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Examiners' Report
January 2012

GCE Geography 6GE03 01

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Introduction

This Contested Planet examination used the topic 'The Technological Fix?' as the synoptic topic for Section B set within the region of Scandinavia. This of course meant that there was no Technological Fix question in Section A of the exam paper. Candidates attempted all questions in Section A in reasonably good numbers. As in the past, the Energy Security and Water Conflicts questions tended to be the most popular. There were perhaps more answers to the Biodiversity under Threat question (Question 3) than in past examination series. Question popularity, as a % of responses in Section A, was approximately:

Q1 Energy Security = 30%

Q2 Water Conflicts = 22%

Q3 Biodiversity under Threat = 16%

Q4 Superpower Geographies = 19%

Q5 Bridging the Development Gap = 13%

In terms of overall performance it is worth noting that:

Rubric offences are very rare; very occasionally a candidate will only complete one Section A question, writing for instance an answer to Q1a in the first space in the Section A part of the answer booklet and the answer to Q1b in the second space. A small number of candidates continue to write both their Section A answers in the first space provided i.e. between pages 4 and 10 in the answer booklet. Timing issues are relatively uncommon; when they do occur it tends to be Q6c which suffers. Often this is a direct result of a candidate spending far too long on their answer to one of the 10 mark data stimulus '(a)'questions in Section A.

General comments on Section A:

Much of the work marked by examiners is high quality, interesting Geography. It is frequently clear that candidates enjoy studying the Contested Planet and that teachers are aiding this enthusiasm. Overall understanding of resources issues, development issues and geopolitics is good. Since the first examination in 2010, very weak answers have tended to become less common and the overall standard has improved. There are a number of issues centres may wish to consider when preparing for future examinations. These could usefully be discussed with candidates:

Africa is not a country. The continent contains 56 nation states which vary in nature from 'failed states' to middle income countries.

News events' such as the situation in Syria (at the time of writing) and the impacts of the tsunami on Japan in 2011, are sometimes relevant in terms of answering questions but often not. Beware of 'shoe-horning' these events into answers when the link to the question is tenuous.

Planning is a good idea. The best plans tend to be a brief list of bullet points, or perhaps a simple spider diagram. Plans that run to a full page tend to be often associated with candidates who have run out of time.

As has been mentioned in the past, there is a tendency for **narrative, descriptive case studies** to be over used at the expense of discussion and debate supported by examples. A number of candidates appear to cram answers with incredible case study detail in an entirely unselective way and leave the examiner to sort out what is relevant (often very little) and what is not in relation to the actual question which has been asked.

The form and structure of the Contested Planet questions is similar from series to series although the content of course differs every time. Centres and candidates need to recognise the need to:

- Use the **Figure** provided for the 10 mark '(a)' question. The questions are data stimulus questions which test a candidate's ability to understand geographical data (be it a map, graph, diagram, table of data etc).
- Be prepared for **more than one key word,** for instance 'political and economic' or 'global and local'.
- Understand the difference between **causes** and **effects** (the latter are often referred to as impacts, consequences or implications in questions).
- Adapt the writing style to suit different **command words**. When the command word is 'explain' examiners expect to see phrases such as 'this is because' or 'a reason for' or 'X is caused by Y'. Similarly, to 'assess' or 'evaluate' demands a style that weighs up different options, or judges whether advantages outweigh disadvantages etc.
- Quickly get down to answering the question, and avoid **long, generalised introductions** which, although usually correct, are not credited in the mark scheme.

Section A

Question 1 Energy Security

Figure 1 was generally understood by the majority of candidates. As stated in the figure heading 'A possible classification' was shown, not 'the classification'. Because of this it was completely acceptable for candidates to question the position of energy resources within the triangular graph. Many did this, for instance arguing that in fact nuclear power's environmental impacts might be considered low (as shown – perhaps due to low greenhouse emissions) but equally good they could be considered high when the environmental consequences of the full fuel life-cycle, decommissioning and waste disposal were taken into account. There were many perceptive answers supported by examples of wind farms, nuclear power plants and the energy policies of different countries e.g. France, the UK or USA (sometimes related back to the Section B Energy Security resources from Jan 2010).

Figure 1 raised another important issue which has occurred in the past. There were 4 energy resources shown (coal, nuclear, biofuels and wind) and 3 axes (social, economic, environmental). Candidates did not need to refer to each of the 3 axes and all 4 energy resources, even for maximum marks. However, they did need to ensure some balance across Figure 1 as a whole. Answers which focused a great deal on nuclear, or only on economic costs, tended to be unbalanced. Generally knowledge and understanding of the 4 energy sources was good. It is perhaps worth mentioning that:

- Biofuels include liquids such as bioethanol and biodiesel, as well as biogas and solid biomass.
- The debate about wind power is a little broader than its impact on bats and birds.
- While Chernobyl, Fukushima and Three Mile Island are certainly significant to the debate about nuclear power it is also the case that 100s of nuclear plants have operated for decades without recourse to 'meltdown'.
- The UK is not a major exporter of coal.

Question 1b focused on energy pathways, which could take the form of oil/gas pipelines, oil/gas/coal shipping routes, transmission lines and road or rail networks. To many, the gas pipelines between Russia and Ukraine were the (narrow) focus of their answers. Stronger answers tended to briefly define what they understood by 'energy supply pathways' and this provided a focus for the rest of their answer. The question also asked for impacts (political and economic) i.e. the effects of disruption to pathways. Many candidates actually focused on the *causes* of disruption, not the *impacts* of disruption. There were many narrative accounts of the Russia / Ukraine dispute which stated what happened in 2005-06 and 2009 but did not state what the impacts of these events were. There were also many hypothetical answers along the lines of 'if Iran blocked the Straits of Hormuz....' but often ignoring actual past disruptions in MENA region. Perhaps surprisingly, the current controversy over the Keystone XL pipeline between Canada's tar sand region and the USA rarely featured. Disruptions to fuel supply in the UK due to fuel protests or natural hazards, such as hurricanes, were rarely seen. Some of the examples and case studies chosen were not 'pathways' but fossil fuel sources which were not related to a pathway. These included the BP Deepwater Horizon spill, the ANWR and Arctic and tar sands in Canada.

