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Paper 1 Question 4
Exemplars

Consider the following information:

Source 1

Some studies have found the following kinds of behaviour common among Hong Kong people:

- Switching on the computer, the TV, air conditioners, or lights in all the rooms once they arrive home
- Not switching off lights or air-conditioners when a room is not in use
- Leaving electrical appliances plugged in while they are not in use

Source 2

Local consumption of electricity by type of users

Unit: terajoule

Year	Quarter	Domestic	Commercial*
2007	4	6 775 (20.2)	23 614 (70.5)
2008	1	7 298 (24.2)	20 105 (66.7)
	2	8 320 (22.3)	25 793 (69.0)
	3	13 878 (30.5)	28 337 (62.3)
	4	7 604 (22.2)	23 829 (69.4)
2009	1	6 874 (22.9)	20 820 (69.2)
	2	9 133 (24.3)	25 558 (67.9)
	3	15 094 (31.6)	29 531 (61.9)

Notes: 1 terajoule = 10^{12} joules.

Figures in brackets denote percentage shares against the total consumption of electricity for the respective quarter. Industrial consumption is not shown in the table.

*Includes street lighting, which is charged to the Government's account.

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(a)

Exemplar 1

(a) Describe the electricity consumption pattern of Hong Kong people shown in Source 2. (4 m

In general, the electricity consumption for both domestic and commercial uses has increased. For domestic uses, the consumption in general increases. We can see that from comparing the consumption between different years in the same quarter. In quarter 4 2007, consumption is 6775 terajoules, while that of 2008 was 7604 terajoules. Compare quarters 2, 3 of 2008 with that of 2009. There was also an increase. Also, for all the years, we can see that in general domestic consumption of electricity is higher in quarters 2, 3 and lower for quarters 1, 4. For commercial use, there is the same pattern across the years too. Commercial use in general, increases. Compare 3rd quarter of 2008 and 2009. 2009 has a higher consumption. As for share of total electricity consumption, commercial share is always larger than domestic share; but during 3rd quarter of the year, the domestic share would be higher than that of other quarters, with a drop in share of commercial use, the difference between shares of domestic and commercial use decreases. For example, for quarter 2 in 2008, difference between the shares is 46.7%, but that for quarter 3 was 31.8%. In general, commercial use consumes more than domestic use.

Marks: 4

Exemplar 2

(a) Describe the electricity consumption pattern of Hong Kong people shown in Source 2. (4 marks)

Comparing the first three quarters of 2008 and 2009, we can observe a ~~steady~~ rise in Hong Kong people's electricity consumption; and comparing the forth quarters of 2007 and 2008, we can also see a rise; hence we may deduce that Hong Kong people's consumption is rising steadily. From the source, we can see ~~almost~~ a 60% - 70% of electricity consumption goes to commercial use, spending up to 28 000 terajoule of energy. We can also see the highest electricity consumption falls in the third quarters of 2008 and 2009, which is possibly caused by the increased use of air-conditioners during the summertime.

Marks: 4

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Exemplar 3

(a) Describe the electricity consumption pattern of Hong Kong people shown in Source 2.

The ~~total consum~~ Hong Kong people consume electricity ~~including~~ for domestic ~~and commercial~~ use, most in quarter 3 of the year. In 2009 and quarter 3 electricity consumption of for domestic ~~and commercial~~ use ~~are~~ account for 30.5% and 31.6% respectively. Most electricity is consumed for commercial use. It accounts for over 60% every quarter of the year.

Marks: 2

Exemplar 4

(a) Describe the electricity consumption pattern of Hong Kong people shown in Source 2. (4 marks)

The consumption pattern of Hong Kong people is increasing as we can compare year 2008 and 2009, in quarter 2 and 3, the domestic use of electricity is increasing from 8320 terajoule to 9133 terajoule in quarter 2 and from 13878 terajoule to 15094 terajoule in quarter 3. Also in year 2007 to 2008, in quarter 4, the domestic use of electricity also increase from 6775 terajoule to 7609 terajoule. In quarter 1 and 3 of year 2008 and 2009, the commerical use of electricity also increase from 21105 terajoule to 20820 terajoule and from 28337 terajoule to 29531 terajoule respectively. By this we can see that the pattern of the electricity consumption of Hong Kong people is increasing.

