

Advanced GCE

GCE CRITICAL THINKING

Unit F503: *Ethical Reasoning and Decision-Making*

Specimen Paper

F503 QP

Morning/Afternoon

Time: 1 hour 30 minutes

Additional Materials: Answer Booklet
Resource Booklet



INSTRUCTIONS TO CANDIDATES

- Answer **all** the questions.
- Read each question and document carefully and make sure you know what you have to do before starting your answer.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.

ADVICE TO CANDIDATES

- You are advised to spend about 15 minutes reading through the Resource Booklet and Question Paper before attempting to answer the questions.
- You will be marked on the quality of your written communication in questions 3 and 4

This document consists of **2** printed pages.

Read the documents in the Resource Booklet carefully before answering **all** questions.

- 1 Identify and briefly explain **two** problems that might arise in using Document 1 to assess the extent to which wind can play a significant role in supplying UK energy needs. You should refer directly to Document 1 in your answer. [6]
- 2 With reference to Documents 2 and 3, identify and briefly explain **three** factors that might affect how people react to wind farms. You should refer directly to Document 2 and/or Document 3 in your answer. [6]
- 3 Evaluate **one** choice which the UK could make about the possible future use of wind farms. In your evaluation you should use three appropriate criteria (such as public opinion). [12]
- 4 Write an argument supporting any **one** choice which the UK could make about the possible future use of wind farms. In your argument you should use some relevant principles, and explain why you have rejected at least one possible alternative choice. Support your answer by referring critically to the resource documents. [36]

Paper Total [60]



OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced Subsidiary GCE

GCE CRITICAL THINKING

F503 MS

Unit F503: *Ethical Reasoning and Decision-Making*

Specimen Mark Scheme

The maximum mark for this paper is 60.

SPECIMEN

Preamble

The Unit 3 paper sets out to assess candidates' critical thinking skills in the context of decision-making. To be successful, in general terms candidates need to be able to demonstrate the ability to handle key terms and concepts such as choice, criteria and dilemma and to come to judgments in the context of situations determined by a set of resources.

Assessment by Specification

Candidates should be able to....		Qn 1	Qn 2	Qn 3	Qn 4
3.3.1	Evaluate a range of source material and select appropriate ideas, comments and information to support their reasoning and analysis of complex moral and ethical problems.	✓	✓		✓
	Identify and evaluate conflicting ideas and arguments within a range of source material.				✓
	Explain how ideas and arguments presented in the source material may be influenced by a range of factors.	✓			✓
	In addition to those common patterns of reasoning developed in Units 1 and 2, identify, analyse and apply hypothetical reasoning.			✓	✓
	Demonstrate understanding of the idea that there may be a range of different possible responses to complex moral and ethical problems, and that there may be many different criteria that can be applied in assessing the value and effectiveness of different solutions to complex moral and ethical problems.		✓	✓	
3.3.2	Demonstrate understanding of the nature of a dilemma.				
	In response to real issues, construct their own arguments.				✓

Extended Writing

Question 4 requires candidates to produce a piece of extended writing.

Stretch and Challenge

Level 4 of Question 4 is the Stretch & Challenge element of this examination.

Assessment Objectives [AOs] and Allocation of Marks

The total mark for the paper is 60, allocated as follows:

- AO1 **Analyse** argument 15 marks
- AO2 **Evaluate** argument 19 marks
- AO3 **Develop** own arguments 26 marks

This weighting is reflected in the different types of questions asked and in the application of the markscheme.

Question	AO1	AO2	AO3	Total
1	3	3		6
2	3	3		6
3	4	4	4	12
4	5	9	22	36
Total	15	19	26	60

Guidelines for Annotating Scripts

All markers will be required to use the following conventions. No annotation will be used except what is agreed at the Standardization meeting.

- 1 two numbers between 0 and 3
total for question 1 ringed and transferred.
- 2 three numbers between 0 and 2
total for question 2 ringed and transferred.
- 3 number between 0 and 8
number between 0 and 4
total for question 3 ringed and transferred.
- 4 number between 0 and 12
three numbers between 0 and 8
total for question 4 ringed and transferred.

