

(Geographical applications) Section A: Issue evaluation

Question Paper

These practice questions can be used by students and teachers and is Suitable for GCSE AQA Geography Topic Questions 8035

Course	AQA GCSE Geography
Section	7. Issue Evaluation
Topic	7.1 Issue Evaluation
Difficulty	Medium

Level: GCSE AQA 8035

Subject: Geography Exam

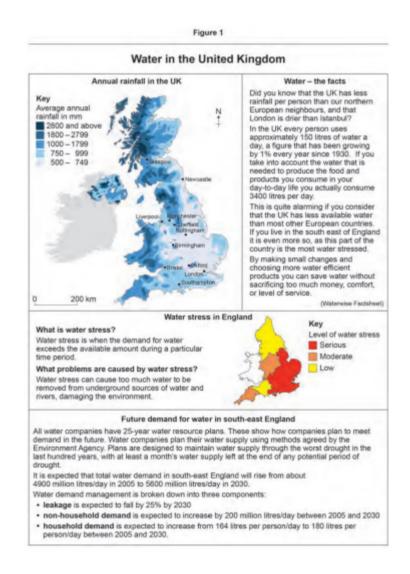
Board: GCSE AQA

Topic: Issue Evaluation

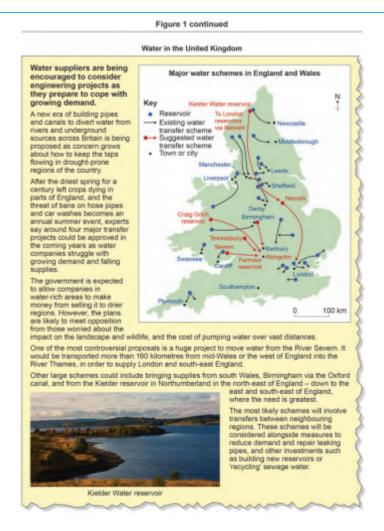


Question 1a

Study **Figure 1**, 'Water in the United Kingdom' in the resources booklet.







(a)

Which of the following cities has the highest annual rainfall? Shade **one** circle only.

- A. Bristol
- B. Glasgow
- C. Liverpool
- D. London

[1 marks]

Question 1b

(b)

Give two effects of water stress.

[2 marks]



Question 1c

(c)

'Water transfer schemes will be essential to meet the growing demand for water in the UK.' Do you agree? Explain your answer.

[6 marks]

Question 1d

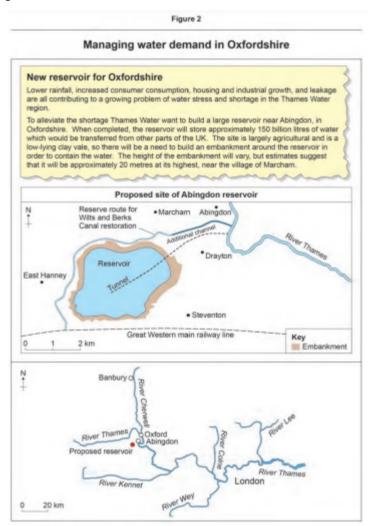
(d)

Suggest why water companies need 25-year plans.

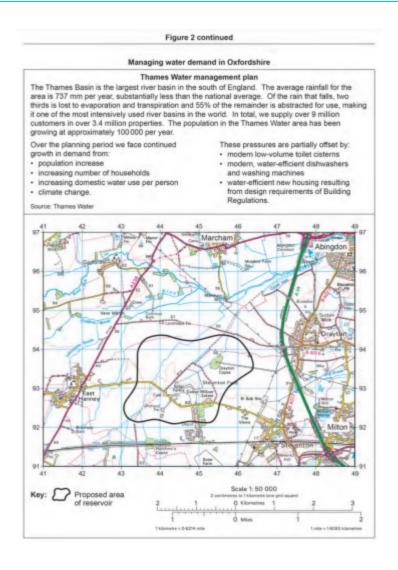
[6 marks]

Question 2a

Study Figure 2, 'Managing water demand in Oxfordshire' in the resources booklet







(a)

What is the approximate area of the proposed reservoir as shown on the Ordnance Survey (OS) map extract?

