



Swedish housing association chooses the latest heating solution from Thermia



With Mega, Thermia's new ground source heat pump, Swedish housing association can save up to 65 000 Euro on every heating season.

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HSB Fabriken housing association apartments



HSB Fabriken logo

Cost of district heating was too high

HSB Fabriken (Hyresgästernas sparkasse- och byggnadsförening och fabriken) is a housing association in Arvika, a town in Vermland in Sweden. The Association represents 11 buildings built in the middle of the 80's where around 200 people reside. 8 600 m² of apartments and 1 400 m² of other areas like the garage etc. cover the area of the whole residential area. The rising cost of district heating was the main reason that the inhabitants started looking for new heating solution. The main challenge was if the new system would be able to cope with the lowest temperatures in the winter. In this part of Sweden temperatures can and do regularly drop to -25° C.



HSB Fabriken housing association apartments

Thermia Mega renewable – it's a sensible choice !

It was decided to make a full retrofit, meaning that the district heating was completely replaced by geothermal energy. Heating is supported by three Mega, inverter driven ground source heat pumps with a capacity of 88 kW each. Moreover, it was decided to recover energy from the building as much as is possible and an additional heat pump, Robust Eco was fitted with a capacity of 33 kW to extract energy only from exhausted air to produce hot water. Besides the 297 kW of geothermal energy a back-up heater was also put in place. Renewable energy comes from 20 boreholes with



HSB Fabriken housing association apartments

a total length of 4 700 m. 'We chose Thermia because they had a heat pump that is the correct size for us, and fits our heating demands. We know that Thermia stands for high quality and leads the market when it comes to technological development in energy solutions.' – says Anders Johansson, President of 'HSB Fabriken' housing association.

A local company Värme & Kylteknik AB who has vast experience in geothermal systems has been selected as the new heating system provider. 'Mega is a new ground source heat pump from Thermia with new inverter technology and a completely new control system, but we were very surprised how

easily and smooth everything went, from drilling and installation, through commissioning to a ready and efficiently working facility. – says Andreas Kiiveri from Värme & Kylteknik AB

We enjoy comfort whilst saving money!

Most of our residents can confirm that the room temperature is exactly the same as before the installation, we are even experiencing a more equal temperature in all areas/apartments since a whole system adjustment was performed (heating curves and radiator flow).

When compared to district heating there is only one difference, a slightly higher sound level when the heat pumps work at their highest speed. The new heat pumps have been installed in the basement and the sound is not audible for tenants. All tenants now have comfort in winter and the housing association can also save up to 65 000 Euro on each heating season. Before installation energy saving simulations were prepared, the calculations were very promising. *‘We have had this installation up and running since November 2015, and by December 2015 we had already saved close to 12 000€ compared to the same period the previous year.’* – says Anders Johansson from housing association



Anders Johansson at Thermia Mega heat pump

Characteristics of the building

- Heated area: 8 600 m²
- Number of apartments: 105
- Heating and hot water demand: 1 013 644 kWh

Applied solution: Geothermal heating

- 20 boreholes with total length of 4 700 meters
- 3 Thermia Mega XL 21 - 88 kW and one Thermia Robust Eco 33 kW
- 3 Thermia WT-V1000 and one Thermia WT-T 500 hot water storage tanks
- Energy savings: 728 489 kWh
- Financial savings: 65 000 Euro

‘A good investment both economically and for the natural environment, which really pays off’

added Anders Johansson from ‘HSB Fabriken’ housing association

- Solution: Thermia Mega and Robust Eco ground source heat pumps
- Installing contractor: Värme & Kylteknik

- Location: Arvika, Sweden
- Completion date: November 2015



Thermia Mega ground source heat pumps



Thermia Robust Eco ground source heat pump

Värme & Kylteknik – experienced partner in renewable energy in Värmland, Sweden

Värme & Kylteknik AB is the distributor of Thermia in Sweden with more than 600 geothermal installations since 2009. Privately owned with 10 employees the company with a vast and long experience in the energy sector generates an annual turnover of over 30 million SEK. We are active in large parts of Värmland in Sweden and eastern parts of Norway. We focus on systems based on heat pumps and chillers.

In contrast to other installer companies, we prioritize heat pumps. Therefore, we can act quickly and very cost effectively! We offer a full service and work as one-stop-shop meaning we start from design, through to drilling, plumbing works, heat pump commissioning and after sales services.

Värme & Kylteknik i Arvika AB, Fallebergsvägen 23
671 34 Arvika, Sweden, Tel. 00 46 570 124 24
info@varme-kylteknik.se, www.varme-kylteknik.se



Andreas Kiiveri at Thermia Robust Eco



Thermia – heat pump manufacturer with 40 years of experience



With more than 90 years of history and experience in the energy sector, Thermia Heat Pumps offer renewable energy solutions for any climate, anywhere in the world. All Thermia heat pumps are designed, manufactured and rigorously tested in Sweden where one of the harshest European climates can be found.

Ever since the beginning, the driving force behind our business has been the philosophy of our founder, Per Anderson: "The products one releases must not only be the best of their time, but before their time, over time".

At Thermia we are driven by this philosophy and our passion to deliver. For us every day is a new opportunity to create, build and serve a bigger purpose, for a greener and healthier planet, not only for ourselves but for everybody around us. Every challenge is Thermia's opportunity to make life a little more comfortable for our customers.



Thermia Heat Pumps

Postadress: Box 950, 671 29 Arvika; E-mail: info@thermia.com Phone: 00 46 570 813 00;
Order phone: 00 46 570 847 72; www.thermia.com