

Conception of a passive and durable house in Tlemcen (North Africa)

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Abstract :

Our country must face a foreseeable shortage of fossil energies and the consequences of their carefree use. Since the consumption of energy is increasing from every year, we are obliged to develop innovating techniques to bring at least partial solutions to the double problems of the use of the resources and fight against pollution. The sector of housing carries a considerable share of the responsibilities in this matter. The objective of a passive house is to privilege thermal comfort while contributing to energy saving. Our vision of "ecological construction" is centred on the concept of "durability of the environment," i.e., the adoption of a lifestyle which makes it possible to preserve, to maintain, and to improve quality of the resources and natural balances, and thus to spare the future. The goal of our project is to carry out the following concept that allows to: minimize the energy needs calorific of the building while providing a good quality air inside; utilize renewable energy for the energy needs of the house; control the impacts of a building on the external environment; create an healthy and comfortable environment for its users; preserve the natural resources by optimizing their use, and; promote with sustainable development.

Keywords : building management systems, energy conservation, natural resources, power consumption, renewable energy sources, sustainable development.

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