Shade one circle only.

- A. 3 km2
- B. 6 km2
- C. 9 km2
- D. 12 km2

[1 marks]

Question 2b

(b)

Describe the relief of the land in the area of the proposed reservoir.

[2 marks]



Question 2c	
(c)	
Give one reason why clay is a suitable material on which to build a reservoir.	
[1 r	marks]
Question 3a	
Study Figure 2, 'Managing water demand in Oxfordshire' and Figure 3, 'A new reservoir for Oxfordshire'	shire?'
in the <u>resources booklet</u> .	
(a)	
'The physical environment provides opportunities for a range of socio-economic activities.'	
Use Figure 2 and Figure 3 to discuss this statement.	
16 r	marks]
Question 3b	
(b)	
Do you think that the proposed reservoir development should go ahead?	
Yes No	
Tick the box to show your choice.	
Use evidence from the resources booklet and your own understanding to explain your choice.	
n 6]	marks]
-	
	aoj



Question 4a

Study Figure 1, 'Tropical rainforests'.

Figure 1

Tropical rainforests

The distribution of tropical rainforests

Tropical rainforests cover approximately 6% of the earth's surface and are found near the Equator. Although tropical rainforests only cover a relatively small proportion of the earth's surface they support the largest concentration of plant and animal species on the earth.



The tropical rainforest climate

While each area of tropical rainforest is unique, they share common climatic characteristics. They are generally defined as 'hot and wet', with no real seasonal temperature differences and high annual rainfall. There are variations in the pattern of rainfall across the year but a common characteristic is the high level of humidity which provides ideal conditions for the growth of micro-organisms, an important part of the rainforest ecosystem.

Example of a rainforest climate - Manaus (Brazil) 3°S 60°W

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Temperature (°C)	28	28	28	27	28	28	28	29	29	29	28	28
Rainfall (mm)	278	278	300	287	193	99	61	41	62	112	165	220

The tropical rainforest ecosystem

The hot, moist conditions create ideal growing conditions so plants can grow quickly and the high rates of decay return minerals to the soil. These minerals are rapidly absorbed by the plants or washed out by the rainfall, so soils are often poor. Most of the energy is stored in the plants and many have adapted to live successfully within the rainforest.

The tropical rainforest has a vertical structure with plants responding to levels of moisture and light. It is thought that rainforests have the highest biomass of any ecosystem and contain over 60% of the world's biodiversity, being home to over 15 million different species of plants and animals, including over a half of the world's flowering plants. The vast range of plant life creates the ideal environment for animals to thrive. In the Amazon rainforest it is estimated that on average one hectare of land contains 1500 species of fish, 2000 bird species and over 30000 species of insect. Animals live at different levels within the rainforest, with some living high up in the tree cover and never touching the ground. All of the plant and animal life forms a complex food web, depending on each other to survive.

Figure 1 continued



The structure of the rainforest

Emergents – A small number of trees break through the general level of the forest, reaching heights of over 30 metres.

Canopy - Continuous, dense tree cover protects the ground from heavy rainfall and reduces the amount of light to areas below.

Understorey – Woody plants and shrubs grow in the humid, calm conditions with limited sunlight.

Ground layer – Largely made up of decomposed material broken down by the hot, humid conditions. This level consists of scattered plants and fungi, used by insects as a source of food.

The importance of tropical rainforests

Tropical rainforests are not only a resource, they are also important in many other ways and are a vital part of the global carbon balance. Tropical rainforests are valuable because:

- Over 50 million years of plant and animal species evolution has created a huge diversity of species.
 It is estimated that over 10 species are being lost every day due to rainforest destruction.
- They act as a global carbon sink and a climate regulator, and also help to reduce local risks of
 erosion and flooding.
- They provide a wide range of local foods and industrial products, including fibres, resins, dyes and rubber.
- They are home to over a thousand indigenous tribes who depend on the rainforest for their survival.
 These people have learned to live sustainably within the rainforest over hundreds of years.



