

# analyst view

## Fuel Cell Today's Expectations for 2013

19 DECEMBER 2012



*Image source: Paul Mist, Flickr*

In our last Analyst View of 2012 we would like to look ahead to 2013 and share with you some of the fuel cell developments we are looking forward to next year.

Automotive companies have been very active in 2012 continuing their plans for commercialisation, but public awareness and acceptance of fuel cells is still an area which needs work. This will improve as fuel cell vehicles gradually gain a higher profile. In 2013, for example, a fuel cell vehicle will for the first time be entering the Le Mans 24 hour race, taking place on 22nd and 23rd June. The GreenGT H2 is powered by hydrogen fuel cells provided by Symbio FCell. Participation in such a high-profile event will demonstrate to a wide public audience that fuel cells can perform in high-performance environments. Commercially, Hyundai will make an increasing number of its ix35 FCEV available for projects and demonstrations; the Korean automaker has said it will make up to 1,000 of the vehicles available before a full commercial launch in 2015.

In the portable sector we expect to see continued penetration of fuel cell portable device chargers into the consumer electronics market, with decreasing retail prices and new product launches; in particular, Lilliputian Systems will be unveiling its long-anticipated SOFC USB Mobile Power System at CES in January 2013. The system runs on butane cartridges, a single one of which can charge a smartphone ten to fourteen times.

In January, Apple will double the size of its fuel cell installation at its 500,000 square-foot North Carolina data centre. At 10 MW it will be the largest non-utility fuel cell installation in the USA, a title that was temporarily taken by eBay for the 6 MW of fuel cells it will be installing for prime power for

an expansion of its flagship data centre in Utah. Both of these installations will be undertaken by Bloom Energy, who significantly expanded its operations in 2012 and we expect to see continuing to grow in the US market throughout 2013.

America's largest utility fuel cell installation will come online towards the end of 2013; FuelCell Energy (FCE) is providing a turn-key 14.9 MW fuel cell power park in its home state of Connecticut, the largest such park in the USA by some margin. It is in South Korea, however, that FCE will be making its most profound progress in 2013. The company will be supplying fuel cells for the world's largest fuel cell installation: a 60 MW fuel cell power park in Hwaseong being developed by its long-term partner POSCO Energy, which is due to come online early next year.

South Korea has set a strict Renewable Portfolio Standard (RPS) that mandates 350 MW of additional renewable power capacity per year through 2016, and 700 MW per year through 2022. Electricity producers with a capacity greater than 500 MW must generate 4% of their electricity using new and renewable sources, rising to 10% by 2022. This has been a major driver for the rapid growth in fuel cell imports, predominantly from FuelCell Energy. As well as the Hwaseong installation, FCE will be installing 8.4 MW in Samcheok. The Seoul Metropolitan Government has said that it will build 29 hydrogen fuel cell power plants by 2014 to ensure a smooth supply of electricity in the city, as well as installing 102 smaller fuel cells in buildings. Together they will produce 230 MW of electricity, enough to power 400,000 homes. We expect a large number of these systems to be installed in the coming year. UTC Power is supplying seven of its 400 kW fuel cell systems for KOSEP, a public utility company in the greater Seoul area, to be operational in spring 2013. The installation of fourteen UTC Power fuel cells (5.6 MW in total) for a power plant in Pyeongtaek will also be completed in 2013.

In Japan, the return to power on December 16<sup>th</sup> of the Liberal Democratic Party (LDP), led by Shinzō Abe, could mean a change in the country's energy policy. Typically seen as pro-nuclear, the LDP could change plans introduced by the outgoing Democratic Party of Japan (DPJ) to phase out reliance on nuclear power by 2040. The success and high uptake of the country's residential fuel cell micro-combined heat and power (micro-CHP) scheme, Ene-Farm, could be affected if there is a U-turn on energy policy. The Japanese gas industry was reported on Bloomberg as publishing a draft clean energy report which called for the installation of 5.3 million residential micro-CHP fuel cells by 2030. We hope there is continued support for fuel cell distributed power in Japan from the new Government.

Aside from these specific projects, we are particularly excited by the growing interest in hydrogen as an energy storage medium to enable greater integration of intermittent renewable electricity sources with the grid. Much work has been done in Germany, which will be using its natural gas grid to store hydrogen. The same concept is being undertaken in Canada and discussed in other countries around the world. This seasonal storage of energy offers numerous benefits, including decarbonising the grid (both gas and electric) and sowing the seeds of a hydrogen infrastructure. We are planning to publish a report early in 2013 which studies this concept in more detail and looks at how hydrogen can be used to form a bridge between the three traditional energy silos of electricity, heat and transportation.

Finally, from all of us at Fuel Cell Today we wish all our readers a happy and enjoyable time during the festive holidays, and best wishes for 2013.

**Dan, Marge and Jonny**  
info@fuelcelltoday.com  
www.fuelcelltoday.com