



# T206 Energy for a sustainable future

## TMA06, 2006 General Marking Feedback

These notes give a general outline of what was expected under each of the headings in the marking guide. They are meant to provide a background to the specific comments made in the individual marksheets

### 1. Answering the question (10 Marks)

This item was concerned with the extent to which the main text of the report matched the project specification.

Marks were awarded for a report which

- ◆ addressed All aspects of the topic.
- ◆ was properly balanced in the space devoted to the different aspects of the topic.
- ◆ addressed the specific question and did not devote too much space to matters outside the remit of the question.
- ◆ Was within the word limit specification.

### 2. Structuring the report (10 Marks)

The Project Guide on page 9 lists eight items under *Structure*, remarking that these items will be expected and recommending that this structure should be followed:

- ◆ Title page
- ◆ Contents list
- ◆ Abstract or synopsis
- ◆ Main text, divided into sections and sub-sections. This should include an introduction and conclusion.
- ◆ References
- ◆ Bibliography/Further Reading
- ◆ Acknowledgements (if appropriate)
- ◆ Appendices

Full marks for referencing were only awarded if it was done correctly

### 3. Addressing the readers (15 marks)

The Project Guide (p.12) encouraged you to write with the readers in mind at all times. The topic specifications gave details of the intended readers and their likely background knowledge. The following were used as a guide to assessing this aspect.

- ◆ The report should have contained a clear description of the technology at an appropriate level
- ◆ The description should flow naturally within the report and not break up the main flow of the report
- ◆ The report should continuously reflect the specific interests of the proposed readers; not just at the start and finish but at every opportunity that arose?
- ◆ The report was written in a language and style appropriate to the intended readership

#### 4. Selecting sources of information (20 marks)

An important part of the project is searching for materials beyond the T206 course books. These may include journal articles (from a public library, perhaps, or a local college library), other print material obtained from energy-related companies or public bodies, and of course material downloaded from the Web.

Marks were awarded for a report which used any of the above types of source to obtain...

- ◆ essential data not available in the course materials (e.g. national, household or other energy statistics; wind, solar or other resource data; etc.),
- ◆ other useful information, such as manufacturers' data on equipment performance, costs, etc.,
- ◆ diagrams, graphs, photographs, etc. that might be copied or photocopied,
- ◆ 'case studies' of situations similar to those under consideration,
- ◆ any other relevant information.

The important factors were the *relevance* of the material, the *range of sources* used and (for the Web in particular) the *reliability* of the source.

**Note:** Relying solely on the T206 course books for this project attracted a significant penalty under this heading.

#### 5. Content, comprehension and analysis (25 Marks)

This is the core of the project work, and marks were awarded on the basis of the extent to which you;

- ◆ demonstrated that you understood the problem,
- ◆ used your knowledge of the subject to think through the options,
- ◆ drew on appropriate material to establish the best solutions.

**Note:** Although, *Quantitative aspects* appear separately under the next heading, the results of calculations should have been incorporated into the main discussion. Calculations may have been placed in separate sections of the report, or in an appendix, but their results should have formed an integral part of the main text.

In judging the above, the following were used as a guide;

- ◆ Did the introduction explain the project requirements correctly – and in the your own words?
- ◆ Were there obvious major omissions in the choice of options for consideration?
- ◆ Or was the number of options excessive, allowing insufficient time for descriptions and comparisons?
- ◆ Did the report consider each of the chosen options in terms of the relevant constraints?
- ◆ Was the supporting material from other sources appropriately integrated?
- ◆ Were quantitative data, including the results of calculations, appropriately integrated?
- ◆ Were the final recommendations/conclusions justified by the evidence offered?
- ◆ Were the reasons for the final recommendations/conclusions adequately explained?

#### 6. Quantitative aspects (10 marks)

Quantitative aspects were essential to the project. Marks in this heading were awarded for both the sufficiency of the quantitative data and how clearly calculations were explained.

