

Useful and wasted energy

Energy can appear in different forms:

- heat (thermal energy)
- light (electromagnetic radiation)
- sound
- electrical (and magnetic)
- nuclear
- chemical
- kinetic energy (movement energy)
- elastic energy (strain energy)
- gravitational energy (potential energy)

Energy can be 'changed' or 'converted' or 'transformed' from one form to another, in energy 'transfers'.

When this happens, some energy is always wasted.

Complete the table for the energy converters shown below.
The first one has been done for you.

| Energy converter | Energy INPUT | Useful energy OUTPUT | Other forms of energy produced | What happens to this waste energy? |
|--|-------------------|----------------------|--------------------------------|--|
| <i>a TV screen</i> | <i>electrical</i> | <i>light</i> | <i>heat</i> | <i>it heats up the air, the TV set, etc.</i> |
| <i>a light bulb</i> | | | | |
| <i>a sprinter running a 100 m race</i> | | | | |
| <i>a cyclist free-wheeling down a hill</i> | | | | |
| <i>an electric motor eg. in a vacuum cleaner</i> | | | | |
| <i>a car going uphill</i> | | | | |
| <i>a rocket (eg. a firework rocket)</i> | | | | |
| <i>a growing plant</i> | | | | |