The following annotations may be used:

- D Relevant use of Document
- ED Evaluation of Document
- C Criterion (question 3)
- EC Evaluation of criterion (question 3)
- P Use of principle (question 4)
- EP Evaluation of principle (question 4)
- R Resolution of issue (question 4)

- IC Intermediate conclusion
- HA Hypothetical argument
- CA Counter-argument
- RCA Response to counter-argument
- An Analogy
- Ex Example
- Ev Evidence

Question Number	Answer	Max Mark
1	<p>6 marks [AO1 = 3; AO2 = 3] [3+3]</p> <p>Identify and briefly explain two problems that might arise in using Document 1 to assess the extent to which wind can play a significant role in supplying UK energy needs. You should refer directly to Document 1 in your answer.</p> <p>3 marks for a relevant point made with full development. 2 marks for a relevant point made with limited development. 1 mark for a relevant point made without development, including generic points. 0 marks no creditworthy material</p> <p>Maximum 2 points, 6 marks.</p> <p><u>Indicative content</u></p> <p>The problems identified should be specific to the issue of wind farms and UK energy needs and arise from the document; Possible problems identified and developed could include:</p> <ul style="list-style-type: none"> • No indication is given of the overall amount of electricity consumption in the UK. So the statistics concerning the amount of wind capacity cannot be put into the context of the size of the need. • Because the raw figures for wind capacity cited in the table are not related to the total amount of electricity consumed in the respective countries or to other variables, such as population, it is impossible to put them into context or to draw any useful implications from them. • Document 1 supplies us with figures on wind capacity for 2003 and therefore the information could be out of date. The UK's capacity might have risen or fallen below the 649 mw capacity/UK's position in the rank order might have changed. In order to make accurate assessments/predictions we need the most up to date information available. • Significance: we may need to be careful in using the figure of 30% growth rate given in document 1 to argue that wind can play a significant role in UK energy needs. Such apparently high rates of growth are likely to be more easily attainable when coming from a low base. It might well prove much more difficult to achieve such rates in the future. 	[6]

Question Number	Answer	Max Mark
2	<p>AO1 = 3; AO2 = 3 [3+3]</p> <p>With reference to Documents 2 and 3, identify and briefly explain three factors that might affect how people react to wind farms. You should refer directly to Documents 2 and/or 3 in your answer.</p> <p>For each answer:</p> <p>2 marks - a relevant factor identified <i>and</i> briefly explained. 1 mark - a relevant factor identified. 0 marks - no creditworthy material. Maximum 3 points, 6 marks.</p> <p>Explanations do not have to be developed, but they must state whether the factor would influence someone in favour of wind farms or against them.</p> <p><u>Indicative content</u></p> <ul style="list-style-type: none"> • The aesthetics/appearance of wind farms: Document 2 refers to how the opponents of wind farms are negatively influenced by the 'Martian' appearance of wind turbines. • Economic factors: document 3 refers both to the costs of electricity bills - they might go up due to wind power - and the likelihood of increased employment - 20,000 new jobs. Many people's views on wind power are likely to be affected by this sort of information. • People who live in the countryside (or those areas where wind farms already exist or are under consideration) are more likely to feel strongly about aesthetic considerations. • People who favour nuclear power are less likely to be impressed by the potential benefits of wind farms. • Fishermen and other seafarers (and their relatives and friends) are likely to be more concerned than other people about the dangers to shipping of off-shore wind farms. • Electricity consumers on low incomes are likely to resist developments which will increase electricity bills. 	[6]

Question Number	Answer	Max Mark
3	<p>Evaluate one choice which the UK could make about the possible future use of wind farms. In your evaluation you should use three appropriate criteria (such as public opinion).</p> <p>The mark for this question will be the sum of the following:</p> <ul style="list-style-type: none"> • a mark out of 8 for Application and Evaluation of Selected Criteria to Choice • a mark out of 4 for Quality of Argument 	

