

Building Energy Design Improvements in Cold Regions

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INTRODUCTION

From the year of 2035, the building stock in Denmark has to be CO₂ neutral, which puts strict demands on energy consumption in buildings - new as old.

Nearly 40% of our total energy consumption in Denmark goes to the existing building stock.

Together that calls for a need of energy optimizations. Especially in the large stock of single-family houses from the 60-70s, there is an inevitable need for energy renovation in the near future.

Due to the strict requirements in energy renovation of buildings, it is very obvious to investigate alternative methods to optimize energy consumption.

During an exchange program on the C9-university, Harbin Institute of Technology, China, there is a unique opportunity to research on Chinese initiatives upon energy optimization and improvements in the building industry. This research is certainly a very useful inspiration for innovative actions against finding the most sustainable solutions which both optimize the energy consumption but also improves the indoor environment and well-being of the users.

The project will introduce knowledge about Chinese technology. Primarily within the building envelope design and focus on new building materials, usage of low-emission glass and external sun shading curtain.

This cooperation is a fundamental in a highly demanded technology exchange between China and Denmark.