

Energy Security and Security Relationship

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Energy policies and energy security are essential for all of the countries. “Energy supply security” is also important. Because developed countries do not have dominant energy sources adequately, energy security has in fact an undeniable importance. Today, fossil fuels are the dominant energy sources for almost all countries. Energy security is a vital concept that ranks in a lot of definition and stated with 4A (availability, acceptability, affordability, accessibility) impressions and also 6A (availability, acceptability, affordability, accessibility, appropriateness, adjustment) impressions including energy transit countries. Then it was arguing the threat risks of the energy security with four stages of growing up the events. Lastly, sub events in many varieties and different relations with them were given in details and prevent suggestions were proposed.

Keywords: energy policy, energy security, energy threats

Introduction

Management and audit of energy use accepted as a criterion of a country’s development should probably constitute the most important fact nowadays. Energy addiction of human beings gradually increases and it creates undeniable and non-negligible aspects that also direct political events (Tugrul, 2011).

In order to promote development and public welfare, provide growth and progress, energy comes before us as an irreplaceable element. In this sense as criterion of countries’ development energy per capita is observed (Tugrul, 2015a). Thus, there are significant plans and programs related to energy in nations’ development programs, government programs, and government policies (Tugrul, 2016). This situation occurs inevitably due to undeniable fact of need for energy.

In terms of development and national economy, continuous, timely, available, clean, and cheap supply of the energy forms a basis. It should be said that especially; available, continuous, and timely supply comes to the forefront.

With available term consistently and invariably energy production in vast amounts is implied. In other words with “available” term continuous and reliable energy supply is described. This matter is important for all nations and accordingly for the whole world. Hence fossil fuels and fuel of nuclear energy are energy sources that are able to meet energy demands at anytime and anywhere, so they become prominent (Tugrul, 2015b; 2014). Therefore supply sustainability constitutes a separate aspect of the energy policies. Within this context energy security problem arises.

Energy Policies

Energy is described as ability to do work, however actually it is a far-reaching expression. From this point

of view, if a change in a system comes into question, either energy will be given to that system or energy will be received from the system. This means every act related with energy. And this makes energy irreplaceable and undeniable.

“Energy policies” are described as a whole of all methods and strategies followed by the states or regional interest relation with the energy acts. Hence, energy policy means of the main rod of the state and consists of energy politics. Energy policy is being created according to some criteria. It can be classified into three main groups. They are strategic, operative, and technical criteria. In here, strategic criteria will be explained due to having urgent role in the energy policies. Strategic criteria have three arguments (Tugrul, 2015a). They are geopolitics, redundancy, and diversity (see Figure 1).

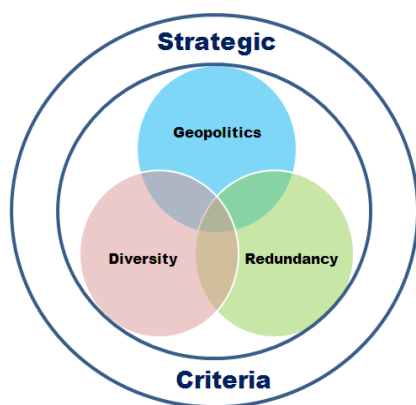


Figure 1. Strategic Criteria.

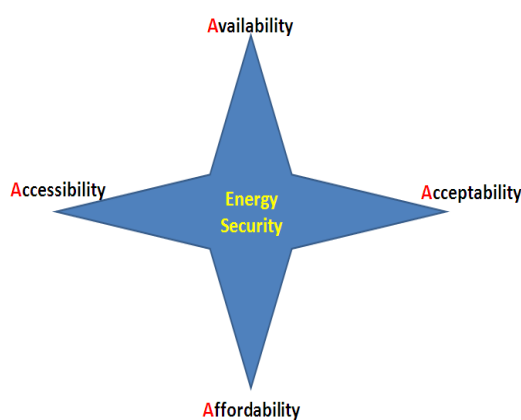


Figure 2. Concept of 4A.

Geopolitics criterion means policy and strategy production based on country's geography on the world. Country either has dominant energy sources or not. For reliable energy production, first of all, to have reliable energy sources or reliable energy source connections is necessary. Policies developed within this context constitute the scope of geopolitics criterion.

