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Economics

Advanced Subsidiary

Unit 1: Competitive Markets: How they work and why they fail

Monday 16 May 2016 – Morning

Time: 1 hour 30 minutes

Paper Reference

6EC01/01

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions in Section A and **one** question in Section B.
- Answer the questions in the spaces provided
– *there may be more space than you need.*

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*
- Calculators may be used.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ►

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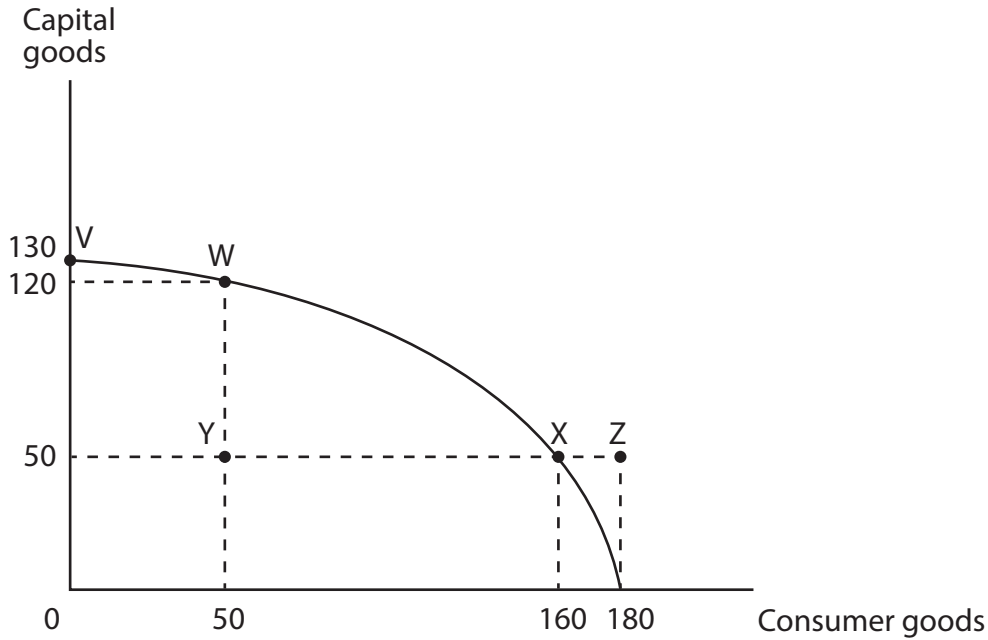
PEARSON

SECTION A

Answer all the questions in this section.

You should spend 35 minutes on this section. Use the data to support your answers where relevant. You may annotate and include diagrams in your answers.

1



The diagram shows a production possibility frontier for an economy. Which of the following is true?

(1)

- A The opportunity cost of producing 50 consumer goods is 50 capital goods
- B There are unemployed resources at V
- C The opportunity cost of producing 180 consumer goods is 20 capital goods
- D Future economic growth is likely to be higher at W than X

Answer



Explanation

(3)

