

## Government Actions-Mitigation Action 2

### Sustainable Ålidhem

Sustainable Ålidhem is a unique pilot project for sustainable urban development which includes social, technical, environmental and economic changes. The overall objective of the project is to reduce energy use in the area, create a more comfortable and safe environment and transform Ålidhem to a sustainable neighborhood.

The project Sustainable Ålidhem was inaugurated in June 2010 and runs until the end of 2014. The municipality of Umeå, Umeå Energi and Bostaden together received 33 million SEK for the project from the Delegation for Sustainable Cities. The goal is to halve the energy consumption. The project is linked to the goal of making Umeå to a northern hub for modern environmental technology and sustainable cities and to Umeå's work to become the European capital of culture in 2014.

#### One of the largest photovoltaic plants

On the roofs of Matematikgränd and Geografigränd photovoltaic-cells (pv-cells) have been built by Bostaden and Umeå Energi. When the plant is completed in 2014, Ålidhem will have 2800 square meters of pv-cells. The first pv-cell was introduced in May 2011 and in the end of the summer, an evaluation was done with a very positive result. The measurements indicate that the pv-cells, even on an annual basis, will provide more electricity than needed to the property.

#### New ventilation and heat recovery

Sustainable Ålidhem covers about 500 apartments, of which 137 are new constructions. The buildings have been provided with new ventilation with heat recovery and energy-efficient LED lights. Individual metering and billing of electricity, hot and cold water is also performed in the apartments.

Umeå has a relatively cold climate, but the district heating in the area is well developed and is currently 99 percent fossil free. To reduce energy consumption, dishwashers and washing machines which do not heat the water using electricity, but are connected to the district heating system, have been installed in the buildings. In this way, the district heating is used in a new way.

#### Outstanding results

In January 2011, energy meters were placed in two identical houses - one renovated in order to significantly reduce the use of energy, and one that has served as a reference building. An initial assessment has been made and the results are outstanding. Energy use in the renovated house has almost halved, thanks to, among other things, innovative insulating and sealing methods.

#### The winter garden

The winter garden is a green meeting place in many ways. It has beautiful green vegetation on the inside, a soft carpet of sedum on the roof and it is built with a focus on sustainability. Inside temperature is kept comfortable with reused return heat from the low-energy houses next door and the electricity used in the winter garden is produced by pv-cells on the roof of the building next door. A display shows the consumption of hot water and energy in real time. All buildings in the neighborhood are built to consume a maximum of 65 kWh/m<sup>2</sup> and year.