Level	Application and evaluation of selected criteria to choice AO1 4 AO2 4		Quality of argument AO3 4	
Level 4	8	<ul style="list-style-type: none"> • Sound and perceptive application of at least 3 criteria to a clearly defined choice. • Firm understanding of how criteria might support and weaken the case for the selected choice and/or some evaluation of criteria. 	4	<ul style="list-style-type: none"> • Cogent and convincing reasoning, very well structured to express/evaluate complex ideas/materials. • Consistent use of intermediate conclusions. • Few, if any, errors of spelling, grammar, punctuation.
Level 3	6, 7	<ul style="list-style-type: none"> • Clear understanding of how at least 3 criteria might support and/or weaken the case for a clearly-defined choice. or clear understanding how 2 criteria might support and weaken the case for a clearly-defined choice and/or some evaluation of criteria. 	3	<ul style="list-style-type: none"> • Effective and persuasive reasoning. • Some clarity in expression of complex ideas. • Appropriate use of intermediate conclusions. • Relatively few errors of spelling, grammar, punctuation.
Level 2	3, 4, 5	<ul style="list-style-type: none"> • Basic understanding of how at least 2 criteria might support and/or weaken support for a choice or clear understanding how 1 criterion might support and weaken the case for a choice. 	2	<ul style="list-style-type: none"> • Basic presentation of reasoning, including relevant points and conclusion(s). • Written communication fit for purpose, but containing significant errors of spelling, grammar, punctuation.
Level 1	1, 2	<ul style="list-style-type: none"> • At least one criterion applied to a choice or to the issue in a limited/ simplistic manner. 	1	<ul style="list-style-type: none"> • Reasoning is sketchy and unstructured. • Communication may lack coherence and contain significant errors in spelling, punctuation and grammar.
Level 0	0	<ul style="list-style-type: none"> • No application of criteria to issue 	0	<ul style="list-style-type: none"> • No discernible reasoning

Indicative content

Suitable choices include:

- Retain the existing wind farms but build no more
- Continue to build wind farms until the government's 10% target is met
- Expand the wind power programme without limits
- Develop energy sources other than wind and fossil fuels
- Impose limits on overall energy consumption

Choices at levels 2 and 1 may be less precisely defined.

Suitable criteria which might be used to assess a choice include:

- Pollution
- Effects on wildlife
- Efficiency
- Public opinion

Other valid choices and criteria should be credited.

Retain the existing wind farms but build no more

Most realistic alternative sources of energy create pollution, but the extent to which this choice fails to satisfy this criterion depends on which alternatives are chosen: coal creates harmful emissions, while nuclear energy creates a radioactive waste and involves a slight danger of catastrophic pollution. Ceasing to build wind farms would benefit wildlife to some extent. Wind power is not efficient, but whether alternative sources are more efficient or not inevitably depends on what alternative policy is adopted: this choice therefore probably satisfies the criterion of efficiency. Public opinion is divided on all the possible policies: although this choice would please those who object to wind farms on aesthetic grounds, it would not please the large number of people who want more energy without increasing pollution; furthermore, all alternative sources have objectors.

Continue to build wind farms until the government's 10% target is met

This choice would reduce pollution to some extent, although the bulk of energy supply would continue to come from sources which caused pollution; some people would claim that by spoiling beautiful scenery this choice would cause aesthetic pollution. Depending on where the additional turbines were situated, this choice may cause some increased danger to wildlife, but the scale of increase would not be great and it might be offset by benefit to fish if the new turbines were located off-shore. Although wind farms are an inefficient method of producing electricity, especially because the supply is dependent on weather conditions, keeping the amount down to a maximum of 10% should not cause any problems. Because this option is a compromise, it may satisfy public opinion quite well, since many people favour increased recourse to "green" sources of energy, but some oppose proliferation of wind farms in the countryside on aesthetic grounds.

