

Can a green hydrogen-based energy system help Iraq achieve sustainable economic resilience?

The study investigates the potential of transitioning Iraq, a nation significantly dependent on fossil fuels, toward a green hydrogen-based energy system as a pathway to achieving sustainable economic resilience. As of 2022, Iraqi energy supply is over 90% reliant on hydrocarbons, which also account for 95% of the country foreign exchange earnings.

Is Iraq suitable for solar energy exploitation?

Iraq geographical location is quite suitable for solar energy exploitation, as it is located in the southwestern side of the Asian continent extending between (29.50-37.22 $^{\circ}$ N) and (38.45-48.45 $^{\circ}$ E) (Shubbar et al. 2016; Jassim and Goff 2006).

How has war affected Iraq's power infrastructure?

Despite the extraordinary challenges of war in recent years, Iraq has made impressive gains, nearly doubling the country's oil production over the past decade. But the turmoil has also undermined the country's ability to maintain and invest in its power infrastructure.

In this report, the authors present an overview of the status of the electricity sector in federal Iraq with a focus on the key challenges it is facing, before discussing a roadmap towards energy transition, and the major steps ...

Energy is essential in our daily lives to increase human development, which leads to economic growth and productivity. In recent national development plans and policies, numerous nations ...

Electrical hysteresis is minimized, while high polarization is maintained, which induces a giant energy storage density W_{re} of 111 J/cm³ and a high storage efficiency η of 83% in (Na_{0.85} ...

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In the past few decades, electricity production depended on fossil fuels due to their reliability and efficiency [1]. Fossil fuels have many effects on the environment and directly ...

The world is at a crucial juncture in its quest for sustainable development and combatting climate change. As the negative impacts of fossil fuels become increasingly evident, there is a growing ...

As $x \leq 0.2$, Bi¹⁷⁹;+ is substituted by La¹⁷⁹;+ at perovskite-like layers, which increases the disorder degree of A-site cations and depresses the defects, it results in a high energy ...

Europe and China are leading the installation of new pumped storage capacity - fuelled by the motion of

water. Batteries are now being built at grid-scale in countries including ...

MITEI's three-year Future of Energy Storage study explored the role that energy storage can play in fighting climate change and in the global adoption of clean energy grids. Replacing fossil fuel-based power generation with power ...

An ultra-high recoverable energy storage density of 159.7 J cm^{-3} and a high storage efficiency of 70% are obtained in such PNP-type heterostructural films, which are attributed to the ...

There are a number of pathways available for the future of electricity supply in Iraq but the most affordable, reliable and sustainable path requires cutting network losses by half at least, strengthening regional interconnections, ...

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