

Advantages and disadvantages of natural gas compared to gasoline essay

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Advantages and Disadvantages of Natural Gas compared to Gasoline

The lifeblood plays a vital and crucial in the proper functioning of every body.

Similarly, the economy of a country requires a number of factors that play the role of lifeblood. Some of the factors that are necessary for the strengthening of economy of a country are its natural resources. In this regard, economy of the United States has been significantly supported by its natural resources, such as natural gas, oil, coal, etc. The United States is a vast country with the population of approximately was 301, 139, 947 according to the estimations for the year 2007. In this regard, a huge amount of population requires the consumption of these energy resources.

It has been observed that a country with few natural and mineral resources end up in high amount of loans and debts from the other countries. The United States is quite lucky in this manner, as the requirement of more than sixty percent of the energy is fulfilled by the oil and natural gas reserves in the country. [1] Rest of the demand is fulfilled by imports from other countries. However, the US Government has taken a number of steps for the ensuring of competitive prices in the domestic oil and natural gas market, which has played a vital role in the strengthened economy of the country. Secondly, the United States is an industrial country having a number of industrial sectors in its vast lands. Thus, mostly all the sectors of the country require the consumption of energy, which is fulfilled by the supply of natural gas, which is one of the important natural resource of the country.

In this paper, we will try to identify, discuss, and compare the advantages, as well as, the disadvantages of natural gas with the gasoline

respectively. As we have mentioned earlier in the paper that mostly all the sectors of the country require the consumption of natural gas, thus, it is very important that an adequate supply of this important natural resource should be maintained by the authorities. One of the reasons of its maintenance is that the quality of life can be improved and preserved by the proper utilization of natural resource that will be quite less in amounts in the coming years. The population can be benefited by the different advantages of natural gas, if the supply of natural gas will be adequate and maintained by the government.[2] In this regard, it is important that we should identify the available reserves of natural gas in the country, which will provide us with an understanding of its significance and demand in the country.

The North American is quite lucky in terms of the resources of natural gas, as there is a large quantity of natural gas resources in this region. However, it should be understood that it takes million of years to form such resources, and thus, one cannot renew these resources.

Therefore, as the fossil fuel is being used at a faster speed in the country, it is advisable that the availability of this resource should be considered by the concerned authorities. A number of misconceptions and misunderstandings have been observed in terms of the availability of natural gas reserves in the country. [3]One of the reasons of such misunderstandings is the shooting up of prices of natural gas, which results in the formation of an incorrect perception regarding the natural gas. Therefore, it is not a fact that the country is running out of natural gas. If the supply of natural gas will be performed adequately, the country will be able to enjoy the advantages of

natural gas for hundreds of coming years. According to the estimates for the year 2000, there are nonassociated natural gas reserves of approximately more than 247 trillion cubic feet that have not been discovered by the authorities.

Secondly, incidental and conditional reserves totaled around 232.5 trillion cubic feet of natural gas in the country. Moreover, recovery of unconventional natural gas was acquired that totaled around 369 trillion cubic feet of this natural resource. In addition, estimates showed that there were around 141 trillion cubic feet of associated-dissolved natural gas. In total, it was estimated that the United States constitutes of approximately 1190.50 trillion cubic feet of natural gas in its reserves that have been discovered, as well as, not discovered in different parts of the country. This quantity totaled the resources of natural gas that were recoverable technically by the concerned department of the country.

In addition, the natural gas resources of the United States including Alaska totaled approximately 1779 trillion cubic feet of natural gas. Lastly, Potential Gas Committee of Potential Supply of Natural Gas in the United States estimated the potential natural gas resources with 1090 trillion cubic feet of natural gas in the end of the year 2000. [4] Until now, we have tried to identify the national reserves of the natural gas in the country that have contributed in the fulfillment of requirement of natural gas in the country. Now, we will try to identify and discuss some of the advantages, as well as, drawbacks related to the utilization of natural gas in different sectors of the country. In this regard, various advantages have been discovered by the

experts in this field. Generally, three main categories can be used to distinguish the different advantages of the natural gas.