Expand the wind power programme without limits

This is the choice which would cause least pollution, although some people would claim that by spoiling beautiful scenery it would cause aesthetic pollution. Some people claim that it would have serious deleterious effects on wildlife, although some locations may pose less danger than others and (according to Doc 3) offshore turbines also have some benefits for certain wildlife. The main objection to this choice is its failure to satisfy the criterion of efficiency: wind turbines do not produce much electricity and the supply fluctuates, because of its dependence on weather conditions. The unreliability would affect public opinion, since the approval of wind energy on environmental grounds would almost certainly be outweighed by practical inconvenience if the energy supply were to become irregular and unreliable.

Develop energy sources other than wind and fossil fuels

This choice could be adopted alongside increasing the amount of wind generation to the Government target. How well it would satisfy the criterion of pollution depends on what sources of energy were deployed: wave power, for example, would satisfy this criterion very well, but nuclear power would be ambiguous, since it does not emit dangerous fumes but it does produce radioactive waste, which has a very long half-life but needs to be disposed of. Whether this choice would benefit or harm wildlife also depends on what sources were explored, but it may be most likely that it would do neither. Probably almost everyone would support this choice in principle, but many might change their view if the alternative source being developed was nuclear power, which is most likely; repeated reassurances from the Government and from experts that an incident like Chernobyl could never happen here have failed to dispel the fear that it might.

Impose limits on overall energy consumption

This choice is compatible with some other policies which could be chosen, and it may be that the Government should adopt more than one of them. To the extent to which it was successful, it would reduce pollution. It would be unlikely either to benefit or to harm wildlife. This choice could be regarded as efficient, since it would ensure that energy was used responsibly. It would probably be the choice least favoured by public opinion, since people would be understandably reluctant to reduce their heavy dependence on electricity for work, heating, food and entertainment.

Specimen level 4 answer 322 words

I am going to evaluate the choice of continuing to build wind farms until the Government's target of 10% is met.

The first criterion is efficiency. In one sense, wind farms are efficient, inasmuch as they do not consume resources, except in their manufacture and maintenance, and all the power generated is "profit". However, each turbine produces rather little electricity and the supply is not constant, being dependent on the force of the wind: so they should be considered as inefficient. This is one reason for favouring the choice of limiting the development of this resource to 10%, since at a low volume neither the low rate of return nor the unreliability is a big problem.

The second criterion I am going to use is pollution. On most understandings of pollution, wind turbines meets this criterion better than almost any other source of energy, since the wind produces no unwanted by-products, and in any case it will blow whether a turbine makes use of it or not. We have become so aware of the many dangers posed by pollution, including short-term threats to health and long-term climate change, that this is probably the most important criterion to be considered in relation to this issue. However, some people would claim that in some locations wind turbines create "visual pollution", by spoiling the scenery. That is a matter of opinion, but it is another reason for limiting the contribution of this source to 10% of energy needs.

My final criterion is public opinion. Some pressure groups oppose wind farms, mainly on aesthetic grounds, but other groups oppose every alternative, especially coal and nuclear energy. This is therefore one of the few cases where it is probably right to over-ride objections by some members of the public, simply because it is impossible to satisfy all the objectors. Many people do not care too much about where electricity comes from, provided a reliable supply is maintained.

Question Number	Answer	Max Mark
4	<p>36 marks [AO1 = 5; AO2 = 9; AO3 = 22]</p> <p>Write an argument supporting any one choice which the UK could make about the possible future use of wind farms. In your argument you should use some relevant principles, and explain why you have rejected at least one possible alternative choice. Support your answer by referring critically to the resource documents.</p> <p>Mark by levels according to the following table. Answers which satisfy at least one of the descriptors for a level will normally be awarded a mark within that level. Answers which fulfil all three descriptors of a level will receive a mark at or near the top of that mark-band, while answers which satisfy only one or two of the descriptors will receive a correspondingly lower mark within that mark-band.</p> <p>The mark awarded for this question will be the sum of the following:</p> <ul style="list-style-type: none"> • Mark out of 12 for Identification and Application of Relevant Principles • Mark out of 8 for Resolution of Issue • Mark out of 8 for Use and Critical Assessment of Resource Documents • Mark out of 8 for Quality of Argument <p>This question is the provision for extended writing Level 4 in this question is the provision for Stretch and Challenge.</p> <p><u>Principles</u> General principles have implications that go beyond the case in point. Different kinds of principle a candidate can refer to might include legal rules, business or working practices, human rights, racial equality, gender equality, liberty, moral guidelines.</p> <p>Candidates are likely to respond to the issue by explaining and applying relevant ethical theories. This is an appropriate approach, provided the result is not merely a list or even exposition of ethical theories with little or no real application to the problem in hand. Candidates who deploy a more specific knowledge of ethical theories will be credited only for applying identified principles to the issue in order to produce a reasoned argument that attempts to resolve it. Candidates are not required to identify standard authorities such as Bentham or Kant, or even necessarily to use terms such as Utilitarianism etc, although they may find it convenient to do so; the word “however” is likely to deserve more marks than the word “deontological”.</p>	

