

## Usage of Cyanobacteria in Battery: Saving Money, Enhancing the Storage Capacity, Making Portable, and Supporting the Ecology

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**Abstract :** The main objective of this paper is save money, balance ecosystem of the terrestrial organism, control global warming, and enhancing the storage capacity of the battery with requiring weight and thinness by using Cyanobacteria in the battery. To fulfill this purpose of paper we can use different methods: Analysis, Biological, Chemistry, theoretical and Physics with some engineering design. Using this different method, we can produce the special type of battery that has the long life, high storage capacity, and clean environment, save money so on and by using the byproduct of Cyanobacteria i.e. glucose. Cyanobacteria are a special type of bacteria that produces different types of extracellular glucoses and oxygen with the help of little sunlight, water, and carbon dioxide and can survive in freshwater, marine and in the land as well. In this process,  $O_2$  is more in the comparison to plant due to rapid growth rate of Cyanobacteria. The required materials are easily available in this process to produce glucose with the help of Cyanobacteria. Since  $CO_2$  is greenhouse gas that causes the global warming? We can utilize this gas and save our ecological balance and the byproduct (glucose)  $C_6H_{12}O_6$  can be utilized for raw material for the battery where as  $O_2$  escape is utilized by living organism. The glucose produce by Cyanobacteria goes on Krebs's Cycle or Citric Acid Cycle, in which glucose is complete, oxidizes and all the available energy from glucose molecule has been release in the form of electron and proton as energy. If we use a suitable anodes and cathodes, we can capture these electrons and protons to produce require electricity current with the help of byproduct of Cyanobacteria. According to "Virginia Tech Bio-battery" and "Sony" 13 enzymes and the air is used to produce nearly 24 electrons from a single glucose unit. In this output power of 0.8 mW/cm, current density of 6 mA/cm, and energy storage density of 596 Ah/kg. This last figure is impressive, at roughly 10 times the energy density of the lithium-ion batteries in your mobile devices. When we use Cyanobacteria in battery, we are able to reduce Carbon dioxide, Stop global warming, and enhancing the storage capacity of battery more than 10 times that of lithium battery, saving money, balancing ecology. In this way, we can produce energy from the Cyanobacteria and use it in battery for different benefits. In addition, due to the mass, size and easy cultivation, they are better to maintain the size of battery. Hence, we can use Cyanobacteria for the battery having suitable size, enhancing the storing capacity of battery, helping the environment, portability and so on.

**Keywords :** anode, byproduct, cathode, cyanobacteri, glucose, storage capacity

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