3.3 **ENERGY FLOW IN THE ECOSYSTEM**

- The functioning of the ecosystem depends on the flow of energy through matter.
- Energy enters the ecosystem from the solar radiations and is converted into chemical form by the producers.
- From here the energy passes from one trophic level to another through the food chain.
- The flow of energy in the ecosystem is governed by two basic laws of thermodynamics.
- Energy can neither be created nor destroyed, but can be transformed from one state to another, or transformed from one component to another.
- Every transformation or transfer of energy is accompanied by some dispersion or loss of energy in the form of heat.

There are two aspects with respect to energy flow in the ecosystem:

- There is unidirectional or one way flow of energy in the ecosystem i.e. from producers to herbivores and from herbivores to carnivores.
- There is no backflow of energy in reverse direction. i.e. energy captured by the autotrophs does not revert back to solar input or energy which passes to the herbivores does not revert back to the autotrophs.
- The amount of energy flow decreases with the successive trophic levels.