(a) Calculate the temperature range for Manaus.	[1 marks]
Question 4b	
(b)	
Explain why there are 'no real seasonal temperature differences' in areas of tropical rainforest.	
	[2 marks]
Question 4c (c)	
Suggest one reason why so many medicinal drugs are derived from tropical rainforests.	[1 marks]
Question 4d	
(d)	
'Tropical rainforests are important at both the local and global scales.' Discuss this statement.	[6 marks]

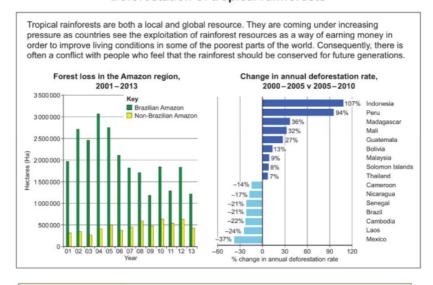


Question 5a

Study Figure 2, 'Deforestation of tropical rainforests'

Figure 2

Deforestation of tropical rainforests



We are destroying rainforests so quickly they may be gone in 100 years

Thirty years ago, a wide belt of rainforest circled the earth, covering much of Latin America, south-east Asia and Africa. Today, it is being rapidly replaced by great swathes of palm oil trees and rubber plantations, land cleared for cattle grazing, soya farming, expanding cities, dams and logging.

People have been deforesting the tropics for thousands of years for timber and farming, but now every year an area the size of England and Wales is felled. Half of the world's rainforests have been destroyed in the last 100 years. Satellites now show that in the last 15 years new deforestation hotspots have emerged. At current rates, rainforests will vanish within the next 100 years.

Tropical deforestation adds to the problem of climate change. As forests are removed local people become impoverished and move to cities in search of work.

So, what to do?

At the Paris Climate Summit in 2015 all countries agreed to reduce carbon emissions, and 50 countries who share the world's tropical rainforests promised to crack down on illegal forestry and restore and replant millions of acres of forest by 2030. These are some of the poorest countries in the world and rely on the exploitation of their forests in order to improve their living standards. Consequently, they will need financial and technical help from richer countries in order to carry out their promises. Germany, Norway and the UK have together promised \$1 billion a year to help with this and the World Bank plans to contribute a similar amount. Part of this is intended to benefit indigenous forest communities which have always been the traditional protectors of the forest.



Figure 2 continued

(a)
Compare the pattern of forest loss between the Brazilian Amazon and the non-Brazilian Amazon

[3 marks]



Question 5b

(b)

Complete the following diagram to show how the removal of trees can affect the rainforest environment.

Increasing flood risk

Write the correct statement in each box.

Choose from the statements below

Heavy rainfall hits ground

Less plant growth

Increasing amount of sediment in rivers

Increased cloudiness of water

Less animal life

Soil is eroded

[2 marks]

Question 5c

(c)

'Some activities in areas of tropical rainforests are more damaging than others.'

To what extent do you agree with this statement?

[6 marks]



Question 6a

Study Figure 3, 'Road development in the Peruvian Amazon'

Figure 3 Road development in the Peruvian Amazon

Peru is a middle income country which ranks 77th out of 187 countries on the Human Development Index. According to government statistics about 30% of the population live below the national poverty line. In rural areas, where food insecurity is a constant problem, 50% of the population are considered poor.

Peru: development fact file					
Gross national income	\$11 295	(2016)			
Infant mortality	19 per 1000 population	(2015)			
Doctors	1.1 per 1000 population	(2013)			
Access to clean water	91% urban, 69% rural	(2015)			
Access to sanitation	82% urban, 53% rural	(2015)			
Internet access	40%	(2014)			

People born in Lima, the capital city, can expect to live almost 20 years longer than those in rural areas. In remote rural villages, many people live in huts which lack even the most basic facilities and have no modern technology.

Road developments - an important part of the development process

The Peruvian government have given the go ahead for the construction of a number of new roads in the Amazon. The roads will connect major settlements and create opportunities for development in parts of rural Peru. The economic benefits of the road developments will be significant and the newly developed links with Brazil will create trade corridors. The Wall Street Journal reported that the new road developments will create exciting new travel opportunities and open up new areas to tourism. It is thought that tourism is a suitable way to develop the area because it will bring considerable economic benefits with limited environmental impacts. Supporters of the road programme claim that the economic gains will outweigh any negative impacts and, since the roads pass through protected reserves and National Parks, environmental damage will be kept to a minimum. Conservation groups are concerned about the effects on the environment and indigenous communities but agree that protected areas may be less at risk from deforestation.