Marks: 2

Exemplar 5

(a) Describe the electricity consumption pattern of Hong Kong people shown in Source 2. (4 marks)

Hong Kong people consumed the most ~~elect~~ electricity in the domestic criteria in third quarter of the year ~~(year)~~. The third quarter which is from ~~June~~ July to September is the Summer holiday. On the Commercial criteria, ~~the~~ Hong Kong people consumed most ~~during~~ in the second and the fourth quarter, which is from April to June, and October to December.

Hong Kong people's domestic electricity consumption appeared to be the least ~~amo~~ among the ~~for~~ fourth and the first quarter; ~~(1st)~~ while the commercial ~~sta~~ ~~Com~~ consumption is was.

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(b)

Exemplar 1

(b) With reference to Sources 1 and 2, in what ways do you think that the electricity consumpti
Hong Kong people may reflect their personal living styles? (5 mar

From the behaviors in source 1, we may deduce that many Hong Kong people ~~have~~ sustain an affordably high standard of living, being able to switch on appliances that consume much energy (e.g. TV, Computer, Air conditioners) and leave them on ~~evenidly~~ without worrying about the cost that incurs. To leave appliances on with electric flow also reflects Hong Kong people's lack of awareness of the problems of wasting precious energy and ~~their lack of~~ indifference to the environmental impacts caused by such act. Leaving electrical appliances plugged when unused also shows their lack of knowledge/care in tending to their personal items as well as the environment, ~~showreflecting~~ A significant rise of electricity consumption in the third quarter (summertime) in source 2 shows Hong Kong people puts their personal comfort as the first priority and is willing to forgo energy conservation just because of a slight change in temperature. A steady rise in the percentage of domestic use of energy also indicate a growingly luxurious lifestyle of people and their poor attitude to treating the environment well.

Marks: 5

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Exemplar 2

(b) With reference to Sources 1 and 2, in what ways do you think that the electricity co
Hong Kong people may reflect their personal living styles?

The high electricity consumption reflects a luxurious living style of most HK people. We can see from source 1, that Hong Kong people generally leave electrical appliances on, even when they do not use it. Electricity is used even when there is no need. Also, as from the data on source 2, with higher consumptions of electricity in quarters 2 and 3 each year, it could be predicted that Hong Kong people tend to turn the air-conditioners on when temperature is relatively hotter, in quarters 2 and 3 (summer and autumn). This account for the higher electricity consumption in quarters 2 and 3. The use of air-conditioners reflect a comfortable and luxurious living style. Hong Kong people tend to use electrical appliances to make life more comfortable, at the expense of some of their income forgone for the electricity fees. Hong Kong people use more than needed. For example, a fan can always replace an air conditioner for cooling down, but most just use an air-conditioner. It is luxurious. It could also be considered wasteful to leave the electrical appliances on, even when not in use, as reflected from Source 1. lifestyle reflected.

Marks: 4

Exemplar 3

(b) With reference to Sources 1 and 2, in what ways do you think that the electricity consumption of Hong Kong people may reflect their personal living styles? (5 marks)

As shown in Source 2, HK people consume ~~more electricity per quarter~~ as much electricity as around 30000 terajoule per quarter. This reflects that HK people have a low awareness of saving energy and there's probably an energy wastage. The electricity consumption for domestic use amounts for over 6775 per quarter every year. ~~This reflects that~~ The fact that HK people tend to switch on the computer, the TV, air conditioners or lights in all rooms once they arrive home, leaving electrical appliances plugged in can explain this. The fact that electricity consumption for commercial use amounts for at least 23614 terajoule per quarter every year can be explained by the fact that ~~they~~ HK people waste electricity ~~energy~~ as

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Exemplar 4

(b) With reference to Sources 1 and 2, in what ways do you think that the electricity consu
Hong Kong people may reflect their personal living styles? (5

I think that the electricity consumption can reflect that how long does a person spends at home as people who spend more time at home, they need to consumme more electricity for electrical appliences. Also it can show that Hong Kong people are also active at night as the use of ~~commerical~~ electricity in commercial is high, we can see that street light need to be turn on at night for a long time and the shop also opens at night and this will also consumme a large amount of electricity.

