

THE IMPORTANT ISSUES OF CURRENT AGENDA: ENERGY SECURITY AND CLIMATE CHANGE

Aybike SERTTAS ERTIKE

Assistant Professor
Gelisim University
Turkey

Umit HACIOGLU

Assistant Professor
BeykentUniversity
Turkey

Abstract

Energy issues and especially the term of ‘energy security’ have risen to the top of the political agenda in the 21st century. Today, there is a strong consensus on the importance of energy security as asymmetries between distribution channels of energy sources and energy consumers calibrate international politics and state behaviors. Nevertheless, the rising issue of global climate change spurs up a new debate on available approaches to energy security. Politically, states in international order are seeking for energy self sufficiency. Economically, security is attached to the access to energy sources, and to its ability to supply demanded energy products to marketplace. Ecologically, the rising approach to energy security is to protect ecological biosphere. In this study, it aimed to illustrate that energy security in the era of global climate change combines three main approaches: politic, economic and ecologic. Within the framework of this study, the term of energy security is taken into consideration as well as developing an economic approach to politics.

Key Words: Energy, Energy Security, Climate Change

I. The Historical Background and Description of the Term

1) What is Energy Security ?

Today the energy issue plays a vital role in economics and politics. Sometimes, energy sources and the security of energy supplies are attached to regional conflicts, disputes even wars. In today’s world, the economic problems, attached to results of climate change and its impacts on energy sources and livable places, are to be considered as major security issue over the next 50 years. Subsequently, economic roots of violent conflicts will appear on the map. The debate on the roots of conflicts will be finalized sooner as well as the globe is under threat of endless human consumption and global warming.

Everyone does decisions about energy; including to use how much electricity to heat or cool homes, to drive how far everyday or the type of vehicle to drive. Similarly, people in democracies choose leaders who create budgets that can support new energy initiatives or maintain a military capable of defending energy supply lines. Each of these decisions has impacts on the global consumption of energy and the demand for available natural resources. Oil has been the fuel of choice to meet energy needs. Many experts believe that the supply of oil will reach a peak in the quarter of the 21st century and will begin to decline. (Fanchi, 2005:1) Few understand that cheap food, clothing and housing depend on cheap energy and that potatoes are really made from fossil fuel. High agricultural yields are feasible only because fossil fuels are put back into the farms through the use of farm equipment, manufactured chemicals and plant varieties kept adapted by the armies of agricultural specialists supported by fossil fuel based economy. (Odum, 2007:7)

Energy issues and especially the term ‘energy security’ have risen to the top of the political agenda in the 21st century. Kalicki and Goldwyn(2005:9) define energy security as it is assurance of the ability to access the energy resources required for the continued development of national power. The International Energy Agency (IEA) defines energy security as an adequate, affordable and reliable supply of energy (<http://www.iea.org>). In more specific terms, it is the provision of affordable, reliable, diverse and ample supplies of oil, gas and their future equivalents and adequate infrastructure to deliver those supplies to markets.

For the Cold War security studies, the states are the main referent objects of the security and the Security Studies mainly focus on the study of threat, use and control of the military force (Smith, 2000:35). However, after the Cold War, new security threats have been emerged. These new security threats are analyzed by the post-Cold War security studies through looking at the different referent-objects other than states, such as ethnic groups, individuals, women, environment, etc. Thus, in this period, the view of states as the main referent object has become less prevalent. Energy security definitions are based on energy's importance in so many facets of security, including military and economic ones. Energy security is defined as the sustainable and reliable supplies at reasonable prices and the diversification of both energy types and supply resources are the main route to energy security. (Bahgat, 2006: 965) By obtaining sustainable and reliable energy at reasonable prices, actors can achieve energy security.

