Environmental Challenges of the UK – Question 3 - Paper 1 – PLC's

Key ideas and content	R	A	G	Comment/Exam question
Key idea 1 – The UK has a unique climate for its latitude which can create extreme weather conditions				
I know what an air mass is				
I know what the North Atlantic drift is				
I know what a continent / land mass is				
I **can describe and explain** how land and water heat up and cool down				
I **can describe and explain** how Air masses, the North Atlantic drift and land mass influence weather in the UK				
I know what precipitation is				
I **can describe and explain** how air masses cause extremes of Wind in the UK				
I **can describe and explain** how air masses cause extremes of Precipitation in the UK				
I **can describe and explain** how air masses cause extremes of Temperature in the UK				
Key idea 2 – Extreme flood hazard events are becoming more common place in the UK				
CASE STUDY – Flood event – Caused by extreme weather *Somerset levels*				
I know where the Somerset levels are				
I know why the landscape is unique				
I can **describe** the Physical causes of the event				
I can **describe** the Human causes of the event				
I can **describe** and **explain** the effects of the flood upon the Social (People), Economic (Money) and Environmental (the Landscape) aspects				
I can **describe** and **explain** the responses and management to the flood event				
Key idea 3 - Humans use, modify and change ecosystems and environments to obtain Food, Energy and Water				
I **know** what an ecosystem is				
I can **explain** how the environment / ecosystems are modified / changed by Wind Farms to provide energy				
I can **explain** how the environment / ecosystems are modified / changed by Fracking to provide energy				
I can explain how the environment / ecosystems are modified / changed by reservoirs and water transfer schemes to provide **drinking water**				
I can **explain** how the environment / ecosystems are modified / changed by the mechanisation of farming to produce food				
I can **explain** how the environment / ecosystems are modified / changed by commercial fishing to produce food				
Key idea 4 – There are a range of energy sources available to the UK				
I know what renewable energy resources are and can **name some**				
I know what non - renewable energy resources are and can **name some**				
I know what the energy mix is				
I can **describe and explain the contribution of renewable and non-renewable energy sources** to energy supply in the UK				
Key idea 5 – Energy in the UK is affected by a number of factors and requires careful management and consideration of future supplies				
I **know** what energy demand is				
I know what energy supply is				
I can **describe and explain** the **change in patterns in energy demand and supply from the 1950's to present day** caused by Government decisions				
I can **describe and explain** the **change in patterns in energy demand and supply from the 1950's to present day** caused by International organisations				
I **know** what the word sustainable means				
I can **describe and explain** strategies for sustainable energy use				
I can **describe and explain** these strategies and their **management** at a local and national level and describe their level of success				
I can **describe and explain** the development of renewable energy in the UK				
I can **describe and explain** why renewable energy **should contribute to the UK's energy supply**				
I can **describe and explain** the Economic factors **affecting UK energy supply in the future**				
I can **describe and explain** the Political factors **affecting UK energy supply in the future**				
I can **describe and explain** the Environmental factors **affecting UK energy supply in the future**				