Question 2 Water Conflicts

Figure 2 showed a graph of how three different types of water supply had changed for 4 different regions between 1990 and 2008. Although not especially challenging as a resource, Figure 2 did need some consideration. Because the data is in %, there is a relationship between the 3 types of water supply. If piped water increases from 55% to 83% in Eastern Asia, then improved and unimproved supply have to change also. Some candidates failed to 'stand back' and look at Figure 2 as a whole, and instead tried to explain each individual data point in turn. This led to some strange answers where the increase in piped water for Eastern Asia from 55% to 83% was stated as 'good news' but the decline in improved supply from 14% to 6% was seen as 'bad news'. Often the decline in improved / unimproved was put down to increasing pollution levels, whereas in fact it is a result of more people having access to clean, secure, piped water. Nevertheless many candidates provided a range of reasons linked to industrialisation in China, infrastructure building, the work of NGOs and rapid, uncontrolled urbanisation. A minority repeated the same 'increasing wealth' or 'development' reason for each of the 4 bars in Figure 2. Some answers were very descriptive in nature, whereas the question asked for 'reasons'. It is worth mentioning that countries such as India and Bangladesh are not in East Asia, but South Asia, which might surprise a number of candidates.

Question 2b has a number of key words within it that candidates need to consider before answering:

- Consequences (impacts, effects – can be positive and negative)
- Players (water companies, governments, consumers, NGOs etc)
- Gap (between supply and demand)
- Increasing (the gap widening over time).

The command word in this case was 'evaluate'. By asking candidates to 'evaluate the consequences for different players...' the question is attempting to illicit a response that weighs up a range of consequences for different players and that moves towards a judgment (conclusion) – this could be that consumers will be hit hardest and that water companies might benefit from rising prices etc.

A significant number of candidates chose to, more or less, ignore the question and roll out their case studies on water conflicts and water projects. These usual suspects (the GAP project, Aral Sea, Three Gorges, River Nile agreement, Colorado River etc) are familiar to many examiners. Applied unselectively to the question these case studies did not provide a convincing answer to the question set in almost all cases. A 'project' is not the same as a 'player'. The consequences of destroying the Aral Sea are not the same as the consequences of a widening gap between water supply and demand.

The best answers to question 2b usually structured their answer by players i.e. a section on water companies, a section on consumers etc. Structuring by project (as many did) tended to only imply who the players were and / or repeat the same players (usually 'government'). Many who tackled the question via 'water project' style case studies tended to repeat the same consequence i.e. conflict over and over. Centres need to be aware that the Water Conflicts questions are not always about water conflict per se. Many sound answers finished with a final conclusion which made a judgment about which players might suffer the most severe consequences. Suggestions included ordinary consumers in urban areas in the developing world, many of whom already rely on expensive water vendors – or NGOs who might face increasing demands for their aid.

Question 3 Biodiversity under Threat

The question was not especially popular, as has been the case with Biodiversity questions in the past. Figure 3 shows the pattern of plant biodiversity through a 'slice' of the globe from pole to pole in Asia/Oceania. This was a stimulus resource so answers were not required to focus wholly on plants.

Importantly the question asked for explanations of how physical factors influenced the pattern shown. A common theme was for answers to 'drift' into human factors such as threats and destruction – this did not form part of the answer. Most answers focused on climate (sometimes confused with weather) but often not written in terms of limiting factors. Technical terminology was often lacking and answers focused more on 'hot and wet' versus 'cold' factors. Endemism often appeared as a factor but was not well explained or related to an area on the map e.g. the Pacific islands. Altitudinal range leading to ecological niches was included sometimes, and related to the Himalayas. Overall answers were a little disappointing as this is a key area of the Specification. Reference was often made to locations not shown on Figure 3 and sometimes only to places not shown.

In question 3b, a surprisingly large number of answers focused on one location e.g. Daintree and failed to broaden their answer out to ensure it related to a 'named global ecosystem'. As in the past, there was a maximum achievable mark for this localised focus. Another approach was to cover 3 global ecosystems such as tropical rainforests and coral reefs. In this case, the best was credited as the question was clear on the need for one only. A third approach was to name a global ecosystem but then discuss goods and services in very general terms. This tended to produce vague answers, especially when the importance of goods and services to local areas was being considered – specific examples of locations would have helped here.

Most candidates outlined a range of goods and services. A number made reference to provisioning, regulating and cultural services which is a more up-to-date categorisation of goods and services. This was pleasing to see. Weaker answers sometimes failed to specify which of the 'things' being referred to were goods or services. Stronger candidates structured their answers by having a section on goods, followed by one on services. Within these sections, reference was made to both local and global importance. Often such answers were finished off with a conclusion that argued, for instance, goods were important locally but services were more crucial globally.

Question 4 Superpower Geographies

This question proved reasonably popular. Question 4a made reference to a figure showing examples of inward investment into Africa by the BRIC nations. Candidates were asked to explain the advantages and disadvantages of such investment to developing countries. This could include the investor and invested (but not Russia and South Korea). Candidates were also asked to include their own knowledge, which many did. There was strong evidence that 'China into Africa' is a topic studied with some interest and many examples of Chinese inward investment were outlined.

Most answers had some balance, although narrower answers tend to repeat the advantage of 'jobs' versus the disadvantage of 'exploitation' but not really consider the different advantages and disadvantages of the stated projects. Some answers were very uncritical, whereas others were only critical. Linkage to theory i.e. dependency, neo-colonialism and core-periphery was fairly common which was pleasing to see.

In question 4b the command word was 'assess'. This was frequently not addressed. The purpose of the command word is to try and get candidates to move towards some sort of judgment about the nature of the environmental and geopolitical implications of the rise of the BRICs. This could be an assessment based on, for instance:

- The environmental implications are likely to be severe, but could perhaps be managed and / or the BRICS may gradually become more environmentally aware as they develop.
- The geopolitical implications may be more serious than the environmental ones, as they have the potential for conflict.
- The BRICs might be winners, but the existing power could be losers, geopolitically – or everyone could be a loser environmentally.

The focus of the question was *global* implications. There were many detailed outlines of the environmental impacts of China's rapid industrialisation although this often had a *local* focus i.e. within China, rather than for the whole planet. Better answers supported their more global outlook with some data about the greenhouse gas emissions of India and China. Political facets most often related to the shift towards a more multi-polar, and possibly more unstable, world. This was often supported by examples of bilateral relations e.g. Russia and the EU, or China and the USA. Better answers sometimes focused on shifting power within IGOs such as the UN, WTO or IMF. These answers also saw some positive implications i.e. the BRICs signing up to global environmental agreements in the near future. Many answers covered environmental well, but not geopolitical, or vice versa. A number waded through each of the BRICs in turn but this approach often failed to produce a clear outcome linked back to the question.