In 1995 a Green Paper on the CEP set out the main policies of energy as follows: furthering of the IEM, the development of security supply policy and integration of environmental criteria into energy policy (Matlary, 1997: 63). On 29 November 2000, the EU published a new Green Paper under the name of "Towards a European strategy for the security of energy supply". This Green Paper describes the present and future challenges in energy security and the appropriate policies to overcome them. Import dependency is identified as the most important threat in the energy security of the EU. The Green Paper also mentions the "new challenges" that the EU will have to face. One of them is the environmental concern that will affect resource consumption choices, since fossil fuel burning is threatening the environment. The other one is establishing the internal energy market, which hasn't completely been achieved so far despite the Commission's efforts. Based on these threats, energy security is discussed in Green paper with such sentences: "energy strategy is to ensure, for the well-being of citizens and for the proper functioning of the economy, the uninterrupted physical availability of energy products on the market at an affordable price for all consumers, whilst respecting environmental concerns and looking towards sustainable development.

After a few years of this definition, the Commission (EC, Study on Energy Supply Security and Geopolitics, http://ec.europa.eu/energy/index_en.html) defined energy security as the ability to ensure that future essential energy needs can be met, both by means of adequate domestic resources worked under economically acceptable conditions or maintained as strategic reserves, and by calling upon accessible and stable external sources supplemented where appropriate by strategic stocks. Another Green Paper on 'European Strategy for Sustainable, Competitive and Secure Energy' is published in the year 2006 by the EU. The commission defined an array of threats and political objectives related to the energy issue. Accordingly, higher prices, unstable energy supply and changes in Europe's climate are listed as threats. At the same time, the basic pillars of Europe's energy policy are seen as sustainability, competitiveness and secure energy. With the adoption of the Single European Act (SEA) in 1986, a new movement appeared in completing internal market by regulating decision-making mechanism. Matlary emphasized that the introduction of qualified majority voting on the matters affecting the internal market meant that EC could now adopt measures that were subject to a certain degree of disagreement (Matlary, 1997:19).

2) Historical Background and Turkey's Policy

The history of energy consumption shows how important energy is to the quality of life. Societies have depended on different types of energy in the past and forced to change from one energy type to another. (Fanchi, 2005:3) In ancient times energy was consumed in the form of food. Cook assumed only source of energy consumed by a person living during the period labeled "primitive" was food. The ability to control fire during the hunting period let people use wood to heat and cook. Fire provided light at night and could illuminate caves. Firewood was the first source of energy for consumption in a residential setting. (Fanchi, 2005:4) More energy was consumed during the advanced agricultural period when people learned to use coal and built machines to harvest the wind and water. By the early renaissance, people were using wind, water and coal. Transportation became a significant component of energy consumption by humans. (Fanchi, 2005:5) The steam engine ushered in the industrial period. It provided a means of transforming heat energy to mechanical energy. The modern technological period is associated with the development of internal combustion engines and applications of electricity. Electricity generation and distribution systems made the widespread use of electric motors and electric lights possible. (Fanchi, 2005:7) Over the last two centuries society's basis has changed, for now much more energy is coming from concentrated sources within the earth. The economy's industrialized system now gets its energies from fossil fuels (natural gas, oil, coal) and nuclear fuels. (Odum, 2007:7)

Energy policy in the EU was mostly a national concern in the Cold War period, because “the strategic importance of the energy sector was so great that national governments didn’t want to share their sovereignty with a higher authority”.(Matlary,1997:12) The adoption of Single European Act in 1986 gave the Commission greater interdependence and a large role to European Parliament (EP).(Matlary,1997:20) Since then, the Commission started to take more action to break up national monopolies in energy by trying to establish an Internal Energy Market (IEM) and a Common European Energy Policy (CEP). With the dissolution of Soviet Union, the EU was forced to coordinate and formulate policy to deal with this region. (Matlary, 1997:6) The Iraq crisis in 1990 also alarmed the EU into developing common policies against common threats. The 1970s were important years in terms of energy security debates. The main event of that period was the 1973 oil crisis which occurred as a result of the embargo by OPEC’s Arab members. (Guney, 2007:137) This was a breaking point for energy issue that led the embargoed countries to question their dependency on external energy resources. The Carter Doctrine of 1980, declaring the US policy to protect Persian Gulf oil as a result of the threat was another reflection of the issue in the Cold War years.