Practice questions

1. What is meant by the term 'prevailing wind'? **[1 mark]**
2. Describe the influence of the North Atlantic Drift on the weather of the UK? **[4 marks]**
3. Study Figure 1 on page 84 which shows the air masses affecting the UK.
   a) What is an air mass? **[1 mark]**
   b) Which air mass brings warm and moist conditions to the UK throughout the year? **[1 mark]**
   c) What are the characteristics of the Arctic Maritime air mass? **[1 mark]**
   d) From what direction does the Polar Maritime air mass travel towards the UK? **[1 mark]**
4. With reference to one air mass, describe how it can bring extreme weather to the UK. **[6 marks]**
5. With reference to a case study, evaluate the physical and human causes of flooding. **[6 marks]**
6. To what extent can future flooding be controlled by hard engineering techniques? **[6 marks]**
7. Describe how modern farming has impacted on natural ecosystems. **[4 marks]**
8. Outline the causes and ecological impacts of over-fishing. **[4 marks]**
9. Describe the advantages and disadvantages of wind farms in contributing towards the UK's future energy demands. **[4 marks]**
10. 'The process of fracking is an effective way of extracting oil and gas and its environmental impacts are minimal'. To what extent do you agree with this statement? **[6 marks]**
11. Explain the impacts of reservoirs and water transfer schemes on ecosystems and the environment. **[6 marks]**
12. Identify the renewable energy source that matches each of the following definitions:
    a) Water heated underground when in contact with hot rocks **[1 mark]**
    b) Energy produced from organic matter **[1 mark]**
    c) Energy produced using photovoltaic cells **[1 mark]**
13. Assess the importance of non-renewable energy sources in contributing towards the UK's energy mix. **[6 marks]**
14. Study Figure 2 on page 99 which shows trends in UK energy sources 1961–2009. Which of the following statements is *incorrect*? **[1 mark]**
    a) In 1961 80% of energy came from coal.
    b) Since 2005, natural gas has been the most important source of energy.
    c) Hydroelectricity has shown a steady increase since 1961.
    d) In 2009 nuclear power is the third most important energy source.
15. Assess the role of the government and international organisations in changing the UK's energy supply since 1950. **[6 marks]**
16. 'In the future, demand for energy in the UK will fall'. To what extent do you agree with this statement? **[6 marks]**
17. Evaluate the UK government's strategies for creating a low-carbon energy future. **[6 marks]**
18. With reference to one type of renewable energy, describe the impacts on people and the environment. **[6 marks]**
19. Study Figure 27 on page 114 which illustrates some facts about the proposed Hinkley Point C nuclear reactor. Outline the advantages and disadvantages of constructing a new nuclear power station at Hinkley Point. **[4 marks]**
20. Describe the environmental factors affecting the UK's future energy supply. **[4 marks]**

Tip

For question 3, make sure that you focus on a single air mass only in your answer.

Tip

Look at question 5. Make sure that you weigh up the relative importance of physical and human causes and refer in detail to a case study.

Tip

Look at question 10. You need to decide to what extent you agree with this statement and then justify your position.

Tip

For multiple choice questions, such as question 14, select the correct answer by a process of elimination.

Tip

When evaluating, like in question 17, make sure that you weigh up the advantages and disadvantages of each strategy.

Tip

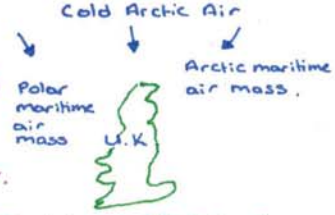
For question 20, make sure that you focus entirely on environmental factors.

Revision Sheet 1 - Environmental Challenges of the UK – Question 3 - Paper 1 – KI relates to Key Ideas on PLC's

Weather is the day to day conditions of the atmosphere i.e temperature, cloud, rain etc... Climate is the long term average weather over a long period of time.

KI1 - An Air Mass is...

A large body of air that has particular characteristics of temperature + moisture. These hit the U.K bringing particular types of weather.



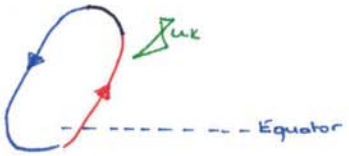
KI1 - Precipitation is...

All forms of water from the atmosphere. Water exists in 3 states of matter: Liquid - Water - Rain
Gas - water vapour - fog - mist
Solid - snow, hail, sleet.

KI1 - North Atlantic Drift is... also known as the Gulf stream

Water heats up near the equator, near the canary Islands, it travels north through a current in the sea known as the N.A.D./G.S. It heats up the West coast of the U.K, cools off in the Arctic, travels South past Canada and goes back to the equator to heat up again

Therefore U.K stays warm while Moscow and Newfoundland that are the same lines of latitude are much colder



KI1 - Continent / Land Mass is...

Large mass of land i.e the European continent.

Large areas of land heat up quickly and cool down quickly and so this is why they have hot summers and cold winters.

KI1 - How Land and Water Heat Up and Cool down

Concept of: Tea + Toast!

Water takes a long time to heat up, but once warm, stays warm for a long time i.e Kettle takes a while to boil, but you cup of tea will stay warm for quite a while.