Question 5 Bridging the Development Gap

Figure 5 was a relatively simple stimulus resource showing 4 quotes, from well-known individuals, relating to development. Question 5a asked candidates to explain why the different views were held. Some of the quotes were understood better than others. The quote by Jimmy Carter was sometimes explained as showing that Americans were only interested in money, which is difficult to reconcile with the content of the quote. Occasionally the Millennium Development Goals (a key part of the Specification) were mentioned, although rarely. In addition, the contribution that gender equality might make to development was hinted at by many but explained fully by few. This answer did tend to produce its fair share of generalised 'Africa' commentaries. Nevertheless, many answers did provide a range of reasons for the apparent differences in focus illustrated by the 4 quotes, and many answers contrasted one view with another. There were some very good answers too, which showed a real awareness that 'development' means different things to different people and that there is more than one route to a better life.

Question 5b produced a wide variety of responses. At the weaker end of the spectrum there were claims that there was no development gap in MEDCs such as the UK and USA and that 'gaps' only existed in developing countries such as India and South Africa. Slightly better responses described several gaps within countries with some factual detail in support – often South Africa, Uganda or India and then perhaps moved on to contrast rural and urban areas. The global gap was most often described in stark north-south terms and there were fewer responses which suggested that the global development gaps are changing, or becoming more complex. The best answers did often focus on NICs and LDCs showing that the north-south idea was less relevant today than in the past. Overall, many answers were descriptive of gaps and focused within countries but did not compare between countries or to the global pattern.

This example is part of a Level 3 answer to question 1a on the classification of energy resources.

Put a cross in the box indicating the first question you have chosen to answer ☒.
If you change your mind, put a line through the box ☒
and then put a cross in another box ☒.
You will be asked to indicate your second question choice on page 11.

Chosen Question Number:

Question 1 ☒ **Question 2** ☒

Question 3 ☒ **Question 4** ☒

Question 5 ☒

(a)	Nuclear	Wind	Biofuels	Coal
Econ	HIGH	MIDDLE	LOW	LOW
Env.	LOW	LOW	LOW	HIGH
Social	LOW	MIDDLE	HIGH	HIGH

Nuclear power has the highest economic cost compared to all the other energy sources. This is because it is costly to find a suitable site and adequate storage space for radioactive waste. Additionally, nuclear power plants have extremely high decommissioning costs which may deter production. It also has the lowest levels of social acceptability. This is overtly a result of the inherent safety concerns, as events such as the Chernobyl disaster have shifted public opinion. However, nuclear power may become more acceptable in the future for nations with an uncertain future in terms of energy security, as dependancy issues such as an over-reliance on foreign imports may ~~encourage~~ incentivise ~~product~~ building nuclear power plants. It also has a relatively low environmental cost as nuclear power plants do not emit carbon dioxide

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Examiner Comments

This answer avoids a long, rambling introduction and immediately gets down to discussing one of the energy sources from Figure 1. A range of reasons are given for nuclear power's high economic costs. There is some implied questioning of the social acceptability of nuclear power with reference to how public opinion could change in the future.

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Examiner Tip

Notice how this candidate has analysed Figure 1 before starting their answer (the grid at the start). This is a good idea. Pausing to think about the data shown reduces the chances that it will be misinterpreted.

This example is part of a Level 4 response to question 1b on disruption to energy supply pathways.

~~Energy supply pathways are~~

Energy security is defined as having an accessible, affordable and reliable energy supply to ensure and maintain living standards. the goal of ultimately being self-sufficient. Energy supply pathways are crucial ~~is~~ today due to many countries having to rely completely on imports for fossil fuels. However this heavy reliance can be severely affected by disruption.

National economics ~~are~~ depend greatly among an increase in oil and gas production, and so decline in these energy sources could lead to deep recessions. If ~~be~~ recessions were experienced then this could lead to long term unemployment in countries and a decline in living standards.

Energy supply pathways can also be disrupted by supply-side shocks, a global event affecting production and exporting. The 9/11 ~~terror~~ terrorist attack, ~~caused~~ on the USA, caused large fluctuations in the price of oil, and forced the USA to lessen its dependence on the Middle East for oil supplies. Also, with the Iraq invasion 2003 and the Libya uprising in 2011 it has allowed the price of oil to fluctuate dramatically, leaving uncertainty for many economies, and forcing countries to look to alternative methods for energy.

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Examiner Comments

The beginning of this answer briefly defines energy security and refers to energy pathways and disruption, both key words in the question. The importance of pathways is made clear. The impact of disruption on prices is linked to examples towards the bottom of the page.

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Examiner Tip

This example refers to 9/11, the 2003 Iraq invasion and the Libya uprising in 2011. Importantly, it does not get side-tracked into a long narrative of these events. The examples are used to support the idea of disruption leading to price fluctuations which can have economic impacts.

This answer is part of a Level 3 response to question 2a on changes to water supply quality in 4 regions.

Put a cross in the box indicating the first question you have chosen to answer ☒.
If you change your mind, put a line through the box ☒
and then put a cross in another box ☒.
You will be asked to indicate your second question choice on page 11.

Chosen Question Number:

Question 1 ☐ **Question 2** ☒

Question 3 ☐ **Question 4** ☐

Question 5 ☐

a) Looking at figure 2, there are a number of reasons that have contributed to the change in water supply.

Looking firstly at the trend of increasing piped water supply in Latin America and Eastern Asia, this may be attributed to economic and technological improvements. For China in particular, the growth of cities such as Beijing and the wealth in these areas has increased demands for piped water. Looking at the decrease in ~~the~~ piped water to urban ~~area~~ areas of sub-saharan Africa, this could be attributes to the increasing development gap between rich & poor in urban areas; and lack of emphasis on improving poorer urban areas.

Looking next at the improved water supply, Sub-Saharan African ~~all~~ areas have shown improvement since 1990. This could be attributes to the actions of charities such as WaterAid, who have helped local communities with their bottom-up approach to improving local water supplies such as wells and public taps. They have reached 18 million with clean water since 1981. However, in

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Examiner Comments

This example provides a range of reasons linked to changes shown in Figure 2. The growth of cities, lack of improvements to urban areas in sub-Saharan Africa, the work of NGO are all valid reasons. It is the range of reasons/ explanations in these 10 mark data stimulus questions that gains marks.

