Strategic Importance Of Crude Oil And Natural Gas Pipelines

Asst. Prof. Dr. İdris Demir

Ahi Evran University Faculty of Economic and Administrative Sciences Department of International Relations

Abstract: This paper argues that crude oil and natural gas pipelines create mutual interdependence among the various participants the interests of which would be deteriorated in the event of any kind of failure throughout the different chains of the operations of the pipelines under consideration. It is an obvious fact that ‘security of supply’ is crucially important for the uninterrupted flow of the continuation of the social life and the economies of energy importers (crude oil and natural gas) in one hand. On the other hand, this paper foregrounds that ‘security of demand’ is vitally important for the continuous flow of the social life and economies of energy exporters (crude oil and natural gas). It is the strategic importance of the crude oil and natural gas pipelines that brings the interests of energy exporters, importers, transit countries, international money lending institutions and operator companies and creates a cobweb of relations among different participants of the crude oil and natural gas pipelines.

Key words: Pipeline, Crude Oil, Natural Gas, Interdependence

INTRODUCTION

The history of international oil industry has long been identified with the characteristics of Standard Oil Company of Rockefeller. One should remember that Standard Oil Company was the owner of a network of pipelines. However, the Company gained the ownership of the both sides of the pipelines; the production facilities and the distribution network. It was the monopoly position of the company over the pipelines that have been regarded to be strategic assets that have been useful in controlling the industry for a long time.

It is obvious that there is a close link between trade and interdependence. International commerce leads to international interdependence, which in turn leads to international cooperation in various fields with different dimensions. It is clear that as interdependence increases, nations become more sensitive to domestic developments in partner countries. Industrialists, traders and financiers start to rely on the level and amount of the international exchange at the same time. The flow of international commerce in any kind would find reflections in domestic transactions as well. International trade would create domestic interests in its maintenance. In one hand, exporters would not like their markets disappear. In the other hand, importers would not like their supplies diminish. Moreover, foreign investors would not like their holdings confiscated. Bankers and finance institutions would like the uninterrupted continuation of transactions so that their loans would be repaid. It is because of these reasons that interdependence is regarded to generate a powerful case among the participants. Arthur A Stein, (1993)

Likewise, international trade actualized through oil and gas pipeline creates international interdependence among the participants that energy exporters do not want their markets disappear. Security of demand is crucial for the continuation of their economies. Energy importers do not want their supplies interrupted for any reason. Security of supply is vitally important for the continuation of sustainable development of their economies. International finance institutions and creditors of the projects do not want any disruption for any reason in order not to threaten the return of the funds that they have invested in the construction of pipeline projects. Thus, interdependence creates embedded relations among the parties the disruption of which would result in economic and political loss for each of the parties. It is clear that some imports constitute inputs essential to the functioning of economy more than the others. A dependence on others for videocassette recorders and jewelry is not the same as one for oil, gas or computer chips. Robert Keohane and Joseph Nye, (1977) In this respect, this particular study proposes that pipelines are strategic entities that create interdependence among parties. Participants of the interdependence that has been contextualized through the cooperation of oil and gas pipelines are careful in order not to harm the continuation of the relationship that is beneficial for all sides in many dimensions which is not only restricted to the field of energy.

In clarifying the subject matter, this particular study is structured as follows: Section two illustrates the standing points of the energy consumers. The vitality of the issue of security of supply for the uninterrupted continuation of sustainable development and social life is taken into consideration in this section. Following section deals with the production/loading facilities of the pipelines. Concerns of security of demand of energy producers have been analyzed in detail in this section. Section four is responsible for the clarification of the strategic importance of pipelines among other ways of energy transportation. The institutionalized relationship
among energy producers, consumers, transit states and participant companies are scrutinized in this section of the study. The interdependence of the relevant parties is covered in section five. The cobweb of relations that expands beyond the boundaries of cooperation on energy field is provided in detail in this section with different examples.

2. Security of Supply for Energy Importers:

Energy is defined as the capability to do work. Every kind of economic activity requires an amount of energy consumption. Automobiles need energy to travel from one place to another. Factories need energy for the production of goods and items. Household items in kitchens and living rooms need energy to operate the appliances. It is the basic and sole responsibility of the policy makers of the countries to secure the necessary amount of energy forms for the uninterrupted continuation of the economic and social life of their countries.

