



POWER HOUSE nearly-Zero Challenge

WORKING FOR A FAIR ENERGY TRANSITION

Nzeb SABO, Sweden



Date: 4th of December,
2013

Venue: Wiesbaden

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Status Nzeb Sweden

WORKING FOR A FAIR ENERGY TRANSITION

No definition of nearly zero is yet taken by the government.

The Energy Agency together with the Building and Planning authority will propose a level.

Basis for level;

- Evaluation of existing low-energy buildings
- Demonstration projects of new energy efficient buildings
- Economic analyzes

Then;

- Geographical spread of demo
- Competence raising efforts for key groups
- Continuous monitoring and evaluation



Status Nzeb Sweden

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The Energy Agency/Building and Planning authority will:

- 65 buildings evaluated until 2015
- 200 demonstration projects initiated until 2015
- 350 buildings evaluated until 2019



Building code today in Sweden, new houses

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Climate zone	I	II	III
Buildings <u>not</u> heated with electricity	130” kWh/m2* and year	110” kWh/m2* and year	90” kWh/m2* and year
Electricity heated buildings Energy supplied to the building	95” kWh/m2* and year	75” kWh/m2* and year	55” kWh/m2* and year



” = This is the energy supplied to the building (incl. hot water, heat and building electricity)

* m2 = interior area of each floor, attic floor and basement that is heated to over 10 ° C

The regulations were tightened 2012 (from 110 to 90). The requirements are to be tightened again 2015, and then again 2021.