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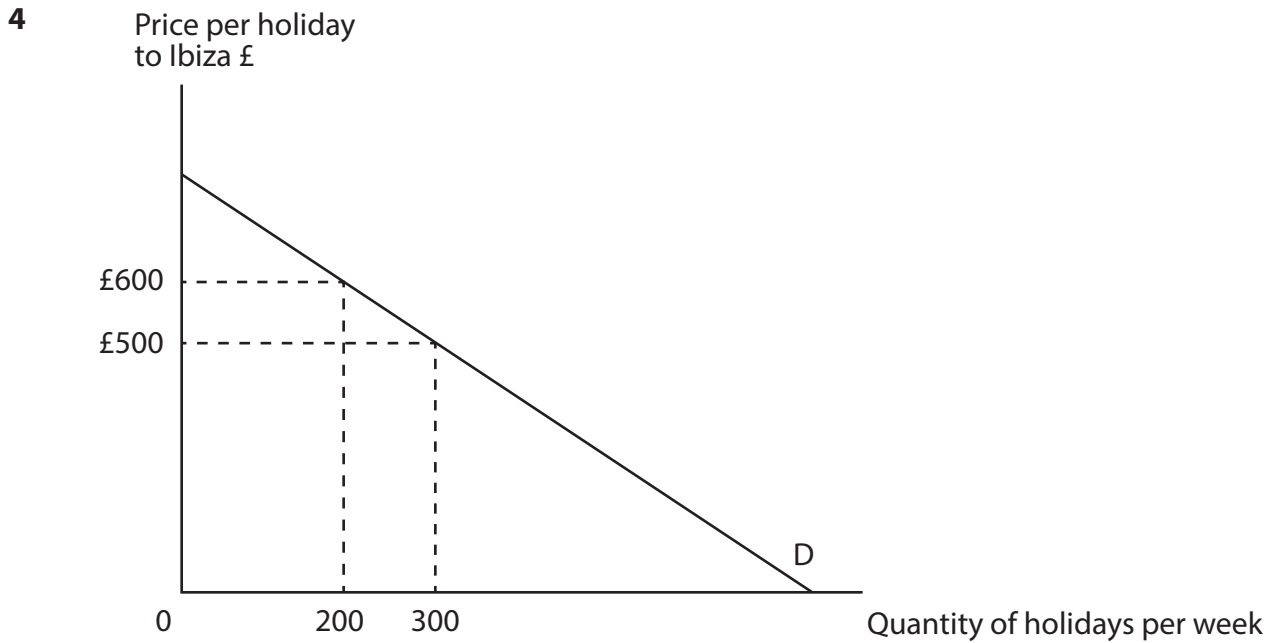
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(Total for Question 1 = 4 marks)





The diagram shows the demand curve faced by a firm selling holidays to Ibiza. If the firm increases the price of its holidays from £500 to £600 then, other things being equal, its weekly total revenue will

(1)

- A increase, since demand is price inelastic
- B decrease, since demand is price elastic
- C increase, since demand is price elastic
- D decrease, since demand is price inelastic

Answer



Explanation

(3)

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(Total for Question 4 = 4 marks)



5 Estimates of income elasticity of demand for selected products in the UK

Food item	Income elasticity of demand
Fish	0.7
Milk and Eggs	0.9
Meat	1.2

(Source: <https://www.gov.uk/government/publications/food-and-drink-elasticities>)

Other things being equal, the data in the table suggest that:

(1)

- A The demand for milk and eggs is price inelastic
- B Meat and fish have a positive cross elasticity of demand
- C Fish, milk and eggs are all inferior goods
- D Meat has a higher income elasticity of demand than fish

Answer

Explanation

(3)

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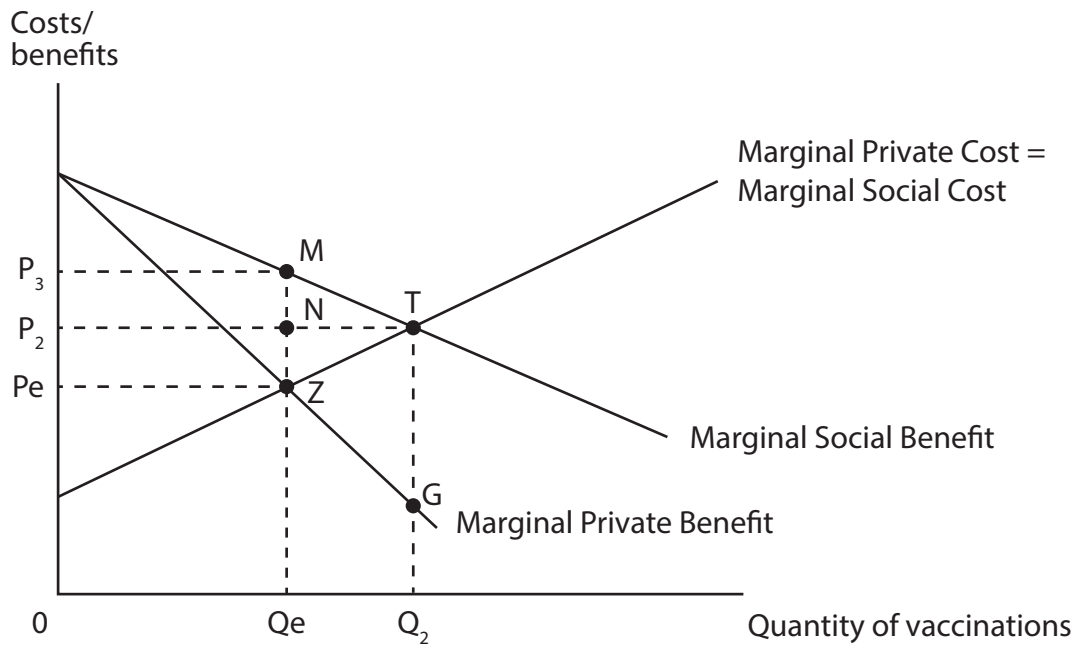
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(Total for Question 5 = 4 marks)



7



The diagram shows the market for vaccinations. Assume there are no external costs. Which one of the following is true?