Firstly, natural gas is the only fossil fuel that does not affect the environment, as compared to the gasoline that is one of the rivals of environment safety and preservation. Thus, the utilization of natural gas results in the significant improvement in the environment, which worsens by the usage of gasoline, especially in the vehicles. Thus, one of the cleanest is the natural gas in the category of fossil fuels. However, very few byproducts of the natural gas produce polluting elements that are very much less, as compared with the byproducts of gasoline fuel. Moreover, the introduction of technology in the combustion process of natural gas has resulted in the reduction of such byproducts that may pollute the environment. One of the examples is the Clean Air Act that has assured the production of every byproduct in such a way that it should not be harmful for the environment. In addition, perfection of combustion process of natural gas is assured by the checking of color of natural gas that is always blue, which proves the perfection of such process.

[5] Thus, utilization of natural gas plays a vital role in the preservation of environment, which is quite contrary to its counterpart, gasoline fuel. One of the other advantages of natural gas is its characteristic of no-odor at the time of its burning, which is one of the reasons of preferring natural gas for the residential purposes, as well as, in the vehicles. Most of the places require an underground oil tank for the storage purpose, which is eliminated by the utilization of natural gas.

In the result, the dangers and hazards related to the oil spills, as well as, soil contamination are reduced and abolished in an effective and environment-friendly manner. [6] In terms of gasoline fuel where the oil tank is placed above the ground, the public confronts the hazards related with the corrosion of the oil tank. However, the utilization of natural gas results in the reduction of such hazards due to no requirement of any storage tank for the natural gas. Moreover, one of the significant and safety-related distinctiveness of the natural gas is its non-toxicity, which makes it different and preferable from the other gasoline fuels. In the cases of residential purposes, small amounts of natural gas will not harm any human, if inhaled accidentally, which is once again an important advantage of the natural gas.

[7] Another imperative and essential advantage of natural gas is its economic efficiency, as the natural gas is very much cheaper, as compared to the gasoline fuels. In this regard, it is more convenient to acquire natural gas, rather than going for petrol or other gasoline fuels, which are expensive, toxic, as well as, not environment-friendly in nature. In terms of natural gas supply, a safe and efficient pipeline system is employed by the concerned authority to supply the natural gas supply directly to the customer's required place. On the other hand, oil deliveries require proper scheduling, as well as, separate tanks for their storing that could be costly, and requires

maintenance. [8] As earlier mentioned in the paper, natural gas is quite abundant on the domestic level. However, the government has to import oil and gasoline fuels from other countries that effect significantly to

the economy. Moreover, inappropriate international events may result in the shooting up of oil prices, as well as, its supply.

Therefore, natural gas benefits the human lives in a significant manner, as compared with the other gasoline fuels available in the market. In terms of reliability and safety, natural gas is much safer than the gasoline fuels, and is preferable for its utilization in homes, offices, as well as, different vehicles in the country. Weather may not easily damage the pipeline system of natural gas, and thus, it is preferable to utilize the natural gas for the abovementioned purposes. In contrast, weather conditions may also affect the delivery of oil tanks, and may result in the corrosion of oil tanks, which could be harmful for the human lives. Moreover, the safety of natural gas can be proved in such way that producer of the natural gas adds a kind of odorant in the supply of natural gas. In this regard, in case of any leakage, the smell helps to find the leakage in very less time, which results in the immediate fixing of the pipeline system. Therefore, pipeline system of natural gas is considered the safest way for the utilization of energy source for different purposes.

In this regard, the natural gas enjoys a significant place in terms of safety, reliability, cost, supply, availability, etc., as compared with the gasoline and other fossil fuels. [9]Furthermore, other fossils fuels such as gasoline emit a huge amount of carbon dioxide at the time of their burning, which is quite harmful for the environment, as well as, the human lives. On the other hand, when the natural gas is burnt, a very less percent of amount of carbon dioxide is left in the environment, which does not affect the environment in

the drastic manner of gasoline fuels. Moreover, a number of studies have provided the evidences that quality of air is often improved by emitting natural gas in the air.