In this respect, energy security can be regarded to be a state of being that the policy makers has clear indicatives to believe that they have enough reserves and production and distribution facilities in place to meet the energy demands of their citizens with affordable prices. The situation is regarded to be insecure when the well being of the citizens and/or the capability of governments are threatened either as a result of physical failure arising from sabotage, accidents or inadequacy of the existing structures. Governments may be unable to meet the necessary amounts of energy because of the rise in energy prices, too. (Robert Belgrave, Charles Ebinger and Hideaki Okino, 1987) There would be the adequate amounts of energy forms in presence but the budget of the country may not be able to meet the required amounts of funds to meet the energy demands. Therefore, energy security is described as the availability of energy at all times, in various forms, in sufficient quantities at affordable prices. (Philip Andrews-Speed, 2002)

A sudden rise in energy prices and a kind of a physical disruption for any reason may have devastating effects on energy importing countries. It is not only the negative economic effects that should be taken into consideration, but political and social deficiencies should be indicated as well. Lacking sufficient amounts of energy supplies would result in levels of industrial output. There would be a decline in new investments. Unemployment would increase and inflation rate would rise because of the absence of economic progress. There is going to be a balance of payments problem within the budget calculations of the country. The amount of funds that has been paid for the energy imports would rise. The balance of payment calculations would face a serious new arrangement. (Michael Lynch, 2003) Consumer countries would have two options: They are going to either reflect the high prices directly to the citizens or employ protectionist policies. The governments would look for sources of funds or borrow money from abroad.

In either case there would be a kind of money transfer from the consumer countries to the producer countries. The amount of the supernormal profit that producer countries acquire from this newly developed relationship would have different reflections over the political economy in the global scale. (David Grene, 1998) In addition to deteriorating economic conditions, energy importers would fall into weak bargaining positions in their mutual relations regarding their export sources. Energy importers would not be able to act as flexible as they used to be in both domestic and international political issues. Therefore, energy importers tend to create long lasting friendly relationships with energy exporters. The functional use of long term agreements among producers and consumers make parties feel secure in times of crisis that results from either a physical shortage in the global markets or the scarcity of energy forms because of political reasons. (Gawdat Bahgat, 2004)

In addition to economic and social considerations, energy items are regarded to be strategic goods that have the capability to determine and/or change the continuation and the fate of a war. Lacking adequate amounts of hydrocarbon resources can bring the consuming countries into her knees quickly. The main motive of Germany in invading Russia was the aim of accessing the hydrocarbon resources of the Soviet Union. It is widely accepted that the fate of the war, consequently, the whole world might have been different if Germany had access to the hydrocarbon sources under discussion. It is not only in the Second World War that hydrocarbon energy has determined the status and the continuation of the war. The British decision of changing the fuel of the ships of the Navy from coal to oil had detrimental impacts upon the stages of the First World War. Oil burning appliances of the British Navy made it possible to have longer distances of travel in a faster course than her rivals, thus determining an advantageous position for Britain. (Hikmet Uluğbay, 2003)

There are a number of events that can be regarded as potential threats to energy security. These threats are categorized as the events that have global impact and events that have impact on a specific country or a region. Special emphasis is needed to shed light on the latter group since the content of this particular study focuses on pipelines. Oil and gas pipelines are strategic assets that combine the consumers and producers together. Energy forms are meaningless and valueless if they are not available to be used at the point of consumption. The possibility of a disruption arising from misuse or inability of the operation of pipeline structures that bring the interests of loading and unloading parties together would have devastating effects on the security of energy supply calculations of a particular country and/or region. It is an actual fact that the failure of pipelines to operate would have a reflection in the global energy considerations, too. However, the extent of the pressure and
the strength of this effect would be proportional directly to the amount of energy transported through the pipeline and the amount of the contribution of that particular pipeline in openness to the global markets.

Embargo disruption of a specific exporting state may result in a threat of security of supply of a local scale. It can place a heavy burden over the importing state especially in the short period if the existing structure of the energy importing country fails to respond to the change in circumstances immediately. Embargo disruption may come necessarily not from the exporter states but from the transit countries as well. The closure of the pipeline structures, with no doubt, would have devastating effects upon the economies, politics and social lives of importer countries. (Paul Stevens, 2000) The devastating effects would be vital and even at life threatening levels if the importing country is landlocked; does not have access to high seas. The absence of maritime lines would make transportation of energy via energy carrying ships impossible; laying road transportation via trucks and trains alone. It is doubtful whether the geography and already existing infrastructure would make it possible to carry the necessary forms of energy in adequate amounts.

