Solar inter-seasonal soil heat storage

The functioning principle of SAGSHP is that of inter-seasonal heat storage where heat collected in summer using a solar thermal collector is stored in the ground to be used by the GSHP during winter.

The Drake Landing Solar Community in Okotoks, Alberta, Canada utilizes a solar thermal system with borehole seasonal storage to supply space heating to 52 detached energy-efficient homes through a ...

OverviewSTES technologiesConferences and organizationsUse of STES for small, passively heated buildingsSmall buildings with internal STES water tanksUse of STES in greenhousesAnnualized geo-solarSee alsoThere are several types of STES technology, covering a range of applications from single small buildings to community district heating networks. Generally, efficiency increases and the specific construction cost decreases with size. UTES (underground thermal energy storage), in which the storage medium may be geological strata ranging from earth or sand to solid bedrock, or aquifers. UTES technologies include:

In this section, the heat transfer of the soil heat storage unit are discussed in detail by analyzing the soil temperature variations in each channel and the heat flow changes of the six heat ...

It is proposed that the summer heat can be injected into the ground beneath each individual property in a way that prevents it from flowing out into the neighbouring properties, with the result that the heat ...

This document describes a study of a low-cost seasonal solar soil heat storage system used for greenhouse heating. The system aims to store solar energy ...

Taking an office building in Jinan as an example, the simulation model of solar inter-seasonal soil heat storage was established by TRNSYS ...

They collect heat using thermal hot water systems on garage roofs, and pipe the surplus into 37 metre deep boreholes in the rock. The system is able to meet 97% of the community"s ...

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In the SGCHPSS system, the abundant solar energy in summer was stored into the underground soil, in order to rise the soil temperature as the heat source for the Ground Coupled Heat ...

The influencing factors of solar inter-seasonal soil heat storage are simulated and studied from the perspective of ground temperature change, and the variation law of ground temperature in the heat ...

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