

A Radical Turnaround

Energy Efficient Building in Shanghai



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When talking about energy efficient building in China, most people think of the cold regions in Northern China where the climate is comparable to that of Western Europe. In fact, Shanghai and the Yangtze-region offer no less attractive opportunities for an engagement in energy efficient building.

The climatic zone that Shanghai belongs to is called the “zone with hot winters and cold summers” (夏冬冷). It stretches along the Yangtze river and is home to almost 500 Million Chinese - a population the same size as Europe. The summers in Shanghai tend to be very hot and humid with peak temperatures of around 40 degrees. The average temperature in the hottest month is around 28 degrees Celsius. The winters can be very cold with temperatures falling below zero; the average temperature in the coldest month is around 4 degrees. This poses extraordinary challenges for energy efficient construction because buildings must not only be protected against the summer heat but also against the cold in winter, something that normally requires different approaches and technologies.

At present, less than 5% of the buildings in Shanghai meet the current building energy efficiency standard JGJ 134-2001 (in the whole of China the percentage of energy efficient buildings is only 3%). However, according to the Shanghai Construction Commission, since 2003, enforcement of the existing standards in Shanghai has been handled in a much stricter way than before and from 2005 onwards, all plans submitted for new residential buildings must conform to these standards. This is a radical turnaround compared to previous practices where real estate developers did not fear any consequences when ignoring all principles of building energy efficiency. However, this also means that there will be a large and new market for related technologies, from building materials to planning know-how. Since no satisfactory solution currently exists for many of the technological challenges, such as exterior wall insulation for skyscrapers in the hot and humid climate of Shanghai or the use of regenerative energy sources for cooling and heating, there is still much for foreign experts to do.

For this reason the partner cities of Hamburg and Shanghai have recently agreed to jointly organise an Ecological Building Exhibition, to be held at the end of 2006 in Shanghai. A building exhibition is an ideal means by which

to promote energy efficient construction because it incorporates all relevant aspects: ecological urban planning, green architectural design, innovative techniques for heating and cooling and the possibility of convincing the large public and investors about the real worth of this project by showing them concrete examples. The building of a new area of several hectares, not only with energy efficient and ecological buildings, but also with an intelligent and sustainable infrastructure, is planned. Following its completion at the end of 2006, a large variety of house types will be available for inspection during the “Shanghai Ecological Building Exhibition”. At the end of the exhibition, the houses will be occupied by their owners and users. The coordination of this exhibition from the German side is carried out by SINOB AU.

As the building exhibition is an ideal platform from which to test innovative concepts for sustainable building in Shanghai, it will also serve as a reference project for the EXPO 2010 in Shanghai. On the other hand, European producers and construction companies will be able to get direct access to the rapidly growing Chinese market for building energy efficiency - they will also be supported by the project partners and the Shanghai administration. ■

PROFILE

SINOB AU e.V. - Sustainable Building in China (Bauen und Klimaschutz in China) was initiated in 2001 as a working group of German architects and consultants with the aim of promoting the building of energy efficiency in China. In 2003, SINOB AU was officially registered as an association in Hamburg. SINOB AU not only acts as a networking platform for German and European firms planning to enter the rapidly evolving market for energy efficient construction in China but is also actively pushing and coordinating projects such as the “Shanghai Ecological Building Exhibition 2006”.

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