

Press Release

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Aalborg CSP supplies concentrated solar power system for combined heat and power generation in Denmark

Aalborg CSP, leading developer and supplier of innovative renewable energy technologies, has been selected to design and deliver a concentrated solar power (CSP) system to be integrated with a biomass-fueled organic rankine cycle (ORC) plant for combined heat and power generation in Denmark. This will be the first large-scale system in the world to demonstrate how CSP with an integrated energy system design can optimize efficiency of ORC even in areas with less sunshine.



Image 1: 0,8 MWt CSP pilot plant in Brønderslev tested in Summer 2015, Source: Aalborg CSP

Aalborg CSP in close collaboration with the Danish district heating plant (Brønderslev Forsyning) has carried out a comprehensive feasibility study on the potential to use concentrated solar power as an add-on to the biomass-ORC plant. Based on the positive findings, Aalborg CSP has been awarded the contract to develop and supply the 16.6 MWt CSP plant enabling production of heat and electricity within one carbon-free system.

The CSP plant will consist of 40 rows of 125m parabolic trough loops with an aperture area of 26,929m². The parabolic troughs will collect the sunrays and reflect them onto a receiver pipe wherein a fluid is heated up to 330°C. This high temperature is able to drive an electric turbine to produce electricity, but the flexibility of the system also allows production of lower temperatures for district heating purposes. To maximize yield of energy, the waste heat will be utilized and sent to the district heating circuit whereas electrical power will be generated at peak price periods.

Aalborg CSP paves the way for CSP in northern Europe

Despite known to be a technology typically used in sunny desert areas, CSP also has potential in the European climate when integrated with other technologies. Markets with well established district heating infrastructure or an existing base of ORC plants - such as Germany, Austria and Italy - can leverage the flexibility of CSP for combined heat and power generation. While the prices of different types of fuel fluctuate, concentrated solar energy proves to be a stable and efficient renewable alternative in Europe.

“The project in Denmark is yet another example of how the Aalborg CSP Integrated Energy System approach for combining fuel sources and multiple energy streams opens new markets where CSP creates value. Through close cooperation with the client in the feasibility study phase, we can unlock the black-box to create projects in areas where otherwise it would not be possible” – says Svante Bundgaard, CEO of Aalborg CSP.

Danish technology growing in support

The achievement of the world's first CSP system combined with a biomass-ORC plant is supported by the Danish Government's EUDP national programme (Energiteknologisk Udviklings- og Demonstrationsprogram). The subsidy provides a substantial support for technology development thereby making the Aalborg CSP solution more competitive in export markets.

The system in Brønderslev is expected to go operational by the end of 2016 and final commercial operational date is expected in the middle of 2017.

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About Aalborg CSP A/S

Aalborg CSP is leading developer and supplier of innovative renewable technologies with the definite purpose to change the way we produce energy today. Relying on extensive experience from some of the most efficient concentrated solar power (CSP) projects around the world, the company designs and delivers green technologies and integrated energy systems to lower cost of energy for industries and power plants worldwide.

Aalborg CSP places strong focus on R&D activities and partners with knowledge-based companies and institutions to create leading-edge technologies. As a result, the Aalborg CSP engineering design is centred on a value-adding concept providing solutions that excel in operation, increase plant revenue and contribute to a greener future.

Headquartered in Aalborg (Denmark) and with sales & service offices in Spain, the US, Kenya, Uganda, Australia and Indonesia, Aalborg CSP has realised cost effective green energy solutions to a variety of industries worldwide.

For more information visit www.AalborgCSP.com or follow us on [LinkedIn](#).