Land heats up quickly - but cools down quickly i.e Toast heats up quick, but cools down quickly.

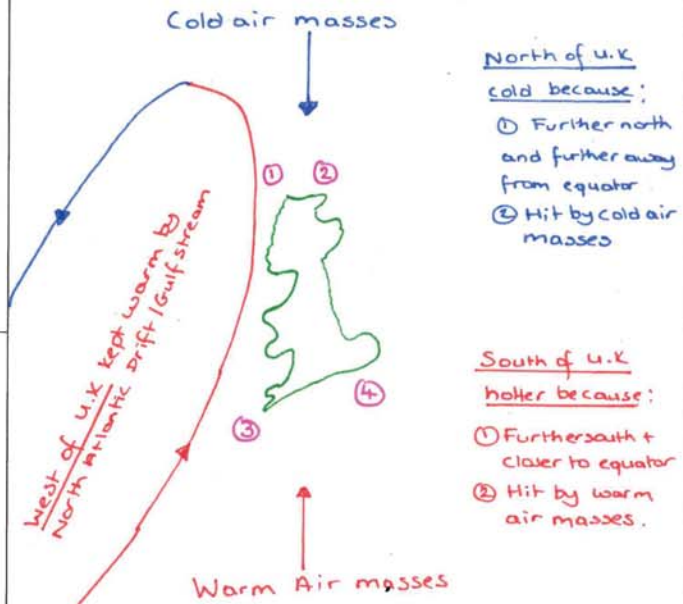
KI1 - How Air masses cause extremes of Wind

Tropical Maritime air mass - strong winds in 2014

Feb 2014 U.K battered by storms out of the S.W Atlantic

Devon + Cornwall suffered damage to houses + railway lines.

KI1 - How Air masses, the North Atlantic Drift and Land mass influence weather in the UK



North of U.K cold because:
① Further north and further away from equator
② Hit by cold air masses

South of U.K hotter because:
① Further south + closer to equator
② Hit by warm air masses.

1+2 N.W of Scotland is warmer than NE

3+4 S.W. of England is warmer than S.E

All because of air masses and N.A.D./G.S.

KI1 - How Air masses cause extremes of Precipitation

Arctic Maritime Air mass

Heavy snow 2009-2010

Arctic maritime air mass can bring heavy snow + really cold temperatures, especially to Scotland.

Dec 2009 - Jan 2010 - Low temperatures and heavy snow to much of U.K. Worst since 1982.

Temperatures in Scotland -10°c, 30cm snow in Scotland, people died, transport affected

KI1 - How Air masses cause extremes of Temperature

Tropical continental Air mass

Heatwave 2003

2003 much of Europe and U.K suffered most extreme heatwave for 500 years.

20 000 people died. U.K recorded highest temperature ever

Wildfires broke out. Rivers ran dry.

* N.A.D. - North Atlantic Drift G.S. - Gulf Stream

Revision Sheet 2 - Environmental Challenges of the UK – Question 3 - Paper 1 – KI relates to Key Ideas on PLC's

2014 - U.K hit by worst storms for 20 years. Somerset levels experienced flooding. 65 km² of land flooded.

CASE STUDY SOMERSET LEVELS

KI2 - Where the Somerset levels are...

- S.W. England.
- In the county of Somerset.
- Cover an area of 650 km²
- They are between the Quantock and Mendip Hills.

KI2 - Why the landscape is unique

- Unique flat landscape
- Much of the land is below sea level, maximum height (Altitude) 8m above sea level.
- Historically unique because the land has been drained for agriculture and residential purposes for 1000s of years.
- Originally a land of rivers + wetlands
- Romans built defences to keep out the tides
- Dutch engineers dug ditches to drain away water so land could be farmed.
- Therefore area is at risk of flooding from Rivers + sea.

KI2 - Physical causes of the flood event

- Prolonged Rain
- Hurricane force winds → caused widespread flooding
- Tidal surges

- Storms caused by a powerful Jet stream, causing low pressure systems + storms.
- From December to February 12 storms.

