OCR
Oxford Cambridge and RSA

Monday 23 May 2022 – Afternoon

A Level Economics

H460/01 Microeconomics

Time allowed: 2 hours

You can use:
- a scientific or graphical calculator

Please write clearly in black ink. **Do not write in the barcodes.**

Centre number | | | | | | Candidate number | | | | |

First name(s) _____

Last name _____

INSTRUCTIONS
- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions in Section A, **one** question in Section B and **one** question in Section C.

INFORMATION
- The total mark for this paper is **80**.
- The marks for each question are shown in brackets **[ ]**.
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **20** pages.

ADVICE
- Read each question carefully before you start your answer.

SECTION A

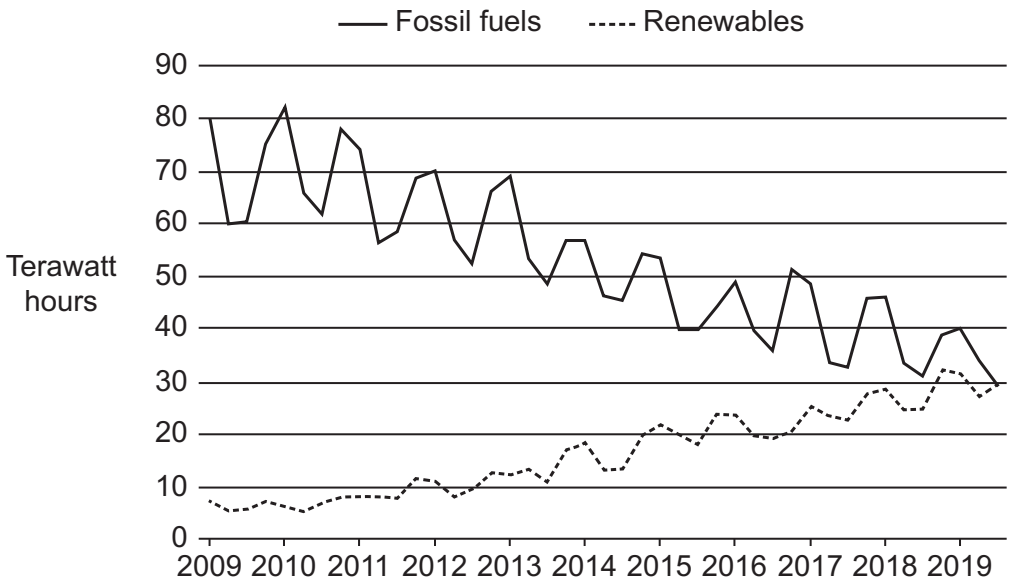
Read the following stimulus material and answer **all** parts of Question 1 which follow in this section.

Changing consumer trends in the UK?

Renewable energy sources, including wind, solar power and biomass, now provide more electricity to UK homes and businesses than fossil fuels, such as coal and gas. This was first achieved in the third quarter of 2019, see Fig. 1.

Fig. 1

UK electricity generation per quarter (measured in Terawatt hours)



Source: *CarbonBrief*

Coal is now used for less than 1% of electricity generation in the UK, with only four coal-powered plants remaining, ahead of a ban in 2025. Gas is the largest fossil fuel (38%) in the UK energy system. In terms of renewable energy sources, wind power is the UK's largest, making up 20% of the UK's electricity, followed by 12% from biomass and 6% from solar power. Nuclear power provides the remainder of the UK's electricity.

Kwasi Kwarteng, the government minister for energy and clean growth, said the renewables record is, "…yet another milestone on our path towards ending our contribution to climate change altogether by 2050. We've cut emissions by 40% while growing the economy by two thirds since 1990. Now, with more offshore wind projects on the way at record low prices we plan to go even further and faster in the years to come."

One of the largest firms in the UK is Shell, a multinational company. It provides 10% of the UK's oil and gas, employs about 6,000 people and serves over 5 million customers every week at more than 1,000 fuel service stations. It has the third largest number of fuel service stations, behind Tesco and BP.

