

ENGLISH SUMMARY OF CONTENTS

REHVA GUIDEBOOK

The REHVA guidebooks treat each of a specific subject. They are in English and widely illustrated. REHVA ask to its members associations to translate and publish these books in their own language for each country. AICVF will publish the French edition of the "chilled beam application handbook", number five of the collection for the next summer. The sale is done by Climagora promotion, subsidiary of AICVF p 11

DOSSIER I Low energy-consuming buildings

> Dossier coordinated by Irène ARDITI

A challenge to be taken up;

> by Irène ARDITI

In order to meet the national environmental objectives (reducing by 4 the greenhouse gases emission), the consumption of every building, new or existing, has to be drastically reduced. The feasibility of buildings with low environmental impact is now ascertained, as appears from projects further presented in this dossier; research must extend now to the complexity of renovation cases and to socio-economic factors. p 17

Necessary evolution of buildings on energetical and environmental grounds;

> by Pierre HERANT

The building sector is the largest energy-consumer in France, in front of transportation and industry. It could also be the sector with the largest opportunities to obtain significant energy savings. Two type of actions have to be developed : on the one hand to make the whole of the existing buildings less energy-consuming, on the other hand to design new construction for high energy efficiency, up to positive energy buildings. In order to generalize these actions to the whole building sector, the mobilization and training of a large number of professionals is now required, so that the construction industry becomes the main contributor to sustainable development. p 18

Passive houses : are they comfortable? are they ecological?

> by Bruno PEUPORTIER & Stéphane THIERS

Passive houses are known for their energy efficiency, but some worry about possible summer and mid-season overheating; furthermore, the addition of insulation and other materials increases the initial environmental impact. The article reports on a comparative study about these various aspects. p 22

Summer comfort and thermal insulation;

> by Christian FELDMANN & Christian SCHWARZBERG

Strengthening the insulation of buildings raises questions regarding their thermal behaviour in summer conditions. The study, which was presented at the national Congress AICVF in 2008, calculates the duration of uncomfortably high temperatures for 3 building cases with various insulations, different locations and climate conditions. p 26

An eco-friendly innovative building: ECOSM;

> by Laurent BONNET

Description of a building innovative project, the primary energy consumption of which has been metered at 37 kWh/m².year, thanks to renewable energy systems, natural ventilation and optimised energy management. p 31

A program developed for "environmentally sustainable construction";

> from talks with Marie-Pierre LEGRAND

About BATIRECO program, started by the French Building Federation, to develop new skills and practices combining architecture and technical innovations for the renovation of buildings. A large part of the program shall be devoted to the training of building professionals. p 35

Reduction of buildings' environmental impact;

> by Nathalie TCHANG

Reducing the energy consumption requires a strict methodology and a close collaboration, as upstream as possible, between the energy consultant and the Architect. p 36

Ecological energy efficiency, towards low consumption buildings;

> by Alain MARTI

The energy eco-efficiency approach rests on four pillars : - reducing energy needs; - using renewable thermal energy sources and energies with low carbon-dioxide impact; - select energy-efficient equipment, implement energy management and monitor energy and water consumptions; produce electricity from renewable energy sources. p 40

A "zero energy" school building ;

> from talks with Emmanuelle PATTE,

Edith AKIKI & Alain BORNAREL

A school building project in Pantin (Paris suburban city) designed for zero-energy and high environmental quality. p 43

DOSSIER II

Solar thermal energy

> Dossier coordinated by Marie-Laure FALQUE-MASSET

An exemplary individual solar water heater;

> by Michel QUINSARD & Mr PORRAS

In this article are presented the energy, economical and environmental results from a survey of an individual solar water heater installation in the Aquitaine region. p 48

Pressure upholding within solar thermal installations;

> by Serge GROSSI

Expansion calculation and pressure upholding are particularly important and have to be specially designed for solar thermal installation, with full consideration of day/night temperature variations and possible fluid vaporisation. p 52

Air conditioning : opportunities of solar systems;

> by Daniel MUGNIER

The European project SOLAIR aims at providing tools for working the solar systems market potential. Within the framework of the project, solar air conditioning is produced from solar thermal processes, generally absorption / adsorption chillers or desiccant evaporative cooling. The article describes the various systems and the corresponding solar panels required. p 54

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