Redundancy condition represents the supply of the (same) energy source from different places. That is to say dominant energy source points out the use of different source regions within the country. If there is not enough energy sources in the country, than energy sources supply from abroad, but more than one country, the more foreign countries are included in energy sources supply, the higher extent the energy security will be provided.

Diversity condition describes the energy supply from different type of energy sources. In other words it expresses providing security by using different energy sources instead of a single energy source in terms of energy supply.

Energy Security

Energy security is a prominent concept in practices of energy policies especially for oil, natural gas, coal, and uranium fuels. Nowadays due to the fact that nuclear power stations require the use of nuclear technology, which is an advanced technology, they can only be used in some developed countries. In this situation fossil fuels are the dominant energy sources for almost all countries.

Energy security comes to the forefront in terms of the countries do not have enough energy sources as energy supply security. Inversely, if the country is source country then energy demand security is important. In

other words, it necessitates the development of global energy policies and/or projections with the interferences among them.

Nowadays, “Energy supply security” is much more concerned. Because developed countries do not have dominant energy sources adequately, energy security has in fact an undeniable importance. However in order to provide energy supply security, an upper concept “Energy security” concept rather than energy supply security should be discoursed. Energy security is a vital concept that ranks in a lot of definition and stated with 4A (availability, acceptability, affordability, accessibility). They are (1) availability of the energy source, (2) accessibility to the energy source, (3) acceptability of the energy source, and (4) affordability of the energy source (Kruyt, Vuuren, Van de Vries, & Groenenberg, 2009; Jansen, Arkel, & Boots, 2004; Elkind, 2010). In Figure 2, the concept of 4A is seen as schematically.

Important argument of the energy security is the place and status of the energy sources. It can be seen that coal within fossil fuels is found in different regions around the world. But due to problems of coal mining and greenhouse effects and also ash formation caused by coal use, environmental issues gradually gain importance and this directs nations to the solutions except from coal use. Therefore oil and natural gas, which cause less environmental problem than coal and do not require mining with underground employment, become important energy sources of which importance function gradually increase for whole world countries.

For oil production Middle East regions have a big potential, also in terms of natural gas production Middle East and Eurasia region comes to the forefront (IEA, 2011). Thus a “strategic ellipse” covers Middle East and Eurasia region is mentioned. In other words, countries within these regions have a strategic importance as energy sources for whole world.

In addition to Middle East and Eurasia countries, North Africa countries also gradually gain importance in terms of oil and natural gas sources. Within this context, “strategic crescent” takes the place of “strategic ellipse” (Figure 3). So together with Eurasia, Middle East-North Africa (MENA) countries have a global importance with regards to energy policies.

Moreover, for energy to be accessible means having an uninterrupted production of reserve source and having no problems when it appears in the world’s market. To put it another way, it describes energy source supply is not interrupted.

“Acceptable energy” has gradually gained importance among the energy policies. Continuity in energy supply, environmental sensibility in energy consumption are important for acceptability in long-term. Considering environmental components in energy production, processing and transportation comes to the forefront within this context.

Affordability of the energy sources also matters. Yet, in energy markets under the competition conditions the energy source needs to be produced. With regards to producer, the energy sources should be profitable in order to meet its investment and production cost; with regards to consumer costs of the energy sources, it needs to be affordable according to consumer’s income. In terms of the energy supply security an undesirable situation occurs when sudden and unpredictable costs are encountered in the energy supply (BP, 2015).

Different arguments within changing and developing global conditions for energy security concept gain importance. In this context to see energy supply as reaching the energy sources is not enough. In other words, it is closely associated with both energy supply security transportation roads and position and compatible approach of transit countries on the transportation road. Hence, some new arguments need to be added to the 4A criteria.

