

## SolarTech Power Solutions

# Classification of energy storage systems in Sri Lanka power plants



## Overview

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What is energy storage system (ESS) classification?

2. Energy storage system (ESS) classification Energy storage methods can be used in various applications. Some of them may be properly selected for specific applications, on the other hand, some others are frame applicable in wider frames. Inclusion into the sector of energy storage methods and technologies are intensively expected in the future.

What are the different types of energy storage systems?

They mainly comprise of flywheel, pumped storage, and compressed air storage Technologies. 2.4.1. Flywheel system A massive rotating cylinder (a rim attached to a shaft) that is supported on a stator by magnetically levitated bearings is the main part of most modern high-speed flywheel energy storage systems .

What are chemical energy storage systems?

Among the most common chemical energy storage systems are hydrogen, synthetic natural gas (SNG), and solar fuel storage. As research and development continue to advance these chemical energy storage technologies, they hold significant promise in facilitating the transition towards a cleaner, more sustainable energy future.

What is mechanical energy storage?

Mechanical energy storage helps bridge this gap by storing excess energy generated during low-demand periods and releasing it back to stabilize the power grid, reduce peak demand, and provide backup power.

How many types of thermal energy storage systems are there?

It was classified into three types, such as sensible heat, latent heat and thermochemical heat storage system (absorption and adsorption system) (65). (Figure 14) shows the schematic representation of each thermal energy

storage systems (66). Figure 14. Schematic representation of types of thermal energy storage system. Adapted from reference (66).

What is a pumped hydroelectric storage system?

i) Reservoirs: A pumped hydroelectric storage system consists of an upper and lower reservoir. These reservoirs can be natural or artificial. ii) Storage (pumping phase): Excess electricity is used in electric pumps during low electricity demand or high renewable energy generation periods.

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