Jet stream narrow band of strong wind currents, that circle the Earth.

KI2 - Human causes of the flood event

- Rivers not been dredged properly for 20 years.
- Dredging involves digging up the mud + weeds that block the river channel.
- Rivers were blocked up + so too much rain would flood the land.
- Used to dredge rivers every 5 years.
- Farmers told government dredging was needed.
- Houses were built on the floodplain an area that floods. Houses were built below sea level.
- Locals said if rivers were dredged they would not be blocked and area would not flood.

KI2 - Social effects of the flood

- 600 homes affected
- Villages cut off due to flooded roads
- Journey times took longer due to flooded / closed roads.

KI2 - Economic effects of the flood

- Cost to Somerset economy £100 to £150 million.
- Businesses lost trade.
- Farmers lost crops and animals.

KI2 - Environmental effects of the flood

- Natural England said floods had little impact on wildlife
- Farmland was underwater for a month.

KI2 - Responses & Management of the event

- Environment agency installed 62 pumps working 24 hours a day to remove flood water.
- Royal marines deployed to help people in cut off villages.
- Defences such as embankments, coastal defences and sluice gates were repaired.
- March 2014 government wrote a 20 year flood action plan for Somerset.
  - Dredge rivers
  - Repair flood defences
  - Make pumps permanent
  - Raise the height of the Roads
  - Build a tidal barrier like the Thames barrier to hold back surges
- These are all hard engineering / man made approaches

Could ideas be more Sustainable?

- Let area go back to being wetlands?
- Homeowners given government compensation to move?
- Farmers invest in flood tolerant activities?

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Revision Sheet 3 - Environmental Challenges of the UK – Question 3 - Paper 1 – KI relates to Key Ideas on PLC's

KI3 - An ecosystem is....

Ecosystems are natural areas in which plants and animals are linked to each other and to the non living environment forming a natural system.

- Biotic - living elements
- Abiotic - non-living elements

Most of the U.K is made up of land which humans have heavily modified to:
- Grow food
- Produce energy
- Obtain water.

The U.K. used to be covered in woodland this has been cut down to:
- Be used as fuel
- Make space for housing
- Make space for farms for food.

U.K ecosystems have been changed to provide for the needs of humans for Food, Energy and Water.

KI3 - Wind Farms

What they are & effect on the environment

Wind power is a renewable energy source. Power is produced by wind turbines turning to generate electricity

Wind farms on land - onshore
Wind farms at sea - offshore
Wind farms are cheap compared to other sources of energy and is clean and a major source of electricity in the U.K.

Enviromental effects:

Onshore:
- Found in open countryside on high ground.
- Some people think they ruin the landscape and can be noisey

Offshore:
- may disturb migratory patterns of birds

- Wind turbines need to be made + so Greenhouse gases are emitted in this process
- Once in use produce no greenhouse gases.

KI3 - Fracking - Hydraulic Fracturing

What it is & effects on the environment

A modern process pumping a mixture of water, sand + chemicals under high pressure into Shale rocks to split them and force oil or gas to the surface.

USA 49% of gas + oil from fracking.

UK currently imports gas + oil.

2015 government issued licenses to allow companies to frack in the U.K.

Environmental effects:
- Uses less water + emits less green house gases than coal power stations.
- Fracking water uses chemicals and this could turn groundwater supplies (drinking water) toxic.
- Are concerns about fracking causing microquakes, mini earthquakes.

KI3 - Reservoirs & Water transfer

What they are & effect on the environment

Water supply is an issue in the U.K because most falls in the North + West but most is needed in the South + East for domestic, agricultural + industrial + energy use.
40% domestic, 40% energy, 19% industry, 1% agriculture
So how do we get water to where it is needed?

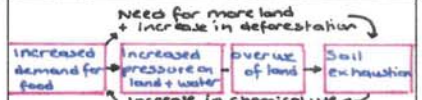
Reservoirs	Water transfer schemes
Large areas of water created by damming a river.	Tunnels + pipes bring water from reservoirs in the North + West to reservoirs in the South + East, i.e Wales to Birmingham
They are expensive	Environmental effects
They change the flow of the river	schemes rely on hard engineering.
Environmental effects:	Non native species can invade the ecosystem
Flooding the land loses settlements	Rely on hard engineering.
Disrupts natural processes	
Disrupt ecosystems	
Building dams requires energy + G.H gas emissions.	

