

Energy Resources – 2021 IGCSE 0625

1. June/2021/Paper_12&22/No.10,9

This question is about four methods used to produce electrical energy.

Which method has a correct description?

	method	energy source is renewable	emits carbon dioxide
A	a hydroelectric power station	yes	no
B	a coal-fired power station	no	no
C	a wind turbine	no	yes
D	a nuclear power station	yes	yes

2. June/2021/Paper_13&23/No.9

A stream flows out of a lake and down the side of a hill.

What best describes the change in energy stores?

- A kinetic energy → chemical energy + internal energy
- B gravitational potential energy → kinetic energy + internal energy
- C gravitational potential energy + kinetic energy → internal energy
- D kinetic energy → internal energy + gravitational potential energy

3. June/2021/Paper_13/No.10

Energy resources are often used to turn a generator to produce electrical energy.

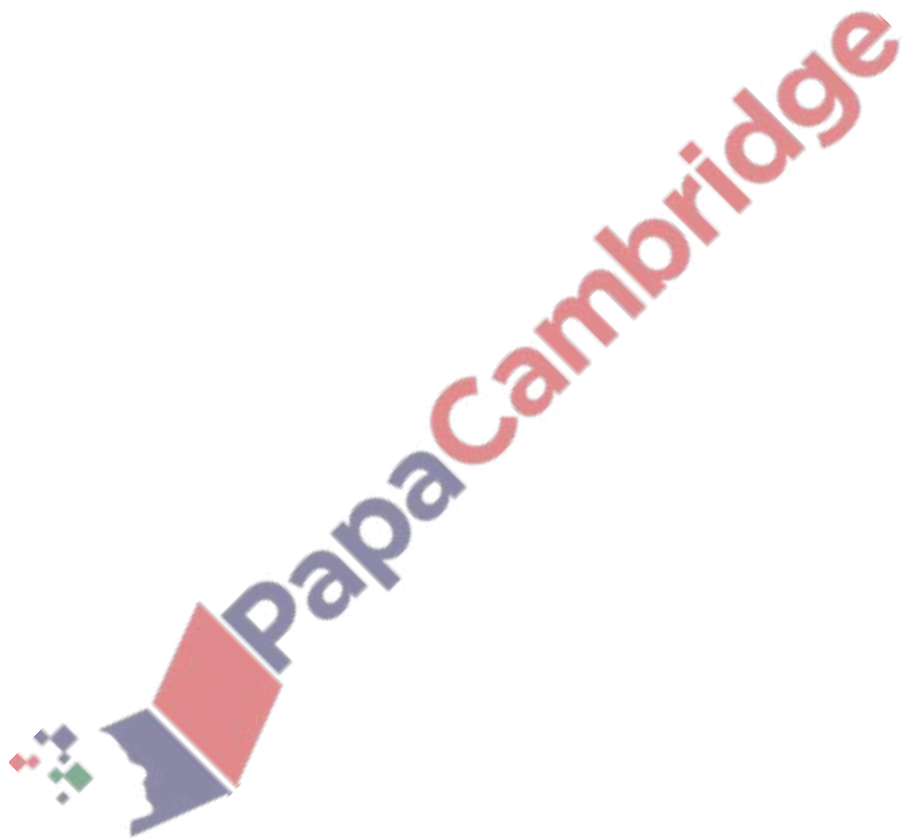
From which resource can electrical energy be produced **without** turning a generator?

- A radiation from the Sun
- B uranium by nuclear fission
- C water behind a dam
- D wind

4. March/2021/Paper_12/No.8

Which energy source boils water to make steam in power stations?

- A energy from tides
- B energy from waves
- C hydroelectric energy
- D nuclear energy



A country needs to build new power stations to provide electricity for homes and industry.

One type of power station is a coal-fired power station.

- (a) Describe how the energy stored in the coal is used in a coal-fired power station to generate electrical energy.

.....

.....

.....

.....

.....

.....

..... [4]

- (b) Some people in the country argue against building a new coal-fired power station.

They say that the power station is expensive and not very efficient.

Explain the meaning of *not very efficient*.

.....

..... [1]

