

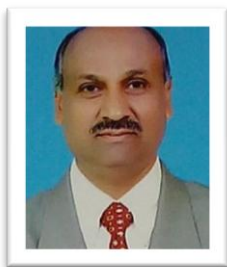
Fossil Fuels and Steps to Conserve

Abstract

A fuel that is formed in the earth from dead plants or animals it includes three major forms like coal, oil and natural gas, the coal is hard black colored rock like substances it is made of carbon hydrogen oxygen nitrogen and varying amount of sulphur .oil is another fossil fuel it was also formed more than 300million years ago .the oil and natural gas are found underground between folds of rocks and in areas of rocks that are porous and contains the oil with in rock itself there are some natural gas combine with a fossil fuels .some steps conserve the fossil fuels like reducing the use of plastics ride a bike or walk more ,go green , solar panel, some advantages of fossil fuels easily available high calorific value ,stability ,transportation, abundantly available lo cast easy set ups like there are some disadvantages fossil fuels are environmental hazardous, rising prices ,acid rain effect on human health ,non renewable coal mining with above steps we can easily conserve over fossil fuels with a good environmental set up forever future life.

Keywords: Fossil Fuels, Paleozoic Era, Coal, Solar Panel, Calorific Value, Acid Rain.

Introduction



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A fuel (such as coal, oil, or natural gas) that is formed in the earth from dead plants or animals There are three major forms of fossil fuels: coal, oil and natural gas. All three were formed many hundreds of millions of years ago before the time of the dinosaurs – hence the name fossil fuels. The age they were formed is called the Carboniferous Period. It was part of the Paleozoic Era. "Carboniferous" gets its name from carbon, the basic element in coal and other fossil fuels.

The Carboniferous Period occurred from about 360 to 286 million years ago. At the time, the land was covered with swamps filled with huge trees, ferns and other large leafy plants, similar to the picture above. The water and seas were filled with algae – the green stuff that forms on a stagnant pool of water. Algae is actually millions of very small plants.

Some deposits of coal can be found during the time of the dinosaurs. For example, thin carbon layers can be found during the late Cretaceous Period (65 million years ago) – the time of Tyrannosaurus Rex. But the main deposits of fossil fuels are from the Carboniferous Period.

As the trees and plants died, they sank to the bottom of the swamps of oceans. They formed layers of a spongy material called peat. Over many hundreds of years, the peat was covered by sand and clay and other minerals, which turned into a type of rock called sedimentary.

More and more rock piled on top of more rock, and it weighed more and more. It began to press down on the peat. The peat was squeezed and squeezed until the water came out of it and it eventually, over millions of years, it turned into coal, oil or petroleum, and natural gas.

Aims of the Study

1. To develop the habits to utilize the fossil fuels in our environment
2. To develop the knowledge to words conservation of fossil fuels
3. To know the advantages and disadvantages of fossil fuels
4. To develop step to converse the fossil fuels
5. To emphasis the knowledge of steps to conserve fossil fuels in the society

Coal



Coal is a hard, black colored rock-like substance. It is made up of carbon, hydrogen, oxygen, nitrogen and varying amounts of sulphur. There are three main types of coal—anthracite, bituminous and lignite. Anthracite coal is the hardest and has more carbon, which gives it a higher energy content. Lignite is the softest and is low in carbon but high in hydrogen and oxygen content. Bituminous is in between. Today, the precursor to coal-peat-is still found in many countries and is also used as an energy source.

The earliest known use of coal was in China. Coal from the Fu-shun mine in northeastern China may have been used to smelt copper as early as 3,000 years ago. The Chinese thought coal was a stone that could burn.

Coal is found in many of the lower 48 states of U.S. and throughout the rest of the world. Coal is mined out of the ground using various methods. Some coal mines are dug by sinking vertical or horizontal shafts deep under ground, and coal miners travel by elevators or trains deep under ground to dig the coal. Other coal is mined in strip mines where huge steam shovels strip away the top layers above the coal. The layers are then restored after the coal is taken away. The coal is then shipped by train and boats and even in pipelines. In pipelines, the coal is ground up and mixed with water to make what's called a slurry. This is then pumped many miles through pipelines. At the other end, the coal is used to fuel power plants and other factories.

Oil and Petroleum

Oil is another fossil fuel. It was also formed more than 300 million years ago. Some scientists say that tiny diatoms are the source of oil. Diatoms are sea creatures the size of a pin head. They do one thing just like plants; they can convert sunlight directly into stored energy.

