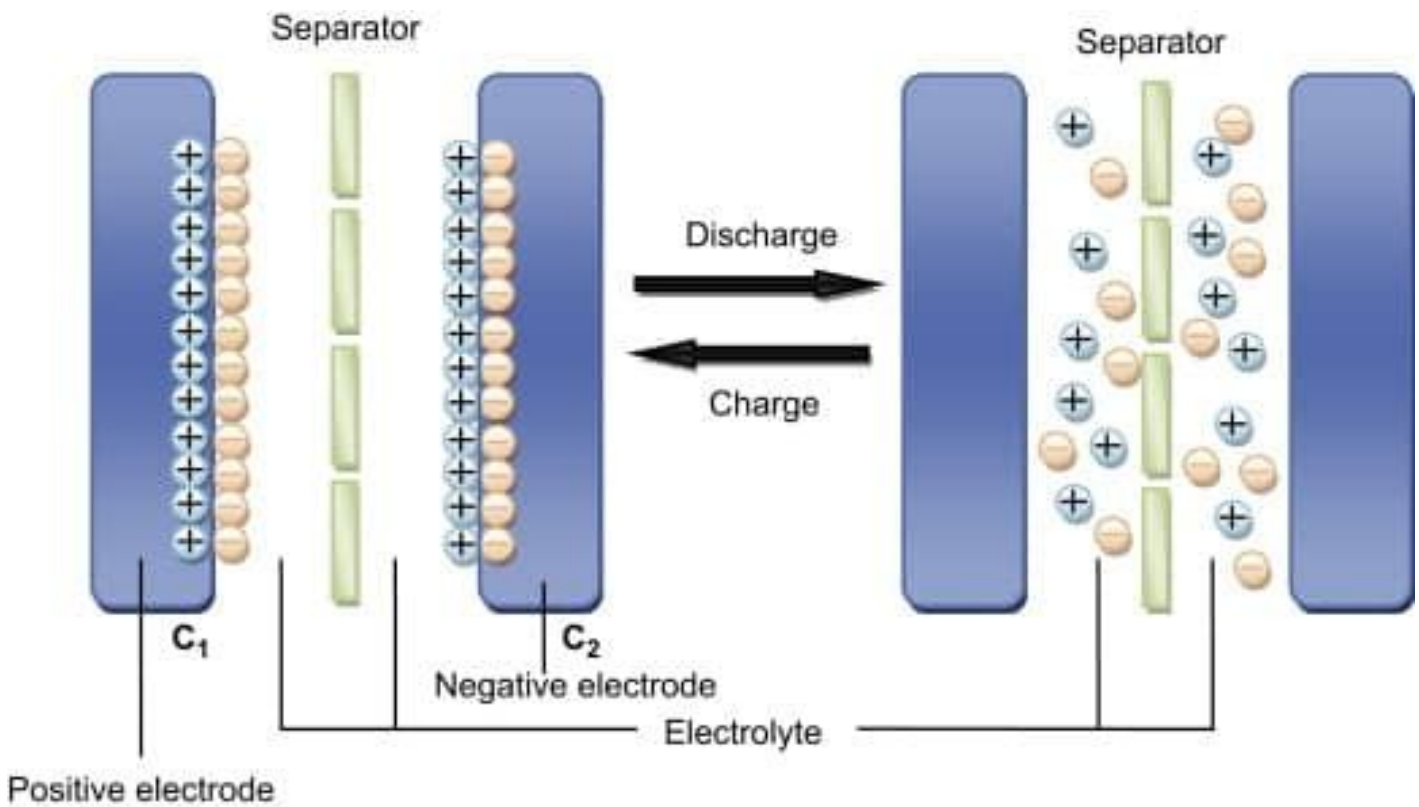


Biodegradable Supercapacitor

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About Biodegradable Supercapacitor:

- A supercapacitor is an **electrochemical charge storage device** with a fast charging/discharging cycle, **high power density and a longer lifecycle**.
- **Features**
 - This supercapacitor which can fully charge a device within 10 seconds, has been **developed from seaweed** (marine macroalgae).
 - The device is of **high tensile strength and performance**, as well as cost-effective, according to the researchers.
 - The product **can be used in electronics, memory backup systems**, airbags, heavy machines, electric vehicles, etc.; hence, it holds a huge business prospect.

What is Seaweed?

- Seaweeds are **macroalgae attached** to rock or other substrata and are found in coastal areas.
- They are classified as **Chlorophyta** (green), **Rhodophyta** (red) and **Phaeophyta** (brown) based on their pigmentation.

- Among them, Chlorophyta holds more potential components like carbohydrates, lipids, proteins and bioactive compounds in the cell wall.
 - Green seaweed has a high amount of a particular type of cellulose in its cell wall.
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Q1) What is Algae?

Algae are a diverse group of photosynthetic organisms that are found in aquatic environments such as oceans, lakes, rivers, and ponds. They can also exist in moist terrestrial habitats like rocks, soil, or even on the surface of trees. Algae are not classified as plants but are considered simple, plant-like organisms.

Source: [Scientists from Gujarat Institute develop a biodegradable paper supercapacitor from seaweed](#)

Source: <https://vajiramandravi.com/current-affairs/biodegradable-supercapacitor/>

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