

Question 27 (4 marks)

There are two areas in which energy savings can be made by the use of superconductors. These are:

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- electricity generation and transmission;
- transportation.

Discuss how energy savings can be achieved in each of these two areas.

If superconducting wires were used in the transmission of electricity, then no energy would be lost due to heat, resulting in cheaper electricity. It would also be possible to store electricity in a superconductor. Maglev trains are being developed which use superconductors for levitation. This lowers costs as the train does not have to overcome the force of friction when starting.