

# ENERGY SAVING EXAMPLES

## PARTIEL REPORT ELPAN MODULE HEATING

Project: Horslagervaagen 17, Raaneaa

Type of House: Detached Avlsbyhouse

Year of Construction: 1976

Heated Area: 97 m<sup>2</sup>

Heating System: ELPAN Module Heating 6000 W  
Direct working electric radiators 8000 W  
The systems can be run individually  
Both systems are thermostatically controlled

Test Period: 1976-02-04 to 1976-02-24

Outside Temperature  
During Test Period: Lowest: - 3,3 °C  
Highest: + 6 °C

### ESTIMATE ON ELPAN

Function: Excellent

Temperature Distribution in the rooms: Measurements were carried out in all rooms at floor and at 1,5 m above floor level. Besides, in one room at 9 different points. Temperature - difference floor/ceiling: 0,5 - 1,0 °C

Electricity Consumption: House at -6°C to -7°C outside temperature and +21°C at floor level:

ELPAN without night set-back:	54 kWh/24 hours
ELPAN with night set-back:	46 kWh/24 hours
Ordinary electric heating system:	79 kWh/24 hours

ELPAN without night set-back reduces the electricity consumption by 31% compared with ordinary electric heating systems.

ELPAN with night set-back reduces the electricity consumption by 41% compared with ordinary electric heating systems.

Maximum effect cut in for 15 min. at - 33°C outside temperature and + 22°C indoor temperature was 4750 W with the ELPAN system.

Comfort: Even indoor temperature, warm floor and high air humidity. No cold draughts from the windows and no cold corners.

Generally: ELPAN worked irreproachable, providing at the same time a high heating comfort and a low electricity consumption.

Raaneaa 1976-06-02

Per-Ake Wikstrom  
Engineer

## TESTS OF ELPAN/WANPAN ALL-EMBRACING HEAT

### PRACTICAL TESTS

<b>TEST PURPOSE:</b>	<b>CARRIED OUT BY:</b>	<b>RESPONSIBLE OFFICER:</b>	<b>RESULTS:</b>
Thermal Comfort And Energy Saving Against Traditional Baseboard Heaters	Civil Engineer P. AA. Wikstrom Norrbottens Kraftvaerk, Sweden	Civil Engineer P. AA. Wikstrom	Test In 1 Occupied House:  Equipped with traditional heating and Elpan. Proved under polar conditions a 30-40% energy savings in favor of Elpan.
Thermal Comfort And Energy Savings Against Traditional Baseboard	Skaanska Cement Malmo, Sweden	Architect K. Allan Anderson	Tests In 13 Occupied Houses:  Compared to 18 houses of same type but equipped with traditional radiators. Proved 20-30% energy saving by Elpan.
Thermal Comfort And Energy Savings Against Traditional Baseboard	S.C. Sorensen, A/S Randers, Denmark	Manager-Heating Mr. Jes Houmann	Tests In 40 Occupied Houses:  On different destinations in Denmark controlled by the electric boards, proved 30-40% savings.
Thermal Comfort And Energy Savings Against Traditional Baseboard	Sonderborg Airport Denmark	Consult. Engineer Paul Borod	Test In Administration Building:  Proved 30-40% Energy Savings.
Thermal Comfort And Energy Savings Against Traditional Baseboard Tommerup	Berlingske Tidende (Newspaper Daily) Editor Kresten	Civil Engineer Dr. Evar Thomsen	Test In 4 Occupied Houses:  All test reports published through the daily newspaper. Final results after 2 years of testing, comfort substantially improved. 19-37% energy savings
Thermal Comfort And Energy Savings Against Traditional Baseboard	District Heating Dept. Odense, Denmark	Director, J. Mork-Pederson Nordisk Klima A/S	Test In Occupied House:  Proved 30-40% energy saving against the earlier installed traditional radiator system.