The demise of the Soviet Union and the opening of Central and Eastern Europe brought the necessity of dealing with this region. “In the energy field, this meant that EU suddenly had to coordinate and formulate policy to deal with this region and restructuring of its energy sector”. (Matlary, 1997:6) Moreover, the increasing importance of environmental policy created the obligation of directing it along with the energy policy. The Gulf Crisis, at the same time, made EU decision-makers question the reliability of suppliers, and the security of supply in the long-term. Based on these internal and external developments, EU energy policy started to be formulated based on three objectives: security of supply, competitiveness (Opening of the markets), and sustainability (environmental considerations).

Turkey’s domestic energy policy is directed towards closing the gap between domestic energy production and demand since the latter is rising at a rate of 8 percent a year. (Guney, 2007:138) turkey is a net importer of hydrocarbon energy resources. Ninety two percent of her annual oil consumption is imported, while 8 percent is supplied from indigenous resources. The share of natural gas in turkey’s energy portfolio is more striking since the consumption of natural gas is growing very quickly and rapidly becoming a preferred primary energy source for two reasons; first natural gas is less polluting than the other hydrocarbon resources, coal and oil; and second Turkey is located near the huge gas reserves of the Caspian Asia and Middle East. (Guney, 2007:138)

According to Guney, the realization of Turkey’s transit projects do not only depends on Ankara’s success in pursuing effective policies in the region but also the priorities and policies of the major international and regional actors. The EU’s strengthening accent on need to diversify its external energy sources provides an opportunity for Turkey to transport the East’s and South’s gas to the west. The 2006 Russian – Ukrainian gas crisis has given Turkey much leverage towards realizing her policies since the EU countries have begun to reconsider the feasibility of having such a dependence on Russia as a major supplier.(Guney,2007:147) Turkey’s location has given her the role of a bridge between Europe, Asia and the Middle East. On issues where geography is important, Turkey’s location has granted her some opportunities and imposed some constraints in the conduct of foreign policies. Within the frame of political discourses on Turkey’s role as a bridge has changed according to different events in various times, she seems a real geographical bridge fort eh transportation of the hydrocarbon energy resources of the Caspian/Central Asian and Middle Eastern regions to the West.(Guney,2007:138)

II. Economic Approach to Politics

The major studies in the field of international political economy has illustrated that economic roots of violent conflicts were much more significant than ethnic and religious roots (Collier, Hoeffler and Soderbom, 2007; Collier,et al., 2006; Star, 2004; Nesadurai, 2004; Fearon and Laitin, 1996). The economic approach to politics, in fact, is based on the rational theory. The theory is central to today’s modern economic approach in politics. The theory itself understands and formally models social and economic behaviors of actors. The rational theory begins this modeling at individual level defining reasons for behaviors before taking an action to maximize utility. According to this theory, the major patterns of behavior of the states in international system reflect the choices made by individuals for utility maximizations. Therefore, conflicts must be considered as the products of utility maximization efforts of individuals and states. Notwithstanding this, the Neorealist theory of international relations questions the nature of state and international system. Waltz as one of the most preeminent developer of this school, argues that there is a strong difference between a poor and a strong social science theory.

The difference is based on the ability of explaining the circumstances of a realm in which behaviors of states and individuals are shaped, rather than developing predictions (Waltz, 1959; Singler, 1960: 453-461). Therefore the causes of international conflicts must be analyzed and explained. In his book of "Man, the State, and War", he classifies the major international relations theories into three categories called as the level of analysis. As in individual level, international politics and state behavior in international arena are mainly driven by individual's psychological factors. As in the separate state level, it is driven mainly by institutions of state or domestic regimes of states. As in his last level of analysis, the major drive for international politics is based on role of systemic factors and international anarchy.