(1)

- A The free market equilibrium quantity exceeds the social optimum quantity
- B At the free market equilibrium quantity, marginal social cost exceeds marginal social benefit
- C An increase in quantity from the free market equilibrium will lead to a net welfare gain
- D At the free market equilibrium price there is an excess supply of vaccinations

Answer

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Explanation

(3)

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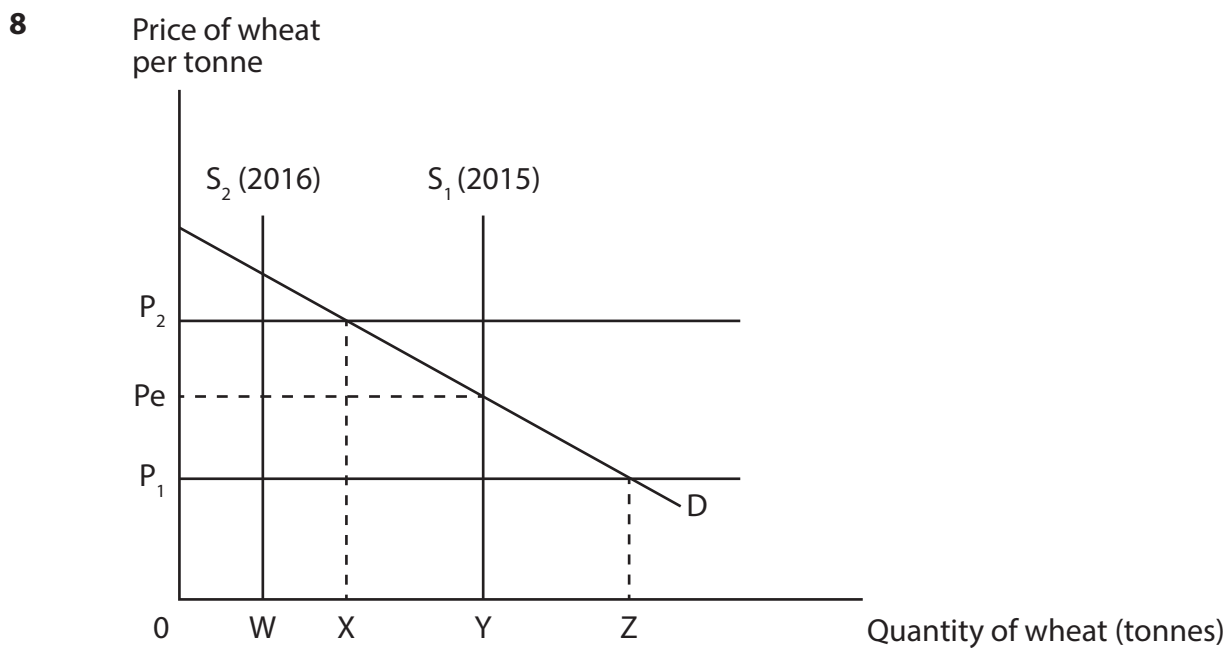
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(Total for Question 7 = 4 marks)





The diagram shows a buffer stock scheme in the wheat market, where a government agency intervenes to ensure the price remains between P_1 and P_2 . The 2016 harvest S_2 leads to

(1)

- A an excess supply of wheat.
- B the government agency selling wheat from its stockpile.
- C price decreasing to P_1 .
- D the government agency buying wheat and adding to its stockpile.

Answer



Explanation

(3)

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(Total for Question 8 = 4 marks)

TOTAL FOR SECTION A = 32 MARKS



SECTION B

Answer EITHER Question 9 OR Question 10

If you answer Question 9 put a cross in the box .

