AQA GCSE Combined Science - Trilogy | 8464

SPECIFICATION POINT 6.2.4.3

# The National Grid

## Mark schemes and examiner comments

| | |
|---|---|
| Tier | **Foundation** |
| Question groups | **1** |
| Available paper years | **2023–2023** |

## Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

**Name:** _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

### 6.2.4.3 The National Grid

**Answer 01 · Mark scheme** June 2023 | 8464/P/1F | Original Q5

## Question 5

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **05.1** | geothermal | | 1 | AO1<br>6.1.3 |

| Question | Answers | Extra information | Mark | AO / Spec. Ref. |
|---|---|---|---|---|
| **05.2** | $36 \times 10^9$ J | | 1 | AO2<br>6.1.3 |

6.2.4.3 The National Grid

Answer 01 · Mark scheme

June 2023 | 8464/P/1F | Original Q5

| Question | Answers | Mark | AO / Spec. Ref. |
|---|---|---|---|
| 05.3 | **Level 3:** Relevant points (reasons / causes) are identified, given in detail and logically linked to form a clear account. | 5–6 | AO3 |
| | **Level 2:** Relevant points (reasons / causes) are identified, and there are attempts at logical linking. The resulting account is not fully clear. | 3–4 | AO1 |
| | **Level 1:** Points are identified and stated simply, but their relevance is not clear and there is no attempt at logical linking. | 1–2 | AO2 |
| | **No relevant content** | 0 | |
| | **Indicative content**<br>**Figure 6**<br>• the power output from wind increased<br>• because more wind turbines were built<br>• the power output from solar increased<br>• because more solar panels were built<br>• power output from wind and solar may have increased due to climate change<br>For 2015 and 2016<br>• wind power was lower in 2016 than in 2015<br>• because 2016 was less windy than 2015<br>**Figure 7**<br>• for most of the year the electricity generated from wind is greater than from solar.<br>• the electricity generated from wind is greater in winter than in summer<br>• because winter is windier than summer<br>• the electricity generated from solar is greater in summer than in winter<br>• because hours of sunlight are longer in summer<br>• and because the intensity of sunlight is greater in summer<br>to access Level 3, the answer should describe trends in both graphs, and in solar power and wind power, and give some explanation for changes. | | 6.1.3 |

| Total Question 5 | 8 |
|---|---|

### 6.2.4.3 The National Grid

**Answer 01 · Examiner comments** June 2023 | 8464/P/1F | Original Q5

**Question 05 (Standard demand)**

**05.1** Approximately 60% of students identified geothermal as the renewable energy resource.

**05.2** Only about a fifth of students knew that giga means $10^9$.

**05.3** Many students found this question to be quite accessible, and wrote a fair amount in their answers, although about 1 in 10 students did not attempt this question. About a third of all students' responses were in level 1, giving answers which tended to describe trends in the graphs but not give any attempt to explain the trends or begin to suggest any reasons for the trends. About a third of students gained marks in level 2, giving answers which were better than simple descriptions of the graphs, but tended not to give full explanations for any trends. Just over 10% scored marks in level 3, for giving explanations of trends shown in the graphs.

Many students were not clear in their use of English, and it was common to see statements such as "It is windier than it is sunny," which were ignored. It was also relatively common for students to think that the *y*-axes represented the number of people using wind power or solar power, rather than the power output.

Statements that solar power output increases in the hotter months were ignored. However, an answer that referred to solar output increasing in sunnier months was heading towards an explanation and could lift an answer to a higher level.