Level	Mark	Identification and Application of Relevant Principles AO2 2 AO3 10	Mark	Resolution of Issue AO2 4 AO3 4	Use and Critical Assessment of Resource Documents AO1 5 AO2 3	Quality of Argument AO3 8
Level 4 Stretch & Challenge	11, 12	<ul style="list-style-type: none"> • Skilful and cogent treatment and application of at least 3 principles or at least 2 major ethical theories. • Clear and purposeful exposition of how the principles might be more or less useful in resolving the issue. 	8	<ul style="list-style-type: none"> • Confidently-expressed resolution of the stated issue on the basis of a persuasive account of the arguments in favour of both sides. • Perhaps an awareness that the resolution is partial/provisional. • Clear and valid judgments made in coming to an attempted resolution. 	<ul style="list-style-type: none"> • Perceptive, relevant and accurate use of resource material. • Sustained and confident evaluation of resource material. 	<ul style="list-style-type: none"> • Cogent and convincing reasoning. • Well-developed suppositional reasoning. • Communication very well suited to handling complex ideas. • Consistent use of intermediate conclusions. • Meaning clear throughout. • Frequent very effective use of appropriate terminology. • Few errors, if any, in spelling, grammar and punctuation.
Level 3	8, 9, 10	<ul style="list-style-type: none"> • At least 2 relevant principles or theories accurately identified, explained and applied. • Clear exposition of how the principles might be more or less useful in resolving the issue. 	6, 7	<ul style="list-style-type: none"> • Generally confident and developed treatment of the stated issue. • Some awareness of the arguments in favour of both sides of the issue. • Clear attempt to resolve the issue. 	<ul style="list-style-type: none"> • Relevant and accurate use of resource material. • Some evaluation of resource material. 	<ul style="list-style-type: none"> • Effective and persuasive reasoning. • Some suppositional reasoning. • Clear and accurate communication. • Appropriate use of intermediate conclusions. • Frequent effective use of appropriate terminology. • Few errors in spelling, grammar and punctuation.

Level 2	4, 5, 6, 7	<ul style="list-style-type: none"> At least 2 relevant principles identified or a well-developed discussion of 1 principle. Basic application of principles to the issue. 	3, 4, 5	<ul style="list-style-type: none"> Basic discussion of the issue. 	<ul style="list-style-type: none"> Relevant and accurate use of resource material. 	<ul style="list-style-type: none"> Limited ability to combine different points of view in reasoning. Perhaps some suppositional reasoning. Some effective communication. Some use of appropriate terminology. Fair standard of spelling, grammar, punctuation, but may include errors.
Level 1	1, 2, 3	<ul style="list-style-type: none"> Some attempt to identify at least one principle and to apply it to the issue 	1, 2	<ul style="list-style-type: none"> Limited discussion of the issue. 	<ul style="list-style-type: none"> Very limited, perhaps implicit, use of resource material. 	<ul style="list-style-type: none"> Limited ability to produce coherent reasoning. May contain significant errors in spelling, punctuation and grammar.
Level 0	0	<ul style="list-style-type: none"> No use of principles 	0	<ul style="list-style-type: none"> No discussion of the issue 	<ul style="list-style-type: none"> No use of resource material. 	<ul style="list-style-type: none"> No discussion of the issue.