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Examiner Tip

One thing that stands out in this answer is the factual "They (WaterAid) have reached 18 million with clean water since 1981". This specific factual detail linked to an example is a characteristic of good answers.

This example is part of a Level 4 answer to question 2b on the consequences of the increasing gap between water supply and demand.

The Utilities companies e.g. Thames Water will have to increase their water prices and so will be in direct conflict with consumers who will be unprepared to pay more for what they see determin as a human right.

Furthermore, the possibility of conflict may arise between local communities or neighbouring countries. For example, the Colorado River, USA is shared by 7 US States and 2 Mexican states all of whom heavily depend on the Colorado for their everyday lives. As such, there may be the possibility of "Water War" between states (national) or USA and Mexico (International) as water supply declines.

Also, in addition LEDC's Governments may have to face pouring investing great sums of money into water resources, which had previously gone untapped due to a lack of infrastructu re.

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Examiner Comments

The strength of this example is how obvious the 'players' are in the answer. Utilities companies, consumers, local communities, LEDC governments are all mentioned and supported by examples linked to implications i.e. Thames Water having to increase prices and this leading to unhappy consumers. Reading this answer it is obvious that the question is asking about 'players' and 'consequences' for those players.

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Examiner Tip

Notice how this answer is paragraphed, and a line is left between each paragraph. This gives the work structure and logical organisation. It also leaves a bit of space if you need to go back and add in something you have forgotten.

This is part of a Level 3 answer to question 3a on the physical factors influencing levels of biodiversity.

Another physical factor which influences the distribution of biodiversity is isolation, which applies to large and small islands such as the Philippines and the island of Borneo, shown in figure 3. The fact that islands are isolated from larger land masses enables plant and animal species to evolve in a special way, which increases biodiversity in the region. Thus, it is no surprise that several islands such as the Philippines are considered biodiversity hotspots.

History is another physical factor which affects biodiversity. for example, the Daintree Rainforest in Queensland, Australia (shown in figure 3), is the oldest rainforest in the world (over 135 million years old), which is a factor increasing biodiversity levels in the region.

Although physical factors have been very significant in influencing biodiversity levels across the world, human factors ~~have become in~~ such as deforestation, introduction of invasive species and pollution have become significantly important as well.

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Examiner Comments

This answer is well organised by physical factor. The terminology used is good e.g. 'isolation', 'evolve' and 'invasive'. Technical language used correctly suggests good understanding. Brief examples are used and reference is made directly to locations on Figure 3.

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Examiner Tip

The last paragraph here is actually about human factors, not physical factors, so is not relevant. What is written is true, but it gains no marks (it does not lose marks either). Be careful not to drift from the focus of the question.

This example is part of a Level 4 answer to question 3b on the global and local value of ecosystem goods and services.

Essay—

The value of an ecosystem varies greatly depending upon the nature of the player; from the cultural appeal of a rainforest to its source of wood for exportation. The value can be both local & global in scale (global also is local); and Tropical Rainforests; such as the Daintree in Australia, have a particularly high value.

Upon a global scale; Rainforests play a vital role. In terms of the regulatory services they provide; Rainforests affect global warming & climate change as Carbon sinks; reducing the level of CO_2 in the atmosphere. This is vital as without such a service there would be a reduced biodiversity upon a global scale as Habitats are put under strain.

Rainforests also have a global value as a source of many goods. Timber is shipped globally from Tropical Rainforests; such as the Amazon Basin, to provide the raw material for building & other goods. Rubber & palm oil are also goods used upon a global scale; increasing its value. Medicines are

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Examiner Comments

This candidate's opening paragraph is linked very closely to the question. It uses the key words 'ecosystem', 'value', 'local' and 'global'. It also sets up an interesting assertion that value depends on 'player' i.e. who values the ecosystem? This makes the reader want to read on. Notice that examples are used, as is good terminology e.g. 'regulating services' and reference is continually made to how valuable the goods and services are locally and globally.

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Examiner Tip

An introduction to a 15 mark essay in Section A should be 4-6 lines long, and make direct reference to the key words in the question.

This example is part of a Level 3 answer to question 4a on inward investment into Africa.

often low. In addition emerging powers usually import migrants to work in the areas they have invested in, China for example has expanding over 700,000 migrant workers to Africa. Moreover the investment may not provide the necessary training for the jobs provided by the investment and so the local low-skilled workers would be unable to benefit from the inward investment. The research centre in Gambia owned by Brazilian state owned company would not be suitable work for the large majority of the local people.

Both the 670,000 hectares of land leased to South Korea in Sudan and the 300,000 hectares leased to India in Ethiopia is land that can no longer be used by local people in order to grow food to increase food security or sell to provide a wage.

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Examiner Comments

This answer makes a good range of points linked to Figure 4. For each situation, both advantages and disadvantages are given e.g. 100s of jobs for locals, but perhaps the jobs will go to immigrant workers. This gives the answer a good balance in relation to the question of 'advantages and disadvantages'.

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Examiner Tip

Most answers to the 10 mark data stimulus questions in Section A are 1 ½ to 2 sides long. Be careful not to spend longer on the 10 mark part versus the 15 mark part. Write to the mark allocation.

This example is part of a Level 3 answer to question 4b on the environmental and geopolitical implications of the rise of the BRICs.

BRICs also cause a large amount of urbanisation, which destroys natural landscape in favour of concrete and infrastructure. This causes threats to ecosystems in the area, and could cause a loss of biodiversity; in China, the population of pandas has rapidly decreased due to roads being constructed and bisecting their natural habitat.

While the rise of the BRICs has increased living standards, wealth and technology advances, it has also had a large negative impact on the environment, with the depletion of finite energy stores, disruption to natural habitats and threats to biodiversity. On top of this, unfamiliar governments such as China's dictatorship threaten the power of established superpowers like the USA, causing geopolitical tension as these powers compete with the BRICs to prevent a shift in the gravity of the power. It is likely the effect of these implications will grow with the BRICs' development, suggesting that the future of the Earth considerably less stable than anticipated.

