



GCSE Geography
New Specification B

Teacher Standardisation
Autumn 2009/Spring 2010

Script C

Task 2

Section A - Energy in the 21st Century

- 1 Investigate the UK's move towards renewable sources of energy
- 2 Consider a range of opinions that a community might have about the location of a form of renewable energy within the locality.

Name..... Teacher.....

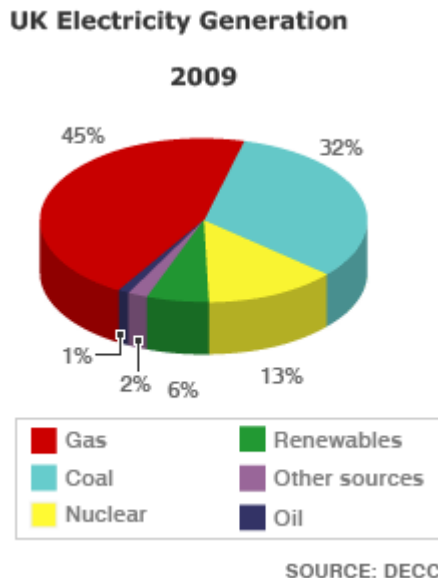
Spec B – Geographical Issue Investigation Mark Sheet

Water/Energy

Strand	Level 1	Level 2	Level 3
Research Evidence	Limited research evidence relating to the issue (1 - 2 marks)	Appropriate research material relating to the issue (3 - 4 marks)	Wide range of appropriate research evidence relating to the issue (5 - 6 marks)
Geographical Understanding and QWC	Limited range of specialised terms used Reasonable accuracy with QWC (1 mark)	Good range of specialised terms used appropriately Considerable accuracy with QWC (2 marks)	Wide range of specialised terms used appropriately. Ideas expressed logically Considerable accuracy with QWC (3 marks)
Presentation Skills	Uses basic skills of presentation ICT presentation may not be present (1 - 2 marks)	Uses appropriate skills of presentation. Work is organised ICT presentation present (3 - 4 marks)	Uses skills of presentation completed to a very high standard. Work is highly organised ICT evident (5 - 6 marks)
Values and attitudes	Evidence of one point of view relating to the issue (1 - 2 marks)	Evidence of two alternative points of view relating to the issue (3 - 4 marks)	Detailed evidence of more than two alternative points of view relating to the issue (5 - 6 marks)
Conclusions	Reaches basic and/or unsubstantiated conclusions (1 mark)	Reaches clear conclusions, some of which are substantiated (2 marks)	Reaches valid and substantiated conclusions (3 marks)
Where an answer fails to meet Level 1, zero marks should be awarded			/24

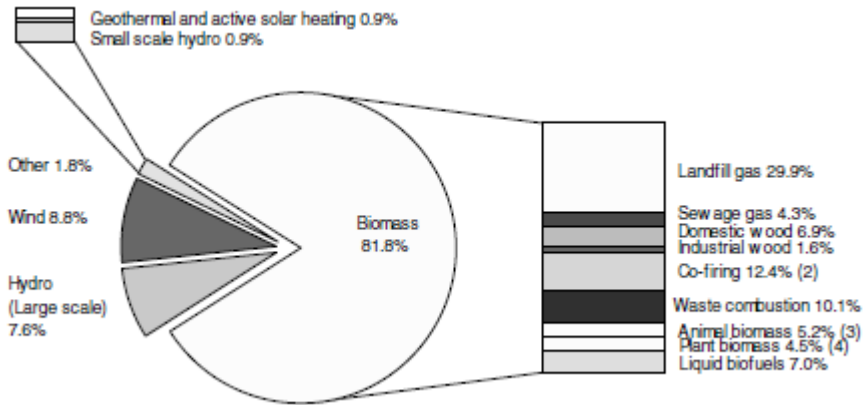
1. Investigate the UK's move towards renewable sources of energy

In 2009 the UK mainly used gas to make most of the electricity, next was coal and then nuclear power. Some people say that nuclear power is renewable but it isn't because the uranium runs out. The pie chart I found on the internet (<http://news.bbc.co.uk/1/hi/sci/tech/8150919.stm>) shows that only 6% of electric comes from renewable. This is things like wind farms and hydro-electric and solar power but not that much of this in UK.



