

## Spotlight: How to Invest in the Future of Clean Energy - Hydrogen

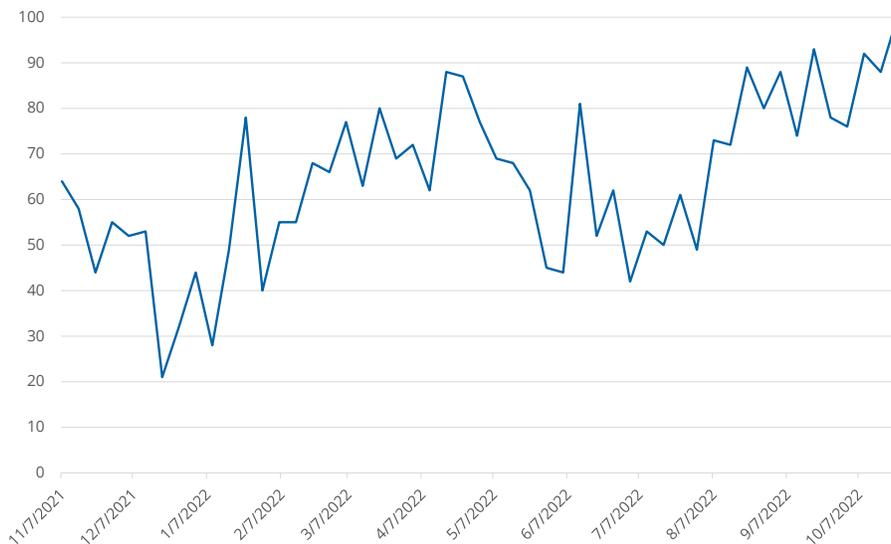
David Mazza, Managing Director, Head of Product & Emma Bakken, Product Analyst

This Spotlight is the third, and final, in a series about hydrogen, and includes greater detail on how interested investors may choose to implement exposure to companies in the hydrogen industry.

- To learn more about the foundations of hydrogen, how it is produced, stored, and transported, as well as various use cases, please read our [Back to Basics Spotlight](#).
- To learn more about the future of the hydrogen space and the impact of the Inflation Reduction Act, please read our [High on Hydrogen Spotlight](#).

Despite being a simple element chemically, hydrogen is surprisingly complex when it comes to effective use in the clean energy space, and often expensive as a result. Thus, the companies working towards innovative, affordable, and practical hydrogen applications are extremely important in bolstering its widespread adoption. BloombergNEF's, Adithya Bhashyam, explains that while countries and municipalities are able to reach 70-80% decarbonization without hydrogen, the use of hydrogen will be required to reach 100% net zero emissions because there is no replacement for hydrogen as a gas in sectors like heavy industry. There is no shortage of clean and alternative energy ETFs, and many of these include a few names involved with hydrogen. However, hydrogen-focused ETFs are few and far between, and interest in the space has never been higher.

### INTEREST OVER TIME BY WEB SEARCHES FOR THE TERM "GREEN HYDROGEN" IN THE UNITED STATES



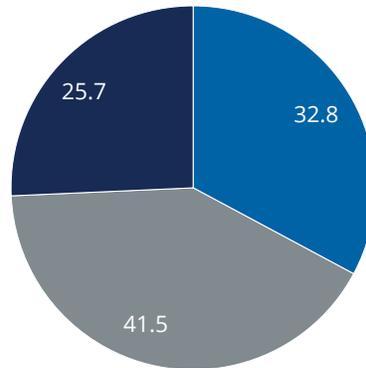
Source: Google Trends, as of 11/1/2022, numbers represent search interest relative to the highest point on the chart for the given region and time.

### THE FUND: DIREXION HYDROGEN ETF (NYSE:HJEN)

The [Direxion Hydrogen ETF \(NYSE: HJEN\)](#) is carefully constructed to offer exposure to the hydrogen space. HJEN tracks the Indxx Hydrogen Economy Index\* (Ticker: IH2ECOT), which contains companies in the Hydrogen Industry involved in hydrogen generation and storage, transportation and supply of hydrogen, fuel cells, and hydrogen fueling stations.

It is also important to note that many of the world's top hydrogen companies are not based in the U.S., so HJEN includes international names in order to truly capture those companies we believe are leaders in the space.

## REGIONAL BREAKDOWN OF HJEN HOLDINGS



■ North America ■ Western Europe ■ Asia Pacific

Source: Indxx, as of 10/31/2022, based on country of domicile for each company held.

