

6 Non-renewable energy – Part 1 — Answers

Answers

Work through these after you have tried the questions yourself.

2.1 a renewable resource replenishes on a human timescale (sun, wind, water); a non-renewable one exists in fixed amounts and runs out (fossil fuels, nuclear fuel).

2.2 advantage: energy-dense and reliable; disadvantage: non-renewable and releases CO₂ and pollution.

2.3 advantage: no CO₂ and lots of energy from little fuel; disadvantage: long-lived radioactive waste (or meltdown risk, high cost).

2.4 $30/10 = 3$ half-lives, so $80 \rightarrow 40 \rightarrow 20 \rightarrow 10$ g – 10 g remains.

2.5 it stays radioactive (dangerous) for many half-lives – hundreds or thousands of years – so it must be kept isolated for a very long time.