), 90.

Omer, A.M, “Energy, Environment and Sustainable Development. Renewable and Sustainable Energy Reviews”, *ELSEVIER*, 12, Issue 9, December 2008, 2265–2300.

Ozgüven I.E, *Bireyi Tanıma Teknikleri*, (PDREM Publications: Ankara, 1998), 91.

Recalde, M. and Ramos-Martin, J, “Going beyond energy intensity to understand the energy metabolism of nations: The case of Argentina. Energy”, *ELSEVIER*, 37, Issue 1, January 2012, 122–132.

Renewable Energy Law, *Renewable energy law of North Cyprus*, 47/2011.

Rosen M.A., and Dincer I, “Exergy as the confluence of energy, environment and sustainable development”, *Exergy Int. J.*, 1, No: 1, (2001), 3–13.

Sze, J. and London, J.K, “Environmental Justice at the Crossroads”, *Sociology Compass*, 2/4, (2008), 1331–1354.

Tavsancil E, *Tutumların Ölçülmesi ve SPSS ile Veri Analizi*, (Nobel Yayın Dağıtım: Ankara, 2005), 107.

Ugurlu O, *Çevresel Güvenlik ve Türkiye’de Enerji Politikaları*, (Orgun Publications, 2009), 107.

Yaman Y, *Enerji Tasarrufu ve Yenilenebilir Enerji Kaynakları*, (Birsen Publications, 2007), 236.

ⁱNorthern Cyprus is only recognized by the Republic of Turkey.

ⁱⁱFor more detailed information please take a look at the 2011 Population Census results.