

Are patents a valid indicator of innovation in the energy sector?

Following the work of Griliches 42, others evaluated patenting in the energy sector, and concluded that patents are a valid indicator to measure innovativeness within the energy sector 2,28. This result has been extended and re-confirmed by a number of authors 43.

How will government support electrochemical storage?

New research promoting soft-side innovations and business models will expedite integration of electrochemical storage into common markets. Further government support is necessary to promote responsible R&D spending that enables serious cost reductions across solar, wind, and storage, while also decarbonizing electricity and transportation.

How fast do batteries & electricity storage technology develop?

It reveals that between 2005 and 2018, patenting activity in batteries and other electricity storage technologies grew at an average annual rate of 14% worldwide, four times faster than the average of all technology fields. Innovation in Batteries and Electricity Storage - Analysis and key findings. A report by the International Energy Agency.

How can battery storage help reduce energy costs?

Simultaneously, policies designed to build market growth and innovation in battery storage may complement cost reductions across a suite of clean energy technologies. Further integration of R&D and deployment of new storage technologies paves a clear route toward cost-effective low-carbon electricity.

Are patents a proxy for Innovation?

We consider patents filed according to the Patent Cooperation Treaty (PCT) as a proxy for innovation. Following the work of Griliches 42, others evaluated patenting in the energy sector, and concluded that patents are a valid indicator to measure innovativeness within the energy sector 2,28.

Will electricity storage benefit from R&D and deployment policy?

Electricity storage will benefit from both R&D and deployment policy. This study shows that a dedicated programme of R&D spending in emerging technologies should be developed in parallel to improve safety and reduce overall costs, and in order to maximize the general benefit for the system.

224 hydrogen storage patents are confirmed to be associated with HFTO funding (143 U.S. patents, 37 EPO patents, and 44 WIPO patents). The Influence of Fuel Cell, Hydrogen ...

This joint study by the International Energy Agency and European Patent Office underlines the key role that battery innovation is playing in the transition to clean energy technologies. It provides global data and ...

The disclosure relates to particle heaters for heating solid particles to store electrical energy as thermal energy. Thermal energy storage directly converts off-peak electricity into heat for ...

Aimed at decision-makers in both the private and public sectors, this report is a unique source of intelligence on the innovation trends across the energy system, in particular low-carbon energy (LCE) technologies. It draws ...

The distribution of patents across these countries showcased their efforts in various domains of energy innovation, encompassing conventional energy support, the development of energy ...

The range of sources of renewable energy requires a leap forward when it comes to innovation in energy storage and other enabling technologies that will help achieve the energy transition, including by balancing supply of and demand ...

The Joint Center for Energy Storage Research (JCESR), a DOE Energy Innovation Hub, is a major partnership that integrates researchers from many disciplines to overcome critical scientific and technical barriers and ...

This paper addresses the patent citation network and its bibliometric analysis that are used to monitor the technological trajectories for energy storage device (ESD). The current research ...