

## Combined heat and power generation - Concentrated solar power integrated with a biomass-ORC plant



### **Project facts**





Heating primary energy



# CSP system designed for maximum yield of energy

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 (CSP) as an add-on to the biomass-ORC (Organic Rankine Cycle) 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 is expected to be installed by the end of 2016 and it will consist of 40 rows of 125m parabolic trough loops with an aperture area of 26,929m<sup>2</sup>.

#### **Operational philosophy**

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.





#### **CHANGING ENERGY**

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.



VALUE-ADDING ENGINEERING DESIGN



TECHNOLOGY OF TOMORROW



SECURED TO BE DELIVERED

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