KI3 - Mechanisation of farming

What it is & effects on the environment

- Farming has changed over time from subsistence - people plough + sow + eat what they grow through to industrialised. This Mechanisation has led to large scale farming + use of tractors etc... This is now Agribusiness.

Environmental effects:
- Farms have grown in size.
- Hedgerows that divided fields have gone an animals that live their have lost their habitat.
- Farming is year round i.e getting produce out of season.
- Fields are not "fallow" - rested.
- Increase in use of chemicals is costly + can cause Eutrophication → Chemicals in water increase growth of Algae sunlight blocked out + water starved of oxygen + creatures die.



Needs + impacts of modern farming.

KI3 - Commercial fishing

What it is & effects on the environment

- Commercial fishing increased in last 100 years, over 1 billion people rely on fish as primary food source
- Commercial fishing uses large trawlers not small fishing boats.
- Use sonar to track + find fish.

Environmental effects:
- Caused over fishing of some popular species such as cod. Too many young are caught and stocks fall.
- In UK now minimum sizes of fish that can be caught.
- Consumers to be made aware of other fish that are sustainable i.e. Pollock.
- Commercial fishing has caused accidental deaths i.e Dolphins.
- Boats have to go further away to find fish + so have an increase in fuel and increase in use of fossil fuels.

KI4 - Renewables are...

Sources of energy that can be used to generate energy over + over again without being used up.

They are generally non polluting.

Apart from biomass they do not directly emit harmful greenhouse gases.

See table over the page

KI4 - Non renewables are...

Fossil fuels - formed millions of years ago, extracted from the ground.

Hydrocarbons, Coal, oil + gas.

They are Finite, they will run out.

They pollute the air, especially with CO_2.

Coal
Used to be main energy source in the U.K

Oil and Natural gas.
Nearly half of U.K's electricity in the past most came from the North sea, but today most of it is imported in.

Nuclear
Is a non-renewable because Uranium will run out. Generates 20% of U.K electricity. All reactors are near the coast because require huge amounts of water for cooling. Some are near ports where uranium arrives. They are generally clean, but is the fear of radiation and the cost of decommission.

KI4 - The energy mix is....

The U.K has a good energy mix, using several different sources of energy.

50% Natural gas, Coal still important 29%.

