

Topic: Energy transport in sound wave.

— The energy (sound energy) is transported through matter (solids, liquids & gases) via longitudinal mechanical waves generated by vibrations. These waves carry energy by causing particles in the medium to oscillate back and forth transferring kinetic and potential energy through alternating compressions and rarefactions.

Factors affecting sound energy -

- ① Medium dependency - sound energy requires a medium to travel as a material medium.
- ② Mechanism - A vibrating source pushes neighbouring particles, which then collides with nearest particles, passing the vibrating along like a chain reaction.
- ③ Particle motion: - While energy is transported over significant distances individual particles only vibrate or oscillate around a fixed position equilibrium position.
- ④ Speed of sound: - sound energy travels faster in solids than liquids and gases.