House Indoor Solar Energy China

How much energy does a solar house use?
The energy consumption and indoor air temperature of the building before and after reconstruction were field measured and comparatively analysed. Results indicate that the energy consumed by solar house with the hybrid heating system was 153.3 kWh/day lower than that by the old building.

Can solar house improve indoor thermal environment without environmental pollution?
One of the methods to realise this is the application of solar house since it has significant advantagesof improving the indoor thermal environment without environmental pollution ,. Meanwhile,the high-altitude makes the sky of Qinghai-Tibetan plateau mostly transparent and with low dust content.

What is the energy saving index of a solar house?
The energy saving index indicates the significant potentials of the solar house with the hybrid heating system to alleviate the domestic energy poverty. In the old building, the average indoor air temperatures of the living room and the bedroom were higher than that of the kitchen about 8.3°C and 7.7°C respectively.

What is the average air temperature in a solar house?
The average air temperature of the living room and two bedrooms in the solar house reached 12.8°C,11.0°C and 10.2°C,about 8.78°C,7.61°C and 6.82°C higher than temperatures of the rooms in the old building. Overall,the solar house has considerably improved indoor environments and provided people with better thermal comfort.

Should solar houses be recommended in rural Qinghai-Tibet region?
Therefore,the solar house should be recommendedin not only the rural Qinghai-Tibet region but also other rural areas in either China or other developing countries to alleviate domestic energy poverty. The authors declare no conflict of interest.

Can solar house reduce energy poverty in rural Qinghai-Tibet?
It is concluded that solar house can be an effective approachto mitigate domestic energy poverty of the rural Qinghai-Tibet region. The findings may also instruct other rural regions in either China or other developing countries to address the issue of energy poverty.

Semantic Scholar extracted view of "Evaluation of energy-saving potential and indoor thermal environment of passive solar houses in various heating climate regions of China" by Gaochao Li et al.

Passive solar houses comprise crucial strategies of reducing heating and cooling energy for buildings, which have been extensively used in plenty of nations. This study develops a study on indoor thermal environment, the energy-saving performance and natural lighting in different heating climate regions (represented by Lhasa, Xining and Urumqi ...

Semantic Scholar extracted view of "Evaluation of energy-saving potential ...

Resolving the conflict between the heating and ventilation in a rural house in ...

Therefore, this paper carries out field measurement and numerical simulation to optimize the size of the additional solar house of a traditional building house in rural China, and reveal the improving effect of the house on the indoor thermal environment of the building. The relevant results provide a guide for designers to improve ...

In this paper, two independent passive houses in cold areas in China were selected as research objects, which had almost the same geographic locations, building shapes, and floor plans, through...

Passive solar houses comprise crucial strategies of reducing heating and cooling energy for ...

In the demonstration residential case of Tu"ergan Village in Qinghai Province, by adopting passive technologies such as increasing maintenance structure insulation performance, adding sun rooms and ...

Along with urbanization, the energy consumption of buildings across China has increased nearly 45% in recent years [2], [3]. ... The effect of each additional solar house on indoor thermal environment can be calculated by: (1) ? T a = T a-T a s where Ta is the indoor air temperature of the original building; Ta s is the indoor air temperature of the building with each ...

In the demonstration residential case of Tu"ergan Village in Qinghai Province, by adopting passive technologies such as increasing maintenance structure insulation performance, adding sun rooms and skylights, and combining active technologies such as solar water heaters, the thermal load of the demonstration house decreased by 34%, and the ...

Passive house has been constructed in China on a large-scale over the past couple years for its great energy saving potential. However, research indicates that there is a significant discrepancy in energy performance for heating and cooling between passive houses in different climate zones. Therefore, this research develops a comparative analysis on the ...

Resolving the conflict between the heating and ventilation in a rural house in winter becomes a major problem in improving the indoor thermal comfort and air quality. This paper proposes a...

The sunroom, a passive solar heat collecting component, is widely used in ...

Passive solar houses comprise crucial strategies of reducing heating and cooling energy for buildings, which have been extensively used in plenty of nations. This study develops a study on indoor t...

The energy consumption of residential buildings plays a crucial role in overall energy consumption and environmental sustainability. This paper aims to conduct an energy analysis of a residential house located in China, ...

Passive solar houses comprise crucial strategies of reducing heating and ...

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