

Hydrogen and Fuel Cells Heat Up the Distillery Market

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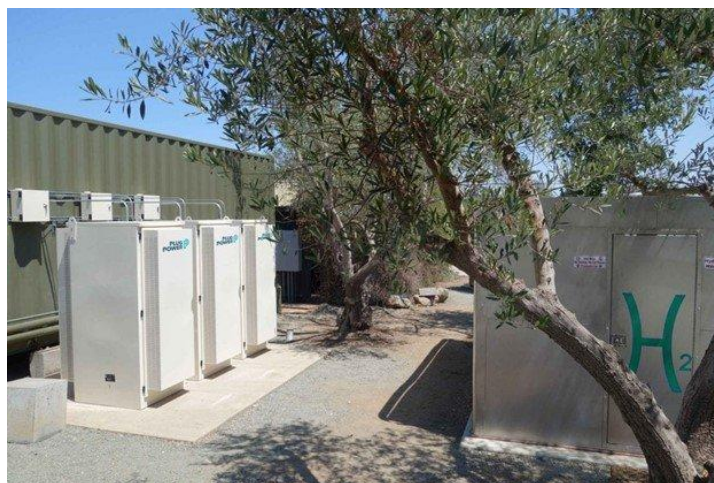
Well established as a reliable source of power for commercial, residential, and industrial applications, there has been renewed interest in recent years for hydrogen and fuel cell technologies as more companies look to reduce their carbon footprints. In this blog, we will examine how we got here and discuss some of the creative ways hydrogen and fuel cells are currently being used around the world. Cheers!

History

The distillers and brewers that are looking to hydrogen and fuel cells today to decarbonize are building off the successes of innovative companies that installed fuel cells to power operations.

In the early 2000s, [Sierra Nevada Brewing](#) was looking for reliable solutions for their Chico, California, facility that would meet the state's emissions standards. They turned to FCHEA member FuelCell Energy and its Direct FuelCell power plant, which provided the reliability necessary without relying on diesel generators or a small natural gas turbine. Installed in 2005, the heat produced by the fuel cell was captured and used to help supply the needed heat for the brewery's core operations.

In 2019, Stone Edge Farm in Sonoma, California installed a bank of FCHEA member Plug Power GenSure fuel cells that boast a peak electrical output of 26 kW. The investment allows the winery to not take any electricity from the utility.



Plug Power GenSure fuel cells (Source: Plug)

Investments Today

Long home to some of the world's most historic names in whisky, Scottish distillers are now looking to hydrogen to decarbonize their operations. In 2022, utility company ScottishPower and developer Storegga joined forces to form [Cromarty Hydrogen](#), which will produce hydrogen using renewable electricity and then distribute it to distilleries including Diageo, Glenmorangie, and Whyte & Mackay. These distilleries have already participated in feasibility studies to replace existing natural gas infrastructure. Following their lead, the Scotch Whisky Association—the industry's trade group—and its members have committed to net-zero emissions by 2040 and plan to utilize clean hydrogen across the country.

Near London, England, the Surrey Cooper Distillery teamed up with fuel cell manufacturer AFC Energy to produce *Copperfield H2 Gin*. The beverage was powered by an AFC Energy H-Power Tower and a limited supply was available during the holiday season. Distillers are not the only beverage makers in the United Kingdom utilizing hydrogen. Global manufacturer [Budweiser](#) is switching its Welsh factory in Magor to hydrogen for both vehicle operations and power. Utilizing hydrogen produced by [Protium](#) at a facility adjacent to the brewery, the company will run its logistics vehicles on hydrogen while also taking advantage of heat and power from stationary models in its production method.



Magor Brewery (Source: Budweiser Brewing Group UK&I)

Across the sea in Ireland, leading distillery [Irish Distillers](#) is finalizing plans to build a new €250 million (\$269 million) distillery in Mileton County, Cork, that will use renewable hydrogen alongside other forms of renewable energy to completely decarbonize operations. Once plans are submitted and approved, the company hopes to begin operations in 2025.

On the other side of the world, leading Japanese whisky company [Suntory](#) is working to decarbonize its historic Hakushu distillery using hydrogen. The company is currently

installing a 16 megawatt electrolyzer on site to provide hydrogen for distillation, sterilization of local water, as well as powering the facility's buses and trucks. Hydrogen is also in use for beer-brewing in Japan, where [Toshiba](#) has provided hydrogen fuel cells to Asahi Breweries' Ibaraki plant.

Here in the United States, electrolyzers are also being deployed to produce alcohol. [Air Company](#), based in New York City, uses their patented technology to transform carbon dioxide captured from the air into impurity-free alcohols that can be used in spirits, fragrances, sanitizers, and a variety of consumer industries. They leverage FCHEA member Nel's renewable hydrogen production technology to produce ethanol.



AirCo Vodka (Source: Cool Hunting)

Conclusion

As demonstrated above, hydrogen and fuel cells provide myriad benefits across a broad swath of industries. As more firms look to use this technology to decarbonize operations, distillers and brewers have emerged as key players in this new space. We look forward to toasting hydrogen's future with a broad range of carbon-free products made possible by hydrogen and fuel cells.