Oil has been used for more than 5,000-6,000 years. The ancient Sumerians, Assyrians and Babylonians used crude oil and asphalt ("pitch") collected from large seeps at Tuttul (modern-day Hit) on the Euphrates River. A seep is a place on the ground where the oil leaks up from below ground. The ancient Egyptians, used liquid oil as a medicine for wounds, and oil has been used in lamps to provide light.



The Dead Sea, near the modern Country of Israel, used to be called Lake Asphaltites. The word asphalt was derived is from that term because of the lumps of gooey petroleum that were washed up on the lake shores from underwater seeps.

In North America, Native Americans used blankets to skim oil off the surface of streams and lakes. They used oil as medicine and to make canoes water-proof. During the Revolutionary War, Native Americans taught George Washington's troops how to treat frostbite with oil.

As our country grew, the demand for oil continued to increase as a fuel for lamps. Petroleum oil began to replace whale oil in lamps because the price for whale oil was very high. During this time, most petroleum oil came from distilling coal into a liquid or by skimming it off of lakes – just as the Native Americans did.

Then on August 27, 1859, Edwin L. Drake (the man standing on the right in the black and white picture to the right), struck liquid oil at his well near Titusville, Pennsylvania. He found oil under ground and a way that could pump it to the surface. The well pumped the oil into barrels made out of wood. This method of drilling for oil is still being used today all over the world in areas where oil can be found below the surface.

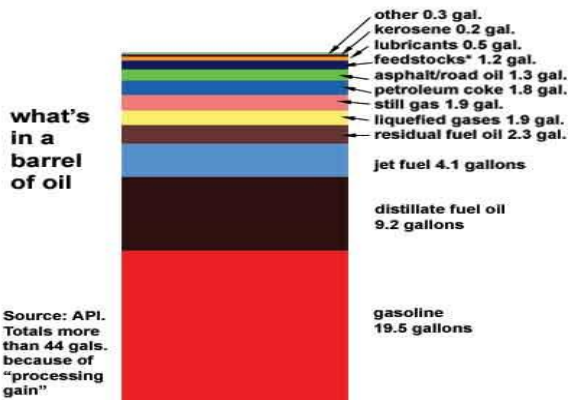
Oil and natural gas are found under ground between folds of rock and in areas of rock that are porous and contain the oils within the rock itself. The folds of rock were formed as the earth shifts and moves. It's similar to how a small, throw carpet will bunch up in places on the floor.

To find oil and natural gas, companies drill through the earth to the deposits deep below the surface. The oil and natural gas are then pumped

from below the ground by oil rigs (like in the picture). They then usually travel through pipelines or by ship.

Oil is found in 18 of the 58 counties in California. Kern County, the County where Bakersfield is found, is one of the largest oil production places in the country. But we only get one-half of our oil from California wells. The rest comes from Alaska, and an increasing amount comes from other countries. In the entire U.S., more than 50 percent of all the oil we use comes from outside the country... most of it from the Middle East.

Oil is brought to California by large tanker ships. The petroleum or crude oil must be changed or refined into other products before it can be used.



Natural Gas

Sometime between 6,000 to 2,000 years BCE (Before the Common Era), the first discoveries of natural gas seeps were made in Iran. Many early writers described the natural petroleum seeps in the Middle East, especially in the Baku region of what is now Azerbaijan. The gas seeps, probably first ignited by lightning, provided the fuel for the "eternal fires" of the fire-worshipping religion of the ancient Persians.

Natural gas is lighter than air. Natural gas is mostly made up of a gas called methane. Methane is a simple chemical compound that is made up of carbon and hydrogen atoms. Its chemical formula is CH₄ – one atom of carbon along with four atoms hydrogen. This gas is highly flammable.

Natural gas is usually found near petroleum underground. It is pumped from below ground and travels in pipelines to storage areas. The next chapter looks at that pipeline system.

Natural gas usually has no odor and you can't see it. Before it is sent to the pipelines and storage tanks, it is mixed with a chemical that gives a strong odor. The odor smells almost like rotten eggs. The odor makes it easy to smell if there is a leak.

Saving Fossil Fuels

Fossil fuels take millions of years to make. We are using up the fuels that were made more than 300 million years ago before the time of the dinosaurs. Once they are gone they are gone.

So, it's best to not waste fossil fuels. They are not renewable; they can't really be made again. We can save fossil fuels by conserving energy

Conservation of Fossil Fuels

Nearly 85 per cent of the U.S. energy supply comes from fossil fuels such as coal, natural gas and oil. Fossil fuels take millions of years to form and are

thus considered to be nonrenewable. Higher energy demands and poor efficiency practices have increased fossil fuel usage, and it's now critical to find alternative means of energy generation before depleting the global supply. It takes individual and community actions to reduce the dependence on fossil fuels.

