

**Topsoe Fuel Cell and Wärtsilä Corporation are selected for a EUR 4.8 million grant from the EU LIFE Environment programme for a project, which will develop and demonstrate manufacturing and operation of SOFC fuel cells.**

Lyngby, September 21 2006. Topsoe Fuel Cell, via its mother company Haldor Topsøe A/S, and Wärtsilä Corporation (Wärtsilä) have been selected for a EUR 4.8 million grant from the EU LIFE Environment programme for the EUR 13.4 million project entitled "Development and Demonstration of Manufacturing and Operation of Clean and Efficient Power Generation based on Solid Oxide Fuel Cells" (acronym "DEMO SOFC"). The contract is being finalised and the project is scheduled to start up 1 October this year and continue for three years.

A major part of the project includes planning, design, erection and running-in of a new cell and stack pilot production facility. The plant is foreseen to have an annual manufacturing capacity of 150,000 – 200,000 cells and 2,000 stacks, an increase of 15 times compared to the capacity of the present laboratory based manufacturing. The facility will employ low cost cell production methods such as tape casting, screen printing and stamping and is expected to result in substantial manufacturing cost reductions for both cells and stacks.

"This is a very important project. The requirements for cells and stacks for technology demonstration and verification purposes over the next couple of years will by far exceed the current manufacturing capacity. This project will help remove this bottleneck and pave the road for market introduction of a cleaner and more sustainable power generation technology," says Claus Olsen, Managing Director, Topsoe Fuel Cell. "This project constitutes an indispensable contribution to the establishment of a pilot production facility, which is so crucial in the continued development of our SOFC technology. We acknowledge the commitment to the SOFC technology that EU has shown by granting this project, and we consider it a great compliment to the SOFC activities in Denmark that our project has been selected for the grant," he adds.

Wärtsilä, Topsoe Fuel Cell's strategic integrator partner and also participant in the DEMO SOFC project, will be responsible for construction, test and operation of a 50 kW<sub>e</sub> demonstration unit utilizing the first cells and stacks manufactured at the new pilot production unit. The demonstration unit will run on bio-methanol for minimum half a year.

"We are very happy to have been selected for the EU grant. Construction and operation of this demonstration unit running on bio-methanol open up attractive economic perspectives for use of sustainable fuels for fuel cell based distributed generation and auxiliary power units for large ships. In particular, this is an interesting option for reduction of emissions from the ship's power consumption when harbouring," says Erkki Fontell, General Manager Fuel Cells at Wärtsilä. "In addition, operation of the unit will provide us with very important experience related to both system design and to performance parameters such as electrical efficiency and stack durability," he adds.

The 50 kW<sub>e</sub> demonstration unit is also very important for Topsoe Fuel Cell. "It provides information on the performance of the SOFC stacks, but just as important it will include a demonstration of a patented process for pre-treatment of methanol fuel before leading it to the SOFC stack. By converting the methanol fuel to methane before entering the fuel cell stack, the cost of the system is reduced and the electrical efficiency is increased," explains Helge Holm-Larsen, Director, Business Development. "Bio-methanol is a sustainable fuel made via gasification of biomass at a very high efficiency. In combination with our patented process, this project will demonstrate the best practice internationally with respect to the use of sustainable fuels in the distributed generation sector," he adds.

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*Solid Oxide Fuel Cell (SOFC) technology is the most efficient fuel cell technology. Because of the relatively high operating temperature, it can run on a wide range of fuels such as natural gas, biogas, ethanol etc. The technology is foreseen to play an important role in electricity generation for private homes, in distributed generation and as auxiliary power units for heavy vehicles.*

*Topsoe Fuel Cell is a wholly owned subsidiary of Haldor Topsøe A/S. The company is dedicated to development, manufacturing and marketing of solid oxide fuel cells.*

*For more information, please visit our website [www.topsoefuelcell.com](http://www.topsoefuelcell.com) or contact Mr. Helge Holm-Larsen, Director, Business Development ([hhl@topsoe.dk](mailto:hhl@topsoe.dk), ph. +45 4527 2168, mobile ph. +45 2275 4168).*

*Wärtsilä enhances the business of its customers by providing them with complete lifecycle power solutions. When creating better and environmentally compatible technologies, Wärtsilä focuses on the marine and energy markets with products and solutions as well as services. Through innovative products and services, Wärtsilä sets out to be the most valued business partner of all its customers. This is achieved by the dedication of more than 12.000 professionals manning 130 Wärtsilä offices in over 60 countries around the world.*

*For more information, please visit our website [www.wartsila.com](http://www.wartsila.com) or contact Mr. Erkkö Fontell, General Manager, Fuel Cells ([Erkko.fontell@wartsila.com](mailto:Erkko.fontell@wartsila.com), ph. +358 10 709 5228).*

*The EU LIFE Environment programme co-finances environmental initiatives in the European Union. For more information, please visit <http://ec.europa.eu/environment/life/home.htm>.*