

# Master thesis at Building Technology

## Title

**Energetic building refurbishment in Sweden**

## Background

The importance and potential of reducing CO<sub>2</sub> emissions in the EU building sector is rarely questioned, and has been shown in various studies. The impact is mainly through the renovation of existing buildings, which offers significant potential for both cost effective CO<sub>2</sub>-mitigation and substantial energy consumption reduction. At the same time, measures to increase energy efficiency in buildings support several other important societal and individual goals, such as increased employment and a boost to economic activity, improved quality of life, reduction of fuel poverty and better security of supply with its lower dependence on imported (fossil) fuels. In its "Roadmap for moving to a competitive low carbon economy in 2050" the European Commission established a long-term objective of decreasing the CO<sub>2</sub>-emission levels for the building sector by 88%-91% in 2050, compared to 1990 levels. In order to achieve this target, which is also a prerequisite for meeting other EU economic and climate goals, the EU especially needs to tackle the existing building stock and reduce its energy use in the long term, also in Sweden. The 1 Mio. Homes program provided Sweden a building stock that to a large extent needs to be refurbished in the upcoming years.

## Aim/Purpose

The aim of the Master thesis is to depict the current situation in Sweden. More precisely the barriers for energetic refurbishment should be identified, best practice examples collected and possible ways to overcome existing barriers explained.

## Method

After a decent literature study the following work may be carried out:

- Provide an overview of the building stock in Sweden regarding age, energy demand, energy carriers for heating and cooling etc.
- Identifying the main barriers for energetic refurbishment for different types of buildings
- Gathering information on successful refurbishments and their success factors
- Interpretation and recommendations

## Supervisor

Prof Holger Wallbaum, Division of Building Technology, Chalmers University of Technology, Tel: 031-7721994, e-mail: [holger.wallbaum@chalmers.se](mailto:holger.wallbaum@chalmers.se)

Adj. Prof Kristina Mjörnell, SP/Lund University

Ass.-Prof Paula Femenias, Architecture, Chalmers University of Technology

## Examiner

Prof Holger Wallbaum