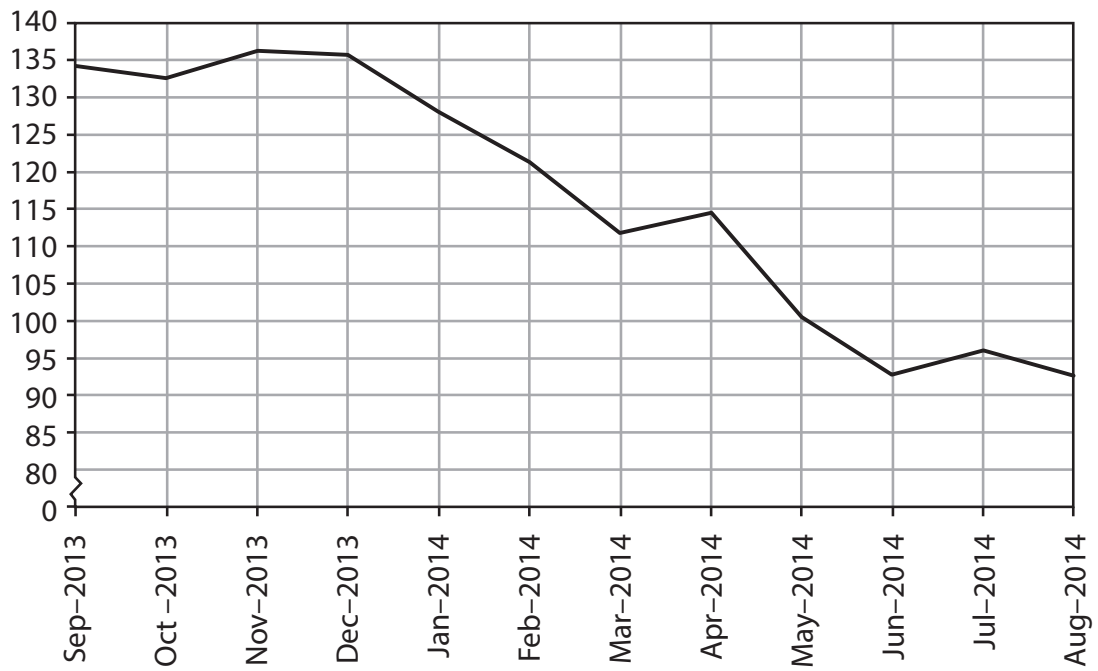
Question 10 starts on page 28.

You should spend 55 minutes on this section.

9 The market for iron ore

Figure 1 Price of iron ore (September 2013 – August 2014)

US dollars per tonne



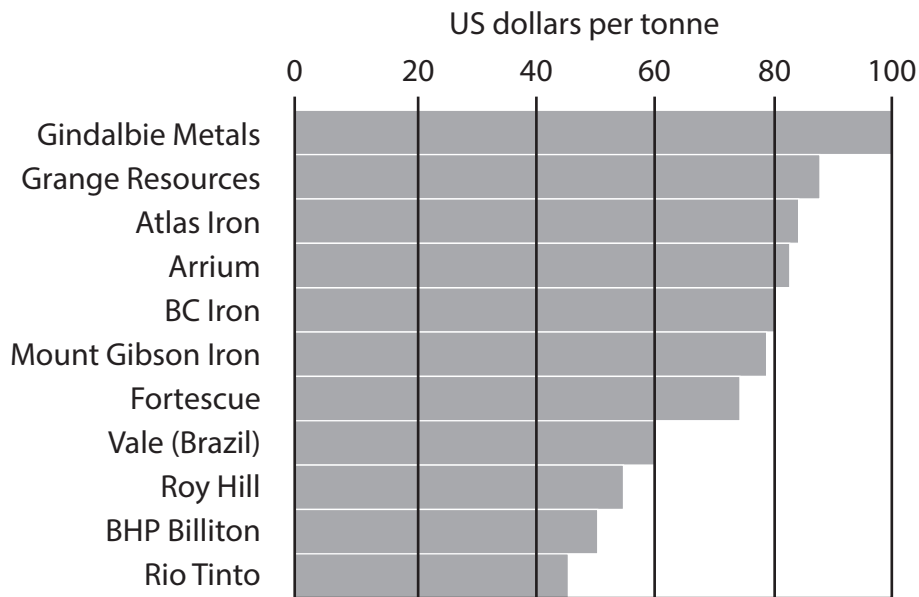
(Source: <http://www.indexmundi.com/commodities/?commodity=iron-ore&months=12>)

