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# Natural Gas Made Simple

## Category 1

### What is natural gas?

1. Natural gas is a vapour. It is made up of different gases.
2. Natural gas is made up mostly of methane.
3. Natural gas has no colour and no smell.
4. Natural gas is combustible, meaning it can be burned.
5. When natural gas is burned, it gives off energy.
6. Natural gas is a Hydrocarbon, meaning it is made up of hydrogen and carbon.
7. Methane has four hydrogen atoms and one carbon atom.
8. Just like oil and coal, natural gas is a fossil fuel.
9. A fossil fuel is a natural substance made up of dead plants and animals that lived millions of years ago.

## Category 2

### How was natural gas formed and where is it found?

1. Natural gas took millions of years to form.
2. Natural gas was formed from dead plants and animals.
3. The dead plants and animals were covered by several layers of sediment which hardened into rock. Over a long period of time, heat and pressure turned the dead plants and animals into natural gas.
4. Natural gas is found deep beneath the earth's surface.
5. Natural gas can be found, both in the sea and on land.
6. Natural gas is found in reservoirs.
7. In Trinidad, most of our natural gas is found in the sea off the southeast coast.
8. In Trinidad natural gas is also found off the north coast.



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## Category 3

### How is natural gas produced?

1. Companies explore for natural gas and oil by looking at rock formations both on the surface and below the surface of the earth.
2. One way of knowing where to find the natural gas and oil is by sending vibrations through the earth's surface to the rocks beneath. The echoes from the vibrations as they bounce back from under the earth to the surface of the earth can help tell where gas will be found.
3. The gas and oil are taken up from under the earth by drilling.
4. Drilling means that a hole is bored into the earth to reach the natural gas and oil below and to bring them up to the surface through pipes.
5. In Trinidad drilling takes place on structures out in the sea called drilling platforms.

## Category 4

### How is Natural Gas transported?

1. Natural gas is transported by pipelines from the sea to the land.
2. Under the sea the pipelines run on the seabed.
3. On land the pipelines are buried at least 4 feet under the ground.
4. The area where the pipelines are buried is called the Right-of-Way (ROW).
5. The pipelines are made of either steel or polyethylene (a form of plastic).
6. Before the natural gas is used, all the liquids found with the gas are removed.



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## Category 5

### What is natural gas used for?

1. Natural gas is used as a fuel and a feedstock.
2. In Trinidad, natural gas as a fuel is mainly used to generate electricity.
3. Another use of natural gas as a fuel is to produce heat in large furnaces .
4. As a fuel natural gas is also used to power air conditioning systems in very large buildings.
5. A feedstock is a raw material or a raw ingredient.
6. Natural Gas is used as a feedstock in making mainly ammonia, urea and methanol.
7. Ammonia is used to make things like fertilizers and household cleaning products.
8. Urea is used to make fertilizers.
9. Methanol is used to make things like paints and varnishes.
10. Natural gas can also be changed from a gas to a liquid called Liquefied Natural Gas or LNG.
11. When natural gas is changed to LNG, it is easier to transport in large ships.
12. Natural gas is exported from Trinidad as LNG to the United States, the Caribbean and Europe.



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## Category 6

### Environment, Health and Safety

1. Natural Gas is one of the safest fuels.
2. Natural Gas is one of the cleanest burning fossil fuels. It is, therefore, an environmentally friendly fuel.
3. Natural Gas is not poisonous.
4. For your safety, no one is allowed on the ROW.
5. To tell where a pipeline is buried, look for the yellow pipeline marker with NGC's name and contact information.
6. Pipelines are the best and safest way to transport Natural Gas.
7. Damage to a pipeline can be caused by very large landslides and earthquakes.
8. Someone digging on the ROW can also damage a pipeline. If a pipeline is damaged, it may leak or, in rare cases rupture.
9. There are several ways to know if there is a leak on a pipeline:
  - a. You will hear a loud hissing sound of the gas escaping from the leak.
  - b. The grass over the ROW will turn brown.
  - c. If there is a puddle of water over the leak, you will see bubbles in the water.
10. If there is a pipeline leak, you should:
  - a. Leave the area on foot immediately.
  - b. Stay away from the area.
  - c. Call NGC at 800-4GAS (4427).
11. If there is a pipeline leak, you should not:
  - a. Go to the area of the leak.
  - b. Start a car.
  - c. Create any kind of spark.
  - d. Use a cell phone.
  - e. Turn on and off electrical switches.



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## Category 7

### What does natural gas do for Trinidad and Tobago?

1. Trinidad and Tobago's natural gas belongs to the country.
2. Companies are given permission to produce and use natural gas, but they pay the government for the right to do so.
3. The natural gas industry makes more money for the government than any other industry in Trinidad and Tobago.
4. The government uses the money made from natural gas to do things for the citizens like building roads, schools and hospitals, and paying salaries.
5. The natural gas industry creates jobs for the citizens of the country.
6. Natural gas is cheaper to use than any other fossil fuel; so, it costs the country less money to use natural gas as a fuel.
7. Natural gas is a safe, environmentally-friendly fuel. This means it causes less harm to Trinidad and Tobago's environment than other fossil fuels.



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## Category 8

### Who is NGC?

1. NGC stands for the National Gas Company. The full name is The National Gas Company of Trinidad and Tobago Limited.
2. NGC buys, transport and sells natural gas in Trinidad and Tobago.
3. NGC is a state-owned company which means that it is owned by the government of Trinidad and Tobago. This means that NGC belongs to the people of Trinidad and Tobago.
4. NGC was created in 1975.
5. NGC's Head Office is located on the Point Lisas Industrial Estate.
6. NGC owns two compression platforms where natural gas pressure is increased from a low pressure to a high pressure before the natural gas is sent from the sea to the land.
7. The two platforms are called Teak and Poui.
8. All NGC workers in the field have to wear full Personal Protective Equipment or PPE.
9. Full PPE includes: safety helmets, safety goggles, Nomex coveralls and safety boots.
10. NGC keeps their pipelines safe by:
  - a. Burying the pipes at least four feet below the ground.
  - b. Keeping our ROWs clear and clean.
  - c. Placing a buried warning tape above our pipelines to let people know that there is a pipeline buried even further below.
  - d. Doing foot patrols along the ROW.
  - e. Doing aerial patrols in a helicopter along the ROW.
  - f. Using a computer system called SCADA or Supervisory Control and Data Acquisition, to monitor all NGC pipelines.
  - g. Educating the public about natural gas safety.
  - h. Using high quality materials to build our pipelines.
  - i. Having well educated and trained employees.