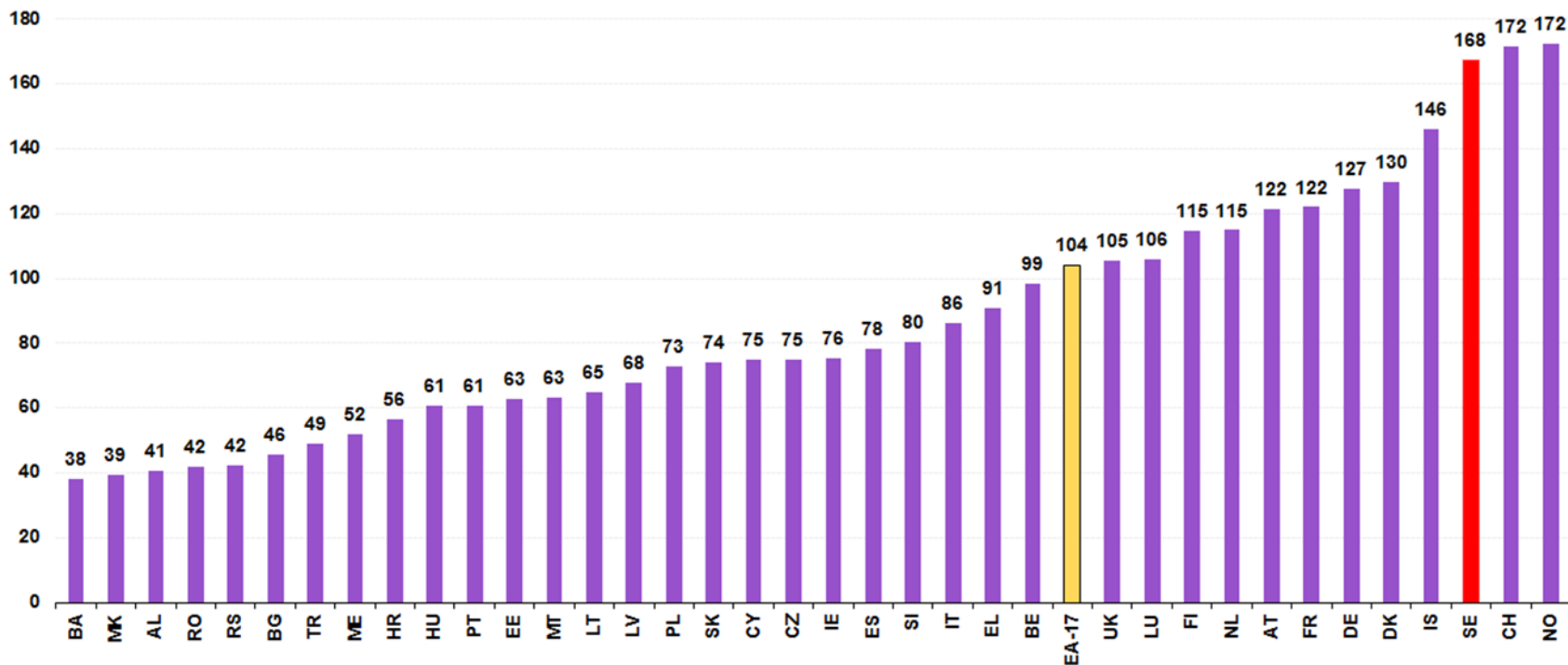


SABOs road map

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The situation in Sweden today:

It's tough to build rental units. Very high construction prices and unbalanced taxation conditions for tenancy.





SABOs road map

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Two national competitions cut cost by 25%

National framework procurement



2-4 floor buildings, 6-8 apartments, lift, low energy performance.
Fixed price: **1265 Euro/m²** excluding groundworks and VAT





SABOs road map

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< 60 kWh/m² and year, including hot water, and building electricity (with district heating, exhaust and ventilation with recovery).



Two national competitions cut cost by 25%

National framework procurement



25 740 000 SEK
(2 821 500 €)



25 857 000 SEK
(2 834 300 €)



31 641 000 SEK
(3 468 300 €)



Tower house 5-8 floors, four to five apartments per floor level, balcony/ patio, low energy performance. Fixed price: **1370 Euro/m²** excluding groundworks and VAT



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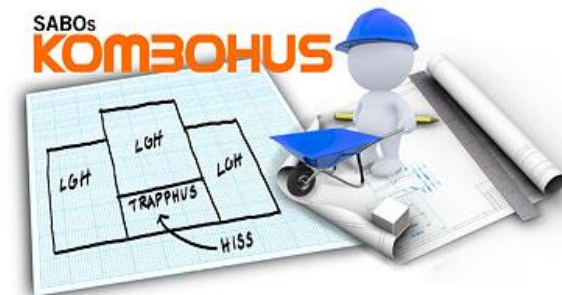
< 65 kWh/m² and year, including hot water, and building electricity (with district heating, exhaust and ventilation with recovery).

Our members can now order a complete house on a framework agreement.

Very cost effective!

The SABO "Kombohus" Building Concept

- SABO brings together demand from several member companies
- Provides the construction companies an opportunity to:
 - Large volumes
 - Build the same house many times
- Means that construction companies:
 - Make strategic investments in building good housing cost-efficiently
 - Focus on more industrialisation
 - Increase their market
- Constantly pressing costs throughout the entire value chain
 - Don't pay for the same thing more than once



Problem:

You don't get what you order....

Energy performance requirements: for example 90 kWh/m² and year

When tenants have moved in, after 2 years you measure: 110 kWh/m² and year

What can you do?

maybe not so much,
unless....

...you have a contract





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SVEBY (www.sveby.org):

Users guide and Dictionary

Contract

- Energy contract 12

Calculation

- Occupant input data dwellings
- Occupant input data offices
- Energy instructions (Excel)

Verification

- Measurement regulations
- Energy verification process
- Energy performance analysis
- Verification template (Excel)



Branschstandard för energi i byggnader



Strategy to have an impact on Ministries

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EED

- Right now - much focus on article 9,10 EED metering and billing.
- Evaluate and draw conclusions from "kombo", Energy Agency is involved. Further develop of kombo, "passive kombo"?
- SABO is a member of "Bebo", a group of property owners financed by the Energy Agency that drives demonstration projects to reduce 50 % energy when renovate.
- SABO will use results of kombo, Bebo and Nzeb for impact on Ministries.