Within the perspectives of the rational action theory and neorealism, individual and his economic desires are central to domestic and international competitions for utility maximization. Therefore, in the basics of international conflicts, there are strong ties between clashes of interest of international actors. It is now clear to conjure up an image of such a world where people seek to power and economic benefits. The world in this competition and paradigm of power provides us with regional and international conflicts as well as Waltz insist. Till the last decade, desires of mankind or individual stakes shaped political and economic agendas in the realm of states, nongovernmental organizations, institutions and individuals. However, it is possible to mention about the failure of neorealist or neo-liberalist camps of international relations theory as well as the success of the environmental theory recently taken into consideration seriously following degradation of environment and ascending concerns over climate change. The green theory with its success put the environment into the center of attention of politicians and entrepreneurs.

III. The Climate Change as a Security Issue

While human population is growing rapidly, the global demand for food, water, energy, shelter and other basic necessities of life is increasing at an unsustainable rate. This is the point where the problem begins; the inequality of the population and vital demands. Energy provides the fundamental ingredient of many vital services: transportation, electricity, comfortable indoor temperatures, food preservation and cooking, illumination, communication, commercial and industrial processes, which improve the quality of life and enable economic and social development. An energy strategy has to do with maintaining a way of life. Once an energy strategy has been identified, then an energy policy can be devised to achieve its goals. If we address energy strategy from the point of view of survival, two issues come to the fore; oil and pollution. (Nersesian, 2006:369)

The origin of oil is immaterial; what is material is whether or not oil lies below sedimentary rock. A conference should be held where Russian petroleum geologists can make their case; not regarding the origin of oil, but their discovering oil in bedrock, a whole new realm opens up for exploration. This would absorb funds now being diverted to buying back oil company stock, a form of self-liquidation. (Nersesian, 2006:373) To deal with scarcity Nersesian offers demand destruction which occurs when a higher price cuts demand. (Nersesian, 2006:374) He implies that demand destruction has already occurred for the third-world nations. Pollution is the farm of sulfur and nitrous oxides, mercury, ozone and others are clearly harmful to the health of people and should be reduced as a matter of principle. The case against carbon dioxide and other greenhouse gas emissions being responsible for global warming is less clear. (Nersesian, 2006:379) Howard T. Odum's approach to the energy issue depends on developments in the information technology and its effects on society. Odum emphasizes that (2007:9) late in the last millennium the pattern of society was concentrated into an information society sharing global television, individual computers and the internet, hence more and more electrical power was required.

The changes have come so fast that many customs, mores, ethics and religious patterns have not adapted. The economic system is large, complex and changing so rapidly that it is more and more difficult people to see its energy basis. Nersesian has a noteworthy argument about global warming. He claims that we are left in a position of spending Money for reducing greenhouse gas emissions to prevent global warming without a scientifically proven connection between the two. (Nersesian, 2006:379) The worldwide environmental issue which shapes the recent international politics has its origins in global warming and climate change. Under the effect of climate change, alternative energy resources are not capable of supplying energy for the increasing demands. The lack of energy supply brings global economic problems and sparks states to develop more aggressive energy politics. Moreover, in international arena, countries of the North with the capability of shaping world's international trade and politics are reluctant develop solutions for global warming and climate change. The lack of desire of developed states in this issue makes the situation and causes international conflicts much more unsolvable.

In 2008, in addition to the fact of global warming, two major issues appeared dramatically on the map: the food crisis and the global financial crisis which is subsequently converted into a global recession. The instability in economic and environmental conditions had the impact on individual and state levels with full of fear. Finally security problems arose. The security problems especially in the post conflict areas have contributed into the probability of escalating former conflicts (Hacıoğlu, 2009:65-70). On the other hand, one of the most important factors which may trigger the conflict risk is the lack of available energy sources. According to the Global Warming Report of the United Nations; there is possibility of rising competition over limited energy sources in the next decades, which is able to force mass migrations and capable of escalating conflicts. Governments are increasingly aware of the negative effect of climate change as a domestic and international security issue (UNGWR- 2008).