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Figure 2 Mining companies: cost of producing one tonne of iron ore

(Source: Reported in *FT*, 'Australia's iron ore producers steel themselves for casualties' Jamie Smyth and Lucy Hornby, 14th September 2014, <http://www.ft.com/cms/s/0/9f3235d0-3a30-11e4-8aa2-00144feabdc0.html#axzz3TFuTxa6H>)

Extract 1 Falling iron ore prices

The price of iron ore has fallen dramatically since September 2013 following a significant increase in production from the world's four largest miners of the commodity, Rio Tinto, BHP Billiton, Vale and Fortescue. This has come at a time of falling consumption of iron ore from China, the world's biggest customer. Iron ore is a key raw material in the production of steel.

5

The slump in iron ore prices is forcing high-cost iron ore producers to close down operations. Stockpiles of iron ore at Chinese steel mills are at record levels. Despite the fall in price, BHP Billiton has announced plans to increase annual production capacity of iron ore by 30% to 290 million tonnes by 2017. This follows Rio Tinto's plans to increase annual production capacity by 24% to 360 million tonnes by 2015. Both companies have managed to increase efficiency and cut production costs, but this has not prevented their share prices from falling. They are confident that long term demand for iron ore will grow from India, China and other Asian countries.

10

(Source: adapted from 'Rio Tinto vows to slug it out with BHP in iron ore production war', by Jamie Smyth, *The Financial Times*, 9th October 2014, <http://www.ft.com/cms/s/0/302943a4-4f7f-11e4-a0a4-00144feab7de.html#axzz3TFuTxa6H>)



Extract 2 Tax on Australian iron ore

The Australian Government has criticised the mining companies' policy of increasing iron ore production that further reduces its price. Most of Rio Tinto's and BHP Billiton's iron ore is mined in Western Australia. Every \$1 per tonne fall in the iron ore price causes a \$300 million fall in the Australian Government's indirect tax revenue from sales of iron ore. The Government warned that it may be forced to raise taxes on each tonne of iron ore extracted. 5

(Source: adapted from 'Tumbling iron ore prices a concern for miners and the Treasury alike', The Guardian.com, 20th May 2014, <http://www.theguardian.com/business/2014/may/20/tumbling-iron-ore-prices-a-concern-for-miners-and-the-treasury-alike>)

Extract 3 Emissions trading scheme scrapped in Australia

Plans to introduce an emissions trading scheme (tradable pollution permits) for Australia's biggest polluting companies have been scrapped by the Government following concerns over its costs to the mining industry and the impact on investment and jobs. Australia will no longer join with the European Union's emissions trading scheme. The country is one of the world's biggest carbon emitters on a population per head basis because of the significance of its mining sector. The Government has replaced the scheme with a policy called Direct Action where grants are available for companies which reduce their pollution emissions. 5

The decision to halt the introduction of tradable pollution permits creates uncertainty over how the country will achieve its 5% carbon reduction target by 2020 and raises questions over the Government's commitment to tackling climate change. 10

(Source: adapted from 'Australia abolishes tax on carbon emissions', Jamie Smyth and Pilita Clarke, *Financial Times*, 17th July 2014, <http://www.ft.com/cms/s/0/d852822a-0d67-11e4-bcb2-00144feabdc0.html#axzz3TFuTxa6H>)

- (a) With reference to Figure 1 and the first paragraph of Extract 1, explain the causes of the decrease in the price of iron ore over the period shown. (4)
- (b) With reference to Figures 1 and 2 and Extract 1, assess the possible economic effects of a fall in the price of iron ore on the producers of iron ore. (10)
- (c) With reference to Extract 1, explain the likely effect on the **market for steel**, following a fall in the price of iron ore. Use a supply and demand diagram in your answer. (6)
- * (d) With reference to Extract 2, evaluate the likely economic effects of an increase in indirect tax on sales of iron ore. Use a supply and demand diagram in your answer. (14)
- * (e) With reference to Extract 3 and your own knowledge, assess the potential benefits of tradable pollution permits for reducing carbon emissions. (14)



(a) With reference to Figure 1 and the first paragraph of Extract 1, explain the causes of the decrease in the price of iron ore over the period shown.

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(b) With reference to Figures 1 and 2 and Extract 1, assess the possible economic effects of a fall in the price of iron ore on the producers of iron ore.