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This conclusion to 4b makes reference to both environmental and geopolitical implications of the rise of the BRICs. There is some evaluation i.e. the idea that in the future implications will increase instability. What the conclusion lacks is specific mention of 'global' implications especially in relation to the environment.

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Examiner Tip

Before writing a conclusion, pause and look back at the question to ensure your conclusion matches it; often as you write your answer you tend to drift from the focus of the question so this is a chance to get back on message.

This example is part of a Level 3 answer to question 5a on the priorities for development.

a. Development can be measured in a variety of ways and different players will have different opinions on how best to narrow the development gap.
One reason is due to the individuals in figure 5 having vested interests or bias due to the large player they represent represent.
Kofi Annan has the opinion that gender equality is placed because he is part of the UN which largely represents 'Westernised' opinions, in many Western countries GNI is very high and education of women can have a very positive multiplier effect, for example educated women in LDC have the same infant mortality rate as women in developed countries, this puts less pressure on goverment services and is certainly a path to development as female empowerment results in wider equality, one of the conditions to Uganda debt cancellation was that its gaverment had to be 30% female, the UN therefore clearly thinks its important especially as its a very Westernised view.

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Examiner Comments

This is an interesting example, as this candidate very much has their own view based on the 'bias' of the 4 people quoted. Nevertheless, the candidate does explain their assertion and this makes for a sound answer.

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Examiner Tip

Many of the Contested Planet questions have no one 'right' answer, but it is always important to back up any answer with examples, facts, data and ideas to support what you are writing.

This example is part of a Level 4 answer to question 5b on the extent of the development gap at different scales.

Russia is also thought not a very safe place for many who have gone against the regime and it is the mistrust the west has for Russia after the Cold War that means trade and investment is not done by many. There natural resources such as the gas fields will undoubtedly narrow the development gap somewhat significantly in the future as more and more people are looking for natural resources and their demise will be Russia's uprising.

The development gap is normally so evident when comparing the USA with countries in Africa such as Ethiopia the problems are clear and nationwide, but it is only once you delve into a nation that you begin to see how large the development gap can be, even the USA has a gap look at New York and then New Orleans they could be in two different countries.

(Total for Question = 25 marks)

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Examiner Comments

These last two paragraphs of an answer to question 4b make reference to Russia followed by a final conclusion. It is clear that the topic being discussed is the 'development gap' and there is some sense of different scales i.e. between countries and within countries. There is a clear judgment that the gap is greater within countries.

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Examiner Tip

A good tip is to only read your concluding paragraph of an answer to a 15 mark essay question. From the conclusion only, the reader should be able to work out what the original question was. If not, the response probably hasn't answered the question directly.

Section B
Issues Analysis: Scandinavia – most advanced part of the planet?

Question 6

The issues analysis was based on the Technological Fix? topic and located in Scandinavia. The region seemed to be reasonably familiar to students and there was evidence that the region had been researched by many during the pre-release phase. Compared to previous pre-release booklets there were fewer 'in the news' style distractions such as the Arab Spring in 2011 and the BP Deepwater Horizon oil spill in 2010.

The Technological Fix? topic has tended to lack popularity when it has appeared as a question in Section A, however this does not appear to have affected students' willingness to engage with these technology-based resources. Generally performance in Section B was good with most responses providing full answers to all three sub-questions. It is worth repeating and reinforcing some general advice to centres about the nature of the pre-release resource and preparation during the pre-release phase:

- Please remember that the Resource Booklet, whilst up-to-date as far as possible, is inevitably out of date by the time it is published. Centres and candidates will be able to find more up-to-date data if they wish to but this does not make the data in the booklet 'wrong'. There is no expectation that any data provided, should be updated by candidates.
- Some preparation is essential. A minority of candidates clearly waste time in the exam looking through the booklet trying to find relevant material. Candidates should know the contents of the booklet well before entering the exam and know where to find the information they need.

Synopticity can be achieved in a number of ways. Again, some preparation is required:

- Use of parallel examples – in this case another developed, highly advanced region could have been examined e.g. Japan, Singapore or the UK.
- Use of models and theories such as the sustainability stool or quadrant.
- Reference to wider geographical issues such as different definitions of development, or global climate change.
- Links to another unit / topic, such as Energy Security or Globalisation from Unit 1.

The basic aim of requiring students to be synoptic, is to show that they can make links between different facets of geography and see the 'big picture' rather than narrowly focusing on one area or theme. Many candidates do this very successfully.

In addition, it is worth remembering that the Resource Booklet is normally divided into sections. Sometimes this is done with sub-headings; on other occasions material with a similar theme is grouped together. Candidates who find they are referring to the same material in each of the 3 sub-questions are likely to have not quite grasped the differences between questions. Figure 13 was often referred to in answers to Q6a, Q6b and Q6c whereas it was actually the focus of Q6c.

A related point is the need to plan Section B before committing pen to paper. This is especially important as the 3 sub-questions are related to each other, but candidates need to make sure they are answering 3 different questions. Briefly matching key material and

Figures from the Resource Booklet to each of the 3 questions as part of a plan, would in many cases have avoided needless repetition.

Question 6a

This question asked candidates to explain how technology had contributed to development level and quality of life in Scandinavia. Most candidates used a range of data and material from the booklet to demonstrate that this region is highly developed and people living there enjoy a high quality of life. Some answers were very descriptive, selecting data on HDI or internet use but not using this to explain how quality of life was high. Links between technology and development were often not developed. For instance, education levels were often quoted and used to illustrate how developed the region was but these were not linked to technology. This might have been achieved by linking education levels to very high ICT access or preparing workers to move into high-tech, quaternary jobs.

Many candidates would have benefitted from thinking more carefully about what was meant by 'quality of life' i.e. lives that are healthy, long, safe, happy and prosperous. There were significant clues in the HPI which suggested that a good quality environment was also linked to high quality of life. Some synopticity from research was evident, such as the interesting development of Facebook planning to construct a new server farm in Lulea, northern Sweden. Overall this question was answered successfully by many.

Question 6b

Often in Section B questions 6b and 6c demand higher level thinking from candidates and this was the case with this exam paper. Question 6b required an assessment to be made of the extent to which Scandinavia has minimised the environmental costs of using technology and resources i.e. how 'green' are the countries?

Implicit in this question was the idea that the three countries differ in terms of their attitude to the environment and the extent to which they have minimised environmental costs. The booklet provided a range of information on ecological footprints, carbon taxes, Kyoto progress, fuel costs and energy sources that could be used to help form a view.