[10]In addition, the quality of water affects in a similar manner with the utilization of natural gas. One of the evidences of such characteristics of natural gas is the non-production of ashes after the release of its energy in the environment, which signifies its non-pollutant characteristics. In terms of heating, the natural gas has the considerable value due to its high heating value, which is 24, 000 Btu per pound, which is a good heating value for a gas. Many experts have found and a number of related organizations have estimated that the coal is even expensive than the natural gas. Thus, the valuable resource of natural gas is also an inexpensive source of energy that has been benefiting the human lives since centuries. In midst of so many advantages, a number of drawbacks have been observed in the natural gas, which is very much lesser, as compared with the advantages. In this regard, we have already mentioned in the paper that the valuable resource of natural gas takes thousands of years to form in the mountains and beneath the level of ground. Thus, the natural gas resource cannot be renewable once it is utilized by the humans.

In this regard, one of the drawbacks is its limited supply that should be adequately managed by the country. A few experts have estimated that some elements of earth have trapped the finite resource of natural gas, which has been disagreed by a number of experts, but is considered as one of the drawbacks of the natural gas. [11]When a deposit of natural gas is

discovered by the experts, it becomes quite difficult to capture all the discovered resource of natural gas. One of the reasons of such drawbacks is the availability of limited technology that does not allow the recovery of the total discovered resource of the natural gas. Moreover, if the technology is available at the site of discovery, then it has been seen that the professionals do not have the proper and up-to-date knowledge related to the technology for the recovery of natural gas. Thus, there is a huge room of improvement in the training of skilled persons for the discovery and recovery of natural gas resources.[12]A number of international, as well as, domestic organizations have researched and estimated that 5, 149. 5 trillion cubic feet of natural gas has been left in the reserves of this valuable resource in different parts of the world.

Thus, there is an urgent need of employing an adequate plan related to the distribution of natural gas according to the needs and requirements of human lives. In this regard, the United States has to play the major and vital role in the adequate supply of natural gas, as more than twenty percent of world's total natural gas is consumed in the United States alone.[13]

Therefore, it is very important that the awareness regarding the availability and supply of natural gas should be given to the public in different parts of the world, especially the United States. [14]Now, the paper will try to discuss the utilization of natural gas for the different purposes of humans in different parts of the world, especially the United States, as well as, try to compare the costs of natural gas with the gasoline fuels in the market. Natural gas is

used in the home heaters for providing heat energy in the homes during the winter days.

However, the evaluation and comparison of its cost with the cost of gasoline is quite difficult. One of the reasons of this difficulty is the energy conversion efficiency that is very much different in both resources. Moreover, the prices of crude oil are always in the mode of fluctuations, which does not allow the proper evaluation and comparison of these two resources.

However, a representative cost per Btu can be illustrated for the understanding of difference of costs between the natural gas and gasoline. In this regard, to understand the difference of costs, we assume that approximately 1030 Btu can be produced by 1 cubic foot of natural gas reserve. In specific, 1000 cubic feet of natural gas can be acquired in only seven dollars. On the other hand, approximately 138, 500 Btu is produced by 1 gallon of heating oil. In terms of price, one gallon of heating oil costs around \$2. 50 in the United States.

In the result, the comparison shows that fuel oil worth of 10, 000 Btu can be acquired by \$0. 181. Alternatively, \$0. 068 comes out to be the cost of same amount of 10, 000 Btu worth of natural gas. From this illustration, it can be seen that the natural gas reserve is very much cheaper, as compared with the gasoline. In terms of vehicles running on the natural gas, the United States has an estimated more than a hundred thousand of cards running on this technology of natural gas.

Individual cars, trucks, school buses, haulers, etc. are some of the specific vehicles utilizing the natural gas resource for their cars. According to various experts, natural gas is used by more than ten percent of transit buses in the United States. [15]A number of gas refueling stations have been established in different parts of the United States, which have successfully employed means of proper and adequate distribution of natural gas resource to these cars. According to estimation, the United States has around 1, 500 gas refueling stations across its states. The natural gas refueling industry has evolved during the last decade, and various equipments related to the utilization of natural gas have been marketed in different parts of the world.

For instance, natural gas refueling equipments can now easily be installed in homes for the personal refueling of natural gas in the vehicles. A number of experts have encouraged the usage of natural gas in the vehicles, as the natural gas is non-toxic and results in the long life of vehicles, as well as, environment is benefited by the utilization of natural gas in the cars, as compared with the gasoline, which provides a number of drawbacks.

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