Mark: 1

Exemplar 5

(b) With reference to Sources 1 and 2, in what ways do you think that the electricity consumption of Hong Kong people may reflect their personal living styles? (5 marks)

During the summer, about the third quarter, Hong Kong people have the habit of turning on the air-conditioner when they arrive home. However, in winter, people don't turn on the air-conditioner often, so the consumption dropped.

At the same time the problem of people not turning off the conditioners may occur as shown in Source 1. Since people turn on the conditioner more often, there's a higher chance of not turning them off. During the summer holidays, students don't have to go to school and they may use the computer more frequently, causing the consumption figure to be the highest.

Mark: 1

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(c)

Exemplar 1

(c) With reference to the sources, explain how the electricity consumption of Hong Kong people have a negative impact on the quality of life in Hong Kong. (5 mark

The electricity consumption is high, as seen from source 2. A high electrical consumption can first affect people economically. Paying more on electricity bills, people have less income to spend on other things. Quality of life may be lowered with fewer things to consume and less income, as life could become less convenient with less income. Most significantly, quality of life would be lowered due to the environment impacts. With a high demand of electricity, electricity companies has to produce more electricity. Hong Kong is currently using fossil fuels for main electricity generation. Combustion of the fossil fuels would lead to emission of greenhouse gases and soots as pollutants. Greenhouse gases could intensify the problem of global warming, which could lead to consequences like rising sea levels and extreme weather. Damages could be done and lower quality of life. With a hotter temperature, Hong Kong people would tend to use more electricity for air-conditioning, and it leads to a vicious cycle. With the pollutants, people with respiratory diseases may suffer, health is affected. Quality of life lowers. As a whole, the current high electricity consumption is not sustainable. Quality of life on a long term, for the future generations, would decrease.

Marks: 5

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Exemplar 2

(c) With reference to the sources, explain how the electricity consumption of Hong Kong pe... have a negative impact on the quality of life in Hong Kong. (5 ...

From Source 1, turning on all electrical appliances and leaving them on when not in use ~~can~~ wastes much energy, which directly puts weight on the consumer's electricity bill. As electricity is still mainly generated by burning fossil fuels, an increased demand for it will cause a greater supply, wasting the precious fuel as well as giving out more air pollutants and greenhouse gases, causing more serious global warming in its generation. Leaving appliances plugged could cause fires and other electrical malfunctioning as electricity flow is constantly present in the appliance, causing harm to both the user and the environment. From source 2, a rising electricity consumption, together with the usage mentioned in source 1, causes waste of energy. Increased commercial use (including public lighting) gives rise to problems like light pollution. Increased consumption in quarter 3 of the years significantly increase the outdoor temperatures as air conditioners give out hot air and forms a vicious cycle which leads to even more electricity consumption as global warming deteriorates. Causing harm to health and inconvenience to the consumer, the society and even the world, the consumption pattern of Hong Kong people lowers their own quality of life.

Marks: 3

Exemplar 3

(c) With reference to the sources, explain how the electricity consumption of Hong Kong people may have a negative impact on the quality of life in Hong Kong. (5 marks)

Quality of life can be measured with reference to social, political and environmental criteria. The high electricity consumption will cause negative impact on the environment. Electricity production requires burning fossil fuel, which emits CO_2 during the burning process. This can lead to air pollution, an environmental problem. The poor air quality affects people's health. Many past studies have shown that more people are suffering from respiratory disease, this is likely due to the poor air quality. The poor health of people is a social problem, and that it leads to higher medical expenditure, this adds financial burden to the government.

Marks: 3

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Exemplar 4

(c) With reference to the sources, explain how the electricity consumption of Hong Kong pe have a negative impact on the quality of life in Hong Kong. (5 m

As Hong Kong people always turn on lights, computers and television even if they are not used and there will be a large demand of electricity. Then they may need to pay more for the electricity as the fee may increase and this will effect the life of the poor. Also generating electricity may create green house gases and may lead to global warming and make Hong Kong a even hotter city. Also the street lights of Hong Kong may create light pollution and make people can't sleep nor work and become very uncomfortable.

