SUNFIRE TO EXHIBIT FUEL CELL HEATING APPLIANCE AND OTHER PROJECTS AT HANNOVER MESSE 2016

- **Sunfire to make first appearance with own stand (Stand H24, Hall 27) / new website now online at www.sunfire.de**
- **Dresden-based cleantech firm to demonstrate variety and flexibility of fuel cell and electrolysis systems using projects involving prestigious partners such as Boeing and Vaillant**

Hannover, April 25th, 2016. **Sunfire will be using its appearance at Hannover Messe to present a range of projects and products in the fields of on-grid and off-grid energy generation as well the production of green hydrogen. With the USA selected as this year's partner country, it is fitting that the world's largest commercial reversible electrolysis (RSOC) module – developed in cooperation with American partner Boeing – will be on show at the Sunfire stand. Strong partners such as the heating manufacturer Vaillant, ThyssenKrupp Marine Systems, Audi and the Russian energy company Termokapital will be co-exhibiting with the German industrial firm at Stand H24 in Hall 27.**

The RSOC module is the first solution to combine electrolysis and fuel cell functionality in a single industrial-scale system. The module was jointly developed by Sunfire and Boeing and delivered to a US Navy microgrid test facility in January 2016. It is now being put through its paces as a means of producing hydrogen using energy generated with the aid of photovoltaic arrays or wind turbines (electrolysis mode). The resultant hydrogen can be stored in a highly compressed form and converted back to electrical power using the RSOC module's fuel cell mode. Renewable energy is therefore available whenever it is required.

Sunfire is currently also developing an RSOC module set to be installed at a German steel manufacturer for the purpose of decentralized green hydrogen production. To date the hydrogen required for the heat treatment of steel has generally been produced from natural gas at central steam reforming plants before being trucked in small quantities to the respective place of consumption. The fact that the RSOC module can be switched between electrolysis and fuel cell mode means that it can essentially be operated cost-effectively around the clock – thus making decentralized hydrogen production a viable financial option.

It is not just steel manufacturing firms that stand to benefit from the highly efficient production of green hydrogen at the point of consumption, with interest also expected from a host of other industries such as glassmaking and the chemicals sector.

RSOC technology bridges the gap between the energy, mobility, chemicals and gas and heat supply sectors. The flexible system's ability to act as either an electrical load or a generator of electrical power makes it possible to significantly increase the proportion of renewable energy within the overall energy system.

Fuel cells for off-grid and on-grid applications

High-temperature fuel cells highlight the suitability of Sunfire's technologies for a broad range of applications. They are not only ideal for use as micro power stations for single-family and multi-family houses, but also durable enough for applications in off-grid regions characterised by extreme climatic conditions. Sunfire and its partners Vaillant, Termokapital and ThyssenKrupp Marine Systems will be presenting three applications in Hannover.

Cooperation between Sunfire and Vaillant has yielded a compact fuel cell heating device which is set to be ready for series production – and in turn installation in single- and multi-family houses – by the end of 2016. The Vaillant-branded device will be on show at the Sunfire stand and can be used in combination with natural gas, biogas or hydrogen to deliver environmentally friendly heat and power according to the principle of cogeneration at 90 percent overall efficiency.

Fuel cell heating devices are just one of a variety of potential applications for fuel cell technology, which could also be used to generate off-grid power for gas pipelines in Russia or supply environmentally friendly energy to ancillary units and supply systems on ships (currently being tested in cooperation with ThyssenKrupp Marine Systems as part of the SchiffsBZ project).

To find out more about Sunfire and its technology, projects and partners, please visit our new website at www.sunfire.de.

ABOUT SUNFIRE

Sunfire is a developer and manufacturer of clean, efficient solutions in the fields of off-grid power generation, green hydrogen production and energy storage. The Dresden-based firm's vision is to make clean energy available wherever and whenever it is needed. By realizing that vision Sunfire also aims to bridge the gap between the energy, mobility and gas and heat supply sectors.

The firm's **fuel cells** (SOFC technology) facilitate the highly efficient generation of power and heat according to the principle of cogeneration. This sees electric power and heat generated on-demand at the point of consumption – with decentralized cogeneration at the lower end of the output scale therefore regarded as the energy concept of the future. **Electrolysis** (SOEC technology) efficiently splits steam into hydrogen and oxygen, with the resultant hydrogen usable either as fuel or as part of industrial processes.

Sunfire's SOFC and SOEC technology is driven by a heart of ceramics, glass and steel – the Solid Oxide Power Core – which is also the basis for systems that combine fuel cell and electrolysis functionality in a single solution (RSOC technology).

Sunfire is supported by business angels (the Sunfire Entrepreneurs' Club), INVEN Capital, the ERP Startfonds at KfW, TOTAL Energy Ventures and Electranova Capital (a venture capital fund financed by EDF and Allianz).

For further information please visit www.sunfire.de

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