



Press release

For immediate release

PowerCell initiates pilot study on storage of hydrogen gas from excess electricity from wind and solar energy

- In cooperation with Wallenstam AB, Midroc Automation AB and Hydrogen Sweden

[Gothenburg, Sweden, December 7, 2015.] **The leading fuel cell company [PowerCell Sweden AB \(publ\)](#) announces partnership with [Wallenstam AB](#), [Midroc Automation AB](#) and [Hydrogen Sweden](#) to jointly launch a pilot study on developing a system where surplus energy from wind and solar energy can be temporarily stored as hydrogen which then together with fuel cells provides electricity on cloudy and windless days. The purpose of the study is that it will lead to a joint demonstration project in 2016 next to PowerCell's premises in Gothenburg, Sweden. The Västra Götalandsregionen finances the feasibility study. Per Wassén, CEO of PowerCell Sweden AB, said: "This can lead to a completely new, large-scale industry created around this area, i.e., hydrogen storage of surplus energy from wind and solar energy."**

The electricity solar cells/windmills generates satisfies the continuous demand for electricity, and of the excess energy hydrogen is produced via electrolysis stored in the tank. The hydrogen can then be used in a fuel cell to generate new electricity and heat when needed. In the transition from fossil to renewable energy, the need for a flexible electricity network increases, where storage is a natural part of being able to balance the electricity grid. Especially now that nuclear power begins to be phased out. This is because renewable energy sources like solar and wind produce electricity in a non-controllable way. Since hydrogen can be produced in a renewable way, from water and electricity, it is natural to connect the grid with the production of hydrogen. For this to be done in a way that reduces the load on the electricity grid the system needs to be optimized for both hydrogen needs and the electricity grid perspective.

PowerCell will, along with the Hydrogen Sweden; property manager and wind farm owner Wallenstam AB and Midroc Automation AB, a part of Midroc Europe Group, a comprehensive partner in the areas of real estate, construction, industry and environment, now begin a feasibility study to develop a system where excess energy from wind and solar power can be temporarily stored as hydrogen which then together with PowerCell's fuel cells provide electricity and heat in cloudy and windless days.

"Given the existing climate threats currently discussed at COP21 about the carbon dioxide problem, we must quickly develop sustainable, carbon-free solutions as hydrogen. This is a highly topical application area, where we will be able to use our modular fuel cell technology and create large economies of scale", said Per Wassén, CEO of PowerCell Sweden AB.

In the transformation "byproducts" occurs in the form of heat and oxygen that is possible to take advantage of. The heating is in a temperature range suitable for the district heating system and heating of premises. The oxygen is very clean and has a high value if the right customer (e.g. hospitals) and a distribution method can be found. Hydrogen that is not needed into the grid can be sold as vehicle fuel and then has a higher market value than electricity into the grid on windy and sunny days.



“Energy storage is an increasingly important subject in the more flexible energy systems we will be able to see in the future. This is therefore a very interesting project where we take a holistic approach. Even if it is done on a smaller scale, all the essential elements will be included and the participants represents a wide range of expertise”, said Björn Aronsson, Executive Manager of Hydrogen Sweden.

PowerCell Sweden AB is the leading fuel cell company in the Nordics, which develops and produces environmentally friendly power systems for stationary and mobile customer applications. PowerCell has developed a modular system of fuel cell platforms producing electricity from hydrogen with only, heat and water as emissions. The fuel cells are designed to handle the hydrogen reformed from biogas, natural gas, biodiesel or standard diesel.

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About PowerCell Sweden AB (publ)

PowerCell Sweden AB (publ) is the leading fuel cell company in the Nordics, which develops and produces environmentally friendly power systems for stationary and mobile customer applications.

PowerCell has developed a modular system of fuel cell platforms, powered by clean environmentally friendly produced hydrogen where only electricity, heat and water are emissions. The fuel cells are also designed to handle the reformed hydrogen from e.g. biogas, natural gas, biodiesel or standard diesel.

In case hydrogen infrastructure is missing, PowerCell has combined its leading fuel cell and reformer technology and developed a fuel cell system, PowerPac, which converts standard diesel, with hydrogen, into electricity. This is done in an energy-efficient and environmentally friendly way, in which emissions of carbon monoxide, nitrogen oxides and particles are completely eliminated and the carbon dioxide is greatly reduced compared with a conventional diesel engine.

PowerCell Sweden AB (publ) is listed on First North at Nasdaq Stockholm and is an industrial spinout from the Volvo Group. Among the largest owners are Midroc New Technology, Fouriertransform, Finindus and Volvo Group Venture Capital. For additional information, please visit: www.powercell.se