

Describe and explain the energy mix of a named country you have studied [9]

The UK is a MEDC which relies mainly on fossil fuels. The UK's main source of energy is gas (43%) followed by oil (32%). This reliance on fossil fuels has developed from the exploitation of domestic reserves. Until the late 1980s coal was a significant energy resource however, continued exploitation means that most of the profitable sources of coal in the UK have been exploited. Coal's importance has declined and is only responsible for 18% of total energy consumption. The oil and gas industries have the same problem. We have already taken between half and three quarters of the oil and gas in the North Sea. This has meant that that the UK now imports most of energy.

Approximately 8% of the UK's energy consumption comes from nuclear power. This is a very controversial energy. Some see it as the answer to falling fossil fuel reserves but the environmental impacts associated with nuclear mean that many are opposed. This feeling has probably been strengthened after the Japanese Fukushima disaster in 2011.

Renewable energy is becoming an increasingly important share of our energy consumption. This is not only due to environmental concerns but also as a way of sustaining the UK's energy needs. The government is committed to reducing its carbon emissions under the Kyoto Protocol. This political factor means investment is being put into various forms of renewable energy including wind farms. Approximately 7% of the UK's electricity supply is from wind. The UK has a good climate for wind energy which means that wind farms are being expanded both onshore and offshore. Other forms of renewable energy are also growing in importance. Individuals are also expanding their use of renewable energy as the Government is providing grants and incentives to encourage microgeneration. A significant number of houses now have solar panels.

Overall, the UK is dependent on fossil fuels but it is looking towards renewable energy to improve its impact on the environment and to improve the UK's energy sustainability. As the UK is an MEDC it can afford to import energy if needs be.

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Mali is an LEDC in West Africa. Energy is a big issue for Mali as it has no fossil fuel reserves of its own. This means that fossil fuels have to be imported. Mali is landlocked which means that fossil fuels have to be imported through neighbouring coastal countries. This increases costs which are already high for the LEDC.

Due to high import costs on fossil fuels most rural areas are dependent on firewood and charcoal for their energy needs (approximately 80%). This uses over 50 million tons of national forest per year which means that it is not sustainable for the future. A law has also been passed to restrict cutting of forests for wood. Kerosene lamps, torches and rechargeable car batteries are used for lighting as less than 12% of Mali's population has access to formal electricity (in rural areas it is less than 1%). Mali's wealth means that it cannot afford to set up a national grid or import the energy needed to produce the electricity.

There is potential for extensive renewable energy in Mali. With 5-6 hours of sunshine per day, there are fewer countries with a better solar resource. Some charities have installed solar panels on schools but it is not widely spread. It is again Mali's wealth which is holding back the development of this energy resource.

Charities have also encouraged the development of biofuels. Jatropha is grown to produce seeds which can be made into a biofuel substitute for diesel. The production of fuel briquettes, which are made from agricultural by-products, is also being encouraged by a UN programme.

Overall, Mali's energy supplies come mainly from low-quality biomass fuels such as wood as they do not have fossil fuel reserves and cannot afford to import a significant amount. Their lack of wealth is also restricting the development of renewable energies such as solar power.