

# What is the longer term storage molecule for energy

Energy-rich molecules such as glycogen and triglycerides store energy in the form of covalent chemical bonds. Cells synthesize such molecules and store them for later release of the energy. The second major form of biological energy storage is electrochemical and takes the form of gradients of charged ions across cell membranes .

Another short-term energy carrier important to photosynthesis, NADPH, holds chemical energy a bit longer but soon "spends" it to help to build sugar. Two of the most important energy-carrying molecules are glucose and adenosine triphosphate, commonly referred to as ATP .

Energy-storing molecules can be of two types: long-term and short-term. Usually, ATP is considered the most common molecule for energy storage, however. To understand the basis of these molecules, remember that chemical bonds always store energy.

In contrast, energy-storage molecules such as glucose are consumed only to be broken down to use their energy. The reaction that harvests the energy of a sugar molecule in cells requiring oxygen to survive can be summarized by the reverse reaction to photosynthesis.

Molecular solar thermal energy storage (MOST) is a concept based on molecular photoswitches, which allow sunlight to be stored and released as heat on demand. In this review, we introduce the concept and state-of-the-art, focusing on chemical engineering

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There are two main types of energy storage molecules - long-term and short-term. ATP or Adenosine 5"-triphosphate is the most abundant short-term energy storage molecule in cells. It is composed of a nitrogen base (adenine), three phosphate groups, and a ribose sugar.

ATP is not a storage molecule for chemical energy; that is the job of carbohydrates, such as glycogen, and fats. When energy is needed by the cell, it is converted from storage molecules into ATP. ATP then serves as a shuttle, delivering energy to places within

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