Fossil Fuels steps to Conserve

Reduce Your Use of Plastic

A lot of plastic, including the ubiquitous plastic bag, uses fossil fuels in its manufacture.

Reduce, Reuse, Recycle

Making new cans and bottles take a whole lot more fossil fuels than recycling an old one.

Be Energy Conscious with Your Power in the Home

This is both a way to reduce fossil fuel usage and your power bill.

Ride a Bike or Walk More

Instead of driving a car or taking a bus, try cycling or walking to your destination. This isn't just great for reducing your fossil fuel use;

Catch Public Transportation More Often

While such options usually still rely on fossil fuels, or some combination of fossil fuels and renewable fuels, the capacity to carry a whole lot more people at once makes these a better option than single car trips with one individual aboard.

Go Green

One solution to the depletion of non renewable fossil fuel usage is to go green. Going green means living your life in a way that sustains current resources for future generations. Green living always seeks to find a balance between humans and natural surroundings. This lifestyle choice focuses on respecting the environment by using as few resources as necessary; consuming only the food and energy needed for survival; participating in recycling programs that reduce municipal solid waste; using green energy electricity services such as solar power, which reduces pollution; and working together with other community members to ensure your children and grandchildren get to experience the same high-quality life. Communities can also go green by encouraging local lawmakers and planning agencies to create walkable neighbour hoods where human interactions are favored over cars that pollute the air.

Install Solar Panel

These options wee quite expensive in the past but do not worry as they are rapidly coming down in the prices as the market is expanding more and more companies are producing them. In some places, state, local and national government even provide subsidies towards their uptake. You can use solar power to heat your home and water. Also they do not use fossil fuels for heating unlike heaters.

You can start an action group or a campaign which helps the environment. There are a lot of things which you can do which can make a difference such as picking up cans or litter clean up. You can even tell about the ways of reducing the usage of fossil fuels in your area. You just keep it positive and tell people what they can actually do rather than what they should not be doing as people usually responds to positive messages and usually shut down when it is all negative.

Advantages of using Fossil Fuels Easily Available

Since these fossil fuels have been of such a great source of energy, more and more extractions are going on every day. The geologists all around the world are trying to find out mines of coals. The pressure is even more as the population is increasing day by day. With the advancement in science and technology, the refineries and the extraction procedures have also improved a lot. This makes the availability even smoother.

Produce Large Amount of Energy

Fossil fuels are easily combustible. Most combustion engines need to be powered with little amount of fuel to and they can produce large amount of energy. Fossil fuels have been serving us for centuries. It is considered as a portable form of energy. Industrial revolution has popularized the usage of fossil fuel in the entire planet. All machines, devices, vehicles depend on the fossil fuels, may it be coal, petroleum or natural gas. Sustainable fuel sources like solar, wind or geothermal have complex process to harness energy from them.

High Calorific Value

All energy produced has some calorific value. The more the value, the more effective it is. Fossil fuels are the highest producers of calorific value in terms of energy. This is also one of the reasons why they are still preferred over the renewable sources of energy or the alternative sources of energy.

Stability

The fossil fuels are composed of the molecules of carbon, and hydrogen. This makes them very stable. The nuclear energy, for instance is produced from radioactive elements and the energy is produced due to their instability. Fossil fuels, due to their constancy in the constitution of the molecules are easy to store as well. They do not form any other compound if stored in the cans for a long time. For the same reason, carrying fossil fuels is also easy than any other form of fuels.

Transportation

The industries need regular supply of fossil fuel like oil, gas and coal. The biggest advantage of using fossil fuels is that they can be easily stored and transported from one place to another. Large reserves of coal are therefore taken from the coal mines to the industries which are acres away from the mines. The petroleum is also taken to too far off power stations to produce energy. These transportation are possible as these fuels are portable. Even natural gas is nowadays being transferred to different areas via pieplines.

Abundantly Available

Though every effort is made to make the usage of alternative fuels popular, still fossil fuels are the most common ones in use. This is because, these are very easily available. They have a vast presence over the globe. Though it is known to everyone that fossil fuels are going to expire one day but it is estimated they would last for another 40 -50 years at current rate of consumption.

Low Cost

Fossil fuels are available all over the world and the methods to extract energy from them are also

not that expensive. To obtain the fossil fuels in their refined form, they need to be properly treated. This does not need a wide set up and is economical. Unlike other alternative sources like solar power or wind turbines whose initial investment cost are too high, fossil fuels have pretty low cost as compared to them. The high cost prevents many people from installing wind turbines or solar panels at their home.

Easy Set Up

Since they are widely available, the construction of fossil fuel power plant can take anywhere in the world as long as they get large quantities of fossil fuels to feed them. They are easier to extract and process and are capable to produce large amount of energy at a single location.

