
INTERNATIONAL AS ECONOMICS

Unit 1 The Operation of Markets, Market Failure and the Role of Government

Source Booklet

Extract A: Natural gas prices for households and natural gas production in selected countries, 2022

Extract B: Fracking – good or bad?

Extract C: Renewable alternatives to natural gas

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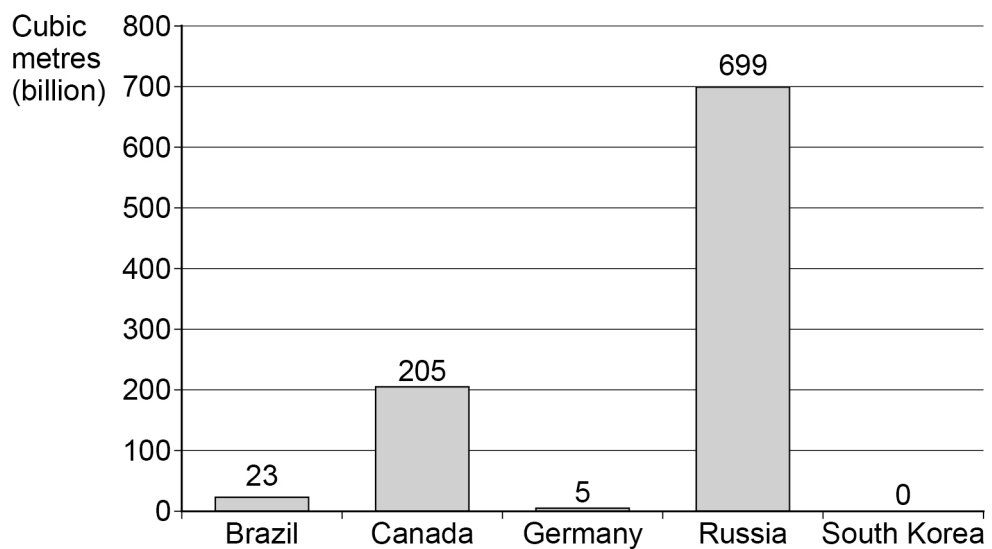
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Extract A: Natural gas prices for households and natural gas production in selected countries, 2022

- (i) **Natural gas prices for households in selected countries (US\$ per kilowatt hour), December 2022**

Country	Natural gas price (US\$ per kilowatt hour)
Brazil	0.23
Canada	0.05
Germany	0.24
Russia	0.01
South Korea	0.06

- (ii) **Natural gas production in selected countries (billion cubic metres), 2022**



Extract B: Fracking – good or bad?

Like oil and coal, natural gas is a non-renewable fossil fuel which is found underground. It is used for heating, for cooking and in many industries. For example, it is used to make paint and electricity. 1

Fracking is one method used to obtain natural gas. Fracking involves digging into the ground and then using water and sand to release the gas. Large amounts of water have to be transported to the fracking site, at significant environmental cost. The fracking process can cause small earthquakes and pollution to water supplies. Fracking is banned in many places, including Germany and Australia. However, some argue that these problems may not happen and that fracking is safe. In Brazil, some regions encourage fracking, but others do not. 5 10

Non-renewable energy currently accounts for around 80% of the world's energy and is a scarce resource. However, it contributes to rising global temperatures. Therefore, some countries have decided to stop using non-renewable energy by 2100. If more gas is obtained from fracking, investment in renewable energy may be delayed. Renewable energy sources include wind, solar and wave power. 15

In the United States, fracking has significantly increased gas production. It has lowered gas prices and created thousands of jobs. It is thought that fracking could help meet the energy demand in the United States for the next 100 years. Some claim that fracking also creates fewer negative externalities than some substitutes such as coal.

However, increased fracking will not necessarily provide a quick or easy solution to high energy prices. Fracking is not possible everywhere and it may take years for the extra gas to be available. Production may also be too low to take full advantage of economies of scale and so not affect the prices paid by consumers in some countries. 20

Extract C: Renewable alternatives to natural gas

Demand for natural gas is expected to grow until at least 2040, especially in China and India, partly due to increased incomes. The demand for gas is also increasing due to consumer choice and a lack of alternatives. 1

In the UK, natural gas prices rose from \$0.03 per kilowatt hour in 2021 to \$0.07 in 2022. Over the same period, UK gas production rose from 32 to 38 billion cubic metres. Higher prices usually encourage production but the price of gas fluctuates, as it does for many commodities including foods such as wheat. Production may take time to increase and there could be conflicts between countries affecting supply. Uncertainty about the future and speculation can also affect commodity prices. 5

Wind and other renewable energy could be used instead of natural gas. In some places, facilities that produce energy from wind can be built quickly, once government approval has been given. In other places, approval and building may take years. Some people do not like the noise and sight of these facilities and do not want them built where they live. Also, wind power depends on the weather. 10

The success of renewable energy depends on firms and consumers being willing and able to produce and use it. To increase production and consumption, renewable energy needs to be cheaper and more convenient. Governments may need to provide renewable energy or give a subsidy. 15

END OF EXTRACTS

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