Local market disruptions are other issues of concern that have to be dealt carefully for consumer countries that try to secure the necessary forms of energy for uninterrupted flow of sustainable development of their country. There can be disruptions in energy flow because of a monopolist supplier or some pressure groups the interests of which can be deteriorated. Mismanagement of the policy makers is another reason that can result in local market disruptions. In either case, the responsibility lies over the shoulders of the governing authorities to diversify the energy sources and suppliers within the primary energy mix of the energy importing country. Furthermore, enhancing regulative means of energy consumption is another responsibility of the authorities in achieving the aim of the security of supply.

The disruption of the strategic infrastructure of any kind is another serious threat to the calculations of the security of supply. Logistical disruptions may occur in the event of accidents, sabotage activities or terrorist incidents along the route of the transportation infrastructure. In this case, terrorist activities of some groups can no longer be regarded as the responsibility of the host government alone. All parties are affected negatively from these activities the prevention of which need collective action of all sides. (Anne Korin, 2005) The interests of all parties that are seeking security of demand and security of supply would be deteriorated. The authorities of both ends of the pipeline would attach a great importance to the well functioning of that strategic infrastructure.

3. Security of Demand for Energy Exporters:

The examination of the notion of the security of demand is an important but, often, a neglected issue. The vitality of the security of energy supply for energy consumers finds its reflection as the importance of the security of demand for producers.

It should be remembered that revenues coming from the energy trade are the backbone of the budgets of the exporting countries. The economy of the whole country depends on one single item: hydrocarbon earnings. Economies of energy exporters in general (Countries such as Great Britain) lack the existence of a well functioning industry, tourism earnings, surplus in trade of goods and items. The bureaucratic structure is built on the oil and gas industries at the same time. It is because of the negative effects of the Dutch Disease that the balance of payments calculations do not show healthy indications. (M Corden, 1984) The concept of ‘state’ changes form and is regarded to be the mechanism of the distribution of wealth and welfare based on subjective calculations rather than following a process of collecting taxes and directs the expenditures of the budget for the benefit of the existing and future generations. It is the industry sector that is mostly affected from the negative consequences in industrialized countries. However, it is the agriculture sector that suffers from the biggest negative effects. (Paul Stevens, 2003)

The members of the Organization of Petroleum Exporting Countries (OPEC) suffer from the negative consequences of this unbalanced balance of payments. Trade balances of the OPEC members have indicators of exporting one single item –energy sources- and import almost all of the consumption of the country. Energy exporters, the economies of which are dependant almost entirely on energy earnings, would experience an unstable economic ground both in domestic and international affairs. It is going to be hard to follow efficient fiscal policies and direct future investments. Domestic fiscal policies would be tied to international energy prices that are bound to global developments in which the exporter states may not have a big effect. (Kiren Chaudhry, 1989)

The dependence of economy on energy earnings is peculiar not only to OPEC members. Other major exporters depend on energy earnings heavily, too. The threat of Rentier State structuring shows its reflections in Non-OPEC members at the same time. The ‘dependence’ of energy earnings makes it necessary for exporters to seek for markets and continue to supply them with oil and gas for the continuation of the cycle of their domestic economies.

Two major threats for security of demand can be categorized as the loss of the market share of hydrocarbon energy sources in general and the deterioration of the market share of the exporting country in particular. Unsteady flow of oil and gas to global markets with unaffordable prices will result in articulations of different
forms of energy. The importance attached to renewable and alternative energy forms will be fore grounded in accordance with the developments, new findings and advancements in energy forms that are regarded to be used instead of hydrocarbon resources. Consequently, there would be less demand for hydrocarbon sources in general and possible future earnings of energy exporters would be cut off.

Apart from the potential threat of the losing the share of hydrocarbon sources within the primary energy mix of the countries in global scale, the loss of the market share of a single exporting country would have fatal consequences for that particular country. It is a well known fact that energy importers attach great importance to long term sales agreements with particular exporters rather than the spot trade in the international market. In the event of the absence of the supplier, consumer countries would find new suppliers and conclude new deals. Thus, the energy exporters would face a loss in the market share and security of demand for her energy sources.

Securing the flow of energy in the future with long term sales agreements is paramount to the strategies of consumer countries in one hand. Securing the income coming from the future sales of the contracted trade occupies a vital place within the revenue calculations of the exporting states on the other hand. Therefore, two sides of the same coin should be taken into consideration together. No one party has the intention or desire to harm the ongoing relationship. Deteriorating neither the security of demand nor the security of supply would be beneficial to both sides. In this context, it should not be forgotten that oil and gas pipelines acquire a strategic significance in the sense that infrastructures under consideration combine the producers and consumers together. Both ends of the pipeline attach great importance to the continuous, uninterrupted flow of energy from the production fields to the points of consumption. In this respect, pipelines create cobweb of relations not only in political terms, but also in physical aspects as well. It is with no doubt that none of the parties involved in the relationship would have the intention of the disruption of the relationship which would mean the deterioration of the interests of all parties. In this respect, pipelines combine the consumers, producers and the transit countries together in strategic terms with long lasting relationships.