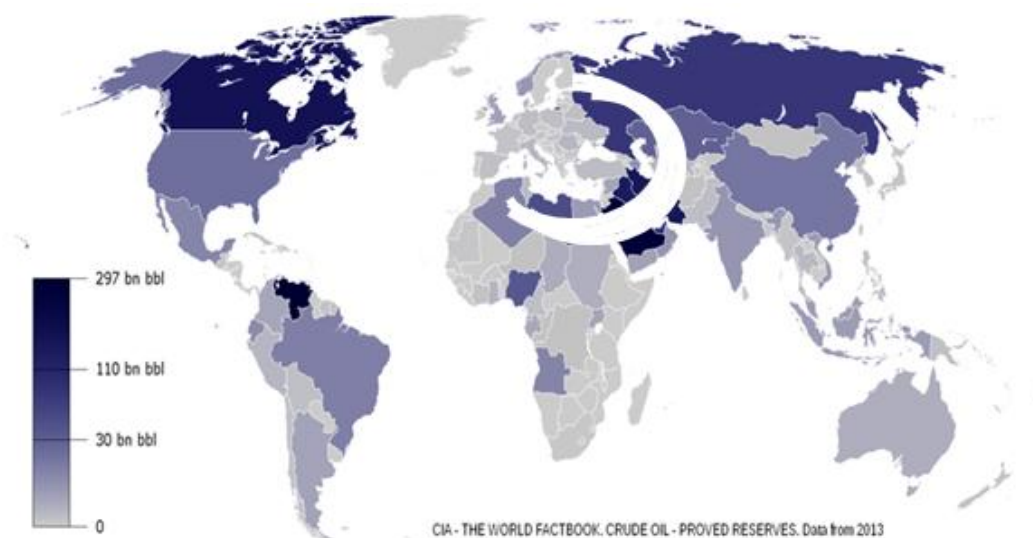


Figure 3. Strategical Crescent.

These arguments are: (1) appropriateness of transportation of the energy source; (2) adjustment in the transportation of the energy supply.

Thus, now for energy security it will be more proper to use 6A (availability, acceptability, affordability, accessibility, appropriateness, adjustment) term. In Figure 4, important arguments for energy security are seen together, consequently and schematically.

Appropriateness of transportation of the energy source shortly means the transportation of reserve or available energy source to the supplier. It means appropriately transportation of distance between production and consumption of the energy sources in terms of technology and security.

Adjustment in the transportation of the energy supply defines actualizing energy source transportation within the context of global and conjectural conditions. Here different political, economic, and regional adjustments are the prominent subjects.

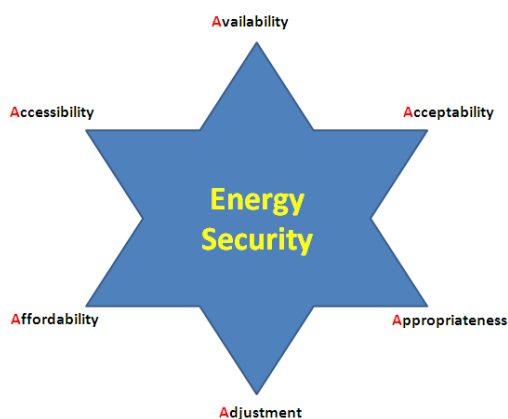


Figure 4. Concept of 6A.

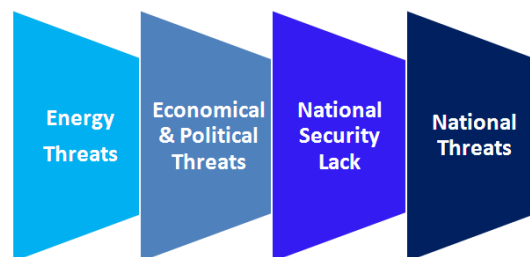


Figure 5. Stages of growing up the events related with energy security and threats.

Thereby transportation roads matter as much as source regions. Generally there are long distances between the source regions and big consumption regions. In this context, strategic criteria of the energy policies and arguments of energy security also apply to transit regions. That is to say, energy transportation lines, maritime

transport and/or from where pipelines go and geopolitics, diversity of these lines is important and they directly affect energy security. Therefore, energy supply security has complexity and affects the state policy and also has impression of preference of the power plants (Abdurahman, 2014; Tugrul & Şimsek, 2016).

