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## **AFC Energy Cracks Use of Ammonia in Alkaline Fuel Cell**

*Successful Integration of Ammonia Fuel Offers Affordable,  
Clean Alternative for Off-Grid Power*

Surrey, United Kingdom- AFC Energy, the leading British fuel cell power company, today announced the first successful integration of alkaline fuel cells with an ammonia cracker for hydrogen production. The use of ammonia as an inexpensive and widely available liquid fuel enables a reliable, clean solution to the growing demand for off-grid electricity. It also has the potential to provide a highly cost-effective fuel source for the company's recently revealed zero-emissions EV recharging system, CH<sub>2</sub>ARGE.

Ammonia is one of the world's most produced inorganic chemicals and is clean, with the primary bi-products of its cracking and consumption being water and nitrogen. AFC Energy's new system works by cracking ammonia to create a flow of hydrogen to generate electricity from the fuel cell. Following successful research and development through the EU funded Alkammonia Project, AFC Energy was able to successfully demonstrate a clear ability to scale up power production, enabling it to deliver multi-MW solutions for powering larger off-grid communities.

"The need for affordable, clean off-grid energy has never been greater," said Adam Bond, Chief Executive Officer of AFC Energy. "There could be as many as 36 million EVs on UK roads by 2040 according to the Future Energy Scenarios forecast, and the National Grid simply won't be able to cope with that kind of rise in demand.

"We also need sustainable off-grid energy to protect against harmful but often overlooked sources of emissions. In major cities such as London, construction sites which rely on diesel

generators are responsible for 14.5% of emissions of the most dangerous particulates according to the London Atmospheric Emissions Inventory. These particulates, such as PM2.5, have been linked to an increased number of respiratory related illnesses. AFC Energy's latest development in ammonia integration offers a timely opportunity to address these issues."

AFC Energy's breakthrough integration of ammonia with its alkaline fuel cell technology has the potential to provide an alternative to off-grid power generators and the harmful emissions they produce. By enabling its fuel cells to accept a lower grade, and lower cost, hydrogen derived from ammonia, AFC Energy will be able to deliver cost-effective hydrogen solutions without compromising the performance of the fuel cells. Ammonia can also be generated almost anywhere in the world, enabling fuel cells to be deployed in remote locations previously unable to import and store viable hydrogen fuel sources.

AFC Energy will look to utilise available ammonia crackers without the need for further research and development that may otherwise delay delivery of the fuel cell technology to the market. The company has been approached by international organisations regarding the possibility of full system integration at scales up to or in excess of 1MW.

### **About AFC Energy**

AFC Energy plc is commercialising an alkaline fuel cell system, to provide clean electricity for on and off grid applications. The technology, pioneered over the past ten years in the UK, is in the process of being deployed in industrial gas plants for grid generation, as an alternative to diesel generators for localised power, and as the power source for local electricity needs.

### **For further information please contact:**

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