Marks: 2

Exemplar 5

(c) With reference to the sources, explain how the electricity consumption of Hong Kong people may have a negative impact on the quality of life in Hong Kong. (5 marks)

~~Hong Kong pe~~ The usage of air-conditioner ~~of~~ in Summer is ~~the~~ supposed to be the ~~the~~ largest. The air-conditioner ~~re~~ gives cool air indoor but releasing hot air outside. ~~Since there are~~ This makes the street hotter and hotter. Also, the drivers on the street need the car engine on to ~~keep~~ enjoy the air-conditioner. ~~A The~~ ~~If~~ the engine releases exhausted gas and pollutes the air.

Hong Kong People always ~~forget~~ to turn off the lights in the room when not in use. These may cause light pollution. Light pollution may ~~does~~ spoil scenary of skies. ~~and~~

~~X~~ During festivals like Chinese new year and Christmas, there have light decorations everywhere.

Mark: 1

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(d)

Exemplar 1

(d) Discuss measures to help alleviate the negative impact you mentioned in (c). (6

Firstly, the goverament could issue regulations to commercial sectors, to reduce their electricity consumption. With lower commercial consumption, total electricity consumption and demand can be lowered too. Secondly, there could be education to people, to reduce domestic electricity consumption just by switching unused electrical appliances. This could be done through education in school, or promotion through different forms of media like TV and radio advertisements. This helps reducing electricity consumption too. Thirdly, campaigns can be held to actively reduce consumption of electricity through symbolic and concrete actions, for example, turning off the lights for an hour. Besides reducing electricity consumption, this could raise people's awareness in protecting the environment for the future generation too. Lastly, the government can help developing renewable energy sources. Less pollution and harm is done to the environment if electricity is generated by renewable energy sources, like solar power or wind power. Using renewable energy sources can help reducing negative aparts due to pollution, at the same time, can meet the raising demand of electricity consumption in a long run..

Marks: 5

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Exemplar 2

(d) Discuss measures to help alleviate the negative impact you mentioned in (c).

The government and schools can work in hand to educate the public on the correct use of electrical appliance and promote energy conservation through talks, lessons, discussion and ~~popular~~ install a "green" mindset through propaganda, and public activities (e.g. TV commercials). By raising people's awareness to the environmental impacts uncontrolled electricity consumption causes, (and changing their mindset to putting the ecology ahead of their comfort) we may change people's attitude and solve such problem. The government can also pass laws to regulate electricity consumption, especially in the commercial sector, which always uses extravagant means to attract customers and neglect the environmental problems they cause. For example, concerning light pollution, the government can pass laws to regulate the using hours of lightboards to lower energy consumption. It can redesign public lighting (e.g. add shields to better project light) and ~~other~~ import energy-saving appliance modles to save energy as well as raise efficiency. The government can also subsidize use of eco-friendly appliances (e.g. energy-saving bulbs) in ~~of~~ industries and commerce which use the major consumers of electricity. Such measures can cut electricity consumption and solve the problems raised in c.

Marks: 5

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Exemplar 3

(d) Discuss measures to help alleviate the negative impact you mentioned in (c).

To help alleviate the negative impact of high electricity consumption, we must lower the electricity consumption. To do this, we can educate the public about the concept of energy saving through public talks, advertisements, posters and more. If people understand the importance of energy saving and the negative impact of high electricity consumption (turn off lights when not in use.) they'll tend to use less, eg. The students in HK (especially), should receive such kind of education as soon as possible so as to ensure the future energy consumption can be lowered. If everyone takes a small step, the society'll benefit as a whole.

Legislation is also a possible way. The government can impose laws so as to restrict the overuse of electricity. Eg. offices must turn off the lights after a certain time.

The government can also increase the price of electricity.

The government should promote electricity saving in their office, so as to act as a role model to the HK citizens.

Marks: 3

Exemplar 4

(d) Discuss measures to help alleviate the negative impact you mentioned in (c). (6 marks)

The government should educate people not to use many electricity as this may create a lot of problems and will effect a lot of people. Also street light should be turned on for too long and there should be less street lights in residencial area. Light (direction) should also be controlled should as not to effect the people who live around them.

Marks: 2

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Exemplar 5

(d) Discuss measures to help alleviate the negative impact you mentioned in (c).

Use ~~to~~ more fans ~~than~~ air-conditioner.

* Hold a campaign ~~where~~ which people ~~in~~ will turn off their lights for one hour.

Mark: 1

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