



## Economic and Social Analysis of Energy Carriers

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### Abstract

This article is a multiple factor analysis of the economic and social aspects of energy carriers conceived as any substance or phenomenon that can be used to produce mechanical work, heat, or chemical or physical processes.

The analysis of the prices of energy carriers is preceded by a detailed presentation of the most important energy carriers for the industry, namely coal, crude oil, natural gas, and uranium. The analysis itself consists of a fundamental analysis, where the following factors are taken into consideration: costs of production, political situation, economic factors, freak whether conditions, ecological factors, social factors and currency markets.

The fourth part of the paper is dedicated to technical analysis that seeks for identifying trends of price changing. The main assumptions the method is based on are described here. The article concludes with an analysis of the trends, support and resistance areas, as well as volume.

**Key words:** energy carriers, energy prices, coal, crude oil, natural gas, uranium, ecological factors of power generation, social factors of power generation

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### 1. INTRODUCTION

Energy is probably the most important product which can be bought on the free market. The contemporary world is based on energy use. Nowadays, one cannot imagine our reality without energy based facilities. Each day, the majority of the world's population uses a certain amount of

electricity to operate devices used for various purposes. The economy is “addicted” so to speak to the supply of energy carriers which are the main driving force of this industry. Another crucial fact is that human civilization is based on energy resources, and on that account they are a subject of vivid interest of many agents, including the national, transnational and corporate ones.

The availability and price of energy carriers strictly affect a country’s economic development. That is why energy safety is one the most important political issues. States have their own strategies for different scenarios that may occur. Hence, knowledge about the formation of prices, which will be briefly sketched in this paper is an utmost issue.

## **2. ENERGY CARRIERS**

According to 13600 ISO standards, an energy carrier is defined as any substance or phenomenon that can be used to produce mechanical work or heat. It can also be used to proceed chemical or physical process (ISO, 1997). In other words, it is a source which can be converted to produce energy.

The possibility to use certain materials as energy carriers was discovered at the dawn of the first civilization. The first people started to use wood to produce heat, and thus wood is considered to be the very first energy carrier. At that time, it was quite easy to attain enough resources to satisfy their needs. Over time, people started using more and more heat not only for heating purposes, but also for cooking and tool production. Coal, the most popular energy carrier today, was used already by the prehistoric man. It replaced wood which resources had started to diminish. The first coal mine was founded in Pennsylvania in the United States. The high availability of such an efficient energy carrier started the development of the Industrial Revolution. Coal has been the most important energy source for almost three centuries.

### **2.1. COAL**

Coal is a hard, combustible, sedimentary rock. It is composed of inorganic matter and organic remains. Organic content consists mostly of carbon and other elements such as oxygen, hydrogen and nitrogen. 9-30% of carbon weight is constituted by inorganic matter such as sulfur and other (rather toxic) substances. Coalification is the process of coal formation. One can distinguish different types of coal, from peat to anthracite, based on its carbon concentration.