(10)

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***(d)** With reference to Extract 2, evaluate the likely economic effects of an increase in indirect tax on sales of iron ore. Use a supply and demand diagram in your answer.

(14)

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*(e) With reference to Extract 3 and your own knowledge, assess the potential benefits of tradable pollution permits for reducing carbon emissions.

(14)

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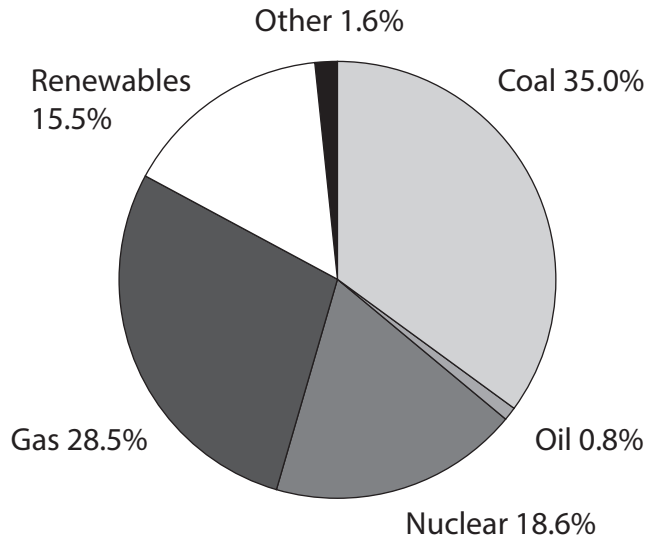
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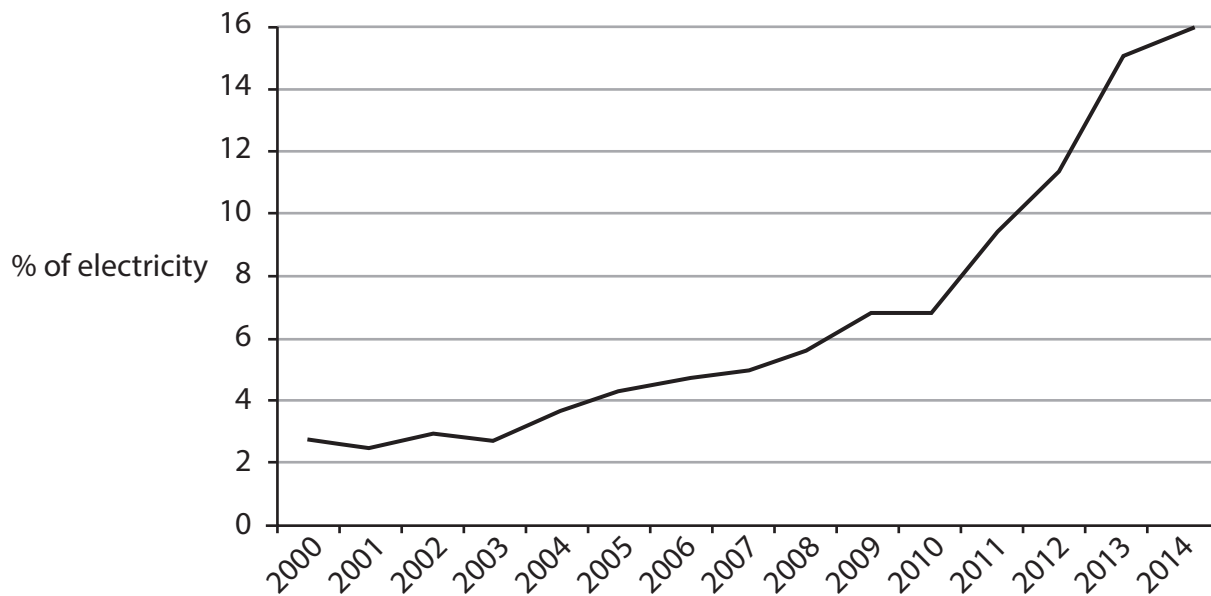
10 Renewable energy in the UK

Figure 1 UK Electricity generation from different sources: (April–June 2013)



(Source: UK Renewable energy roadmap update 2013; Department of Energy and Climate Change, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATION_.pdf)

Figure 2 Electricity generation from renewable sources as a proportion of total UK electricity production (2000-2014)