Figure 3 continued

Road development in the Peruvian Amazon

Road building may destroy 275 000 hectares of the Peruvian Amazon

It is estimated that the development of new roads in the Peruvian Amazon will put over a quarter of a million hectares of rainforest at risk and cross two indigenous reserves and a National Park. A recent study carried out by the Amazon Conservation Association has shown that when a new highway is built through the rainforest it encourages a number of other activities. This results in a

band of land up to 10 km wide being lost, causing significant destruction to wildlife habitats and local communities. In the Amazon rainforest it is estimated that most deforestation occurs near roads or navigable rivers. Whilst there is a need for economic development in Peru in order to improve living conditions, conservationists and local people believe that more environmentally friendly methods of development could be used to earn money, at the same time preserving the forest for future generations.



Road building, the engine of progress and enabler of destruction!

Peru is one of the most forested countries in the world; only Brazil has a larger share of the Amazon rainforest. This makes Peru one of the most biodiverse countries in the world, with nearly half a million people directly depending on the forest for their survival. The development of new roads will create opportunities for trade and open up areas for industrial development and tourism, but will also add to the growing rate of deforestation as land is cleared for cattle ranching, soya plantations and mining, destroying habitats that have existed for thousands of years. Only time will tell what effects road developments will have on the rainforest and whether the negative effects can be reduced.

Roads will help to drive rural areas of Peru out of poverty

Road developments will encourage the growth of the mining industry which is seen as a major way to move people in Peru out of poverty, fulfilling a government piedge to cut poverty by 50% by 2021. Despite a decline in poverty since 2000, it was reported that in 2016 over 40% of all rural dwellers were living in extreme poverty and were unable to satisfy their basic needs. Road developments will connect rural areas and create opportunities in agriculture and mining, bringing employment to thousands of people while also increasing export earnings and giving the government the opportunity to invest in social improvements.

Federation of Native Amazon Peoples quote cannot be reproduced here due to third-party copyright restrictions.

manner and

We must break with the view that the Amazon is an inexhaustible larder for other countries without taking into account its inhabitants.

Pope Francis

(a)

What does the information in the 'Peru: development fact file' suggest about levels of development in Peru?

[4 marks]



Question 6b

(b)

'The Peruvian government has decided to allow the development of new roads in the Amazon.'

Do you think that this was the right decision?

Yes ----- No -----

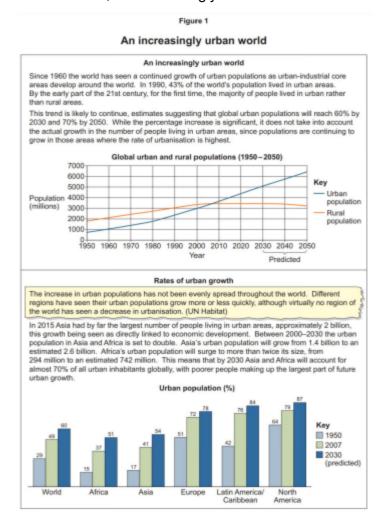
Tick (\checkmark) the box to show your choice.

Use evidence from the resources booklet and your own understanding to explain your choice.

[9 marks]

Question 7a

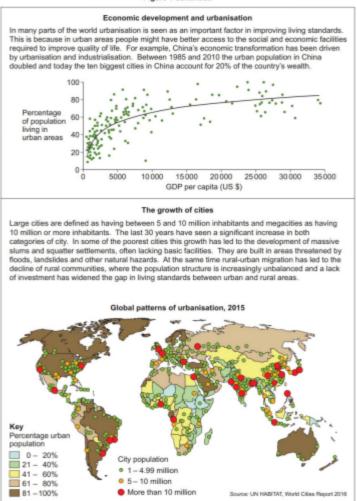
Study Figure 1 in the resources booklet, 'An increasingly urban world'.



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(a)

In which year were global urban and rural populations the same? Shade **one** circle only.