Coal, oil, natural gas and nuclear provide majority of U.K energy

U.K is now increasingly dependent on importing fossil fuels

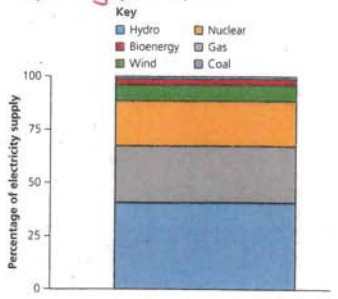


Figure 10 The UK's electricity supply, 2013

KI4 - Contribution of renewable & non-renewables to UK energy supply

Only a relatively small amount comes from renewable resources

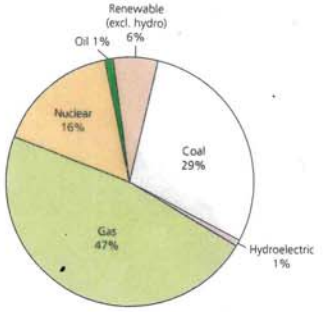


Figure 9 Energy sources in the UK, 2010

Renewable energy source	How does it work?	Importance in the UK
Biomass	Energy produced from organic matter. It includes burning dung or plant matter and the production of biofuels, by processing specially grown plants such as sugar cane and maize.	Some biofuels are produced and used in transportation (about 3 per cent of total road transport fuel). Biofuels and waste account for over 5 per cent of the UK's electricity generation.
Wind	Turbines on land or at sea are turned by the wind to generate electricity. The UK is one of Europe's windiest countries!	In 2014, wind power accounted for just below 10 per cent of the UK's electricity demand. Despite being unpopular, wind energy does have considerable potential for the future.
Hydro (HEP)	Large-scale dams and smaller micro-dams create a head of water that can spin turbines to generate electricity.	Large dams are expensive and controversial. Micro-dams are becoming popular options at the local level. HEP currently supplies just 1.4 per cent of the UK's electricity production.
Geothermal	Water heated underground when in contact with hot rocks creates steam that drives turbines to generate electricity.	There are some small geothermal projects in the UK, for example in Southampton's city centre.
Tidal	Turbines within barrages (dams) constructed across river estuaries can use rising and falling tides to generate electricity.	There are no existing tidal power barrages in the UK due to the high costs and environmental concerns. Tidal power could generate up to 10 per cent of the UK's electricity. In the future, sites such as Swansea Bay and Bridgwater Bay might be developed for tidal power.
Wave	One method involves waves forcing air into a chamber where it turns a turbine linked to a generator.	Portugal has installed the world's first wave farm, which started generating electricity in 2008. There are some experimental wave sites in the UK but costs are high and there are environmental concerns.
Solar	Most commonly, this involves photovoltaic cells mounted on solar panels which convert light from the sun into electricity.	During the summer, solar power can generate considerable amounts of electricity. There are increasing numbers of solar farms in the UK and many homes have solar panels on their roofs. Solar power almost doubled during 2014.

Revision Sheet 4 - Environmental Challenges of the UK – Question 3 - Paper 1 – KI relates to Key Ideas on PLC's

KI5 - Energy Demand is....

The energy we need for:

1. Our lives
2. Industry
3. Transport etc.....

KI5 - Energy Supply is....

The energy we produce to fuel our way of life.

* The energy mix is the different types of energy we use i.e coal, gas, nuclear solar etc....

KI5 - Development of Renewable Energy supply in the UK

1950's all energy - coal. - Tiny % from H.E.P.

1960's 80% coal - rest Oil + tiny % H.E.P.

1970's - Rise in price of oil + miners strikes saw government look into renewables

1980's - Solar energy + Geothermal in Southampton

1990's - renewable 2% of electricity supply.

2013 - renewables 15% of electricity supply.

2015 - renewables 25% of electricity supply.

Govt target to reduce pollution main reason.

KI5 - Change in energy patterns, demand and supply 1950 - present day caused by Government decisions

Energy consumption has risen since the 1950's - why? - Population of UK has ↑
- We have more appliances.

Demand from industry, transport + home all ↑.

↑ in energy consumption = ↑ in temperature

2004 - 2011 energy consumption in homes fell and this coincided with ↑ in cost of energy.

But also:

- Since 2007 houses that are sold have to produce energy efficiency certificate
- New boilers for heating and hot water have to be energy efficient under govt guidelines.
- Environmental awareness of our Carbon footprint
- Govt - CERT - Carbon emissions reduction target

KI5 - Change in energy patterns, demand and supply 1950 - present day caused by International organisations

E.U. - European Union

- Target of reducing carbon emissions by 40% by 2030
- 2011 - EU had an energy efficiency plan
  - promotes use of smart metres so customers can monitor their use of energy
  - promotes construction of energy efficient houses
- E.U - "energy label" on products such as fridges, washing machines so customers know how much energy they use.

KI5 - Sustainable means....

Using energy resources to ensure their availability for future generations.

KI5 - Strategies for Sustainable energy use...

Ensure national and local security of energy - by reducing damage to environment
- conserving the small amount of fossil fuels we have left.
- ↑ use of solar, wind + water.

KI5 - Management of these strategies at a Local and National level

National - ↑ use of renewables
- encourage energy saving
- develop more nuclear energy
- develop carbon capture + storage

Local - In small communities - micro hydro electric schemes, small local heating schemes and Anaerobic digestion where - bacteria breakdown sewage + creates biogas.

KI5 - Why Renewable Energy should contribute to UK's energy supply

- Reduces dependency on oil, which is running out
- Reduces dependency on other nations for energy resources.
- IT IS GREEN + REDUCES POLLUTION + REDUCES EMISSION OF GREENHOUSE GASES.