Threat Risks of Energy Security

After examining arguments of energy policies and energy security, threat risks for energy security must be mentioned. Threat risks of the energy security are in reality quite different and diverse. There are four stages of growing up the events related energy security that have threat risks. Therefore, energy security and threats cause the economical and politic threats, then cause national security lack and lastly turn to national threats. Figure 5 shows them schematically.

Every stage has sub events in many varieties and different relations with them can be seen in Figure 6.

Conclusion

Nowadays, energy sources countries and countries that need energy in huge amounts are in the world’s different geographical regions and this requires the transport of a vast scale of energy sources. In this context, there can be energy sources problems for energy sources countries and national security problems for energy transit countries and it is necessary for the countries to deploy themselves according to this situation and to take relevant measures. That means threat risks of the energy security are valid for all energy sources and energy transit countries. Therefore, these relevant threat risks are exactly valid for the countries that want to be an energy terminal. Each of the threat risks of the energy security aligned as main topics has effects on the national security. Within this context quite different effects can occur.

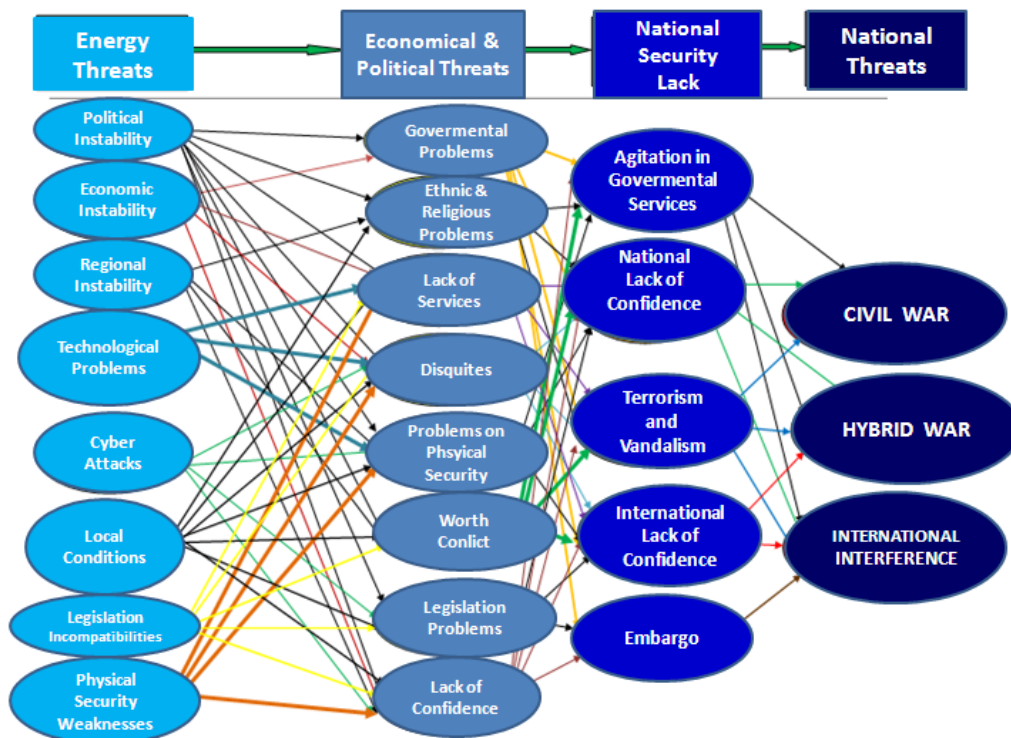


Figure 6. Relations among the events.

Here the important thing is to be able to predict coming events and to take necessary measures in the starting phase and to prevent progression and evolution when threat risks of energy security and policies show themselves.

In order not to see threat risks of energy policies, it is necessary:

- (1) To maintain social peace and to create common mind creative environments;
- (2) For the nation's locomotive sectors to coordinate with each other for the energy sources regions;
- (3) To have a fair inland sharing and to promote the development of public welfare;
- (4) To choose energy transition route cautiously and to provide security at the desired level;
- (5) As to land, marine and air space security, to provide aerospace security and to be guarded towards cyber attacks;
- (6) To benefit from deterrence factors;
- (7) To provide national security with technological development.

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