A. 2004

B. 2007

C. 2010

D. 2013

[1 marks]



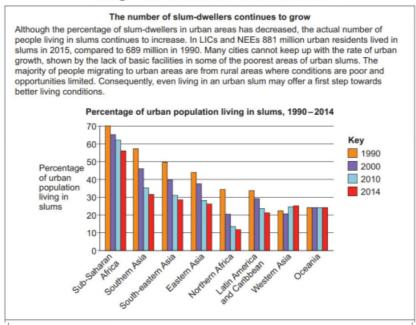
Question 7b	
(b)	
Which of the following statements is correct?	
Shade one circle only.	
A. Latin America/Caribbean is predicted to double its % urban population between 1950 –2030	
B. The % urban population in Europe is expected to fall between 2007–2030	
C. By 2030 over 90% of the population in North America will live in urban areas	
D. By 2030 Asia will be the continent with the highest % urban population	
	[1 marks]
Question 7c	
(c)	
Explain the link between economic development and urbanisation.	
	[4 marks]
Question 7d	
(d)	
Suggest two reasons why estimates of future urban population may not be accurate.	
	[2 marks]
Question 7e	
(e)	
Suggest one challenge that urbanisation creates for rural areas.	ro · -
	[2 marks]



Question 8a

Study Figure 2 in the resources booklet, 'The growth of slums in LICs and NEEs'.

Figure 2
The growth of slums in LICs and NEEs



Inequality in LIC/NEE cities

Urban inequality has become a growing problem in a number of areas, with African cities showing the greatest gap between the rich and the poor.

Inequality creates a number of problems, including:

- the image of poor people as lazy or criminal, resulting in their unfair treatment
- the increasing wealth in cities pushing up prices, which the poor cannot afford
- the inability of the poorest people to take advantage of the opportunities that exist in urban areas
- a lack of security, as the poorest people often do not own their own homes, or are forced to build homes in unstable or hazardous areas.



São Paulo, Brazi



Figure 2 continued

Urbanisation can be a 'force for good' with better jobs and cheaper services

The author of a World Bank report for 2013 said, "If managed effectively, urbanisation can be a force for good because cities create better-paid jobs and allow better and cheaper access to basic services".

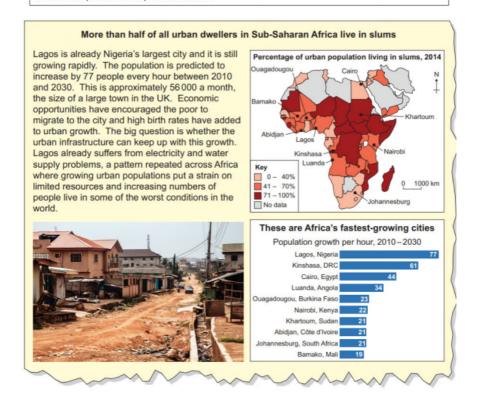
For example, in Niger the average price of piped water in urban areas is 24 pence per cubic metre, whereas in rural areas clean water can cost four times as much, and people may have to walk long distances to collect water which may be

However, the report concludes that "conditions in the poorest slums are a risk to human life. About a billion people live in urban slums in poor countries and this number is likely to increase dramatically in future, with the fastest growth in Sub-Saharan Africa".

contaminated.

The director of the World Bank team that produced the report said that "providing basic services for the urban poor is a real challenge, but where it has been done successfully it has reduced the problems of rapid urbanisation".

Percentage a	Urban	Rural	
water / impro	(%)	(%)	
Sub-Saharan	Piped water	33	5
Africa	Improved sanitation	40	23
Southern	Piped water	56	17
Asia	Improved sanitation	67	36
South east	Piped water	51	17
Asia	Improved sanitation	81	64
Latin	Piped water	94	68
America	Improved sanitation	88	64



(a)

Suggest why cities in LICs and NEEs are often referred to as 'unequal cities'.