I found another pie chart on the internet and this shows where all the renewable come from but this one was for 2007.

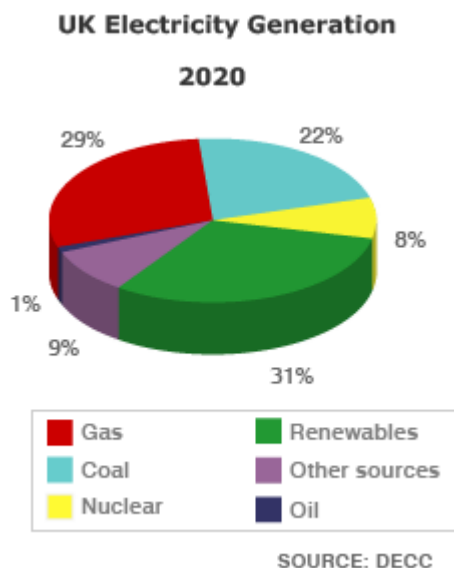
<http://www.berr.gov.uk/energy/statistics/publications/dukes/page45537.html>



Obviously most comes from biomass things like waste and plants. This is nearly 82% and wind and hydro are only nearly 9% and nearly 8% which isn't that much. Altogether though it is the same as using about 5 million tonnes of oil. So not that much of our energy comes from renewable but the government want to make it more. They have a target that 10% should come from renewable by 2010 and all the other countries in the EU have a target as well.

A newspaper article said that the government had a "vision for achieving a low carbon future for the UK" and that they had to cut down on carbon emissions so that they would be using more renewable in the future. <http://news.bbc.co.uk/1/hi/sci/tech/8150919.stm>

Another pie chart showed this. They want it to be 31% by 2020 and that is 25% more than it is now.



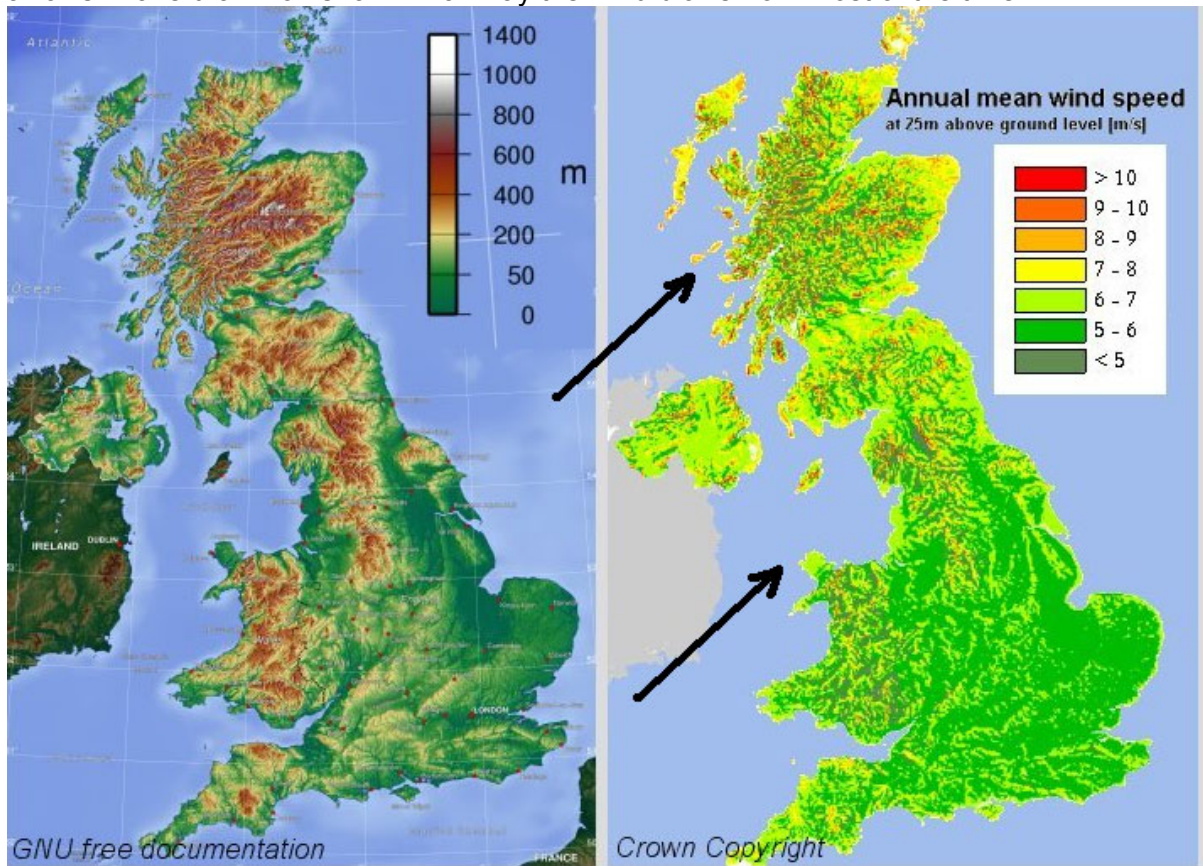
To do this the newspaper said that they would pay "£120m to advance the offshore wind industry" and "£60m in wave and tidal technologies" and "£6m to explore geothermal energy potential". I think that they should build more wind farms to do it because UK is good for wind power.