4. Strategic Importance of Pipeline Transportation:

Any form of energy is meaningless unless it is ready to use in the final consumption point. The fact that oil and gas resources are not distributed homogeneously makes it necessary to transport these energy sources from the production fields to the consumption centers. The issue of transportation has gained a significant importance as the levels of consumption and the proven oil and gas reserves increase.

Levels of oil and gas consumption increase with the rise in living standards and the rise in the levels of industrialization. Higher levels of living standards and industrialization bring the inevitable consumption of energy sources in higher amounts. However, it is a fact that current reserves that are close to the traditional consumption centers are either declining or about to reach to the declining phase. This brings the significant importance of transportation into agenda.

There are a couple of ways that are used widely in order to transport oil and gas from the production facilities to the consumption points. Transportation ways that are generally used are pipelines, crude oil and Liquefied Natural Gas (LNG) ships, huge trucks and some sort of specially designed railway storage tanks. The most suitable way of transportation is determined by geology, geography, and the type of energy and the economies of scale. (Paul Stevens, 2001)

Pipelines and tanker carriages via high seas are the most common types of transportation that link the production and consumption points. Since the control of the pipelines has all the potentialities for the control of the petroleum industry, they have long been recognized as the most important means of transportation in the petroleum industry. (Roy A Prewitt, 1942) Likewise, although an amount of gas transportation has been conducted by LNG ships, gas transportation via pipelines has been of crucial importance.

The decision of constructing a pipeline requires many calculations that include strategic outcomes at the same time. The investment decision of a pipeline depends upon the evaluation of future demand. (Jerome Ellig and Jack High 1992) Moreover, it is very important to evaluate the safety and reliability of these complex and large scaled systems. (Dong Yuhua and Yu Datao, 2005) In this respect, maintenance of pipelines is an issue of great concern for both companies and governments. Any possibility of leakage, for example, must be detected before the leakage takes place and preventive action should be taken in order to avoid losses of energy and ecological disasters. (d Jun Okamoto, 1999) Therefore, it is not only economics and politics that are taken into consideration in the investment decisions of pipelines; there are a couple of different issues such as ecological considerations, geographical and geological conditions that should be taken into granted throughout this complex context.

Once constructed, pipelines are not possible to be removed or rerouted. (Once operational) They attract economies of scale in great amounts like other stages of the international oil and gas industry. Thus, ‘big is beautiful and small is stupid’ in the investment decisions of pipelines. Big numbers mean big calculations and huge losses in the event of a failure of any kind. The effects and the application of ‘Bygones rule’ is another issue of concern that has to be taken into consideration throughout the operation record of oil and gas pipelines.
It is because of this fact that pipelines continue to operate and their activities are not shut down for a considerable period of time even if they are making losses.

The configuration of the network and sizes of pipes used must be chosen to minimize the construction costs. (Jack Brimberg, Pierre Hansen, Keh-Wei Lih,) In addition to construction costs, other issues relevant to the successful operation of the pipeline require careful examination, too. The transportation issues preferred by governments and companies must not only take the economic risks into account but also consider the negative effects of possible terrorist activities, changes in the policies of the participants and trade embargoes over the long period of the projected operation of the pipeline. (Sydney Thomas and Richard Dawe, 2003) In addition to that, the amount of oil that can be put through the pipe varies with the initial pressure of the petroleum, the loss of pressure per square inch per mile, the density of the liquid, the viscosity and unique characteristics of the fluid handled, the diameter of the pipe and the geographical features of the landscape on the route of the pipeline. (A C Monahan, 1945)

The complex structuring of pipeline facilities can be reviewed closer through the analysis of transportation of offshore oil and gas products. The first section of the analysis is the riser or the rigid section of piping. This conveys the fluids from the production facilities to the seabed (and vice versa). Failure of this section would affect the production platform and production personnel. Second section of the process concerns the sea line that transports the fluids to the shore. Any kind of failure in this stage would result in losses in shipping and potential environmental pollution. The third section of this process involves the land section. The energy items that are produced offshore and transported reach the ground. Any kind of failure resulting from accidents or sabotage would have detrimental affects on the public. The final section is the landline that is buried under the ground. This can be of any length in reaching to the final consumption centers. It is with no doubt that failure of this section would result in devastating environmental effects. (F K Crawley, I G Lines and J Mather, 2003) Furthermore, the security of demand, security of supply and transit fee calculations of the relevant parties would also face potential threats.