Maximum level 1 **overall** for anyone who does not attempt to apply principles to the issue.

Maximum level 1 for Identification and Application of Relevant Principles for anyone who re-cycles criteria from question 3 as principles.

Maximum level 2 for Use and Critical Assessment of Resource Documents for anyone who uses the documents uncritically.

Quality of Argument

Typical indicators of Level 3 are

- use of intermediate conclusions
- use of hypothetical reasoning

Consistent and well-supported use of intermediate conclusions and/or hypothetical reasoning is an indicator of level 4.

In addition to the indicators of Level 3, typical indicators of Level 4 are some of:

- use of relevant counter-argument with persuasive response
- use of relevant analogy
- use of relevant examples or evidence

Indicative Content

Credit must be given to any argument based on a principle in the sense outlined in the preceding note. Principles of that kind might include:

- Duty to future generations.
- Duty to the environment itself, as intrinsically valuable.
- The increasing need for a reliable source of energy.

The best answers are likely to appeal to two or three of the following ethical principles and theories, which are susceptible of fuller development.

Students are most likely to appeal to the Utilitarian slogan, “[we should aim to produce] the greatest good of the greatest number”. To assess the issue by reference to Hedonistic Utilitarianism requires candidates to estimate the overall happiness which the different options might produce; ideally, they would point out that there can be no certainty in such calculations. Mill’s version of Utilitarianism, in which aesthetic pleasures rank higher than physical, might be particularly pertinent to this scenario. The information about public opinion in Doc 4 could be used as the basis of a discussion in terms of Preference Utilitarianism.

This issue can be expressed as a conflict of rights. Some candidates might claim that there is a human right to energy (or even cheap energy), although it is not clear from which fundamental right they might derive it. This could be contrasted with the right of landowners or developers to use their resources as they think fit (based on the right of ownership).

Whereas Libertarians influenced by Nozick could argue that landowners or developers should be free to use their resources as they think fit, the form of Libertarianism associated with J S Mill would argue that such freedom should be restricted if it would harm others.

Kant’s Categorical Imperative is unlikely to have much to contribute to this discussion. The first version, “Act according to that maxim which you can will to be a universal law”, could be used to argue that wind farms should be situated in areas of natural beauty only if one would be willing for all such areas to be exploited in that way, but it is not a persuasive argument. The second version, that we should always treat persons as ends, and not as means only, explicitly refers to persons rather than natural resources, but it might possibly be used against the compulsory purchase of land for wind farms.

Any candidate who referred to W D Ross’s theory of *prima facie* duties could legitimately relate the duties of non-maleficence and beneficence to this issue.

The content of any appeal to Divine Command ethics would vary according to which religion such commands were drawn from, but principles taken from the Jewish or Christian traditions which could legitimately be applied to this subject include:

- the goodness/fruitfulness of creation
- the duty of humans to act as responsible stewards of the environment
- wind/breath/Spirit as an expression of the presence of God

Candidates may be unlikely to appeal to Natural Law in relation to this subject, but it could be argued that using renewable sources of power would be more consistent with Natural Law than using up non-renewable resources.

Candidates may appeal to theories of Social Contract. A Hobbesian approach could be used to justify strong action by the Government to prevent landowners and others from exploiting their rights of ownership to the detriment of others. Anyone behind Rawls’s “veil of ignorance” would not know whether they were rich or poor, admired beautiful scenery or wanted cheap electricity, and lived in the countryside or the town, near to or far from a hypothetical nuclear power station: various outcomes could be justified in this way, but perhaps especially greater use of wind turbines..

Indicative content on evaluation of resources

Docs 1 and 5

Emanating from the American Wind Energy Association: so probably have both **expertise** and **vested interest** to present the information in the way most likely to encourage the further development of wind energy. Good **ability to see** statistics cited in Doc 5.

Doc 2

From The Guardian, which has a good **reputation** as a responsible newspaper, but is inclined to favour ecological movements. So probably has some **vested interest** to present the information in such a way as to encourage the development of wind energy.