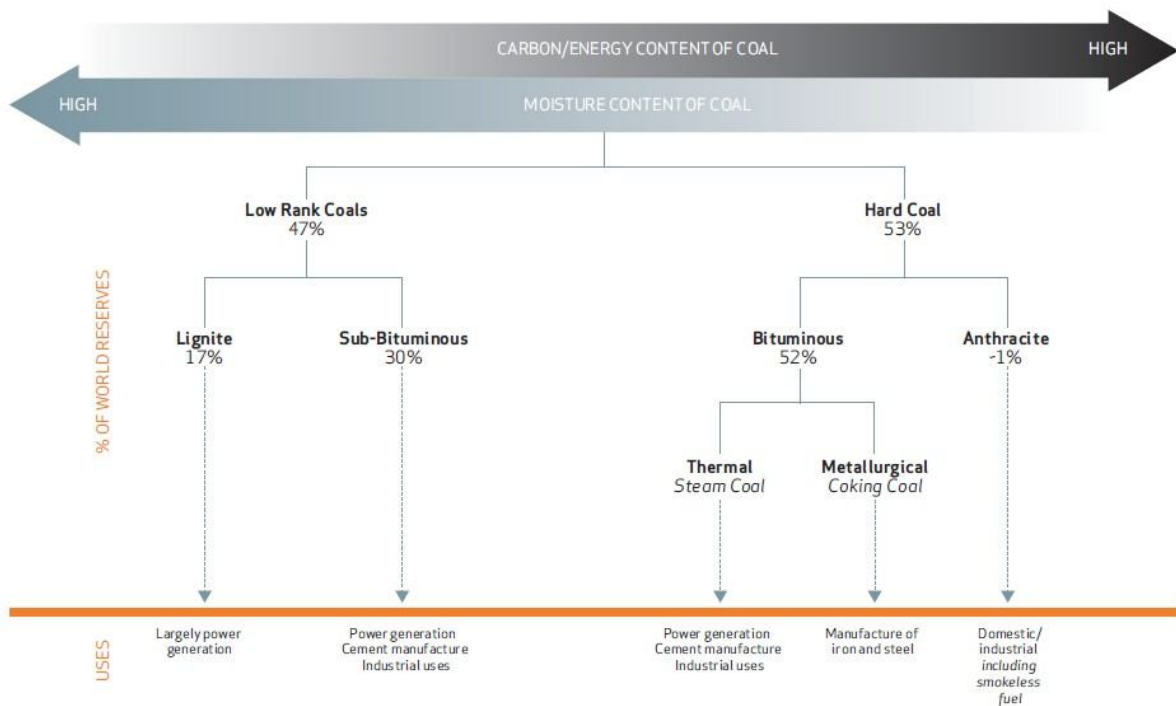


Figure 1: Types of coal  
Source: World Coal Institute

Coal can be extracted in two different ways: either by means of deep mining or from the so called open-cast method. Open-cast mining is not only a cheaper, but also safer way of coal extraction. Despite the fact that there have been so many lethal accidents in the history of coal mining, this energy carrier is still considered to be safer in comparison to nuclear energy. At the end of 2014, coal proven reserves were estimated at over 891 billion tones (BP, 2015). Such amount should be sufficient, depending on various models of coal economy, for one hundred to two hundred years.

Coal is the most widely used fuel in the world. In fact 41% of global electricity is produced from it and it is the most popular fuel in the energy sector. The largest amount of resources are found in USA, Russia and China.

As mentioned before, there are different types of coal. Its composition depends on the place of its origin. Different types have different combustion properties. They heavily affect the combustion efficiency, which bears a consequence for the efficiency of the whole electricity generation. That is why the composition of coal is so significant. The most important factor is the calorific value, which can take the value of about 16.7-29.3 MJ/kg. Other elements which influence efficiency are: moisture content, volatile matter, ash content, as well as chemical constituents such as carbon, hydrogen, oxygen, sulfur. High amount of carbon is much desired, as opposed to sulfur. High content of unwanted compounds may result in the need of building a

very expensive system for flue gas purification. It is a requirement of ecologically-friendly policies which recognize that substances such as CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and SO are responsible for global warming and that the production must be reduced. Unfortunately, these are the products of carbon combustion. In the majority of Western countries (including the European Union) the law is quite strict in this respect and fines are imposed for exceeding the acceptable limit of emissions. This forces energy producers to build a special system for flue gas purification. Of course, such a situation influences the market. Firstly, more and more countries are dropping the coal based solutions. They are investing in new technologies such as renewable resources. Another reason why coal is less and less popular is the fact that fees make the price of the energy generated from this fuel more and more expensive.

Coal prices vary. Among the factors which play part in pricing are:

- Cost of production – it depends on the size of the source and the method of mining
  - Composition – if the coal has a high calorific value and low content of moisture, its price will be higher. The amount of Sulphur matters as well – if the amount of this compound is high, this means that a desulphurization plant will be needed, which also costs money
- Costs of transportation
- Currency rates

## **2.2. CRUDE OIL**

Crude oil is probably the most important primary fuel. It accounts for 40% of total energy consumption. It plays an important role in the chemical industry and in transport. This inflammable liquid is a mixture of hydrocarbons of various molecular weights and other organic compounds. The resources are placed in sedimentary rocks. As a result of their marine origin, they are widely spread in the earth.. The main problem pertinent to this fuel is its extraction. Not all sources are economically viable. This makes its availability quite often limited.

There exist some crude oil substitutes, which at this point are starting to be more and more viable due to the progressing technology development. The two main crude oil substitutes are:

1. Shale oil – a type of sedimentary rock, which contains a kerogen (solid composite of hydrocarbons). There are two methods of obtaining oil from shale:
  1. Mining and processing the rock, and in situ combustion
  2. Oil shale mining

The extraction and processing require high energy input. Obtaining a barrel of oil requires five times more mining than in the case of coal. Another issue is the utilization of wastes, which is more complex and hence expensive than it is for conventional fuel.

