



Project Reference

Future heating is based on the sun

Energy neutral house with solar energy and electrical heating

Intelligent solutions
with lasting effect
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The intelligent Energy+ House

The low energy houses of the future take advantage of the power of the sun. The future is electric.



This project is a good example of how companies through close cooperation and mutual inspiration and knowledge sharing can create new innovative solutions. To me, it is important to note that the innovative features of the Energy+ House are reached by using well-known products.

Kim Christensen, President
Danfoss Heating Solutions



To ensure a pleasant indoor climate electrical floor heating is a preferred solution in many homes. However, the cost of operation has often been an obstacle to installation.

But not anymore! The Energy+ House in Denmark shows the way with solar power cells in the roof. 40 m² of solar power cells provides more than enough energy to heat up the house even during the long winter of the northern hemisphere.

Gives more than it takes

The Energy+ House gives more than it takes in terms of energy powering the complete electrical floor heating system of the home plus a ventilation system with heat recovery.

ery. The heating and ventilation system is controlled via a central panel enabling temperature setting in all rooms from one point.

The Energy+ House solution requires no special structures and can be used in all types of buildings. The Energy+ House is a future-proof solution that lives up to the coming Building code BR20. The entire system is maintenance free and has a long life.

Strong alternative

A total solution combining electrical floor heating and solar cells is a strong alternative to other environment friendly heating solutions.

Facts about Energy+ House: The house is equipped with.

- Electrical floor heating from DEVI
- Intelligent DEVIlink™ control panel , which ensures comfort
- Solar PV panels from Zetecto with Danfoss Solar Inverters
- Danfoss Air – the heat recovery ventilation system from Danfoss.

For decades electricity has been a severely criticized heating solution and many people associate electrical heating with pollution and high energy prices.

However, today it has become a good , sound and environment friendly business to base the total heating solution on electricity.

Electrical floor heating and solar power cells are a completely new green possibility for future home owners.

Due to the high degree of insulation and the low energy consumption of the new houses they produce surplus electricity during the summer.

The electricity is "sold back" to the grid and during the winter it can be "bought back" at the same price.

In this way the home owner produces his own CO2 neutral electricity and at the same time obtains all the conceivable conveniences of today.

Long lifetime

The solar power cells are efficient, durable and discretely integrated in the roof. With a life span of 30 years solar energy is literally an investment in the future

In combination with Danfoss Solar Inverters that have an impressive efficiency of 97% - 98% this system make for a strong alternative to other sustainable energy sources.

Energy savings:

An overview of the total costs over a 30-year period compared to other sustainable energy sources. The overview is based on a house built according to the Danish 2020 standard. An ordinary house with low energy consumption, well insulated and with perfect comfort - i.e. not a passive house. In addition to the total cost the figure shows the start-up cost, incl. purchase of a solar power cell system, electrical floor heating, inverters, etc., as well as maintenance and the cost of energy.

Please note that the system with solar power cells for heating and water over a period of 30-years will result in earnings and not costs in the energy cost.



The inverters transform the solar energy into electricity in an efficient and economical way.

DEVI electronic floor heating provides instant heating and complete control.

With an excellent thermal placement in the floor and an exact temperature control via the control system DEVlink™ the home owner will get a flexible and efficient world-class heating system.

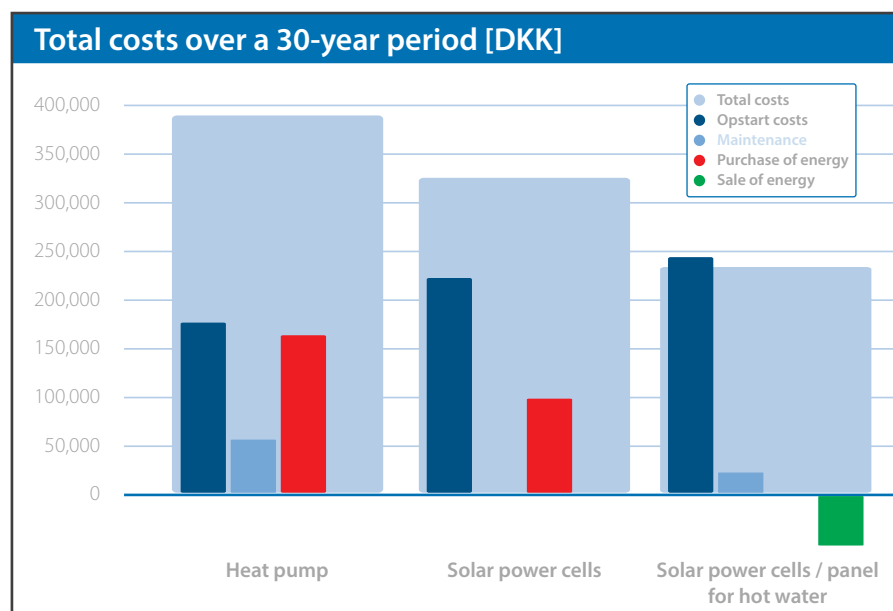
The DEVlink™ system provides the possibility for controlling the floor heating with max. and min. temperatures that in combi-

nation with room sensors will give you the best possible comfort.

And substantial energy savings are at hand due to the individually adjusted periods of temperature lowering - key factors for achieving a healthy and comfortable indoor climate in contemporary homes.

The high degree of insulation in the houses require that the home is supplied with clean, fresh air to avoid mould and mildew.

At the same time the system ensures that 90% of the heat is recovered and added to the fresh injection air before it disappears out of the house.



Intelligent solutions with lasting effect

DEVI Electric Heating Systems is Europe's leading manufacturer of intelligent electrical floor heating systems and outdoor systems for ice and snow melting.

A position secured by a dedicated focus on advanced and above all user friendly systems, developed in the world's largest competence center for floor heating.

For more case stories and information. visit **devi.com**.



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