



Oxford Cambridge and RSA

Monday 05 October 2020 – Morning

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

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Candidate number

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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.

A bright future in Uganda

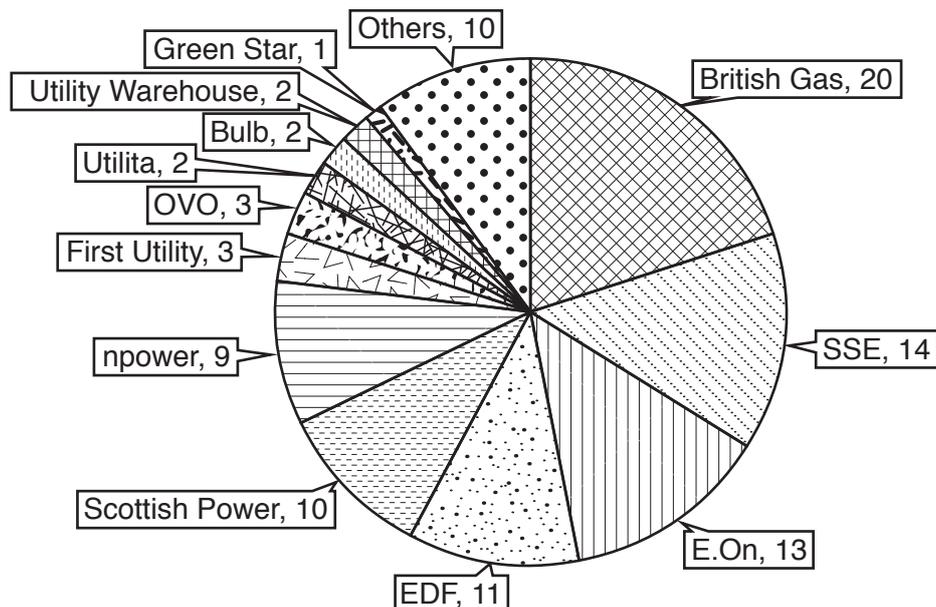
Headmaster Samuel Mukisa is one of millions of people in Uganda who are plugging into the global solar-power boom. As his students study, a single rooftop solar panel generates power. It is a solar storage system which costs Mukisa a daily rate of 15 cents. The average Ugandan earns as little as \$1.50 (£1.14) a day. He pays his bill each fortnight and will do so for another year. When the payment plan is completed, Mukisa intends to upgrade to a second solar panel, so another class of students can shine.

For the 600m Africans living without access to power, fuel poverty is a socio-economic barrier. The World Bank estimates that if sub-Saharan Africa's economies had dependable electricity, GDP growth across the region could be up to 2% per annum higher than current rates.

Uganda, with a population of 42m, has one of the youngest populations on average in the world, with 7 out of 10 people under the age of 25. Incomes in the country have increased by 26% in the last two years. The service sector has grown from 32% of the economy in 1990 to 55% in 2018, with a 15% expansion in the last two years. Today, it is estimated that 44% of Ugandans use the Internet, 70% have a mobile phone and 6% use social media. The growing demand for energy in Uganda is clear. Nevertheless, away from large cities, many individuals still operate in a barter economy. Rural agriculture based areas are still very common. However, their contribution to GDP is now only 24% of the total, down from 56% in 1990; a further reflection of the developing nature of the economy.

The energy supply market in Uganda, as in many African countries, is highly localised, with only 15% of its citizens living in homes connected to the country's energy network. The rest have to rely on arranging their own supply, increasingly using solar power. This is very different to the UK, where most of the population are customers of one of the large national energy suppliers (see Fig. 1).

Fig. 1 – UK energy suppliers' market share, 2018 (%)



Source: OFGEM

25 Uganda is at the centre of the solar energy revolution in Africa. For development organisations, including the United Nations, and socially minded investors, the opportunities are exciting. Street lights, topped with solar panels, charge up through the bright daylight hours and illuminate the streets each night. For a growing number of energy companies, the huge number of people without reliable power represents the opportunity to access a growing market.

30 Local start-up firms have appeared quickly, many with the backing of international companies. In 2018, one multinational energy firm, Shell, invested in three start-ups, SolarNow, SteamaCo and Husk Power Systems. These three have raised a total of \$30m from Shell and other investors. Shell's charity foundation also backs a UK-based firm, BBOXX. BBOXX has expanded rapidly, providing clean energy solutions and pay-as-you-go solar power. It aims to have provided home solar power systems to 20m people in Africa by 2020.

35 If Shell hopes to gain a control in the market it will need to compete against a former rival. The French firm, Engie, has taken the most decisive step into Africa's home solar market, with the acquisition of Ugandan-based Fenix International. Fenix supplies power to around 250 000 homes in Uganda, through the solar kits it sells in partnership with a mobile network provider.

40 The popularity of the Fenix home energy system means that the company is growing. It plans to expand into other countries, to reach millions more people. "We intend to be in multiple markets across eastern, southern and western Africa," said Chief Executive, Lyndsay Handler. "It's still amazing to me that so many people in Uganda do not have access to power. We provide a decentralised, affordable home system that can completely transform lives. An opportunity to rethink the way that we can achieve universal access to energy," she said.

45 "Beyond wanting to have an impact, we have always wanted to prove to the world that you can have a positive impact and deliver commercial returns. There's an underlying drive to show that this is not just charity. You can build commercial returns in Africa. We want to be part of a story that encourages others to see Africa as a commercial market. There are entrepreneurial people, with ideas and opportunities. They need investment, not just handouts," she said.

50 One Fenix customer for the past three years is Ritah Namatovu. She is now able to work at night to support her four grandchildren, thanks to her solar energy kit. Namatovu's only concern is that the solar panel might one day be stolen from her roof. "The solar panel is an asset I now own. There are no blackouts. These panels look so small, but they are powerful," she said.

1 (a) Draw a PPC diagram to explain the following statements:

(i) with dependable electricity, GDP growth across sub-Saharan Africa could be up to 2% per annum higher than current rates (lines 8–9);

[2]

(ii) Uganda has seen a fall in the agriculture sector's contribution to GDP at the same time as growth in the service sector's contribution. (lines 16–18).

[2]

(b) Explain what is meant by a 'barter economy'.

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..... [2]

(c) Refer to Fig. 1.

Calculate the five-firm concentration ratio in the UK energy supplier market.

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..... [2]

(d) (i) Refer to lines 11–13.

Calculate the income elasticity of demand for the service sector in Uganda over the last two years.

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(ii) Evaluate the impact of the increase in reliable energy supplies on the service sector in Uganda. [8]

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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).

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A large grid of dotted lines for handwriting practice. The grid consists of 25 horizontal rows, each starting from a vertical margin line on the left. The lines are evenly spaced and extend across the width of the page.

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