ContainerPower Energy Solutions

Danish solar energy storage system design

Overview

The SUNSTORE® concept consists of a large heat storage (pit heat storage, borehole storage or tank storage), solar collectors to heat up the storage, a heat pump to use the storage as heat source (and at the same time extend solar production, reduce heat loss from the storage and extend the storage capacity) combined with a CHP plant.How does solar district heating work in Denmark?

The solar heating plant in Brædstrup is integrated with borehole heat storage to provide heat to district heating networks. Water pit storage and borehole storage are two common seasonal storage technologies in Denmark. Fig. 8. Schematic drawing of a typical system integration of solar district heating in Denmark (Source: PlanEnergi). Fig. 9.

What storage technologies are used in Denmark?

Water pit storage and borehole storage are two common seasonal storage technologies in Denmark. Fig. 8. Schematic drawing of a typical system integration of solar district heating in Denmark (Source: PlanEnergi). Fig. 9. Gram solar heating plants in Denmark . Fig. 10. Brædstrup solar district heating plant in Denmark .

What is the thermal performance of solar district heating plants in Denmark?

Fig. 10. Brædstrup solar district heating plant in Denmark . Furbo et al. have summed up the thermal performance of solar district heating plants in Denmark. The average yearly solar heat of the plants is in the range of 400–460 kWh/m 2. The efficiency of the whole solar heating plants is around 40%.

How many large scale thermal storages have been built in Denmark?

Since the 80ties large scale thermal storages have been developed and tested in the Danish energy system. From 2011 five full scale pit heat water storages and one pilot borehole storage have been built.

Which solar collectors are used in Danish solar district heating plants?

Flat plate collectors used in Danish large solar district heating plants have larger size than the normal ones in the market. The aperture area can be in the range between 12.6 and 14.5 m 2. The typical solar collectors used in Danish solar district heating plants can be found in Fig. 11.

Are large solar collector fields suitable for district heating system in Denmark?

Large solar collector fields are very popular in district heating system in Denmark, even though the solar radiation source is not favorable at high latitudes compared to many other regions. Business models for large solar heating plants in Denmark has attracted much attention worldwide.

Danish solar energy storage system design

Contact Us

For catalog requests, pricing, or partnerships, please visit: https://www.websparafotografos.es