

The need for energy in living organisms

- * Source of energy — absorption of light energy / chemical potential energy from nutrients.
- * Photosynthesis transfers light energy into chemical potential energy.
- * Photosynthesis supplies two essential requirements: an energy supply and usable carbon compounds.
- * Autotrophs are organisms that can use an inorganic carbon source in the form of carbondioxide.
- * Heterotrophs are organisms that need a ready-made supply of organic carbon.
- * An organic molecule is a compound including carbon and hydrogen.
- * Energy is needed for:
 1. Anabolic reactions (DNA replication, protein synthesis, synthesis of polysaccharides from monosaccharides, lipids from glycerol & fatty acid)
 2. Active transport (activity of the Na-K pump)
 3. Movement and muscle contraction (movement of cilia, movement of vesicles through cytoplasm)
 4. Maintenance of body temperature