However, Shell now faces the prospect of no more petrol cars, lorries running on liquid gas, and solar or wind powered homes and businesses. Even the fuel service station is changing, with most now seen as a retail outlet where people can do their food shopping, pick up a parcel or drink a coffee. Managers at Shell have taken all of these changes very seriously, as they attempt to reinvent the company which is also faced with new climate change targets. Some experts have compared the changes to a new industrial revolution.

Shell's managers have already taken some big decisions. Shell has bought a company which makes electric vehicle (EV) charging points for homes and workplaces. It has also bought a supplier of electricity and gas in the UK. Shell's managers see a time when the business will supply all of an individual's energy needs.

Shell is trying to take the lead in EV charging points for battery-powered cars. At present, less than 2% of cars on UK roads are battery-powered. However, by 2040 a third of all vehicles could be electric. Shell believes it is well placed to take advantage of this growing market, as it has already launched a 'rapid recharge service' which uses 100% renewable energy. It announced the opening of its 50th EV charging station in October 2019. Given its large number of fuel service stations and its strong position in the market, Shell plans to install hundreds more charging stations around the UK.

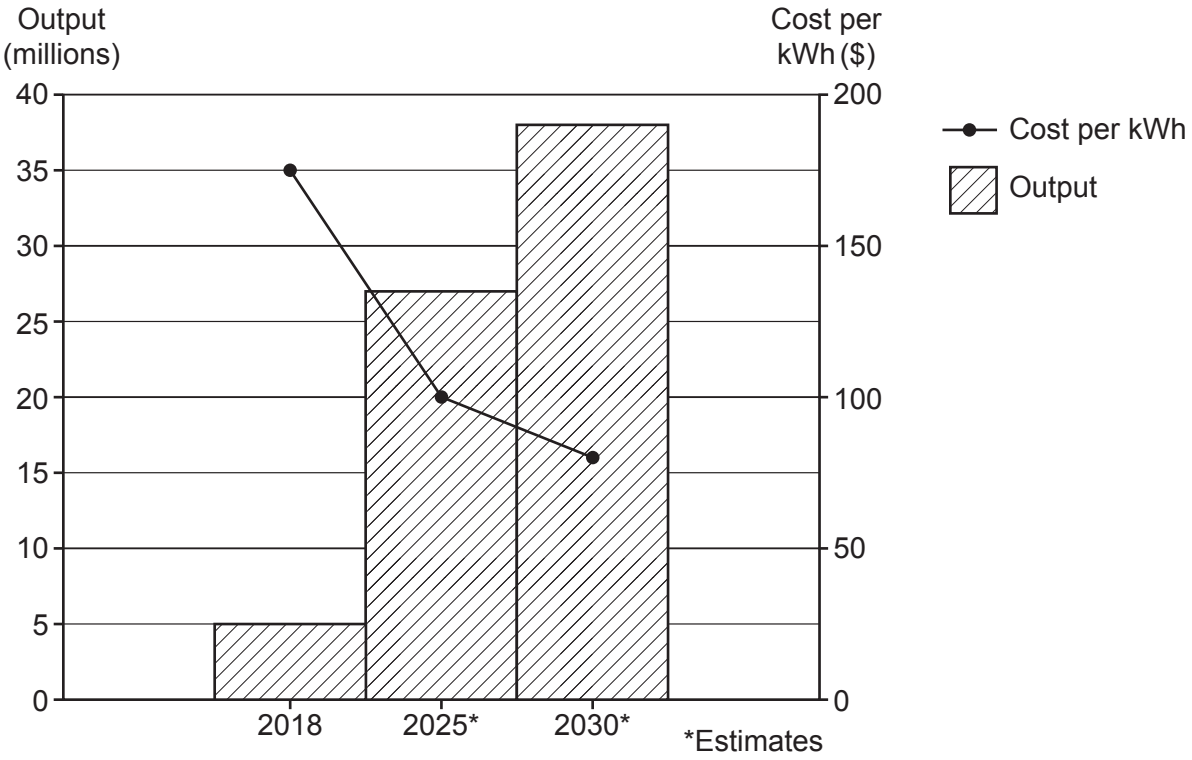
The growth in EV charging stations will be necessary if the UK government's 'Road to Zero' strategy, to ban the sale of new petrol cars by 2030, is to be successful. As part of this strategy, more taxes may be imposed to change the marginal private cost of using petrol cars, so that the price paid is closer to the marginal social cost inflicted on society. Once the price of battery-powered cars falls to a level closer to that of petrol cars, the use of a subsidy may also be beneficial.

