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Swedish Passivhaus Complex Demonstrates Cold-Weather Effectiveness of Super-Efficient Designs

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Kjellgren Kaminsky Architecture - passivhaus green house plans

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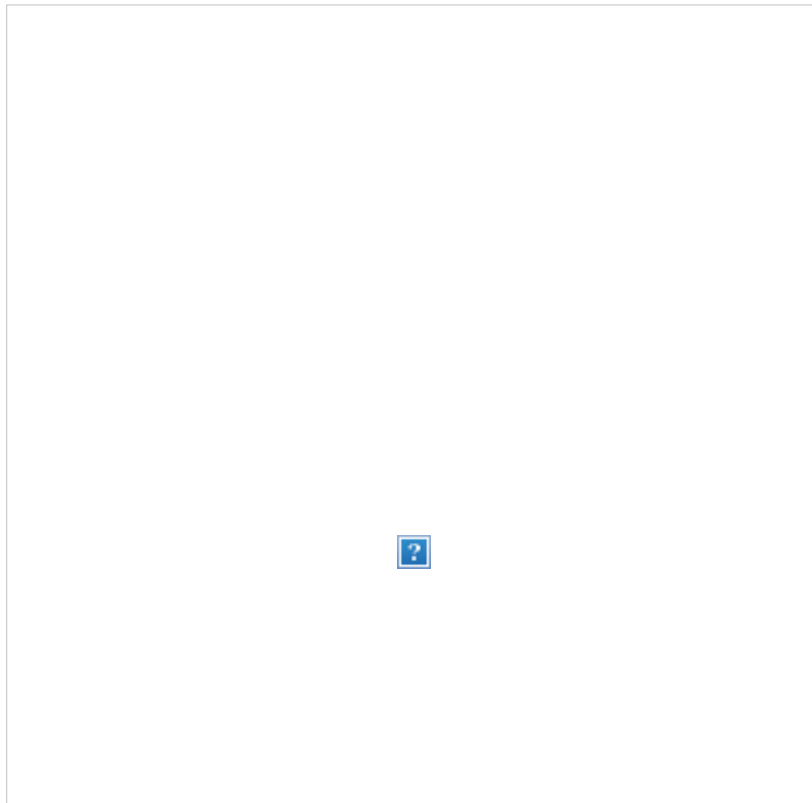
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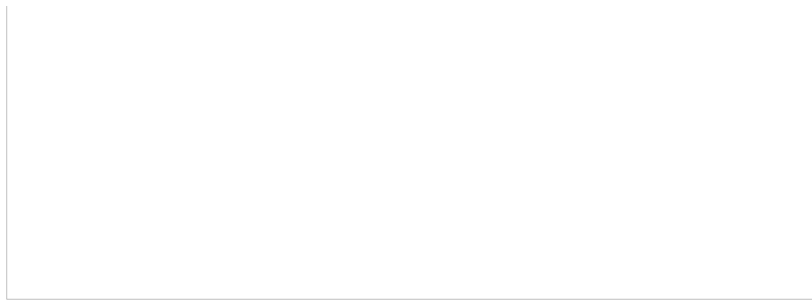
The [Salongen 35](#) in Malmö, Sweden is yet another shining example of how effective super-well insulated and sealed passive house buildings can perform in harsh conditions. With the launch of the Passive House Institute US (PHIUS), there has been a lot of discussion as to whether the Passivhaus standard will work in the cold climates of North America. Though we've already covered several developments using the new PHIUS standard in the US and Canada (Whistler, BC [Rainbow Passive House Duplex](#) for instance), it's always good to look at other examples of Passivhaus techniques used where snow is common and cold.

The Salongen 35 development is a set of passive houses, each with their own unique design, linked together with shared walls. Of course they feature all of the usual passive house design features, including extensive insulation and a tight building envelop which help to deliver annual energy usage of 41 – 45 kWh/m² (excluding household electricity).

But this sustainable building complex incorporates other green features, such as solar panels, low-flow water fixtures, energy-efficient appliances, FSC-certified building materials, and so forth. The entrance, kitchen, and laundry room floors are even made from recycled terracotta. There are also several

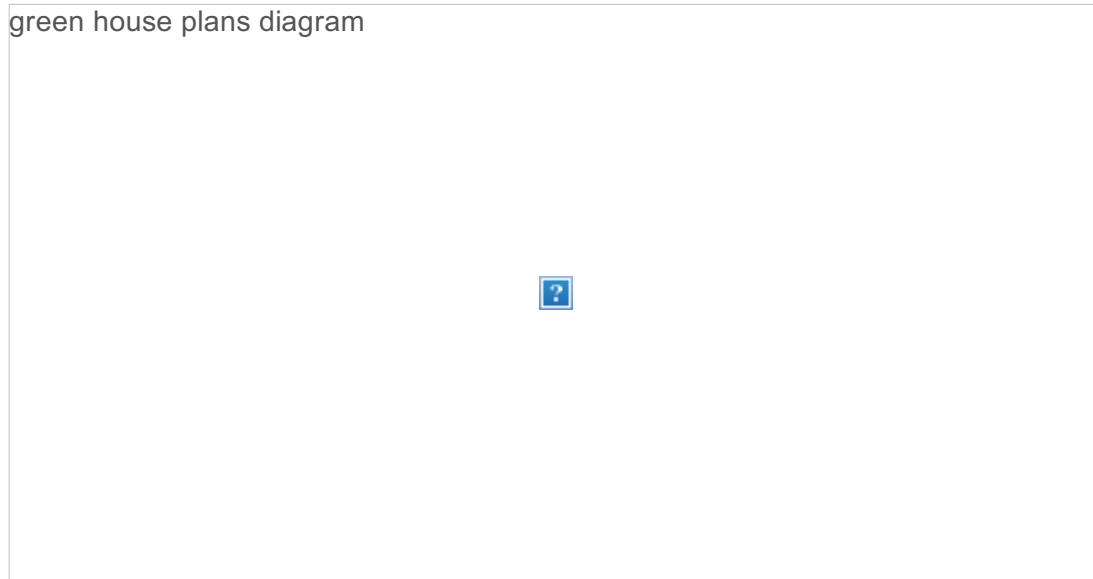


rooftop green spaces that expand the size of the living area and provide a source of locally grown food.



Some of the other eco-features of the Salongen 35 development include (from their website):

green house plans diagram



1. Fresh air intake on the northern side of the building.
2. Heated fresh air is distributed in living and sleeping rooms.
3. Used air is taken from kitchen and bathrooms.
4. 82% of the energy contained in the indoor air is recovered in a heat exchanger. Extra heat can be added on extremely cold days.
5. Lush greenery on facade, roof terraces and in the gardens.

6. Solar panels provides 40% of the hot water need on a yearly basis.
 7. Greenhouse with local food production.
 8. External venetian blinds block the summer sun and let the winter sun in.
- A. Roof: Thickness approx. 60cm, u-value >0,08
 - B. Walls: Thickness approx. 50cm, u-value >0,08
 - C. Windows: u-value >0,85
 - D. Foundation: Thickness approx. 50cm, u-value >0,08

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