According to climate change reports, over the next 50 years as the effect of climate change get worsen; there will be a major concern for security as well as millions of people could be forced to leave their homes. The Reports say conflict, large-scale development projects and widespread environmental deterioration will combine to make life unupportable for millions of people in the south Asia and the Middle East. Recently, about 155 million people are accepted as displaced people because of conflict and natural disaster over the world. Over the next 50 years, it estimated that approximately 850 millions of people are expected to be affected by water shortages, sea level crises, deteriorating pasture land and conflicts. The latest Intergovernmental Panel on Climate Change (IPCC) reports heavily illustrated that by 2080, 1.1-3.2 billion people would be experiencing water scarcity, 200-600 million hunger and 2-7 million a year coastal flooding (Wolf, 2007: 2).

Over the next decades, it is clear to understand that the effect of climate change on ecological balance will primarily ascend existing conflicts around energy sources. Recently, the financial crisis in advanced economies deteriorated the world economy and the global financial system. Subsequently, financial economic crisis in advanced economies, in the last quarter of 2008, has mutated into a full-blown global economic recession which increases financial turmoil in capital markets and has a large common effect on the banking sectors, stock markets, and foreign exchange markets of emerging economies and post conflict countries. Given the current global economic crisis, negative impact on unemployment, effective monetary discipline, international trade and capital flows could be large and long lasting affecting political situations in security concerns in post conflict countries. The climate change with its effect on energy sources in the backdrop of the global economic recession escalated the conflict risk in post conflict countries. The turmoil in energy prices, increasing shortages of energy supply, unemployment, the lack of basic facilities, the lack of foreign trade and capital inflows are the major security concerns for post conflict countries as well as employment, strong monetary policies and sustainable growth are considered as the main factors deescalating the conflict risk in post conflict countries.

Conclusion

Today the energy issue plays a vital role in economics and politics. Energy issues and especially the term ‘energy security’ have risen to the top of the political agenda in the 21st century. The International Energy Agency (IEA) defines energy security as an adequate, affordable and reliable supply of energy. In more specific terms, it is the provision of affordable, reliable, diverse and ample supplies of oil, gas and their future equivalents and adequate infrastructure to deliver those supplies to markets. The history of energy consumption shows how important energy is to the quality of life. Societies have depended on different types of energy in the past and forced to change from one energy type to another. The adoption of Single European Act in 1986 gave the Commission greater interdependence and a large role to European Parliament (EP). Since then, the Commission started to take more action to break up national monopolies in energy by trying to establish an Internal Energy Market (IEM) and a Common European Energy Policy (CEP).

The demise of the Soviet Union and the opening of Central and Eastern Europe brought the necessity of dealing with this region. “In the energy field, this meant that EU suddenly had to coordinate and formulate policy to deal with this region and restructuring of its energy sector”. Moreover, the increasing importance of environmental policy created the obligation of directing it along with the energy policy. The Gulf Crisis, at the same time, made EU decision-makers question the reliability of suppliers, and the security of supply in the long-term. Based on these internal and external developments, EU energy policy started to be formulated based on three objectives: security of supply, competitiveness (opening of the markets), and sustainability (environmental considerations). Turkey’s domestic energy policy is directed towards closing the gap between domestic energy production and demand since the latter is rising at a rate of 8 percent a year.

The share of natural gas in Turkey's energy portfolio is more striking since the consumption of natural gas is growing very quickly and rapidly becoming a preferred primary energy source for two reasons; first natural gas is less polluting than the other hydrocarbon resources, coal and oil; and second Turkey is located near the huge gas reserves of the Caspian Asia and Middle East. Turkey's location has given her the role of a bridge between Europe, Asia and the Middle East. On issues where geography is important, Turkey's location has granted her some opportunities and imposed some constraints in the conduct of foreign policies. Within the frame of political discourses on Turkey's role as a bridge has changed according to different events in various times, she seems a real geographical bridge for the transportation of the hydrocarbon energy resources of the Caspian/Central Asian and Middle Eastern regions to the West.