Most candidates did differentiate between the 3 countries and this helped them 'assess'. Candidates who only discussed 'Scandinavia' tended to produce a much more generalised, descriptive response. One issue with 6b was the wholesale movement into Figure 13 and the 3 technologies shown in it. Many candidates began to state how the technologies shown in Figure 13 might help minimise environmental problems, but this is a different question to how Scandinavia has minimised the costs of using technology and resources. It should be noted that in 6c, candidates are specifically instructed to 'Study Figure 13' which is a clear signal that Figure 13 was relevant more to 6c than 6b.

Question 6c

Possibly because Figure 13 took up the whole of one page in the booklet and a question referring to this figure seemed likely, answers to 6c were on the whole more successful than answers to 6b. That said, question 6c has a number of facets to it all of which needed to be addressed to achieve Level 4 marks, namely:

- Reference to all 3 technologies
- Reference to the ecological footprint scenarios (business as usual, sustainable, radical)

- Reference to 'beyond' i.e. outside Scandinavia
- Synopticity.

A significant number of candidates did make some sound decisions about how the 3 technologies related to the scenario graph. Many argued that CCS was a classic 'techno fix' which was 'business as usual' in that it allowed people to continue to use fossil fuel and just applied a very expensive solution to the problem of emissions. Many argued that the cost of CCS limited its application to the developed world only. Others argued that cycling in Denmark was a more radical option, and in fact an attitudinal fix – they also recognised that persuading people to go down this route worldwide would be a challenge. 'Boris Bikes' in London was frequently used as a synoptic example. Biogas technology was often seen as being a little more problematic, and most often called 'sustainable' but with question marks over how widely it could be employed outside this region. Overall, answers to this question were successful, often well structured and with a good range of synoptic links. Weaker answers tended to ignore the scenarios graph and because of this missed an opportunity to give their answers a conceptual structure.

This is a Level 2 answer to question 6a on the contribution technology has made to Scandinavia's development level and quality of life.

6 (a) Explain the contribution that technology has made to Scandinavia's development level and quality of life.

(12)

(b) Assess the extent to which Scandinavia has minimised the environmental costs of using technology and resources.

(14)

(c) Study Figure 13.

Evaluate the contribution that the technologies shown might make in reducing ecological footprints in Scandinavia and beyond.

(14)

a) From Figure 3 it states that Sweden is number 1 in the Network Readiness Index, Denmark is number 3 and Norway number 10. Being so connected and with such high levels of IT use allows the Scandinavian countries to become world leaders in the ICT field, being world leaders in a certain field brings huge investment from around the world which generates wealth for the country and can be used for developing the infastructure and improving spending on education and health. This is true in Scandinavia, for example the city of Lulea in northern Sweden has attracted Facebook and they will begin building a new server farm in Lulea in 2012. Facebook stated they had chosen Lulea as the site for their new server as the presence of hydroelectric power meant environmental

impacts would be low but also that the workers in Sweden were well educated and didn't have to be trained much. The new technology of hydroelectric power in Sweden attracted foreign investment which generates wealth for Sweden which can be used to make sure development level stays high. The high levels of ICT usage and high network readiness index in Scandinavia allow

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Examiner Comments

This answer picks out some key aspects of technology, such as the NRI. It also has a very good synoptic example of Facebook's investment in Lulea. There is some reference to HEP use too. Overall, this is quite a narrow answer which lacks a range of links between technology, quality of life and development level.

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Examiner Tip

Synopticity is important in Section B, but using a range of evidence to support a range of explanations is important too. Try to use a range of evidence from the resource booklet.

This is part of a Level 3 answer to question 6a.

SECTION B

Answer ALL parts of this section, referring to the advance information you have been asked to study.

You are reminded of the need to use examples from any part of your GCE Geography course to support your answers.

You are advised to spend approximately 70 minutes on Section B.

The Technological Fix?

6 (a) Explain the contribution that technology has made to Scandinavia's development level and quality of life.

(12)

(b) Assess the extent to which Scandinavia has minimised the environmental costs of using technology and resources.

(14)

(c) Study Figure 13.

Evaluate the contribution that the technologies shown might make in reducing ecological footprints in Scandinavia and beyond.

(14)

a) Development is usually defined using economic indicators such as GDP, however more recently social factors such as HDI (Human development Index) and HPI (Happy planet Index) are becoming increasingly important. Technology is also a difficult concept to explain. In its simplest terms it is the ability to control nature.

Scandinavia consists of Denmark, Norway and Sweden, and is considered by many to be the most advanced part of planet. When we study figure 1 it is evident that they all rank extremely highly on the Economist Democracy Index with Norway being 2nd, Sweden 1st and

Denmark 5th. This highlights the strengths of their economy. It is also noticeable that Norway ranks 1st on the HDI and 2nd in GDP per Capita PPP, reiterating its high level of development. The question is, how has Scandinavia become so advanced and renowned has one of the most developed areas?

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Examiner Comments

This answer starts well with definitions of development and technology – the focus of the question. Reference is made to key data from the resource booklet. The answer sets up a question which provides a focus for the rest of the answer.

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Examiner Tip

Starting your answers with definitions of key terms from the question is always a good idea. Rather than a long introduction, just pin down the keywords in the question. This will help you focus on the task in hand.

This is part of a Level 4 answer to question 6b on minimising the environmental costs of using technology and resources.

b) Scandinavia, as a whole, has made a monumental effort to reduce the environmental costs of technology & resources; especially in comparison to countries such as the USA & canada who never joined & left the Kyoto agreement. However, the success of each country varies due to many factors.

Scandinavia has minimised the negative externalities of it's use of technology & resources; through a switch-over to renewable technology. Norway generates 47% of it's energy through renewable methods while Sweden generates 67% through nuclear & renewable. This effort to change its environmental costs has been strong; due to a reduction in production of CO_2; which contributes to environmental damage through global warming; reduction in environmental damage from the extraction & transportation of fossil fuel resources & a reduction in pollution which could lead to decreased air & water quality.

As well, what scandinavian countries haven't been able to switch over has been reduced through the use of Carbon Taxes; started within the early 1990s, upon Industry & domestic; helping to reduce impacts.