2. Tar sand – the sand bed with petroleum material bitumen. Its world resources are estimated at 300-800 billion tons. In the early 1980s, the estimated price for a barrel was in the range 40-80 USD. Even today, this is not economically viable.

Despite the fact that at present, synthetic crude oil is not cost-effective, it is quite possible that in the near future that situation might change. If the prices of crude oil from conventional sources increase considerably in the long term, synthetic oils may be a great opportunity.

### **2.3. NATURAL GAS**

Natural gas is a type of fossil fuel. It is created in the crust at high pressure. Its deposits can appear alone or with crude oil. It mainly consists of methane or other hydrocarbons. During combustion, it emits 30% less CO<sub>2</sub> and 60% less carbon than oil. In other words, it is the most ecologically-friendly fossil fuel. Because of that, there is a tendency to exchange coal for natural gas as the source of power generation, which, on the other hand is more expensive. This may be changed due to the ecology policy.

An important issue that should be mentioned here is coal gas. This gas was widely used in 1950s and 1960s, but then it was dropped. Nowadays, this solution is progressively coming back. There are research projects aiming at obtaining gas from coal. It is still not economical but in the future an underground gasification may be used.

### **2.4. URANIUM**

Uranium is a metallic chemical element characterized by high density. The idea of using Uranium as a fuel came in line with the discovery that radiation occurring in nuclear reaction may be used for power generation. The growing development of nuclear power plants translated into a constantly growing demand for Uranium.

According to the International Atomic Energy Agency, there are today, i.e. at the end of 2015, 64 nuclear reactors under construction (IAEA-PRIS, 2015). After the Fukushima accident there were countries which decided to close their nuclear program. In the next few years, 139 reactors will be permanently shut down, but this should not affect the market much.

There are three methods of uranium mining:

1. Open-cut mining
2. Deep mining
3. In situ leaching

After mining, we obtain uranium oxide. The element must then be enriched. In order to do this, various processes are performed. The final product of these reactions is uranium dioxide. This compound is put into a special fuel palled. In this form it goes to the reactor core.

The price of uranium fuel is determined by several components which include:

- Cost of resource
- Costs of its treatment
- Cost of enrichment in isotope
- Cost of production of fuel rods.

### **3. ANALYSIS OF ENERGY CARRIERS PRICES**

Analyzing the prices of energy carriers is very difficult task. Prices are almost unpredictable. Why do we want to estimate them so carefully? Such knowledge would provide protection against a price increase. Prices of all products and services are somehow affected by the price of energy carriers. All production costs are included in the final price. The transportation costs, which also compose the final value, are dependent on the costs of petroleum. It is a simple correlation: when gasoline is more expensive, the prices of various products also increase.

A proper estimation of changes of the carriers' prices allows for an easier establishment of a final stable value of our product. One should calculate how much a particular good should cost to prevent potential losses. In the energy sector, as in any other business, it is important to estimate whether the investment will pay off. The prices of energy depend strictly on the availability of the fuel used in the power plant. Knowledge of the accessibility may facilitate creating a good strategy for the energy safety of a country, which is closely linked with the stable growth of the economy and the process of enrichment of the society.

#### **2.2. FUNDAMENTAL ANALYSIS**

Fundamental analysis is one of the methods of prices analyses. It requires a deep knowledge of the factors which may affect the price. This type of method is very wide and complex. Some of

the main factors that influence prices are: costs of production, political situation, economic factors, freak weather conditions, ecological conditions, social factors and the currency market.