It is obvious that the construction of a pipeline require a transit agreement among the parties. This agreement may involve competition for markets and competition for volumes. It is because of this feature that pipeline agreements involve different governments and, may be, different companies. Producing governments would have different objections on one hand, on the other hand consumer governments and transit governments would have objectives of their own. Moreover the inclusion of contractor companies would add another dimension to the discussion under consideration. While the objectives of the governments are going to be determined by the considerations of security of supply and demand and the principle of sovereignty, contractor companies would seek for pure commercial considerations. (Paul Stevens, 2003) Producer countries would demand high price for their energy exports. Consumer countries would look for a small bill for their imports. Transit countries would require high amounts of transit fees and greater amounts of off take from the pipeline for their domestic consumption with favorable prices. Contractor companies, on the other hand, would seek for greater economic rent and share from the operation of the facilities of pipelines under consideration.

The fact that the pipelines cross borders of different nation states makes it inevitable to be influenced by different legal regimes. The possibility of the presence of different legal regimes and regulations makes it necessary to bring various legal terms and norms together within the initializing the transit agreement. The process of harmonization of different legal regimes should be wide enough to cover the potential changes throughout the continuation of the activities of the pipeline for the success of the operation. Therefore, the distribution of benefits and sovereign rights should be well determined and documented to cover the long period of the long operation time of the pipeline project. (Paul Stevens,)

It should not be forgotten that the technical features that embody the construction phase have detrimental impacts upon the continuation of the operation of the pipelines. Pipelines have large upfront investments. They have high fixed costs and low variable costs. Once they are built, it is hard to apply a change in the capacity of the pipeline. Therefore, it is very important to apply careful and just calculations in the formation process of pipelines that are regarded to be natural monopolies that combine the relevant parties strategically in long lasting terms. The key to the success of the operations of pipelines lies in the fact that the agreements would take the change in circumstances in time into account throughout the duration of the activities of the pipeline. The success of the operations of the pipeline should not be left to the bargaining powers of the parties alone at the initial stages. (Ekpen J Omonbude, 2007)

The issue of pipelines requires a greater attention when the transportation of natural gas is taken into consideration. Natural gas is a clean burning fuel that is used to heat homes, hospitals, schools; generate electricity and fuel industries. The usage of natural gas varies from plastics and petrochemicals to fertilizer producers. (Obindah Wagbara, 2007) The fact that natural gas is a clean burning fuel that is compatible with environmental considerations has led the way to the issue that natural gas has become the energy medium choice for many governments and environmental groups throughout the world (Ferdinand E. Banks, 2003). In fact, the reason why natural gas do not acquire the dominant seat within the primary energy mix of consumer states is hidden in the clean characteristic of this fuel besides the problems of transportation. Natural gas has been
regarded to be too precious to be burnt. It is after the advance in technology such as the invention of Combined Cycle Gas Tribunes (CCGT) that natural gas usage has gained more importance among the energy calculations of consumer governments.

Unlike oil, gas is expensive to transport (James Jensen, 1994). It is not so easy to store and transport natural gas in great amounts. Therefore, natural gas trade has long been conducted in regional rather than international scale due to various reasons. It is an actual fact that each industry has structural peculiarities that one must respect in policy prescriptions (Ronald R Braeutigam, 1990). In order to develop a natural gas field, it is important to find the consumer first. Once the field is in operation and producing natural gas, there has to be a continuous flow from the production facilities to the consumers. The natural gas supply system consists of producers, the pipeline companies and distribution utilities for delivery to consumers (Abraham Charnes, 1986). Once reconnected, the restoration of gas supply is far more complex than that of oil. Before the supply is restored, a gas engineer should control each burner tip for leaks and for the possibility of air in pipes. Presence of either could result in major explosions. This poses a great problem for residential users. It has been indicated that a British Gas investigation has pointed out that it would take three years to reconnect the natural gas system of Birmingham after a possible supply cut off (Paul Stevens, 2000).

It should be indicated that natural gas usage is on the way of acquiring an international status rather than occupying a regional seat with advances in technology. However, it is clear that this process requires time and effort. Natural gas can be transported in LNG via ships. Natural gas should be frozen at -161 degrees Celsius. After that it has to be stored in specially designed storage tanks. Then, it has to be loaded to LNG ships. The natural gas has to be reloaded to another storage facility in the consumption center after the long voyage via the LNG ships. The next stage of the process is re-gasification of the energy content. It is after these stages that the gas is loaded to the distribution network for final consumption. It is because of these stages that LNG business remains highly complex (James Jensen, 2003). It is generally the LNG ship constructing companies that are making earnings from this process. The more international transactions in LNG trade would make gas industry be more internationally integrated (Ger Klaassen, 2001). It is likely that the amount of LNG transactions will increase as natural gas continues to have a larger share within the energy policy calculations of consumer states. It is evident that there is a global increase in the natural gas consumption. There are clear indications that this trend will accelerate with the ease in global LNG trade and the effective functioning of pipelines.

