Water energy storage patent

A pumped hydro energy storage system and method are disclosed. The system employs a high-density fluid, such as a slurry, to improve power output. In some cases, the fluid is a binary fluid...

The subject matter of the present invention generally relates to storing energy and more particularly to a system and method of storing energy in a water heater energy storage system.

An integrated energy storage device, including: an electrolyser for generating hydrogen through electrolysis of water; a metal hydride store fluidly coupled to the electrolyser, for receiving and ...

A hybrid compressed air/water energy storage system is described. The system includes a series of water containers and a plurality of inflatable bladders held within each ...

A compressed air pumped hydro energy storage and distribution system includes a first reservoir of water and a second reservoir of air and water. An air pressure source, connected to the ...

An energy storage system according to claim 33, further comprising a thermostatic blending valve operable to blend inlet cold water with the potable water heated by the energy storage system ...

This technology and methods for its use have been granted U.S. Patent No. 10,415,469 B2 (September 17, 2019), "Hybrid Compressed Air/Water Energy Storage System and Method" and is available for licensing.

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[0004] Two means of energy storage that do not use chemi- cal mechanism to store energy are pumped water energy storage and pumped air energy storage. In pumped water storage, ...

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A report about electricity storage developments published by the International Energy Agency (IEA) in association with the European Patent Office (EPO), asserts that "the ...

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The iron-air battery is an excellent candidate for grid-scale energy storage, wherein embodiments disclosed

herein address its efficiency and cycle life issues, aiming at raising the round-trip ...

The controlling use of and applications for thermal energy storage, and the software and components for controlling efficiency of thermal energy storage are applicable to various types ...

Thermal energy storage (TES) systems may be used as an efficiency component in power systems, for example to store excess energy when energy production exceeds demand, and to ...

The low temperature water storage tank and the high temperature water storage tank store liquid water and are fluidly connected to each other. The heat exchangers exchange heat between ...

An air compression facility is used to inflate the bladders upon which water is forced out of the containers to a water storage facility at a higher potential energy.

In one aspect, thermal energy storage systems are described herein. In some embodiments, a thermal energy storage system comprises a thermal energy storage system comprising a ...

Furthermore, in the present document an underwater working liquid itself is involved in storing and retrieving energy storage system is sometimes abbreviated as " UW - ES potential energy ...

The water heater system as in claim 4, wherein said solar water heater comprises a water storage tank and associated temperature sensor configured to provide said second signal, wherein the ...

The present invention, in some embodiments thereof, relates to underwater energy storage and, more particularly, but not exclusively, to underwater energy storage of compressed air.

An underwater energy storage system includes a tank for storing a compressed gas that is adapted to be stored underwater. The tank includes at least one water opening through which ...

Examplesinclude the storage of energy as sensible heat in tanks of liquid, including water, oils, and molten salts; sensible heat in solid media, including rock, sand, concrete and refractory ...

Technology trend studies on patent analyses of hydrogen technology are critical in understanding the status of present and future technology, as well ...

Findings reveal energy storage"s dominance, with water energy storage and emerging hydrogen technology leading the trajectory. Global energy patent scrutiny ...

1. A hybrid compressed air/water energy storage system comprising: a container; a series of inflatable bladders within the container; an air compression facility in fluid ...

Water energy storage patent

An underwater energy storage system comprising a container where energy is stored by transporting water between the container and a body of water, is disclosed. 5 The ...

Ahrens, F W and Kartsounes, G T. "Compressed air energy storage system." US None, United States Patent and Trademark Office, .

On demand the mass can be accelerated by the gravitational field and converted to kinetic energy, which is harnessed and converted to shaft horsepower, allowing the desired energy ...

A hot water energy storage system has a pump arranged to pump water to and from the storage vessel and a heat exchanger through which at least some of the water passes.

A renewable energy storage system which uses hydrogen as a storage medium. The system includes a hydrogen generation module for producing hydrogen through electrolysis of water, ...