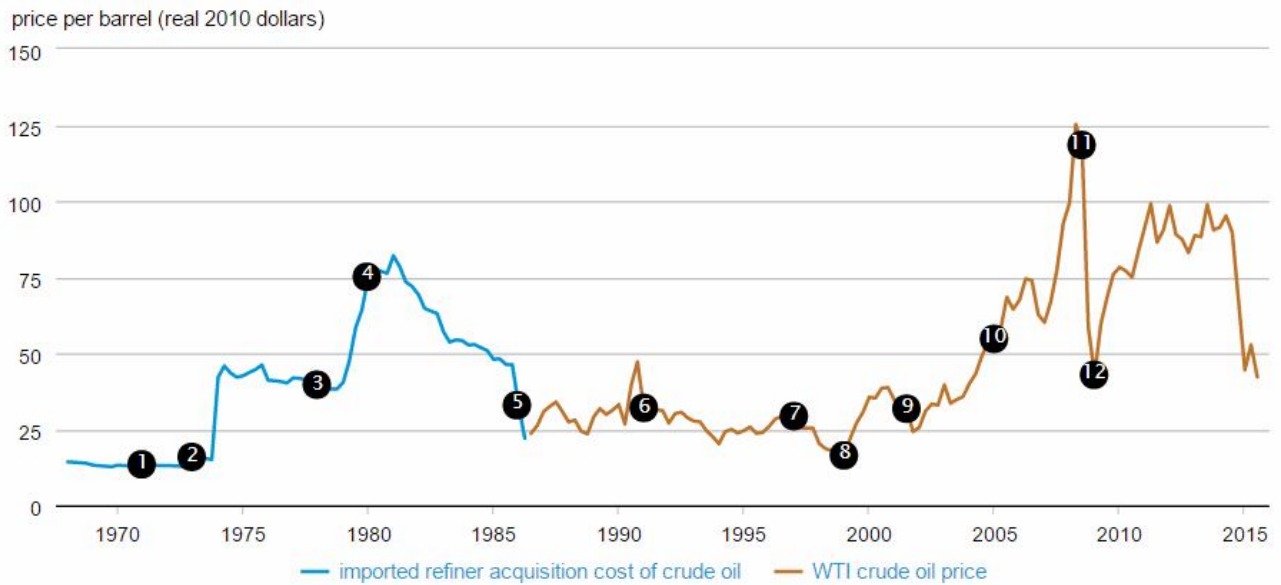
### **2.2.1. COSTS OF PRODUCTION**

The most important factor which affects the price of a resource is the cost of its production. This depends on many elements such as the type of fuel, its origin, the type of mining and available technical solutions. This is the minimal cost which must be covered by the buyers. The final price cannot be lower than this cost. Apart from the cost of obtaining the fuel, the price also consists profit for the producer. When analyzing costs, one must take into account all fixed and variable costs. Fixed costs, unlike the variable ones, are the costs that do not depend on the size of production. Most of the elements cannot be classified unambiguously and many of them depend on the scale of enterprise. If we operate a large company, we employ more people, we spend more money on their salaries, we use more energy, and we use more materials than in smaller companies. That is why fixed and variable costs are usually described as a percentage of total costs. If a larger part of the company's costs are variable costs, this means that the final price will be more susceptible to changes in production. If the demand for the product increases, the cost of production will increase as well, because it will try to compensate the difference in income. For example, in the Polish coal sector, 41% of the whole production cost are salaries. When in 2008, the payments and the costs of life insurance for the miners rose, the cost of coal increased as well. The prices of coal went up and the reason for that was the pay rise in the energy sector. Another significant factor here is that in Poland coal mines in general are not profitable. High coal prices are the only reason they continue to exist (Dudała, 2012; GTF, 2010).

### **3.1.2. POLITICAL SITUATION**

Another factor that has a major impact on what takes place on the energy market is current political situation. Conflicts in areas of fuels extraction influence the availability of resources. The possibility of source cut-off may cause that some costumers start to collect reserves. Such a situation, due to obvious reasons, translates into significant increase of prices. Let us therefore take a brief look at the history of crude oil prices.

### Crude oil prices and key geopolitical and economic events



Source: U.S. Energy Information Administration, Thomson Reuters.  
Updated: quarterly | Last Updated: 09/30/2015

On the graph above, one can see how the prices of crude oil changed from 1965 to 2015. The story began in 1960 when the Organization of the Petroleum Exporting Countries (OPEC) was created as a response to a price war. The market at that time was mainly occupied by the seven large corporations. The U.S. government was worried about the low prices of crude oil extracted in the Middle East. In order to prevent such situation and reinforce the native oil industry, it limited crude oil import. This caused a drop in oil prices. As it is illustrated in the diagram, oil prices in the 1960's were pretty low. In order to avoid further price dumping, five Middle Eastern countries teamed up and created OPEC to exert more pressure on the oil market. In 1973, the Yom Kippur War took place and OPEC wanted to use this situation to increase the prices. They imposed an embargo on oil export to the U.S. and other countries supporting Israel. Price increased as a result (2). The next event that influenced the cost of oil was Iranian Revolution (3), which caused the highest jump in prices. The Iran-Iraq war (4) made them increase slightly and hence the price reached its 20<sup>th</sup>-century-peak in 1981. After that eventful time, the situation calmed down and there was a gradual price reduction. In 1986, the Saudis abandoned the role of the swing producer (5). The prices slumped. The market was quite stable till 1997, with one exception, when the process went up Kuwait was invaded by Iraq in 1991 (6). The Asian financial crisis in 1997 caused a fall in price (7). The situation changed when OPEC cut production targets (1.7 mmbpd) (8) and the market started to return to its previous position. In 2000, prices started to softly decline. The attacks on the World Trade Center and Pentagon on September 11, 2001 and the following the Second Iraq War caused an increase in prices. The