It should not be forgotten that, currently, there is not an overarching jurisdiction that covers the principles, norms, regulations and activities of pipelines globally. There is no ultimate authority to enforce the terms of the treaty or the agreement on transit terms (Paul Stevens, 2009). However, the presence of Energy Charter Treaty and the principles of World Trade Organization can be regarded as the framework of a form of common jurisdiction that can be influential in determining the principles of global oil and gas transportation via pipelines. Energy Charter Treaty (ECT) determines the common rules of energy trade, investment and transit issues (RKamper, 2002). The principles such as common carriage, non-discriminatory third party access solutions for the regulations of pipelines in addition to transit terms that have been fore grounded by ECT seem to provide a coherent framework for the functioning of oil and gas pipelines in the coming future. This is directly related to and proportional to international developments on the scope and the strength of the treaty. The more signatories of the treaty ratifies the Treaty within their own domestic parliaments, the Treaty would be more influential in determining the common principles of international oil and gas transit regime. It should be emphasized that the ECT is gaining prominence day by day as the need for an overarching jurisdiction concerning global transit issues necessitates itself.

5. Interdependence of the Relevant Parties:

Interdependence is a case of mutual vulnerability, where parties find themselves in a relationship that would create large costs for both of them should it break down (John A. Kroll, 1993). There is a positive and direct linkage among the interests of states in the sense that when the position of one state changes, the interests and the position of the other states are affected. It is because of the degree of cooperation that has been fostered through the process of interdependence. Wherever the interdependence is high, there is regarded to be high levels of cooperation (R. Rosecrance, 1977) in which the interests of parties are embedded in each other.

Interdependence creates cobweb of relations among the parties that is useful in the development of mutual respect and harmonious relations that has been initiated by any kind of foreign trade. Increasing levels of trade create more interaction which leads to the creation of more potential for positive interactions (Jon Pevehouse, 2004). Interdependent states are likely to take one another’s interests into consideration, thus, diminishing the harmful consequences and hostile outcomes that may arise from the actions and considerations of the relevant parties. If the interdependence among the parties is strong, any conflict will have serious consequences. Therefore, a state that is aware of this fact would avoid starting a conflict in order not to cut its own throat. Moreover, increasing interdependent relations are regarded to enhance integration. In order to protect one’s own interests, parties regard it wiser to develop more intensive integration with others (Michiel S de Vries, 1990). It is for sure that there exists a positive relationship between the level of economic interdependence and the degree
of policy cooperation (Motoshi Suzuki, 1994). States would refrain from disrupting their relationships with other parties since their interests would also be deteriorated. In this sense, the successful implementation of reward and punishment is directly related to the degree of interdependence among the parties (Richard Rosecrance, 1981).

Energy issues in general and pipelines in particular are strategic entities that bring relevant parties together. It is with no doubt that pipelines bind parties together once they are constructed. They create a relationship of interdependence among parties that is not restricted to only producers and the consumers. The relations of the producers and the transit states would have some reflections upon the consumers at the same time. The interests of third, fourth and fifth parties are also affected from the possibility of a disruption of the flow energy through the pipeline. Therefore, relevant parties attach a great importance to the continuous flow of oil and gas from the pipelines that are strategic existences at the same time.

It is well known that European countries in general depend heavily on natural gas coming from Russia. Reliance on one supplier in dramatic levels places a burden on the security of energy supply considerations of the European states. The infrastructures of pipelines that carry energy from Russia to Europe are regarded to be a potential frailty for a significant number of the member countries. The flow of energy from Russia has faced a kind of a disruption due to unresolved issues between Russia and the transit countries. The threat of the failure of supply of energy from this single source made European countries plan, invest and attach a great importance to alternative sources and routes and different means of transportation. Gas, unlike oil, is characterized by inflexibility in supply in account of being confined to pipelines (or highly sophisticated and expansive LNG ships) in general.