Doc 3

From the BBC, which has a very good **reputation**, especially for **neutral** reporting, exemplified by this document, which sets out both sides of the debate fairly. Almost certainly the author of the piece has **expertise**, because the BBC has expert correspondents on all areas of public policy.

Doc 4

The polling company Populus has a good **reputation** for unbiased polling. Details of the size of the sample and the precise questions asked are given: so there can be no suspicion of hidden **bias**. Both questions are somewhat biased in the terms in which they are posed, but the biases arguably cancel each other out: the first question does not compare the factors of clean air and minimising pollution with any others, whereas the second question uses emotive language to describe the impact of wind farms. The sample is fairly small and there is no indication of whether it was random or demographically designed. Although there are no apparent grounds for **vested interest**, we do not know who sponsored this research.

Specimen level 4 answer 682 words

The choice I support is continuing to build wind farms until the Government's 10% target is met, in preference to the more extreme positions of expanding the wind power programme without limits or building no more wind farms.

The implication of the principle of need is that we need reliable sources of electricity which will cause as little environmental damage as possible. Wind power satisfies the second of these criteria, but is not consistent, because it is dependent on the weather. That may be the main reason why – according to Document 1 – the proportion of energy needs currently being met by wind power is tiny. Although these figures are out of date, the source is reliable because of its expertise and ability to see, and more recent figures are unlikely to be radically different from those given. Expanding the wind power programme without limits would introduce too much risk into the supply, while the choice of building no more wind farms would increase pollution more than necessary. The best compromise, therefore, is to increase the number of wind farms up to the Government's target.

Hedonistic Utilitarianism claims that the option should be chosen which is most likely to produce the greatest excess of happiness or pleasure over pain. In principle, that is an appropriate approach to this issue, but it is very difficult to calculate the amount of pleasure or pain which any of the options will produce. Being without a reliable supply of domestic electricity would certainly cause a lot of unhappiness, because we have all become very dependent on devices powered by electricity for heating, food and entertainment. So it can be concluded that some solution to the shortfall in energy supply must be found, however great the cost. Although different groups of people would be made unhappy by various solutions, the unhappiness and pain caused by a failure of supply would certainly be greater. Some groups would be made unhappy by a large-scale expansion of wind farms off-shore or in rural areas, although not everyone agrees that they are ugly (I personally think the wind farm in the Mersey Estuary looks quite attractive, for example). The suggestion about siting made in Document 2 could reduce this unhappiness considerably.

The pollution caused by coal-fired generation would cause more unhappiness, while it is difficult to quantify the possible unhappiness caused by the minimal risk inherent in nuclear energy. Overall, therefore, Hedonistic Utilitarianism favours building more wind farms, at least up to the Government target.

Preference Utilitarianism claims that the best choice is the one which satisfies the preferences of most people. The opinion poll cited in Document 4 is of some use in making that calculation, and the data should be reliable, because it comes from an independent polling organization, even though the wording of the questions is rather one-sided. It suggests that most people would favour wind turbines, because they avoid pollution. The opinion poll did not ask people's opinions about the built-in unreliability of wind power, but it can safely be guessed that not many of them would have chosen a policy which included a built-in unreliability. So building more wind farms up to the Government target but not beyond is the best option.

The contribution of Divine Command ethics to this debate is indirect. Most religions, including Judaism and Christianity, believe that God has provided the resources for human needs and that humans are responsible not just to future generations but also to God for the way they use those resources. The Jewish Bible (Christian Old Testament) portrays humans as managers, rather than owners, of the environment, although it has to be admitted that both Christians and Jews have not always behaved as if they believed that. The increased use of wind power is fully consistent with these principles.

In conclusion, there are ethical arguments against abandoning the programme of harnessing wind power and practical reasons not to rely on it as a dominant source of power. The choice which should be favoured, therefore, is to continue building wind farms until the Government's target of 10% is met.

Assessment Objectives Grid

Question	AO1	AO2	AO3	Total
1	3	3		6
2	3	3		6
3	4	4	4	12
4	5	9	22	36
Totals	15	19	26	60

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