

Handout 8: Marking exercise

Activity 9

Candidate A

Please note that spelling, grammar, etc. are the candidate's own.

To what extent has the environmental impact of energy production led to changes in energy strategies?

Environmental impacts have almost always led to changes in energy strategies and not only within specific countries.

An example of this would be how most MEDCs are looking down upon non-renewable resources and nuclear energy as they are very polluting and very dangerous respectively. Policies and counter policies which lead to a change in energy strategies usually follow up from disasters or environmental destruction events caused by various energy production methods. For example, the Fukushima Daiichi nuclear disaster led to many countries into rethinking their energy strategies. In Germany, they announced they would shut down all 17 nuclear power plants by 2022. This was a counter policy because of Japan's Fukushima Daiichi nuclear disaster. Germany also pointed out how Japan was 'helpless' in the face of a nuclear disaster even though they are a highly developed and technologically advanced nation.

Assessments made from the outputs of energy methods, e.g. CO₂ emissions, which damage the environment have a huge impact on the decisions made for energy production. As such with Brazil with its national alcohol program eradicated the use of fuel from fossil fuels in favour of ethanol.

Candidate example B

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To what extent has the environmental impact of energy production led to changes in energy strategies?

China is a great example of how environmental impacts have led to a change in energy strategy. In the 1980s and the 1990s China entered a huge industrial revolution, with its main source of energy being coal at 70% of its total energy usage.

However the Chinese and foreign governments could see the effect that this was having on the local environment and therefore introduced a policy to decrease coal usage, this would in turn decrease environmental degradation.

To achieve this wind power was increased by 12% and hydroelectricity went from being at just 6% usage to being a 1/3 of total energy production usage.

China manage to achieve this by starting to build its Three Gorges Dam back in 2008, by which point they had installed 32 generators producing 700 gw of energy each. In 2011 a further 6 generators were installed also producing 700 gw each, this amounted to a total of 38 generators, producing a total of 26,600 gw of energy just from hydroelectric power.

The Dam was built at 2000m long and 100m high, with a lake of 600 km behind it, all built on the Yangtze river. This has lead to a small decrease in pollution levels, however, with a population of 8 million, there are a lot of vehicles still creating pollution.

This project also had a negative effect on the environment downstream from the dam, due to the fact that there have been an increase in land slides and about 1 million people had to be evacuated from homes to allow flooding room for the dam. Even though the dam is multipurpose and has reduced flooding downstream, it has largely affect peoples lives, especially fisherman, due to the fact that fish aren't able to get through the dam and therefore can't make it downstream, decreasing business for fisherman, due to the little numbers of fish.

Candidate example C

Please note that spelling, grammar, etc. are the candidate's own.

To what extent has the environmental impact of energy production led to changes in energy strategies?

Energy production has to a large extent had a negative effect on the environment and due to this it has changed energy strategies worldwide.

Using of non-renewable energy is not ideal when looking forward in time and as a result there has been degraded environments worldwide. The negative effect has forced the introduction of energy sources that do not degrade the environment.

The use of renewable energy such as solar, natural gas, hydro (water), wind etc. has become more popular.

In China the 3 Gorges dam was constructed despite the negative effect it had on people, the project went forth and now China benefits from a clean hydroelectric power plant. In California wind turbines have taken over and produce clean renewable energy.

Over the years, the pollution of coal the danger of nuclear waste and the usage of more renewable resources have degraded the environment and this contributes hugely to Global warming.

These negative effects were caused to upgrade the human lifestyles and now it is evident that it is not good.

So the environmental impact of energy production has led to changes in energy strategies to a huge extent. And it has been successful thus far.

Candidate example D

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To what extent has the environmental impact of energy production led to changes in energy strategies?

The majority of countries meet their energy demands primarily through the use of fossil fuels, which released CO₂ and results in global warming due to the greenhouse effect. In the last 30 years concerns over the environmental impacts of fossil fuel use have grown massively and many MEDCs have shifted away from the use on non-renewable fossil fuels as a primary source of energy and have placed a focus on the use of 'cleaner' renewable methods, such as wind farms in the rural UK and HEP in China.

These renewable methods have far fewer long-term negative impacts on the environment and are also 100% sustainable, meaning that large amounts of money have been spent on making them economically viable as primary sources of energy, placing pressure on the research and development industry of the quaternary sector of employment.

The concerns around CO₂ emissions led to the formation of the Kyoto Protocol; an agreement signed by over 100 countries, including China, the UK, and Russia, to attempt to reduce the CO₂ emissions of each country. The signing of the Kyoto Protocol led to changes to energy policies, national and regional, in many different countries, both MEDCs and LEDCs. The agreement states that all signatory countries must maintain yearly records of their total CO₂ emissions and that they must attempt to lower these every year.

In the UK there were policy changes on both a national and regional scale, which resulted in the construction of wind farms and solar panels across every country. The attempts to reduce the dependency on fossil fuels have resulted in over 20% of the UK's total energy production coming from renewable sources and CO₂ emissions have decreased by 15% in the last 10 years.

LEDCs have also signed the protocol and Namibia has made changes to its policies in a way that will encourage the education of the importance of renewable production so that it can maintain a sufficient supply from renewable methods as it develops and so that it can diversify its energy production methods to increase the reliability of its supply without dependence on MEDCs for imports.

Whilst there have been clear changes to energy strategies there are still questions being asked about the reliability of renewables and whether we will meet our energy demand, as a planet, without using fossil fuels. This has resulted in small companies evaluating the feasibility of nuclear power and how environmental impacts can be managed.