The best places for wind farms are on the coast and on the tops of rounded hills and in very flat areas the UK have lots of places like that. You can also build them offshore, you need an average wind speed of around 25 km/h.



<http://home.clara.net/darvill/altenerg/images/windfarm2.jpg>

These maps show the mountains and coastline and which places get the most wind. The arrows I have drawn on show which way the wind blows from most of the time.



www.wind-power-program.com/windestimates.htm

Because of this the biggest wind farms are at the places shown on the map.



www.esru.strath.ac.uk/.../resu.html

But there are a lot more small ones.



www.energy.soton.ac.uk/microgen/microwind.html

(400 words – excluding title)

2. Consider a range of opinions that a community might have about the location of a form of renewable energy within the locality.

Some people think that building more wind farms is a good thing because it is clean energy as it doesn't add to global warming because there is no carbon let out into the atmosphere. The wind is free so this sort of energy is cheap once you have paid for the windmills. Even this is cheaper than building a huge power station that burns gas or oil. Environmental groups such as Friends of the Earth would be in favour as they run campaigns to encourage people to use renewable power and some protest at big companies like BP who keep drilling for oil. All this is helping the planet to be healthier and helps because we are running out of oil and coal so we will have to find something else.

Other people would object to wind farms being built. People who live near to them would be disturbed by the noise of the blades spinning round and they think the big windmills would spoil the look of the attractive countryside that they live in. This might put tourists off visiting the place and if they own a shop or something then they would lose money. They might feel that the wildlife where they live would be affected when they are building and they might have protestors there which would not be good for the area.

I don't think that wind power is the answer. In the UK we have lots of industries and transport and houses that all use electric and I don't think that the wind farms would be able to provide enough for them to use. You can get far more electric from a gas power station than you can from wind farms especially on days when the wind isn't blowing very hard. To get enough power we would have to have windmills on every hill and that is realistic though we could put a lot in the sea. I also think that the amount of electric we will use in the future will go up and not down so that would make it even harder for us just to use wind power. Even if you used wind, hydro, wave and biomass together you still wouldn't be able to make enough electric for all the people. We would still have to use gas, coal and oil so maybe we should think of ways of making these cleaner.

(400 words)