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Examiner Comments

This question used the command phrase 'assess the extent'. In this example, the candidate makes a judgment on this right at the start with the phrase 'monumental effort' and there is a comparison to less 'green' economies. Evidence is then presented to support this, such as renewable energy and carbon taxes. Key data from the resources is quoted.

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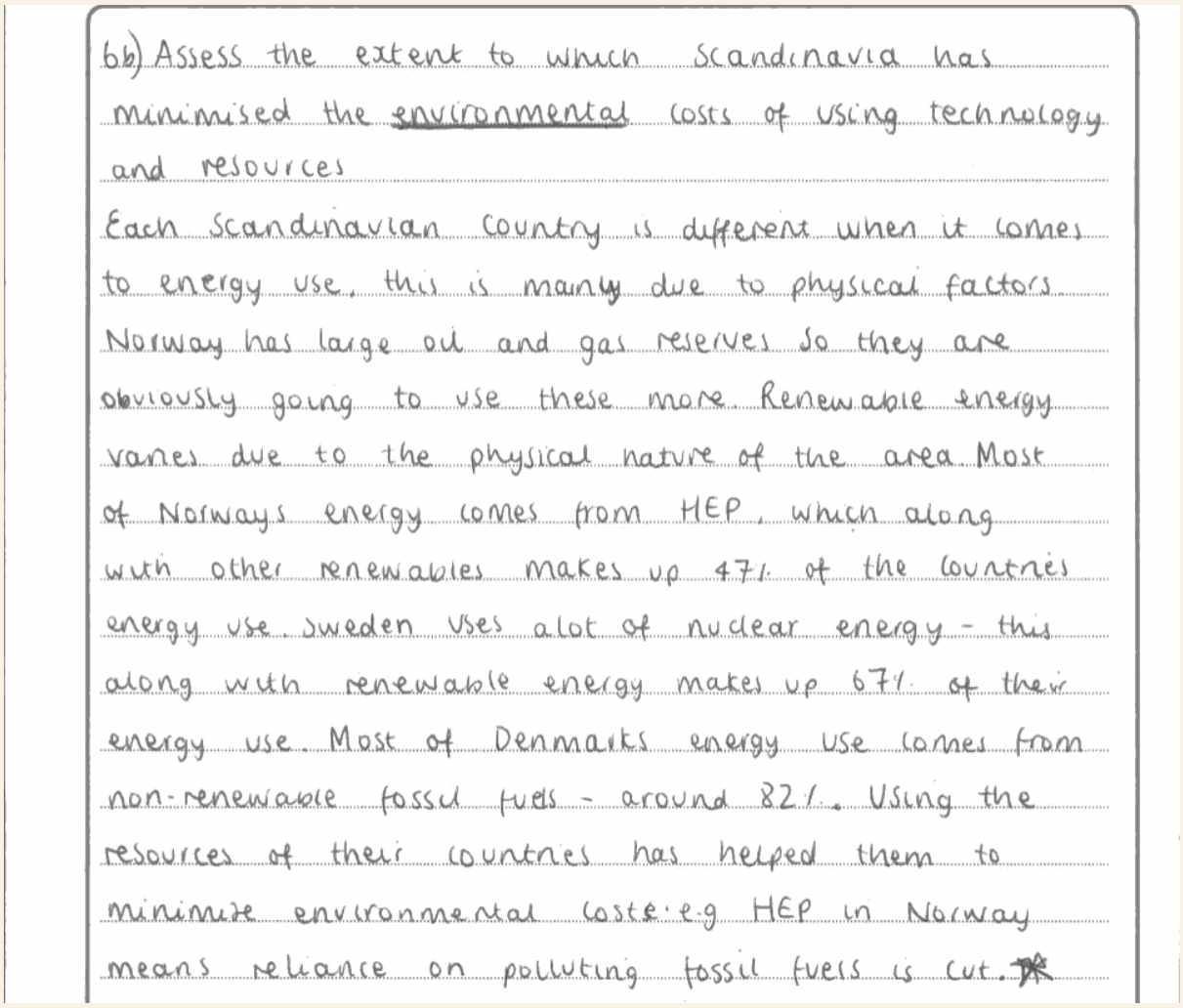
Examiner Tip

Whenever the command is 'assess' or 'evaluate' you are required to weigh-up evidence and move towards a judgment in the conclusion.

This is part of a Level 3 answer to question 6b.



6b) Assess the extent to which Scandinavia has minimised the environmental costs of using technology and resources

Each Scandinavian country is different when it comes to energy use, this is mainly due to physical factors Norway has large oil and gas reserves so they are obviously going to use these more Renewable energy varies due to the physical nature of the area Most of Norways energy comes from HEP, which along with other renewables makes up 47% of the countries energy use Sweden uses alot of nuclear energy - this along with renewable energy makes up 67% of their energy use. Most of Denmarks energy use comes from non-renewable fossil fuels - around 82%. Using the resources of their countries has helped them to minimize environmental costs e.g HEP in Norway means reliance on polluting fossil fuels is cut.

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Examiner Comments

This example starts with the assertion that each country is different in terms of energy use. This is good, because a key aspect of this question is that the three countries are very different in terms of how 'green' they are. This answer is a little descriptive. Answers do need to refer to the data in the booklet, but not slavishly rewrite it.

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Examiner Tip

Sometimes writing the question out, as this example has done, is a good way to focus your mind on the task in hand. Be aware that it does take up additional time.

This is part of a Level 4 answer to question 6c on the contribution selected technlogies could make to reducing ecological footprints.

All of the technologies shown make a contribution to reduces Scandinavians ecological footprint, and beyond.

CCS in Norway supports a business as usual approach as it will not require an attitudinal fix or change in use of fossil fuels, this would see a rise in the ecological footprint of people in Scandinavia but the CCS will reduce this by capturing ~~gas~~ CO_2 before it reaches the atmosphere and can have an affect on global warming. CCS in Norway, on Sleipner west pumps CO_2 into porous sandstone, this in theory stops the CO_2 from escaping to the atmosphere, however the technology is new and there have been examples/cases where CO_2 has escaped such as at Mongstad. Another business as usual could be the ~~Urban transport~~ use of HEP in Norway as using renewable water resource in the Glomma Lagen basin allows people to carry on using the same amounts of energy as they usually do but reducing their ecological footprint.

