

PHYSICAL SCIENCES FOUNDATION Level 2

Common Assessment Task

Work Requirements:

Physical Sciences in Society Work Requirement

- describe key components of science and issues related to the topic

Assessment Type:

Extended response

Criteria being assessed:

- Criterion 3 - elements 1, 2 and 4
- Criterion 4 - elements 1 and 2

Suggested conditions:

- This task should take no more than 2.5 hours.
- The response should be no more than 300 words (maximum).
- Responses should be submitted electronically.
- This task requires an individual response by each learner.

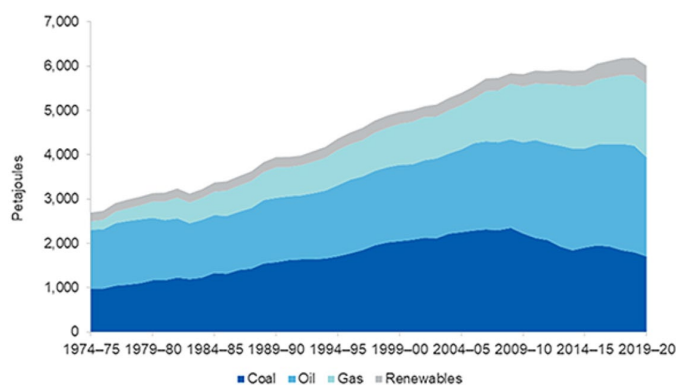
Task Description:

Question: Energy use - can we afford to live the way that we do?

This is intended to be the first part of the Physical Sciences in Society Work Requirement to address the above question.

We live very comfortable lives, consuming energy in a wide variety of forms. Can we, or the planet, afford to maintain this energy lifestyle? What can we do to maintain this lifestyle?

Australian energy consumption – fuel type



(Source: <https://www.energy.gov.au/data/australian-energy-consumption-fuel-type>, accessed 7 March 2022)

This graph outlines the amount of energy consumed by Australia for, approximately, the last 45 years. Features to note include:

- Steady increase in demand until 2008-9, when demand flattens off.
- The large contribution to energy consumed by oil and coal.
- The small, and reasonably constant amount of energy supplied by renewables.
- How the graphs have changed between 2008-9 and now.

Energy is a big cost in every Australian's life, and this cost is increasing all the time. Both the amount of energy and cost of energy are ever increasing, and non-renewable resources are becoming harder and more expensive to find and process.

What you need to do:

In this task you will develop either a report or presentation. Your response should be no more than 300 words (maximum).

1. The first part of your Investigation is to investigate how energy use in Australia affects your everyday life now.

You might want to compare the above graph to Tasmanian electricity consumption (Figures 2.2 p. 10 [Energy in Tasmania Report 2018-2020](#))

2. Describe one topic associated with physical sciences that has met or meets a need in society.
3. Describe key components of science and issues related to the topic.
4. Include appropriate referencing and a bibliography.

Teacher use only - What needs to be submitted for assessment?

Learners respond to the questions in a separate document, clearly identifying what they are responding to.

Possible extensions in addition to the Common Assessment Task

This task can be extended to complete the remainder of the Physical Sciences in Society Work Requirement:

The focus of the investigation and report (or presentation) will be to:

- present a balanced discussion of positive and negative impacts
- present reasoned conclusions about the impacts related to this topic using relevant evidence.

The information and other data provided lends itself to simple energy, and other, calculations.