



Renee Wansdronk

architect

Wansdronk Architectuur

<http://www.wansdronk.com>

Bilateral Meetings

- Friday 21st September 10:15 - 12:30
- Friday 21st September 13:00 - 15:00

Description

Wansdronk develops a solar energy, zero-emission and material saving building concept Emporium. A warm water storage container and heat collectors provide the space heating and hot water supply, and a cold water storage container and cool collectors deliver the space cooling and cooling source for the refrigerator. The water circulates without pumps; instead it uses thermosiphon, and therefore requires no high-grade energy such as electricity or fuel.

Organization Type

Company

Areas of Activities

Architectonic, design, construction engineering services

Heating, chimney structures, air conditioning

Sustainable constructions and Green buildings

Offer & Request

Solar energy & low exergy building concept with seasonal heat storage Emporium

The Emporium concept is characterized as a seasonal heat storage with the smallest exergy loss (low-exergy), and without any energy loss. In this case exergy (applicability or quality of energy) stands for the temperatures which are used in the Emporium system, and which are as close as possible to the demand temperatures (20 °C indoor and 45 °C shower). The heat storage water temperature is above these two demand temperatures and below 100 °C, and 50 to 90 °C over the year. These temperatures are produced with a vacuum tube semi-transparent solar heat collector which is integrated in the southern facade of the building. The seasonal heat storage volume is integrated with the building volume to achieve that all heat storage losses (more than 50% through 50 cm glass or stone wool insulation) flow into the building and are used as indoor heating.