One of the largest costs of running a petrol car is the petrol. The demand for petrol appears to be significantly price inelastic. A 2019 review of over 100 pieces of research about the price elasticity of demand for petrol found it to have a value of –0.26 in the short run and –0.58 in the long run.

Another limit on the growth of battery-powered cars is the cost of producing the batteries. Many experts say that a battery-powered car cannot be price competitive until the cost of a battery falls below $100 per kilowatt hour (kWh), see Fig. 2.

Fig. 2

Global car battery production



Source: *Daily Telegraph*

Some experts argue that the structure of this market will affect progress as, along with the energy and power generation markets, it is really a natural monopoly.

1 **(a)** Explain what is meant by the term 'subsidy'.

.....

.....

.....

..... **[2]**

(b) "…more taxes may be imposed to change the marginal private cost of using petrol cars, so that the price paid is closer to the marginal social cost inflicted on society." **Lines 36–38**

Explain, using an appropriate diagram, how this could be achieved.

.....

.....

.....

..... **[4]**

(c) Refer to **lines 40–42**.

Calculate the percentage change in price required to achieve a 6.5% fall in demand for petrol in the short run.

.....

.....

.....

..... **[2]**

(d) **(i)** Using the data in **Fig. 2**, explain how there are economies of scale in the global production of car batteries.

.....

.....

.....

..... **[2]**

(ii) Evaluate, using evidence from the stimulus material, whether it is a disadvantage if the market for car battery production is a natural monopoly. **[8]**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(e)* Evaluate, using evidence from the stimulus material, the factors which may influence the choice of objectives for a firm such as Shell. **[12]**

SECTION B

Answer **EITHER** Question **2 OR** Question **3**.

EITHER

2* In 2018, the French bank, BNP Paribus, was found guilty of eliminating competition and fixing prices with rival firms between 2011 and 2013. It was the sixth major bank to face criminal charges as part of the same investigation in the USA and agreed to pay a fine of $90m.

Evaluate, using an appropriate diagram(s), whether such collusion is the most significant disadvantage of an oligopolistic market. **[25]**

OR

3* The education sector has the highest level of trade union membership in the UK, with over 50% of full-time teachers in a trade union. Approximately 90% of all teachers work in the state sector.

Evaluate, using an appropriate diagram(s), the impact of a bilateral monopoly on equilibrium in the labour market. **[25]**

Question .....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

SECTION C

Answer **EITHER** Question **4** **OR** Question **5**.

EITHER

4* "A £1.4bn government bailout has been announced for Crossrail, as Europe's biggest infrastructure project to build a new underground line across London is once again over budget and delayed. This is yet another example of a failed government-financed and managed project."

Evaluate whether governments should finance large infrastructure projects such as Crossrail. **[25]**

OR

5* Supporters of a centrally planned economic system believe a central government can achieve social and national objectives more efficiently than a market economy. For example, they highlight the increase in income inequality in China since it has introduced market-based reforms.

Evaluate whether it is possible to allocate resources efficiently in a centrally planned economic system. **[25]**

Question .....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

END OF QUESTION PAPER

ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margin(s).