

# Case Studies



## CASE STUDY 1

### Natural gas in combination with solar heating systems

Naturgas Midt Nord

The idea of letting natural gas companies (or other supply companies) promoting and including sales of solar energy in their activities seems to be a success story in some areas (Midt Nord) in several ways: The advantage of having access to customers and being considered trustworthy and serious is used by the gas utilities in order to sell solar systems to their customers. The result has been an ability to sell combined gas/solar systems to 10% of their potential customers in that area! On the other hand, the gas company has the added advantage of selling more gas since 60% of buyers would not otherwise have bought a pure gas based system. Even if the customers would have converted to gas later, a survey shows that over a ten year period the gas company has sold more gas than it would have done without the solar heating campaign.

Advantages:

- Strong local participants
- Inexpensive systems
- Homogenous systems
- Marketing

Lessons Learned:

- Dissatisfaction among the installers concerning the fixed price
- Risk of sale of pure natural gas systems (without solar)
- Stops when natural gas sales reach a certain level

## CASE STUDY 1

### Solar Energy Systems sold through promotion by regional Danish Natural Gas Companies

**Title:** Establishing of Solar Systems through Energy Supplying Companies.

**Location:** Denmark.

**Time period:** Starting date: 1994. End date: Still running, but is ebbing away because the extension with gas is almost fulfilled.

#### ① Short description of the project:

A combination of solar energy and natural gas was promoted in cooperation with natural gas companies in Denmark and the Danish Energy Agency. The solar heating systems could be sold at about half price compared to normal solar systems, mainly because the expenses for an alternative storage tank could be saved and because the installation of both systems at the same time was more efficient. The Natural Gas Companies did the marketing of the systems, and installers and manufacturers made special offers. The main goals of the project were to sell more solar energy systems and to get experience about procurement of solar energy through energy supplying companies (and for the gas companies to sell more gas). The campaign continued every year from 1995 with support from the Danish Energy Agency, and until now a total of app. 2000–2500 systems have been sold.



Participants:		Role:
Naturgas Midt-Nord	Regional natural gas company in Denmark	initiator and main actor of the first campaign
Naturgas Syd HNG Naturgas Fyn	Other Regional Natural Gas Companies	actors of the following campaigns
COWIconsult	Company of consulting engineers	technical advisor until dec. 1996
Prøvestationen for Solenergi	Solar Energy Laboratory	technical advisor from dec. 1996
Molander & Co	Advertising company	producers of marketing material
Pressesekretariatet for Vedvarende Energi	Press secretariat for renewable energy	marketing advisor
Informationssekretariatet for Vedvarende Energi	Information secretariat for renewable energy	marketing advisor
Energistyrelsen	Danish Department of Energy	initiator and funding
ArCon Solvarme	Manufacturer of Solar collectors	supplier of the solar systems

Time Schedule:	
April, 1994	Design of standard systems Production of marketing material
February 1995	Offers from manufacturers and installers Meeting with installers
April – June 1995	Advertising in a region of Denmark Direct mail to potential customers in the region
May 1995	Conference on the results from the campaign in one region
June 1995	Other regional gas companies start similar campaigns.

## 2 Project goals

### General objectives:

- To expand the market for solar energy by involving the Energy Supplying Companies in the promoting and sale of solar installations in combination with their regular systems.
- To make the solar energy systems cheaper and thereby more attractive for the house owners.

### Specific objectives:

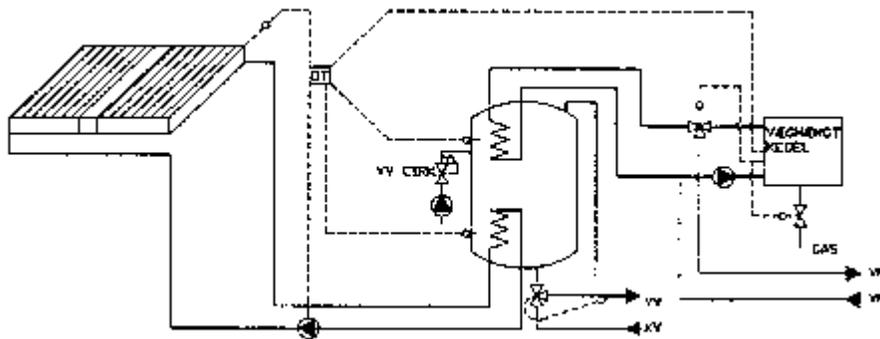
- To gain experience in procurement of solar energy systems to make it easy and more attractive for other energy supplying companies to promote solar energy.

### Targets:

- A sale of more than 200 systems in the first region.

## 3 Design characteristics

Two standard systems were promoted, one for a small household (2-3 persons) and one for larger households (3-5 persons).



The systems work with a natural gas burner as auxiliary energy supply in both summer and wintertime. This means that there are no electric auxiliary heaters in the tank.

It was also possible to expand the system to include space heating too, mostly if the house owners had a heat demand during the summer time (e.g. floor heating).

#### **4 Financial characteristics**

A general inquiry for prices was made to the Danish solar collector manufactures and to the installers in the area. The price setting was carried out in cooperation with a group of installers on the basis of an offer given by one of the manufacturers. Even though one manufacturer was chosen for the price setting, all manufacturers could supply components for systems bought through this campaign.

The solar water heating system could be sold for about half of the price of a normal SDHW system. This price is based on the difference between the total price for the solar/gas system and the price for a pure gas-system. This could be achieved, because the expenses for an extra water storage tank could be saved, because of special offers from the suppliers, and because of the more efficient installation of both systems at the same time. Because of subsidies from the Danish government the total offer was even more attractive for the house owners.

#### **5 Sales promotion**

Different kinds of sales material were provided as an important part of the project. This included adverts in newspapers, radio spots, a "solar newspaper", and direct mail to the potential customers in the area.

By responding to the direct mail the house owners could get a visit by an advisor from the Gas Company. Their objectives were to guide the house owners to get the right type of system and to find installers close by. The Natural Gas Company has a staff of salesmen, who was given a course on solar heating.

#### **6 Ownership and responsibilities**

The owners of the combined solar/gas heating systems are the house owners who bought the systems. A financing arrangement could be made with the Natural Gas Company. The installer and the house owner made the sales contract.

The manufacturer and the installers should both give a minimum guarantee of 5 years on the system and the installations.

#### **7 Results**

During the first regional campaign 258 solar/gas heating systems were sold in the region where the campaign started. It was estimated that only about 60 solar heating systems would have been sold in the

period without this campaign. An investigation of the campaign revealed that about 60% of the buyers chose the system because of the solar system and would not have bought a pure gas-based system. Some customers replaced their energy system earlier than planned because of the campaign. This means, that the Natural Gas Companies would sell more gas because of the campaign.

After the initial project the other natural gas companies started similar campaigns using the same advertising material. The campaign has been running for a couple of months every year. In the years from the initial campaign started in 1995 until now (1998) it is estimated that the total sale caused by the campaigns is approximately 2000–2500 systems in the region with most success. Compared to a total of app. 20.000 potential customers in that area, this is a good result. In other areas the efforts and the results were more doubtful.

This project also led to new projects for the Natural Gas Company "Midt-Nord" who initiated the project. The company is now marketing a combined solar/wood system for house owners living in rural areas without possibilities for connecting to a district heating system or the natural gas supply system. This project has also led to the design of a new combined solar/gas water storage unit.

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