political situation did not change anything and finally in 2008 crude oil achieved its highest price ever. Only the global financial collapse (11) made the prices plummet in a very short period of time. OPEC's active response (12) made the process go up again (US EIA, 2015).

It is clear that the market vividly responds to political situations in the world. Major conflicts in the areas of the carrier extraction can easily change fuel accessibility. The latter may in consequence bring about a decrease of the industry, which, for many, is the worst possible scenario. Other energy carriers such as coal or gas are less dependent on political situations. Their resources are widespread on the earth and most countries have easy access to them, therefore there is no risk of disrupting the delivery.

### **3.1.3. ECONOMIC FACTORS**

The economy and its condition influence the demand on energy carriers. When there is prosperity, there are also market needs for different kinds of goods. In order to produce them, the industry uses a lot of fuel. Naturally, such a situation may bring forth a growth in prices. The opposite situation occurs when we are faced with an economic crisis like the one that occurred in 2008. In that case, prices go down. This is because during crises, the industry is in a bad condition and there is an observable drop in interest in buying. This is very clear and visible in the carriers' consumption. In 2008, all fuel prices went down due to a financial crisis that had started a year earlier. In addition, for a few years now the economy has started to rise and fuel consumption has also been increasing.

### **3.1.4. FREAK WEATHER CONDITIONS**

Weather conditions affect to a large extent the extraction of the resources. A weather cataclysm can destroy the source of fuel and make its mining impossible. Such a situation took place for example on September 9, 2011. The prices of crude oil went up due to the news about the storm in the Mexican Gulf and the Hurricane Katia. These weather anomalies could have stopped oil extraction and that might, in consequence, cause the prices going up (Mizera, 2011). That is why there was a big shift on the market that day. Everybody wanted to indemnify themselves against a possible lack of resources.

The relation between weather conditions and the economy had interested a group of American scientists led by Jeffrey Lazo, which has performed an analysis of this relation. Their article entitled "U.S Economic Sensitivity to Weather Variability" describes in detail what the consequences of weather anomalies are. According to their calculations, mining is the most

susceptible sector. In the USA, 14.4% of mining activity depends on weather conditions. These fluctuations influence, of course, the prices of the carriers (Lazo, et al., 2011).

Another point of the analysis of the weather impact is that that an unexpected change of the weather may alter the consumption of various energy carriers. Very low temperatures in winter increase the demand for heat. The gas and coal consumption in that period usually goes up. During hot summers there is a need for air conditioning, which is addressed by a growth in power generation. The above applies however, to countries of moderate climate. The analyses of the Dutch and German markets have not shown any extraordinary changes in energy consumption (Flechsigt, 2000; Tol, R.S., 2000). The reason for that is that temperatures are rather stable in these countries, but in places like Honk Kong (China) temperatures can get extremely high, which is shown by the rise in electricity consumption caused by growing air conditioning demand.

### **3.1.5. ECOLOGICAL FACTORS**

From the beginning people have changed the natural environment in which they lived. They have tilled land, cut down trees in forests, try to change, shape, and use rivers. In the 19<sup>th</sup> century, industry started to developed and many factories were built at that time. The consumption of fuel grew rapidly. Due to a lack of knowledge that it bears negative consequences for the natural environment, and probably a real care for it, the air become polluted as a consequence of fuel combustion

