

Case Studies



Case 10:

Hyttekullen

The idea is to provide an inexpensive solar heating system (domestic hot water and floor heating) in a new multi-storey house, by tendering for the whole system of 70 solar heating collectors and systems, and by having it installed into the building from the very beginning. The project gives the possibility for tenants to rent "sustainable" apartments at an affordable price.

Advantage:

- Good possibility for co-ordination for a tender
- Relatively cheap solar heating systems
- Good chance for tenants to exploit solar energy

CASE STUDY 10

Solar Procurement Project Approach: Apartments with solar systems in Hytterkullen

Title: Apartments with solar systems in Hytterkullen

Location: Öjersjö, Partille(Göteborg)

Time period: *Design:* Spring 97. *Contracts:* Autumn 97. *Installation:* Spring 98-November 99

1 Short description of the project:

New residential building area comprising 35 houses with 70 apartments (~ 5.100 m² heated floor area) for rent. The solar systems are combined systems with 5-7 m² collector per apartment.

Initiative:	Partillebo:	Municipal housing:
Commissioner:	Partillebo	
Main Contractor:	NCC AB; NCC Hus Göteborg	
Solar Systems:	Focus Värme AB	

2 Project goals

General objectives:

- The project goal was to build modern houses with solar systems and acceptable economy for the buyer, as well as the tenants.

3 Design characteristics

The heating system is based on a storage tank (500-750 litre) with an auxiliary electric heater in each apartment. The solar collector system (5-7m²) and the DWH

system are connected via immersed fin coil heat exchangers in the tank, while the heating system (floor heating) is directly connected to the tank. The fluid in the collector circuit is a mixture of water and glycol.

The heat supply systems are located in separate rooms with a separate entrance which makes it possible for maintenance and control without involving the tenants.

4 Financial characteristics

NCC made the design (i.e. the overall system principle and size) and asked for tenders on collectors only or collectors and tank together. NCC received 8 tenders on collectors and 2 tenders on the whole system. Beside the costs NCC discussed and evaluated a lot of details, e.g. mounting, control and maintenance, with the contractors before the final contract was negotiated with Focus Värme AB (local company using collectors from the Danish manufacturer ARCON).

Total buildings: ~ 75 MSKR (~ 8,3 MEUR)

Solar systems: 35,000 SKR (~ 3,900 EUR) per res. Unit (incl. Tank and heating control equipment, excl. mounting and pipes).

The manufacturer has given an ordinary component guarantee of two years. The performance of the plastic collector cover is guaranteed for 10 years.

5 Sales promotion

6 Ownership and responsibilities

The apartments are for rent and Partillebo owns and maintains the solar systems.

7 Results

NCC is so far satisfied with the result of the project. This is mainly due to the fact that NCC spent a lot of time in the design phase and on the evaluation of tenders. A major recommendation for future projects is that manufacturers/contractors should be able to offer complete and simple systems with an ensured performance.

The advantage of this case is a good possibility for tenders, inexpensive systems and the opportunity for tenants to exploit solar energy.

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