## DIREXION HYDROGEN ETF HOLDINGS

HJEN includes a wide variety of holdings. Some companies are focused solely on hydrogen, while others are involved in the wider energy space, but are devoting increasingly greater resources to hydrogen. The following companies (holdings as of 10/31/2022, subject to change) have interesting projects currently underway and in the pipeline:

- Air Liquide S.A. (Ticker: AI FP) [8.49%], hydrogen production and generation: Air Liquide is a French company that supplies industrial gases and services to a variety of industries around the world. The company has listed hydrogen mobility as one of the five areas they are focusing on moving forward. One project in the works is the development of a complete ecosystem for hydrogen trucks, which would likely be the first high pressure hydrogen refueling station system for long haul trucks in Europe.
- Air Products and Chemicals Inc. (Ticker: APD US) [4.53%], hydrogen production and generation: Air Products and Chemicals is another company that provides essential industrial gases, related equipment, and applications expertise to customers across industries, but they are a US company. The company is investing \$500M to build a green hydrogen production facility in Massena, NY that aims to produce 35 metric tons per day of green liquid hydrogen which is planned to begin operations in 2026/2027. Additionally, the company has announced plans to convert their global fleet of approximately 2,000 trucks to hydrogen cell zero-emission vehicles.
- Bloom Energy Corporation (Ticker: BE US) [8.70%], fuel cell and battery: Bloom Energy manufactures power generation equipment that primarily uses hydrogen fuel cell technology. On November 2, 2022, the company inaugurated its commercial electrolyzer in Newark with an increase in generating capacity from one gigawatt to two gigawatts.
- McPhy Energy SAS (Ticker: MCPHY FP) [1.42%], hydrogen systems and solutions: McPhy designs and manufactures global hydrogen systems from electrolyzers to hydrogen storage systems. McPhy is truly a pure-play hydrogen company. They recently won an eight year contract, effective 2024, with Siemens Energy for a hybrid solar and hydrogen project in French Guiana. The project will combine McPhy's electrolyzer with a solar photovoltaic park to produce hydrogen which will then be stored in tanks. Their press release states that, "the hydrogen will [then] be recombined with oxygen from the air within fuel cells to produce 24/7 non-polluting electricity."<sup>1</sup>

Forecasts are inherently limited and should not be relied upon when making investment decisions. There is no guarantee the sector will experience growth. In addition, there is no guarantee it will translate to positive fund performance.

## HIGH HOPES FOR HYDROGEN

There are undoubtedly lots of exciting and important projects on the horizon for hydrogen companies, many of which HJEN's Index seeks to capture. Despite the recent chatter surrounding hydrogen, the industry as a whole is still in its infancy. As companies invest and spend more on these projects, there will be up-front costs involved, which may lead to additional volatility. Ultimately, seeking to invest in hydrogen, specifically HJEN, is an option for investors looking to potentially diversify their exposure to the energy space and bet on the long-term viability of hydrogen as an alternative energy resource.

FOR INFORMATION: 866-476-7523 | [INFO@DIREXION.COM](mailto:INFO@DIREXION.COM) | [DIREXION.COM](http://DIREXION.COM)

<sup>1</sup>McPhy Press Release, "McPhy signs an 8-year contract with Siemens Energy within the framework of the CEOG project", January 24, 2023

\*The Indxx Global Hydrogen Index will track the performance of companies that provide goods and/or services related to the Hydrogen Industry, including hydrogen generation and storage, fuel cells, hydrogen stations, and hydrogen-based vehicles. The Index will include domestic securities as well as securities listed on various foreign markets, including among others, Japan and South Korea. The Index will be reconstituted annually and rebalanced quarterly. One cannot directly invest in an index.

***An investor should carefully consider a Fund's investment objective, risks, charges, and expenses before investing. A Fund's prospectus and summary prospectus contain this and other information about the Direxion Shares. To obtain a Fund's prospectus and summary prospectus call 866-476-7523 or visit our website at [www.direxion.com](http://www.direxion.com). A Fund's prospectus and summary prospectus should be read carefully before investing.***

***Direxion Shares ETF Risks*** - An investment in the ETFs involves risk, including the possible loss of principal. The ETFs are non-diversified and include risks associated with concentration that results from an ETF's investments in a particular industry or sector, which can increase volatility. The leveraged and inverse ETF utilize derivatives, such as futures contracts and swaps which are subject to market risks that may cause their price to fluctuate over time. The leveraged and inverse ETFs do not attempt to, and should not be expected to, provide returns which are a multiple of the return of their respective index for periods other than a single day. The leveraged and inverse ETFs may also subject to leverage, correlation, daily compounding, market volatility and risks specific to an industry or sector. The non-leveraged ETFs are subject to certain risks, including imperfect index correlation and market price variance, which may decrease performance. The non-leveraged ETFs may invest in a relatively small number of issuers and, as a result, be subject to greater risk of loss with respect to its portfolio securities. The non-leveraged ETFs may experience greater fluctuation in its net asset value as compared to other investments. The non-leveraged ETFs may be appropriate for investors with a long-term investment time horizon, who primarily seek capital growth, and who are able to tolerate periods of prolonged price declines. Please read each ETF's prospectus for a more complete description of the investment risks. There is no guarantee that an ETF will achieve its investment objective.

***Distributor: Foreside Fund Services, LLC.***