Most important was whether all the required calculations or estimates have been made. Other factors considered included

- ◆ the quality of the input data (are the values reasonable?),
- ◆ the method of calculation (concise or unnecessarily complex),
- ◆ sufficient detail to understand how the result was arrived at but without unnecessary detail.
- ◆ the precision (no more than is needed), and of course,
- ◆ the correctness of the 'sums' – do the answers seem reasonable?

## 7. Clarity and Coherence (10 marks)

This heading was looking at how clear and easy to read the project was. Key features looked for included;

- ◆ Were the ideas clearly expressed, in language that links each sentence to the next, building a coherent argument? Or were there missing steps in the reasoning; or unnecessary repetitions?
- ◆ Did the distribution of material between sections, and between the main text and the appendices, help the reader?
- ◆ Were diagrams, graphs, tables, etc. used to maximum advantage?

## 8. Exceptional elements

The highest marks under any of the previous headings were awarded for anything that was especially innovative, original or excellent in the way the problem was approached or presented.

Examples included

- ◆ an original or interesting way of looking at a problem,
- ◆ the apt use of particularly well-drawn plans or diagrams,
- ◆ a novel and neat mathematical analysis,
- ◆ language and/or presentation of such a style and quality that it made the project stand out.

## Criteria for the individual topics

In a good report, I was looking for:

### Topic 1

1. A description of the centre and its location
2. An estimate of the current energy requirements of the building
3. An assessment of possible savings by bringing the building at least up to current standards of insulation and by provision of more efficient appliances.
4. At least *two* possible alternatives to the current energy provision for **each** of, with figures;
  - ◆ Space and water heating
  - ◆ Cooking
  - ◆ Electricity supply
5. A suggested scheme or scheme(s) which involves both energy saving measures and provision of sustainable energy supplies to meet the energy needs of the centre
6. A concluding section comprising a clear set of recommendations which includes estimates of both the CO<sub>2</sub> reductions and the costs of the scheme.

### Topic 2

1. A description of the community and its location
2. An estimate of the current energy needs of the community and hence, CO<sub>2</sub> emissions. This should include both household energy and transport energy.
3. *At least one* proposal for *each* of the following, with figures for energy saving/CO<sub>2</sub> reduction;
  - ◆ Reducing household energy demand
  - ◆ Reducing transport energy demand
  - ◆ Providing a sustainable energy supply
4. A suggested scheme or schemes involving some combination of the proposals above which will achieve the desired reduction in CO<sub>2</sub> emissions.
5. A clear set of recommendations which includes estimates of both the CO<sub>2</sub> reductions and the costs of the scheme. Your CO<sub>2</sub> figures must show your proposals will meet the 10% reduction specified in the project guide.

### Topic 3

1. A brief description of the technologies involved in each of the four given areas in layman's terms including;
  - ◆ Advantages and disadvantages
  - ◆ A brief outline of current developments and future prospects
  - ◆ Potential prospects for investment
2. A selection of two areas for investment with reasons
3. For each of the areas selected for investment
  - ◆ More details of the specific technologies
  - ◆ Estimates of contributions to CO<sub>2</sub> reduction
  - ◆ Indication of how much should be invested and prospects for a reasonable return on investment.
4. An overall concluding statement with firm proposals including CO<sub>2</sub> reductions and an indication of potential financial returns.

### TMA06 Marks

<b>Name:</b>	<b>Possible mark</b>	<b>Actual mark</b>
Answering the question	10	
Structuring the report	10	
Clarity and coherence	10	
Addressing the readers	15	
Selecting sources of information	20	
Content, comprehension and analysis	25	
Quantitative aspects	10	
<b>Total</b>	<b>100</b>	<b>0</b>

### Comments

Refer to the enclosed general marking criteria for guidance on how marks were awarded under each heading. Specific feedback on how your project was marked is included on the PT3.

