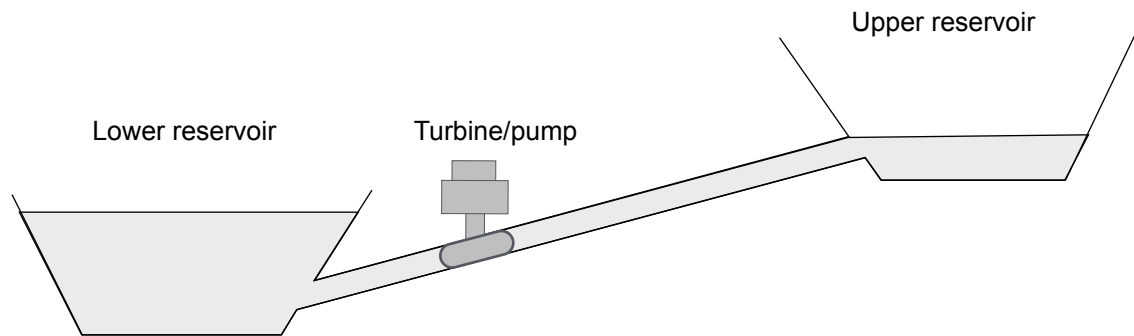


1 A small town uses a pumped storage system in order to meet sudden high demands of electricity.

The diagram shows a simple pumped storage system.



1 (a) (i) Describe how a pumped storage system is used to economically supply electricity during peak times. **[4 marks]**

Water flows from top reservoir to lower reservoir. [1]

Water turns a turbine which turns a generator. [1]

(Generator) provides electricity. [1]

At night time or during off peak hours or times, electricity is used to pump the water back to the top. [1]

Electricity generated from falling water is free.[1]

Note the question asks about supplying electricity economically.

1 (a) (ii) Suggest why all small towns do not use pumped storage systems to meet peak demand electricity. **[1 mark]**

No high hills nearby or no suitable area to build it. [1]

1 (b) Another method to generate electricity is to burn fossil fuels. Burning fossil fuels produces carbon dioxide which is a greenhouse gas. The amount of carbon dioxide released into the atmosphere can be reduced by using carbon capture technology.

Describe how carbon capture helps to slow the increase of carbon dioxide released into the atmosphere. **[2 marks]**

Carbon dioxide is not released (into the atmosphere). [1]

Carbon dioxide is caught and stored (in old oil and gas fields). [1]

**(Total 7 marks)**

**End**