(Source: <https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes>)

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Extract 1 Growth of renewable energy in the UK

Renewable energy currently makes up around 16% of UK electricity supply. More than half of this comes from wind power – the UK has more wind potential than any other country in Europe. Production of renewable energy is set to increase significantly over the next fifteen years to exceed 30% of total electricity generation. Most coal power stations are set to be phased out by 2030 helping to reduce carbon emissions whilst gas supplies appear unreliable in the current political climate. 5

Wind, wave and tidal power currently provides employment for 34 500 people in the UK and is expected to create a further 70 000 jobs over the next decade. The economic benefits from such growth will be spread across the UK. The German company Siemens, for example, has announced plans to invest £160 million in building a wind turbine factory in Hull, in the north of England. Its partner in the project, Associated British Ports, will invest a further £150 million in local infrastructure. Together, they will directly create 1 000 jobs in a city hit hard by unemployment and poverty. Hull will become one of the world's leading locations for the production of wind turbines. The work involves many types of specialist jobs such as designers, engineers, welders, electricians and truck drivers. 10 15

(Source: adapted from 'Siemens to add 1000 UK jobs in wind turbine production', *The Guardian*, 25th March, 2014, <http://www.theguardian.com/business/2014/mar/25/siemens-wind-turbine-production>)

Extract 2 Lack of competition in awarding subsidies for renewable energy

Renewable energy requires subsidies to make it profitable. The Government has been criticised for awarding subsidies to renewable energy projects without any competition, undermining the interest of consumers. This refers to contracts worth £16.6 billion being awarded to companies involved in five offshore wind power and three biomass projects.

However, Energy and Climate Change Secretary, Ed Davey, said: "This government has been dealing with a legacy of chronic under-investment and neglect in our energy system. To keep the lights on in British homes and businesses we needed to move quickly to secure new capacity and give investors confidence – fast." Without the investment there is a danger of power cuts in the near future as demand exceeds supply. 5

(Source: adapted from 'Consumers not getting the best value for renewable energy subsidies, say MPs', *The Guardian*, 3rd October 2014, <http://www.theguardian.com/environment/2014/oct/03/consumers-not-getting-best-value-for-renewable-energy-subsidies-say-mps>)

Extract 3 The costs of renewable energy

The private costs of electricity generated from renewable energy sources are far greater than those from fossil fuels. The uncertainty of the weather also means renewable energy from wind and solar power is unreliable.

There are also external costs associated with the generation of renewable energy, especially wind power. These include the negative effects on the environment, homes and tourism. Industrial scale wind turbines exceed 450 feet tall to the tip of their blades. There are currently 680 onshore wind farms and 23 offshore wind farms in the UK. These figures are set to increase rapidly over the next twenty years. 5

(Sources: <http://www.renewableuk.com/en/renewable-energy/wind-energy/onshore-wind/index.cfm> and <http://www.nowind.org.uk/>, <http://www.nowind.org.uk/> and replace with <http://repealtheact.org.uk/blog/campaign-support-the-now-charter-www-nowind-org-uk>)



- (a) With reference to Figure 1 and Extract 1, distinguish between renewable and non-renewable energy resources. (4)
- (b) With reference to the first paragraph of Extract 1, explain **two** likely benefits of the increase in energy generated from renewable resources. (6)
- (c) With reference to Extract 1, assess the likely benefits of the division of labour in the production of wind turbines. (10)
- * (d) Using the information provided and your own knowledge, assess the likely economic impact of government subsidies to renewable energy companies. Use an appropriate diagram in your answer. (14)
- * (e) Using the concept of external costs and referring to Extract 3, discuss the problems which might arise from a significant increase in the generation of renewable energy. Use a suitable diagram in your answer. (14)



(a) With reference to Figure 1 and Extract 1, distinguish between renewable and non-renewable energy resources.

(4)

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(b) With reference to the first paragraph of Extract 1, explain **two** likely benefits of the increase in energy generated from renewable resources.

(6)

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(c) With reference to Extract 1, assess the likely benefits of the division of labour in the production of wind turbines.

(10)

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*(d) Using the information provided and your own knowledge, assess the likely economic impact of government subsidies to renewable energy companies. Use an appropriate diagram in your answer.

(14)

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TOTAL FOR SECTION B = 48 MARKS

TOTAL FOR PAPER = 80 MARKS

