

What is a hydrogen patent?

Their patent portfolios are mainly focused on production by electrolysis and applications based on fuel cells but also extend to established technologies for the storage and distribution of liquid or gaseous hydrogen, an area of focus for these countries which plan to import stored hydrogen in the near future.

What happened to hydrogen patenting in the US?

By contrast, hydrogen patenting decreased significantly in the US after 2015, and the US was a distant third to the EU and Japan in 2020, despite being the main innovator in hydrogen in 2011 in terms of volume of international patent families.

Which companies have patented hydrogen technology?

Two Japanese companies - Toyota and Honda - as well as R. Korea's Hyundai stand out. All three feature in this list thanks to patent portfolios in established technologies for the storage, distribution and transformation of gaseous or liquid hydrogen.

How important are technology trend studies on patent analysis of hydrogen technology?

Technology trend studies on patent analyses of hydrogen technology are critical in understanding the status of present and future technology, as well as its market opportunity. However, the studies were mostly limited to specific countries and lacked the details of green hydrogen production technology.

How many patents are there in Green Hydrogen Energy?

Comprehensive analysis of 5,471 patents in the areas of green hydrogen energy from year 2002 to 2022. Classification of water electrolysis (ALK, PEM, AEM, SO, ALL) and system operation (BOP, CON). Natural Language Process (NLP) method for automatic parsing of the patent database.

Are hydrogen patents a good indicator of innovation?

Patents are strong indicators of innovation activity which can give very detailed insights into the state and direction of the science. This study, which combines the expertise of the International Energy Agency and the European Patent Office, is the most comprehensive, global and up-to-date investigation of hydrogen-related patenting so far.

Identify and document research and development (R&D) innovations and intellectual property resulting from Hydrogen and Fuel Cell Technologies Office (HFTO) support as an indicator of ...

Commercial Technology Defined A commercial technology is defined as an invention or intellectual property that is developed into a technology (hardware, process, technique, design, ...)

Literature Review The hydrogen energy industry is a typical strategic emerging industry with high



# Hydrogen energy storage patent data

complex-ity, integration, and uncertainty [5]. The development of strategic emerging industries ...

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