The Russian and Ukrainian dispute over trans-shipment charges and off-take issue affected the supplies reaching to European consumers (Vincent Cable, 1995). In January 2006, the contractual dispute between Ukraine and Russia resulted in the disruption of the flow of natural gas through the pipeline, which, then, affected the European importers deeply (Ruud Egging, 2008). The interests and considerations of relevant parties have been affected from the developments taking place outside their territories. Relevant parties are tied to each other in one way or another the actions of which have considerable reflections in the considerations of other constituents of the relevant framework of relations. The inflexible infrastructural ties that are inherited from the Soviet Union period effectively hinder switching the route to construct new ties with possible new sources. Pipelines and other transport links have thus become a physical representation of these structural links of dependency (Margarita Mercedes Balmaceda, 1998) which, in turn, have reflections in the calculations of the other parties.

It should also be indicated that the formulation of the structure of interdependence can face changes through time based on the new circumstances. In this respect, it should be remembered that the intergovernmental energy supply issue of oil and gas flows between Canada and the United States has gone through two cycles. The initial stage concerned the issue whether the US would import as much as Canada wanted. This issue of concern has transformed to the concerns whether Canada will export as much as the United States wants (Robert Keohane and Joseph Nye, 1974). Security of demand considerations of the producer has then transformed to security of supply considerations of the consumer. However, both cases clearly include the process of interdependence the degree and the pattern of which may face some changes through time.

European countries in general and Spain in particular are countries that rely heavily on energy imports for the uninterrupted continuation of sustainable development for their industries and for the continuation of the humanitarian needs of their population. The dependence on hydrocarbon resources have reached threatening levels that starting from 1965, oil consumption in Spain has increased by the ratio of 4.5% annually. The dependence on natural gas is more promising. Gas consumption in Spain has risen 275% since 1993. Spain does not import gas from Russia. Existing suppliers of natural gas for Spain are Algeria, Qatar, Nigeria, Egypt and Norway. Spain is deeply interested in the security of supplies and flow of energy from these sources. Currently Algeria appears out to be among the key partners of Spain in securing gas supplies. The interdependence between Spain and Algeria is an example worthy of great attention in this context (Tobias Feakin, 2007).

Supplying energy from Algeria is on the agenda of not only the Spanish policy makers but also on the calculations of other European countries as well. Because of geographical proximity, Algerian gas is a viable alternative for Russian gas for many of the European consumer countries. Spain acquires energy from Algeria by ships and through the Gazoduc Mediterraneennee Europeenne (GME) pipeline. This pipeline carries gas from Algeria to Spain and Portugal through Morocco across the Gibraltar Straight. This institutionalized infrastructure is among the strategic assets that Spain attaches a great importance for the security of her energy supply. However, Algeria is a country that faced domestic turmoil. Although it is evident that there is a significant improvement within the security of the country, the fear of insurgencies is still present within the country. The presence of Al-Qaida in the Islamic Maghreb (AQIM) increases the Spanish fear and concerns about the possibility of the sabotage of the GME pipeline that contributes heavily to Spanish energy security (GD., Porter, 2007).
The security of the pipeline is no longer regarded as the sole responsibility of Algeria. The security and well-functioning of the pipeline within the sovereign territory of Algeria is an issue that Spain attaches a great importance to. The disruption of the flow would cause a great harm in Spanish economy and social life of the citizens. Providing the security of the infrastructure of the pipeline under consideration is an issue of concern both for Algerian and Spanish governments. The prevention of the possibility of terrorist activities of AQIM over the Gazoduc Mediterranean Europeenne (GME) pipeline is the aim and for the benefit of the Spanish government that depends so heavily on the Algerian pipeline. GME pipeline has created a form of interdependence between Spain and Algeria that the security of this pipeline occupies a significant strategic importance in policy formulations of the relevant parties. In this context, Spain has the intention of assisting the Algerian authorities in counter-terrorism efforts, security operations and diplomatic initiatives in providing the security of the pipeline that attaches two ends of the pipeline; parties that are in need of security of demand, Algeria, and security of supply, Spain. It is for sure that the interdependencies among countries are being intertwined and embedded into ever more complex degrees (Tobias Feakin).