Nowadays, amid anxiety about global warming, there is a compromise among scientists that greenhouse gases are one of the reasons of this situation. In order to protect our planet many governments have begun to create such a power generation policy that would significantly limit the CO<sub>2</sub> emissions. This is a step in a new direction for the energy sector development. New regulations reduce the amount of combustion gases which can be emitted to the atmosphere and on that account, renewable energy technologies have started to be developed and invested in. This new type of energy generation slowly replaces the ones based on conventional sources and fossil fuels, such as coal. With natural gas, however we face a different situation. It emits much less CO<sub>2</sub> than coal and thus it is much more environmentally friendly. Its price in “the coal countries,” on the other hand, is much higher. Also, uranium is a highly promoted energy carrier. Nuclear energy is cheap and clean. As a result, a lot of countries have decided to develop it. Its main disadvantage is nuclear waste and the fear of people. People are afraid of nuclear plants because of the 1986 Chernobyl disaster, and more recently, in 2011, the leak in Fukushima. The nuclear attacks of Hiroshima and Nagasaki contribute to that fear – there

is an apprehension that the nuclear fuel may be used not only for electricity generation. People remember the scale of destruction that can be caused by a nuclear weapon. Atomic energy is not associated with good things like ecology and electricity generation, but rather with fear, radiation and disaster.

The amount of energy obtained from renewable sources is the fastest growing segment in the energy sector. On the other hand, we globally face a constantly increasing demand for energy and the one generated from the renewable sources has been, so far, unable to satisfy that demand, therefore we still need other, traditional energy carriers for this purpose. Still, they lose their significance, with coal being the best example here. An analysis of coal prices shows that at the time when coal consumption started to decrease its prices went up. The policy of battling against CO<sub>2</sub> emissions has had an impact on coal prices and it was not good. Subsidiaries for cleaner power generation technologies have made coal less and less competitive.

### **3.1.6. SOCIAL FACTORS**

The main factor which determines the amount of extracted resources is demand. If there is somebody who needs something, without doubt, there will appear somebody who will satisfy those needs (for the suitable amount of money). In the energy sector the person in need is society. It decides how much energy it should consume. Some scientists try to discover and describe how large is the impact of the society onto the energy market; how far goes its influence over energy policies. In order to answer this question a new academic discipline has been created, namely the sociology of energy. It tries to understand and depict the relation between people – the energy consumers (but also producers and distributors) and the processes of energy generation, distribution and consumption. The sociology of energy has created the concept of energy culture to describe human strategies in approaching the problems related to energy (Łucki, Z., Misiak, W., 2010). It consists mainly of the following aspects:

1. Decarbonization of the human activity
2. Improvement of efficiency of primary energy conversion
3. Improvement of exploitation of energy carriers
4. Respect for energy by its users
5. Assurance for cheap and available energy.

The concept of energy culture is important for the energy sector when they take into account the societal opinions about how the sector should be further developed. If the country has a high energy culture, it means that its citizens participate in making decisions and shaping

the policy. They are well educated about the problems and they influence the decisions taken by the government. In democratic states, it is the society that has power. People have the right and possibility express their opinions in elections and polls, which influence the developmental path of the country. This is why proper education is so important. Individuals and societies are more and more aware that the technologies they choose to invest to and develop have an impact on the societies themselves. It is now a well-known fact that technologies we use have the power to change our behavior and structures we organize ourselves into (Bernat, 2011). That applies, of course, to energy systems. Investing in renewable energy, deciding on developing a prosumer oriented energy systems will create a different, more democratic and participatory society, than in the case of relying entirely on centralized systems based on fossil fuel combustion.

Nowadays, unfortunately, most societies may be characterized as wasteful. Many people do not care about the world's resources. They waste energy without even thinking about consequences of such actions. It is one of the main reasons for the continuous growth of the energy demand. Such non-sustainable attitudes may cause a total depletion of natural resources in the future.

Societies can also block the development of some solutions. This is the biggest problem for the nuclear sector. The fear after the Fukushima accident started a wave of protests in whole world and relaunched discussions about the safety of nuclear power in general. Due to a large number of objections made of the society in countries like Germany or Italy, their nuclear programs were stopped (IAEA-PRIS, 2015). As it was already mentioned, the nuclear energy does not have good associations. This is clearly seen in a survey done by the Yale Project on Climate Change one year after Fukushima accident (YPCCC, 2011).

### **3.1.7. CURRENCY MARKETS**

Prices of energy carriers on world market are given in U.S. dollars. This is the main reason why economic crises in the US are the cause of price increases. When the dollar is weak, the costs of resources must go up in order to compensate the value of currency. In other words, the producer selling its product at a low price when the currency is low will earn much less. The relations between U.S. dollar and other currencies are very important and have a direct impact on the carrier market. All that make the economic situation in America very significant for it does affect to a large extent the situation on other markets.