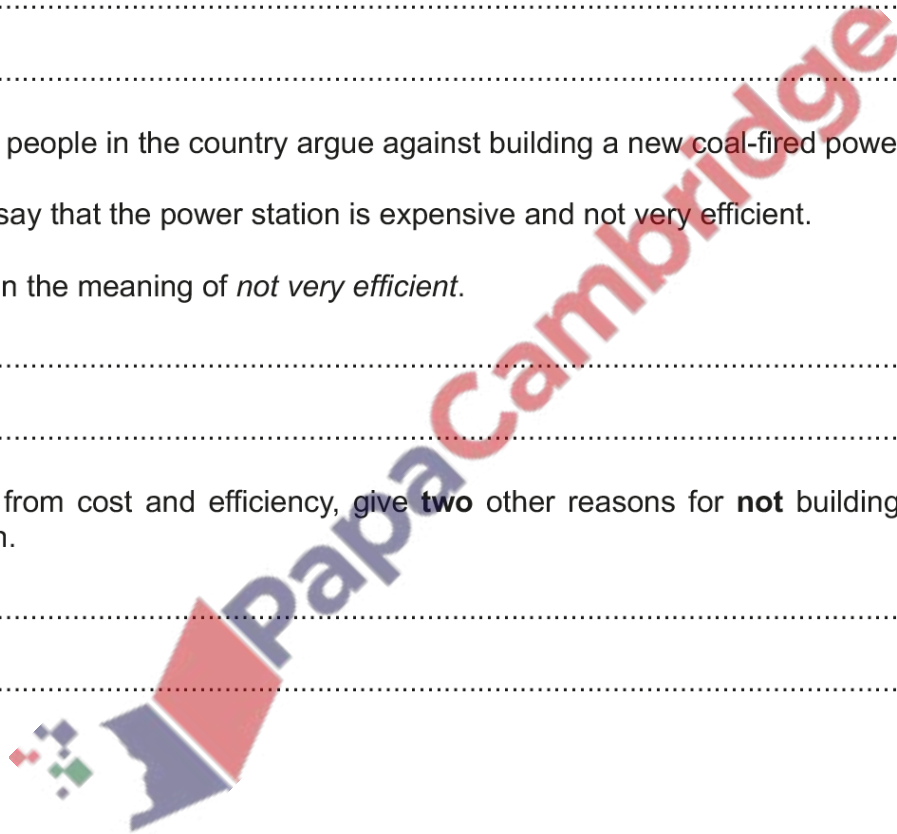
- (c) Apart from cost and efficiency, give **two** other reasons for **not** building a coal-fired power station.

1.

2.

[2]

[Total: 7]



(a) A power station burns fossil fuel to produce electrical energy.

(i) State the form of the energy stored in the fuel.

..... [1]

(ii) Some of the energy stored in the fuel is **not** converted to electrical energy.

Suggest how energy is wasted in the generator.

.....
.....
..... [2]

(b) Solar panels produce electrical energy.

State **two** advantages and **two** disadvantages of using solar panels, rather than fossil fuels, to produce electrical energy.

advantages

1.

2.

disadvantages

1.

2.

[4]

[Total: 7]

Fig. 4.1 shows an outline of the main parts of a geothermal power station used to generate electricity. Some parts of the power station are labelled.

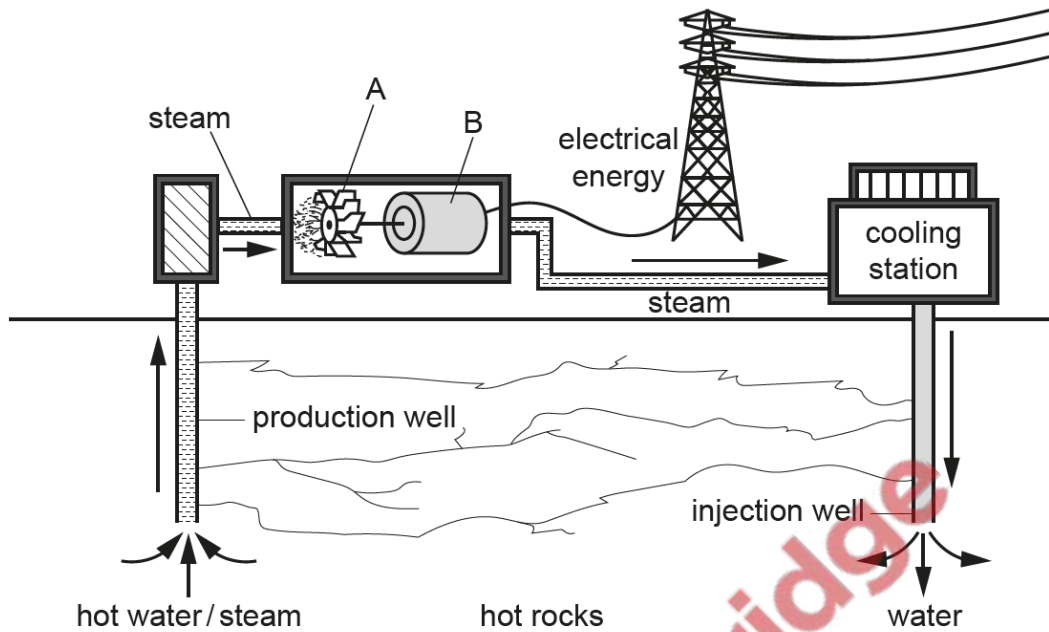


Fig. 4.1 (Not to scale)

(a) State the names of the parts of the power station labelled A and B.

part A

part B

[2]

(b) Geothermal energy is one source of renewable energy.

State **two** other sources of renewable energy.

1.

2.

[2]

(c) State **two** environmental advantages, other than being renewable, of a geothermal power station compared to a coal-fired power station.

1.

2.

[2]

[Total: 6]

A power station burns waste materials from farm crops to generate electricity.

(a) State and explain whether this process is renewable.

statement

explanation

.....

[2]

(b) The power station uses some of its waste thermal energy to heat water for houses in a nearby town.

State **one** problem of using waste energy in this way if the power station is far from the town.

.....

Suggest a way of reducing this problem.

.....

.....

[2]

(c) State **two** environmental consequences of burning coal to generate electricity.

consequence 1.

consequence 2.

[2]

[Total: 6]