It should also be indicated that interdependence can be possible even in the presence of the event of rivalry among the participants. Both Japan and China have become bound by a tight economic interdependence despite their historical animosities (Leszek Buszynski, 2009). Likewise, it has been regarded that the planned Indo-Iran gas pipeline project is more likely to draw India, Iran and Pakistan closer into an energy partnership, thus, opening a path to break the existing political barrier against commercial agreement among them. It should not be forgotten that the interdependent nature of energy infrastructure necessitates a multilateral approach that all parties are dependant on. It has been suggested that both India and Pakistan are confronted by the problem of the increasing shortage of natural gas. These consuming countries under consideration have the advantage of proximity to Central Asia and Persian Gulf. This geographical positioning can provide the basis of a mutually beneficial cooperation between India and Pakistan. Iran would find a continuous source of export which would provide lucrative economic gains in addition to the opportunity of finding a way to establish alliances based on energy trade. Iran-Pakistan-India pipeline project supported by India and protected by Pakistan against any disruptions of flow would bring economic and political benefits for both the supplier of the pipeline, Iran, the transit country, Pakistan and the final consumer, India (Shiv Kumar Verma, 2007). Although it is clear that the pipeline under discussion is still a project and requires a great amount of time for discussion and actualization, the construction of such pipeline would create a kind of interdependence among participants. The proposition of such a pipeline itself is a clear indication that such a project can be discussed and may be constructed. It is the notion of interdependence of the parties that has brought this issue on agenda.

China-Kazakhstan pipeline is another issue that the interdependence of the relevant parties is reflected in other issues of political areas in addition to economic engagements of the two points of the pipeline under discussion. It is clear that there is an obvious rise in oil trade between China and Kazakhstan since 1999. The volume of Kazakh exports to China was 49.08 (in 10,000 tons) in 1999. However, in 2004, the volume of Kazakh oil exports to China has bee calculated to be 128.56 tons (Zha Daojong, 2005). The rise in exports is projected to increase with the full operation of Atasu-Alashankou pipeline. In 2006, the amount of crude oil transfer from Kazakhstan to china via Atasu-Alashankou pipeline was 2.2 million tons and 2007 the figure was 2.714 million tons (Farid Guliyev and Nozima Akhrarkhodjaeva, 2009). It is because of this lucrative relationship that Kazakhstan did not interfere in the issues in Xingjian Autonomous Region in China. Although the religious and racial heritage of Kazakh and Xinjiang region had immense similarities, Kazakhstan refrained from any action not to harm the ongoing of her relationship with China that has been institutionalized with Atasu-Alashankou pipeline.

6. Conclusion:

‘Nuclear deterrence’ has prohibited the possibility of an open war and confrontation between rival powers during the Cold War years. The devastating effects of nuclear capabilities of each power has restrained them from consulting to nuclear weapons. A kind of interdependence-in negative terms- was responsible to keep the war ‘Cold’ and prevent it to transfer to ‘Hot’ stages. It was the perception of threat that avoided the parties from pursuing conflicting behaviors. The threat of total destruction brought the relevant parties together in determining common policies.

Now that the Cold War is over, actions, considerations and perceptions of sovereign nation states have faced changes. Old perceptions have replaced with new ones. The perceptions that bring states together are no exception to that. Currently, it is the notion of ‘common interests’ that brings various parties together. Mutually beneficial relationships are responsible for the continuation of uninterrupted flow of common interests of both parties. It is possible for, even, adversaries to conclude deals that favor both sides. It should not be forgotten that energy issues in general and pipelines in particular are not zero-sum relations. Throughout the positive-sum relations that have been conducted via pipelines both and/or several sides can win simultaneously. It is evident that such a functional approach would reduce the tension and bring the parties together (Gawdat Bahgat, 2005).
It is the inclusion, not exclusion, which will ensure economic prosperity and energy security of the relevant parties that would transcend to political security in later stages (Gawdat Bahgat, 2002). It is with no doubt that oil and gas pipelines create such kind of beneficial relationships for all sides the disruption of which would result in considerable losses for all parties in economic, political and strategic terms. All of the relevant parties—producers, consumers, transit states, participant companies and creditor institutions—are working together to ensure the steady and uninterrupted flow of oil and gas through the pipelines. Win-win approach that has been institutionalized with the long lasting structural engagements with the flow of energy through the pipelines make states think twice and/or three times before conducting an action that can harm the beneficial relationship for all sides. It is because of this fact that cooperation, not rivalry is the essence of energy policy of the current atmosphere and the foreseeable future (Gawdat Bahgat, 2005).

In this context, oil and gas pipelines create cobweb of relations among the parties involved in the relationship with various forms. The success of the operation of the pipeline is directly proportional to the strength of the interdependence among the parties. The vitality of security of energy supply for consumer countries, heavy dependence of the producer states that are in continuous need of the security of demand, transit fee and off take considerations of transit states, commercial considerations of operating companies and the amount of funds of international institutions that have been invested in the pipeline projects have all contributed to the formation and the continuation of the strategic relationship conducted through oil and gas pipelines.

REFERENCES


Countries such as Great Britain and Norway should be regarded as exceptions.