Petroleum extraction is done in blast furnace. There are certain steps that need to be followed in the refining of this fossil fuel. Every step performed in blast furnace produces one or many by products. These products are derivatives of petroleum. Naphthalene, wax, benzoyl, asphalt and many more examples are there which the widely used products are The cosmetics that are used in today's market are also majorly manufactured from the by-products of petroleum. Vaseline is one of the most famous companies. All these products form an industry of their own. They do not have any link directly with the fossil fuels. But they are obtained from them. They have their own utility and there are industries based on them. These industries, even considered as small scale industries, definitely contribute to the country's socio-economic development.

Disadvantages of Fossil Fuels

Environmental Hazards

Environmental pollution is one of the major disadvantage of fossil fuels. It is a known fact that carbon dioxide, gas released when fossil fuels are burnt, is one of the primary gas responsible for global warming. Rise in temperature of earth has resulted in melting of polar ice caps, flooding of low lying areas and rise in sea levels. If such conditions continue, our planet Earth might face some serious consequences in near future.

Rising Prices

Middle-east countries have huge reserves of oil and natural gas and many other countries are dependent on them for constant supply of these fuels. Organization of the Petroleum Exporting Countries (OPEC) is a group of 13 countries including Iran, Iraq, Kuwait, Qatar, Saudi Arabia and UAE. They are responsible for 40 percent of the world's oil production and hold the majority of the world's oil reserves, according to the Energy Information Administration (EIA). OPEC constantly monitors the volume of oil consumed and then adjusts its own production to maintain its desired barrel price. This results in worldwide price fluctuations, according to the U.S. Department of Energy.

Acid Rain

Sulphur dioxide is one of the pollutant that is released when fossil fuels are burnt and is a main cause of acid rain. Acid rain can lead to destruction of monuments made up of brickwork or marbles. Even crops can affected due to acidification of loams. Coal mining results in destruction of ecosystems and also endangers the lives of mineworkers.

Effect on Human Health

Pollution from vehicles and coal powered power plants can cause serious environmental hazards. Pollution related diseases range from mild to severe and can significantly affect one's quality of life. Air pollution can result in asthma, chronic obstructive pulmonary disorder or COPD and lung cancer. Long-term exposure may increase respiratory infections in general population. Children and the elderly are most vulnerable to fine particulate matter and other airborne toxicants.

Non-Renewable

As of today, fossil fuels are being extracted at an exorbitant rate to meet the gap between demand and supply and it is estimated that they will be finished in next 30-40 years. Since they are non-renewable, it is more likely that fuel expenses will face a steep hike in near future. It would take millions of years to replace coal, and oil, and this means that we will not be able drive cars anymore unless we switch to electric cars that use energy from renewable energy sources. This means once these non-renewable sources are completely used up, there is nothing more left.

Impact on Aquatic Life by Oil Spill

Fossil fuels are needed in huge reserves wherever their plants are set up. This requires them to be transported to the desired location via truck, train, ship or airplane. Often we hear of some leaks in oil tankers or ship getting drowned deep under the sea that were carrying crude oil to get refined. The impact of this is that crude oil contains some toxic substances which when mixed up with water poses serious impact on aquatic life. Transportation of crude oil via sea can cause oil spill which can pose hazard to the aquatic life by lessening the oxygen content of water.

Coal Mining

Extraction of coal from areas that have huge reserves is not only a difficult and dangerous task but also poses a serious health hazard to the lives of

several workers who work there. The coal mining destroys wide areas of land and results in ecological imbalance.

Need Huge Amount of Reserves

The coal power plants requires huge and regular supply of coal to produce large amount of energy on a constant basis. This means that these plants need train-loads of fuel near power stations to carry out the process of generating power. This is needed as many countries are still dependent on coal as a major source for producing power.

Technologies to get more out of the earth are progressing, but they don't seem to be doing it as quickly as our demand is growing. In addition, while coal is much more abundant than oil, extraction of coal can be very unsafe, and is damaging to the environment on a large scale, causing erosion, acidification of the environment, and destruction of wild lands. Though the fossil fuels meet our energy and fuel needs, still it's a high time to look forward for the alternative renewable sources of energy such as wind turbines, solar panels, tidal generators and compost. As said by a great man, there is enough for everyone's need but not enough for everyone's greed.

Conclusion

It is one of the energy to be utilize for the living beings and there are some resources available in the environment to enhance the energies for the different virtues and there are some advantages to conserve fossil fuels that is going to create lot of changes in our environment and this changes may be help full for the next generation it also gives types of advantages and disadvantages to conserve our fossil fuels for the future betterment.

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