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Examiner Comments

One issue with question 6c was a failure by some candidates to make reference to the 'futures' graph on Figure 13. This candidate does refer to CCS as 'business as usual' and also mentions the synoptic idea of an 'attitudinal fix'. HEP is also referred to as additional support for the argument.

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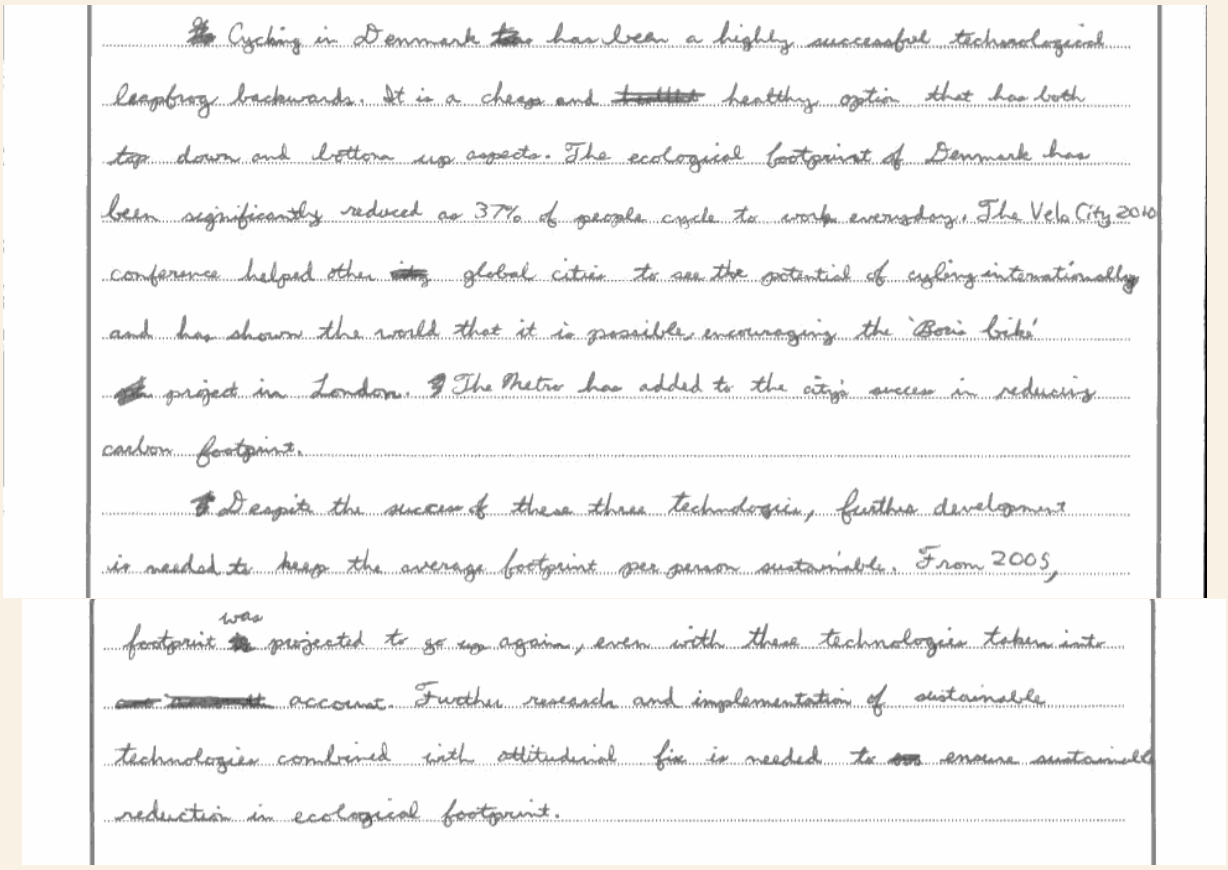
Examiner Tip

The best synopticity is usually in the form of 'little and often' rather than large examples, or even case studies. The latter approach usually lacks integration and the 'synoptic extras' appear to be separate from the main discussion.

This is part of a Level 3 answer to question 6c.



Cycling in Denmark has been a highly successful technological leapfrog backwards. It is a cheap and healthy option that has both top down and bottom up aspects. The ecological footprint of Denmark has been significantly reduced as 37% of people cycle to work everyday. The Velo City 2010 conference helped other global cities to see the potential of cycling internationally and has shown the world that it is possible, encouraging the 'Boris bike' project in London. The Metro has added to the city's success in reducing carbon footprint.

Despite the success of these three technologies, further development is needed to keep the average footprint per person sustainable. From 2005, footprint was projected to go up again, even with these technologies taken into account. Further research and implementation of sustainable technologies combined with attitudinal fix is needed to ensure sustainable reduction in ecological footprint.

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Examiner Comments

This candidate uses some interesting, evaluative statements such as a 'highly successful technological leapfrog backwards' which makes sense when cycling is considered as less technologically advanced than cars. The synoptic link to 'Boris Bikes' is also good. Although brief, the concluding statement makes clear reference to the 'futures' graph in Figure 13 and is a sensible way to end the discussion.

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Examiner Tip

Many of the Section B questions require you to keep a number of ideas in the air at the same time. Question 6c asks candidates to evaluate 3 technologies, link these to reducing ecological footprints and decide if they will work beyond Scandinavia. Keep looking back at the question to make sure you are still juggling all the key ideas.

Paper Summary

The overall performance of this examination paper was comparable to previous series. Performance in Section B was perhaps a little stronger than in the past. The Arab Spring events did tend to distract weaker candidates in Section B in summer 2011 whereas this exam's Section B was free of these distractions. Examiners continue to be impressed by many answers. Candidates demonstrate a real interest in key global issues and up-to-date knowledge of our contested planet. Looking ahead, it is perhaps worth reflecting on the characteristics of the most successful candidates. They tend to:

- Plan their answers, very briefly – this allows for some reflection on the question before 'diving in'.
- Manage their time effectively, paying due regard to the mark allocations.
- Refer directly (but not lavishly) to the figures in Section A and the resources in Section B.
- Explain rather than just describe, and evaluate rather than just explain.
- Use a number of small examples, some key facts, data points and named places rather than relying heavily on one or two 'big case studies'.
- Provide a summative paragraph / conclusion (4-6 lines) at the end of their answers which refers directly back to the question asked.
- Make judgments and state their own view, based on evidence they have presented.
- Refer to their own research, briefly, in Section B.

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