#### 4. TECHNICAL ANALYSIS

Technical analysis is a method based on the analysis of historical data. It is interested only in price alterations and does not take into account any external factors. Its main objective is to find a trend in the direction in which the prices are going. This method is based on the following three assumptions:

1. The market discounts everything.
2. Price moves in trends.
3. History tends to repeat itself (Janssen, C. et al., 2015).

These rules determine the principals according to which we analyze prices. By using this method, one does not have to consider external factors which may influence the data, because this influence is already visible in the price value. The fact that the prices are formed in some trends is also a fact. Technical analysis assumes that after the trend is established, there must be a change, probably in the same direction as the trend develops. By analyzing different data, one can observe that the majority of trends repeat themselves after some period of time. These assumptions quoted above allow for proper analysis of the given data.

Starting from beginning, let us define what a trend is. A trend is a general direction of data change. It is a very useful tool for carrying out analyses. We take the average of values and see if they increase or decrease. In reality, the statement that the trend is going up or down is not so easy. That is why there are some intermediate states. In general, one can distinguish three main types of trends:

- Uptrends
- Downtrends
- Sideways/Horizontal Trends.

Depending on the length of the trend one can distinguish the following three types of trends:

- Long-term trend
- Intermediate trend
- Short-term trend.

In order to properly qualify a trend in accordance with its duration, it is important to have a good time axes. A short-term trend will not be visible in one hundred years period, and on the other hand, we will not notice a long-term trend in the day period.

The next step is to construct a trend line. This is the line which represents the general trend. In fact, it is a straight line that indicates the main direction in which the values are changing. In order to draw it we only need two points. But if we use more than two, the inclination will of course be more precise.

A trend line can show us if in spite of all increases and decreases, the main tendency (for example in energy carrier prices) is going up or down. This could be a main indicator determining a decision to make an investment, or not. Unfortunately, it is not a very precise tool. A trend can be growing up but still the local variation could be significant. To specify the trend, one draws the so-called channel lines, which are practically two trends lines, where one is constructed along the bottom values and the second one connects the top ones. Such obtained channels (the areas limited by channel lines) are used to show the areas of support and resistance.

#### **4.1. SUPPORT AND RESISTANCE AREA**

Support and resistance areas are the borders which will be difficult to cross. In other words, the support area is the lowest prices. It is close to impossible for the indices to go below the bottom line, to gain lower values. In fact, this is the point of increased buying. The price is so low that it is the best time for investing. On the opposite side of the scale is the resistance area. At this point, the value is so high that the market cannot surpasses it. Analogically, this is the worst time for buying. At that time, the prices are viable for the investors, but it is the best moment for sellers, if they, of course, have clients. Obviously, these borders may change. It can happen that the support area will become the resistance one. On the energy carriers market, this can occur for instance when a new energy source is discovered. Such an event would probably significantly reduce prices. The support and resistance areas are important because they show the best time for buying and selling. They often also indicate a change in the trend. When the price is very low, it attracts companies to invest in the product. This may cause a decrease in its availability on the market, which results in an increase of prices. The same analogy can be used in the case of the resistance point. When prices are very high, there are no buyers, which may cause a large accumulation of the product on the market. The availability of the carrier can lower the carrier price and encourage buyers.

#### **4.2. VOLUME**

Volume is a concept related to the area of support and resistance. It indicates the number of contracts at a given time. As I mentioned before, the price level can influence demand and supply. This behavior works in two directions. When there is a lot of transactions and the carrier

is available on the market, prices decrease. Prices rise when the amount of product is limited. That is why it is important to include these concepts in the analyses and predictions. A change in the volume trend can indicate a change in the price trend. When volume decreases, it probably means that the prices will go up in a nearby future.

## **5. CONCLUSION**

This paper presents a multiplefactor analysis of the economic and social aspects of energy carriers. In order to make the examined data clear for the reader, I started with a brief but thorough discussion of the four most important energy carries, i.e. coal, crude oil, natural gas, and uranium. Having done that, I described the results of my analysis on the factors that influence the prices of the abovementioned energy carriers. Among those factors there are: costs of production, political situation, economic factors, freak whether conditions, ecological factors, social factors, and currency markets. In the fourth part of the paper, I focused on what is called technical analysis, which attempts to identify trends of price fluctuations that is used for prices changes predictions. I finish the analysis with a description of the role of the support and resistance areas and the volume for such price predictions.

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