[6 marks]



Question 8b	
(b)	
Compare levels of access to piped water in urban and rural areas shown in Figure 2.	
	[2 marks]
Question 8c	
(c)	
Suggest why it might be helpful to describe the growth of African cities as 'population growth per	hour'.
	[1 marks]
Question 8d	
(d)	
'Urban planners are finding it challenging to keep up with the growth of cities in LICs and NEEs.'	
To what extent do you agree with this statement?	
	[6 marks]
	[o iliaiks]



Question 9

Study Figure 3 in the resource booklet, 'Slums of hope or slums of despair?' 'Slums of hope or slums of despair?'

Which do you think best describes urban slums in LIC/NEE cities?



Use evidence from the resources booklet and your own understanding to support your answer.

[9 marks]



Question 10a

Study Figure 1 in the resources booklet, 'The changing pattern of energy production and use in the UK'.

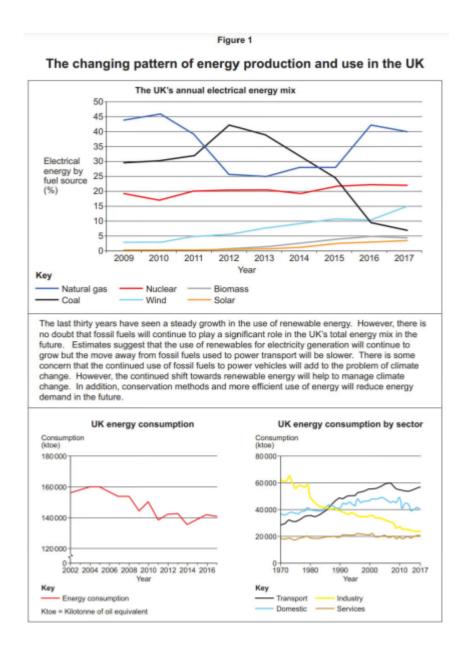




Figure 1 continued

The changing pattern of energy production and use in the UK UK electricity use falls - as rest of EU rises The UK was the only country in the EU to reduce its energy consumption last year. In the UK, demand for energy has been falling in recent years as large scale industry has declined and households have used energy more efficiently. The UK's power consumption decreased by nearly 2%, while it increased by 0.7% across the EU as a whole. Overall, electricity demand in the UK has fallen by 9% in the last seven years, the biggest decline in the EU. The demand for electricity within the EU has increased as countries push for economic growth and populations grow. The differences in the patterns of consumption cannot all be accounted for by the differences in economic and population growth. Also, the weather did not appear to play a major part because it was equally mild throughout Europe. Carbon and power analysts suggest that the differences may be a result of the increasing use of electric vehicles and the growth in the use of air conditioning in some countries. Recent evidence also suggests that UK consumers are buying more energy efficient products. Adapted from The Guardian, 30/01/2018 Renewables provide more than half UK electricity for the first time Renewable sources of energy have generated more electricity than coal and gas in the UK for the first time The National Grid reported that at Wednesday lunchtime power from wind, solar, hydro and wood pellet burning supplied 50.7% of UK electricity. As the weather was both sunny and breezy, the conditions were perfect for generating energy from renewables and approximately 10% of the UK's power came from offshore wind farms

(a)

In which year did nuclear power and coal provide the same proportion of the UK's electrical energy mix? Shade **one** circle only.

- A. 2010
- B. 2013
- C. 2015
- D. 2016

[1 marks]

Question 10b

(b)

Give two reasons for the growth of energy use in transport.

[2 marks]



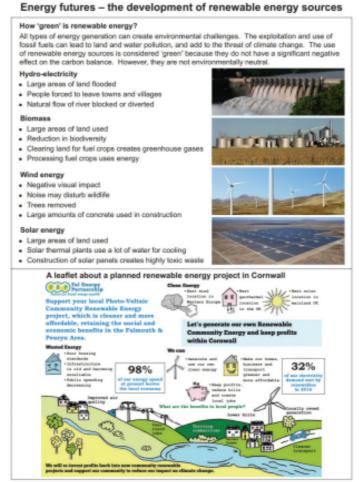
Question 10c	
(c)	
Suggest why energy consumption in the UK might decrease in the future.	
	[6 marks]
Question 10d	
(d)	
'The use of renewable energy will help to manage climate change.' Discuss this statement.	
	[6 marks]