While human population is growing rapidly, the global demand for food, water, energy, shelter and other basic necessities of life is increasing at an unsustainable rate. The worldwide environmental issue which shapes the recent international politics has its origins in global warming and climate change. Under the effect of climate change, alternative energy resources are not capable of supplying energy for the increasing demands. The lack of energy supply brings global economic problems and sparks states to develop more aggressive energy politics. Moreover, in international arena, countries of the North with the capability of shaping world's international trade and politics are reluctant to develop solutions for global warming and climate change. The lack of desire of developed states in this issue makes the situation and causes international conflicts much more unsolvable. The instability in economic and environmental conditions had the impact on individual and state levels with full of fear. Finally security problems arose. The security problems especially in the post conflict areas have contributed into the probability of escalating former conflicts.

According to the Global Warming Report of the United Nations; there is possibility of rising competition over limited energy sources in the next decades, which is able to force mass migrations and capable of escalating conflicts. Governments are increasingly aware of the negative effect of climate change as a domestic and international security issue. Over the next decades, it is clear to understand that the effects of climate change on ecological balance will primarily ascend existing conflicts around energy sources.

References

- BAHGAT, Gawdat: "EU Seeks Energy Security in Stronger Supplier Ties," *Oil and Gas Journal* 103(38): 22-27, New York, 2003.
- COLLIER, P., HOEFFLER, A.: "Greed and Grievance in Civil War." *Oxford Economic Papers*, 56, 2004.
- COLLIER, P., HOEFFLER, A., ROHNER, D.: "Beyond Greed and Grievance: Feasibility and Civil War." Center for the Study of African Economics, Working Paper 10. 2006.
- COLLIER, P., HOEFFLER, A and SODERBOM, H.: "Post-Conflict Risks" Center for the Study of American economics, Oxford OKI 3UQ, UK, 2007.
- FANCHI, John R.: *Energy in the 21st Century*, World Scientific Publishing Company, Incorporated, USA, 2005.
- FEARON, J. and LAITIN, D.: "Explaining Interethnic Cooperation." *American Political Science Review*, 90 (4), 1996.
- GUNEY, Nursin Atesoglu (ed): *Contentious Issues of Security and The Future of Turkey*, Ashgate Publishing Limited, Oxon, 2007.
- HACIOĞLU, Ü.: "Challenging Issue of Sustainable Interethnic Peace and Security: Which Strategy Secures Best in the Balkans?" 2nd International Strategy and Security Studies Symposium, BUSRC, Istanbul 2009.
- KALICKI, Jan H. and David L. Goldwyn: *Energy and Security: Toward a New Foreign Policy Strategy*, Woodrow Wilson Center Press, USA, 2005.
- MATLARY, Janne H: *Energy Policy in the European Union*. Palgrave Macmillan London, 1997.
- NERSESIAN, Roy L.: *Energy for the 21st Century: A Comprehensive Guide to Conventional and Alternative Sources*, M.E. Sharpe, USA, 2006.
- NESADURAI, H.: "Introduction: Economic Security, Globalization and Governance", *the Pacific Review*, Vol.17, No.4, 2004.
- ODUM, Howard T.: *Environment, Power and Society for the Twenty First Century: The Hierarchy of Energy*. Columbia University Press, USA, 2007.
- SINGLER, J.D.: "Review: International Conflict: Three Levels of Analysis", *World Politics*, Vol.12, No.3, 1960.
- SMITH, Steve: *International Theory and European Integration*, Routledge, USA, 2003.
- WOLF, S. R.: "Shifting Tides: Migration in the Era of Globalization, Global Conflict, and Environmental Collapse" 2007: (<http://www.forumonpublicpolicy.com/archivesum07/wolf.pdf>)
- International Energy Agency Website, <http://www.iea.org>, Access Date January 2010