

Answers and marking guidance

Award one mark per correct, developed point unless stated. Other valid answers should be credited.

2 Describe one way engineers can help limit climate change.

- Designing renewable energy (wind, tidal, solar) that generates electricity without producing greenhouse gases
- Improving efficiency so less fossil fuel is burned, reducing CO₂ emissions

No marks for: Answers not linked to greenhouse gases or CO₂

3 Quick check

- a) It generates electricity without releasing CO₂
- b) Ammonia-fuelled engines
- c) A cause and a related effect
- d) Economic impact

4 Key terms

- 1 – A
- 2 – D
- 3 – F
- 4 – E
- 5 – B
- 6 – C

5 Name and describe an emerging technology.

- Named technology that is not yet commercial, e.g. ammonia-fuelled ship engines, nuclear diamond batteries, solid-state aviation batteries
- Description of what it does or how it works

No marks for: AI, electric vehicles, self-driving cars, graphene (already commercial)

6 Explain one economic impact of the tidal turbine on the local area.

- Cause: creates jobs in construction and maintenance
- Effect: brings money into the local economy

7 Explain how the improvements have a positive social impact.

- Cause: level boarding and frequent services make it easier for wheelchair users and elderly people to travel
- Effect: they can reach work, shops and healthcare independently, improving quality of life