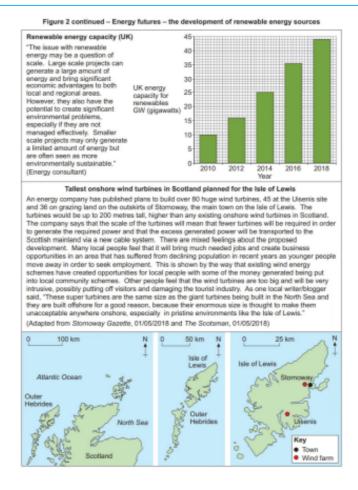
Question 10e

Study Figure 2 in the resources booklet, 'Energy futures – the development of renewable energy sources'.

turner the development of receivable energy







(e)
What was the increase in the UK energy capacity for renewables in gigawatts (GW) between 2010 and 2018?

Shade one circle only.

- A. 26
- B. 30
- C. 34
- D. 38

[1 marks]

Question 10f

(f)

Suggest one reason why offshore locations might be more suitable than onshore locations for wind turbines.

[1 marks]



Question 10g

(g)

'All types of renewable energy generation can create environmental challenges.'

To what extent do you agree with this statement?

[6 marks]

Question 10h

Study Figure 3 in the resources booklet, 'Views about the proposed Isle of Lewis wind farm development'.

Figure 3

Views about the proposed Isle of Lewis wind farm development

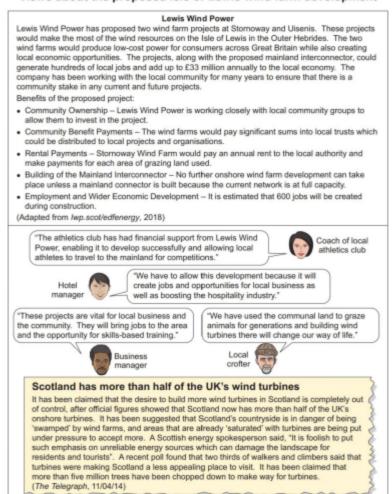




Figure 3 continued - Views about the proposed Isle of Lewis wind farm development Outer Hebrides battle to reverse steep population decline The population of the Outer Hebrides is Age distribution - Outer Hebrides predicted to decline by 13.7% by 2039 - the steepest fall of any Scottish region. The number of Islanders of working age is 72 predicted to decline by 21%, and the number 63 of children aged 15 or below will fall by 28%. 54 Council leader Angus Campbell said, "Population decline is the biggest threat facing our islands and action must be taken to 27 reverse this. This is why we need to do everything we can to make the area an attractive place to live and work. Realising our renewable energy and tourism potential will help, otherwise younger people will be forced 800 400 200 0 200 400 600 800 Number of people to leave the islands to seek work elsewhere RSPB claim that Lewis wind farm plans threaten eagles RSPB Scotland has claimed that the proposed wind turbines may harm golden eagles and sea eagles. The RSPB does not oppose wind power developments as a way of reducing carbon emissions where turbines do not pose serious threats to wildlife or habitats, but they feel that planning applications must take into account the importance of sites to eagle populations Plans for tallest UK onshore wind farms create conflict Plans to build some of the tallest wind turbines on the Isle of Lewis have caused an angry response from some local residents. Local crofters have objected to the roposals to build on communal land near Stornoway, the largest town in the Oute Hebrides. Local community groups want to build their own smaller turbines, with profits going directly to local causes. This has already been done in the Point and Sandwick area, where three turbines have been built; the profits are being used to support local health services and an arts project. There is also concern about the effect on the tourist industry and a fear that the scale of the proposed turbines will make the area less attractive. The company proposing the development has said that the number and size of the turbines is required in order to justify building a new mainland connector, which will transfer electricity to the mainland. and that without it the area will not be able to fully realise its energy potential and create the job opportunities and income that it needs.

(h)

Give two differences in the age distribution on the Outer Hebrides between 2016 and 2041 (predicted).

[2 marks]

Question 10i

(i)

'Large scale wind energy projects are a suitable option for the Isle of Lewis.'

Do you agree with this statement?

Yes

No

Tick (\checkmark) the box to show your choice. Use evidence from the resources booklet and your own understanding to explain your answer.

[9 marks]