KI5 - Economic Factors affecting energy supply in the future

- High cost of building new power stations
- High cost of decommisioning/closing down nuclear power stations
- New power stations expensive = higher costs to people + businesses for electricity.
- North sea oil and gas running out so expensive to get what is left and we have to pay to import / buy more in
- Small scale renewable schemes have to be cost effective to local communities
- High cost of wind farms, tidal barrages etc....

KI5 - Political Factors affecting energy supply in the future

- Fracking - some political parties support it and some don't.
- Imports of natural gas - must have agreements with nations to supply us to give us' ENERGY SECURITY.
- Should foreign countries invest and own and operate U.K nuclear power stations i.e. Chinese.
- Will governments continue to support renewables or prop up fossil fuels?

KI5 - Environmental Factors affecting energy supply in the future

- U.K will reduce carbon emissions.
- UK will use low carbon fuels
- Fracking may have environmental impacts, especially pollution of ground water.
- People are worried about radiation from nuclear power stations.
- Environmental concerns may prevent increase in renewables - mainly wind turbines and solar farms.

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KI5 - Why Renewable Energy should contribute to UK's energy supply

- Reduces dependency on oil, which is running out
- Reduces dependency on other nations for energy resources.
- IT IS GREEN + REDUCES POLLUTION + REDUCES EMISSION OF GREENHOUSE GASES.

KI5 - Change in energy patterns, demand and supply 1950 - present day caused by Government decisions

Energy consumption has risen since the 1950's - Why? - Population of UK has ↑
- we have more appliances.

Demand from industry, transport + home all ↑.

↑ in energy consumption = ↑ in temperature

2004 - 2011 energy consumption in homes fell and this coincided with ↑ in cost of energy.

But also:

- Since 2007 houses that are sold have to produce energy efficiency certificate
- New boilers for heating and hot water have to be energy efficient under govt guidelines.
- Environmental awareness of our Carbon footprint
- Govt - CERT - Carbon emissions reduction target

KI5 - Economic Factors affecting energy supply in the future

- High cost of building new power stations
- High cost of decommissioning/closing down nuclear power stations
- New power stations expensive = higher costs to people + businesses for electricity.
- North sea oil and gas running out so expensive to get what is left and we have to pay to import / buy more in
- Small scale renewable schemes have to be cost effective to local communities
- High cost of wind farms, tidal barrages etc....

KI5 - Change in energy patterns, demand and supply 1950 - present day caused by International organisations

E.U. - European Union

- Target of reducing carbon emissions by 40% by 2030
- 2011 - EU had an energy efficiency plan
  - promotes use of smart metres so customers can monitor their use of energy
  - promotes construction of energy efficient houses
- E.U - "energy label" on products such as fridges, washing machines so customers know how much energy they use.

KI5 - Political Factors affecting energy supply in the future

- Fracking - some political parties support it and some don't.
- Imports of natural gas - must have agreements with nations to supply us to give us ENERGY SECURITY.
- Should foreign countries invest and own and operate U.K nuclear power stations i.e. Chinese.
- Will governments continue to support renewables or prop up fossil fuels?

KI5 - Sustainable means....

Using energy resources to ensure their availability for future generations.

KI5 - Strategies for Sustainable energy use...

Ensure national and local security of energy - by reducing damage to environment
- conserving the small amount of fossil fuels we have left.
- ↑ use of solar, wind + water.

KI5 - Management of these strategies at a Local and National level

National - ↑ use of renewables
- encourage energy saving
- develop more nuclear energy
- develop carbon capture + storage

Local - In small communities - micro hydro electric schemes, small local heating schemes and Anaerobic digestion where - bacteria breaks down sewage + creates biogas.

KI5 - Environmental Factors affecting energy supply in the future

- U.K will reduce carbon emissions.
- UK will use low carbon fuels
- Fracking may have environmental impacts, especially pollution of ground water.
- People are worried about radiation from nuclear power stations.
- Environmental concerns may prevent increase in renewables - mainly wind turbines and solar farms.