

BENHUUR

10 OCTOBER 2019



**HEALTHY
BUILDINGS
DAY**

Situation

- Social housing office -start 1985.
- largest social housing office in Flanders.
- 560 houses for rent.
- training unemployed people for the public center for social welfare (*OCMW Belgium*).



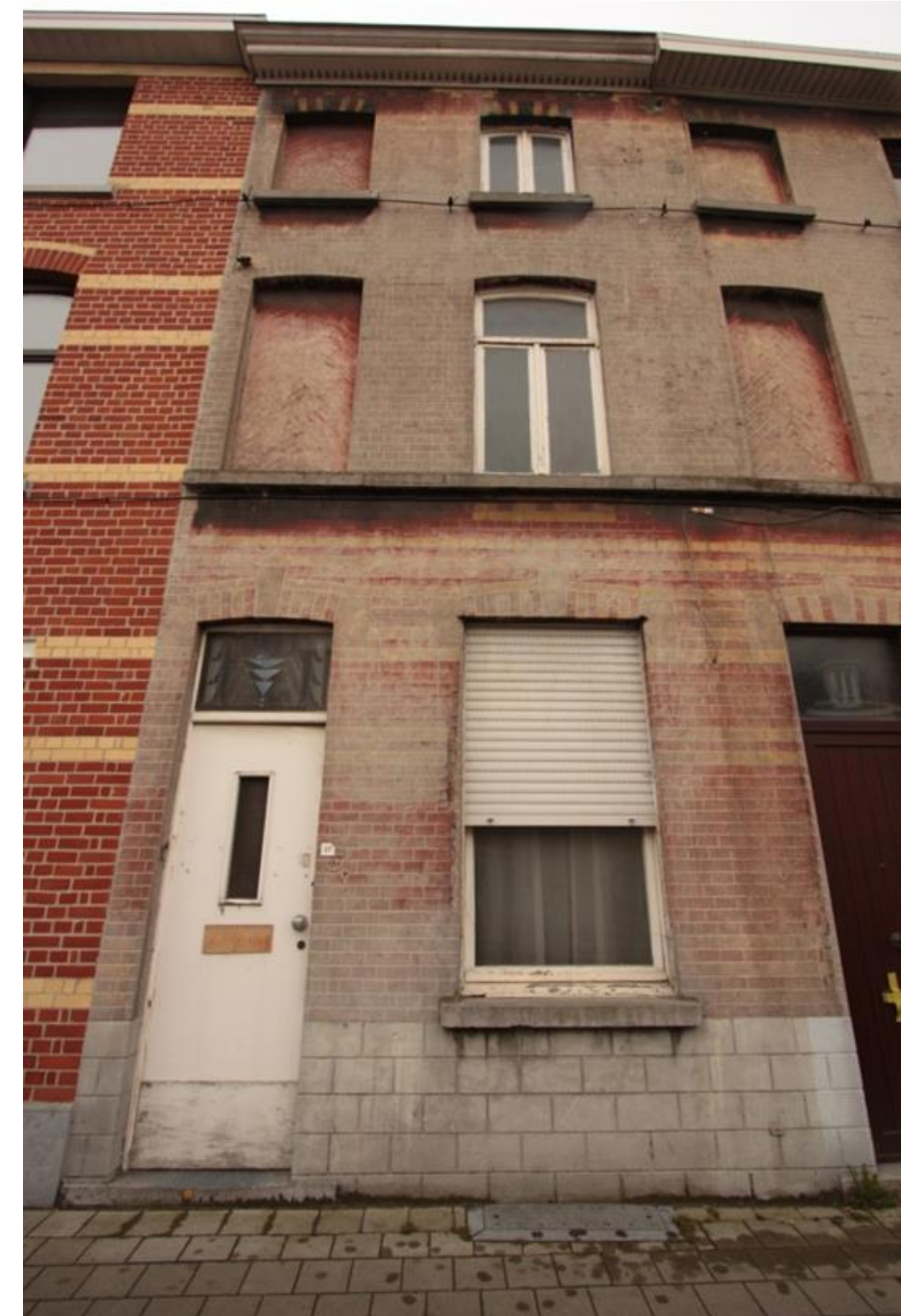
Challenge

- Rebuild one almost energy-neutral home for the social rental market.
- example renovation.
- E level < 60 (BEN).

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originally

Typical (workers)(row) house
built around the 1930s



History

1930:

- Construction of the house

1996:

- purchase of the property

2017:

- Start renovation

Motivation

For the tenants:

- A comfortable home , where residents feel good.
- Energy efficient living.
- Healthy house.
- Affordable.

Motivation

For De poort vzw:

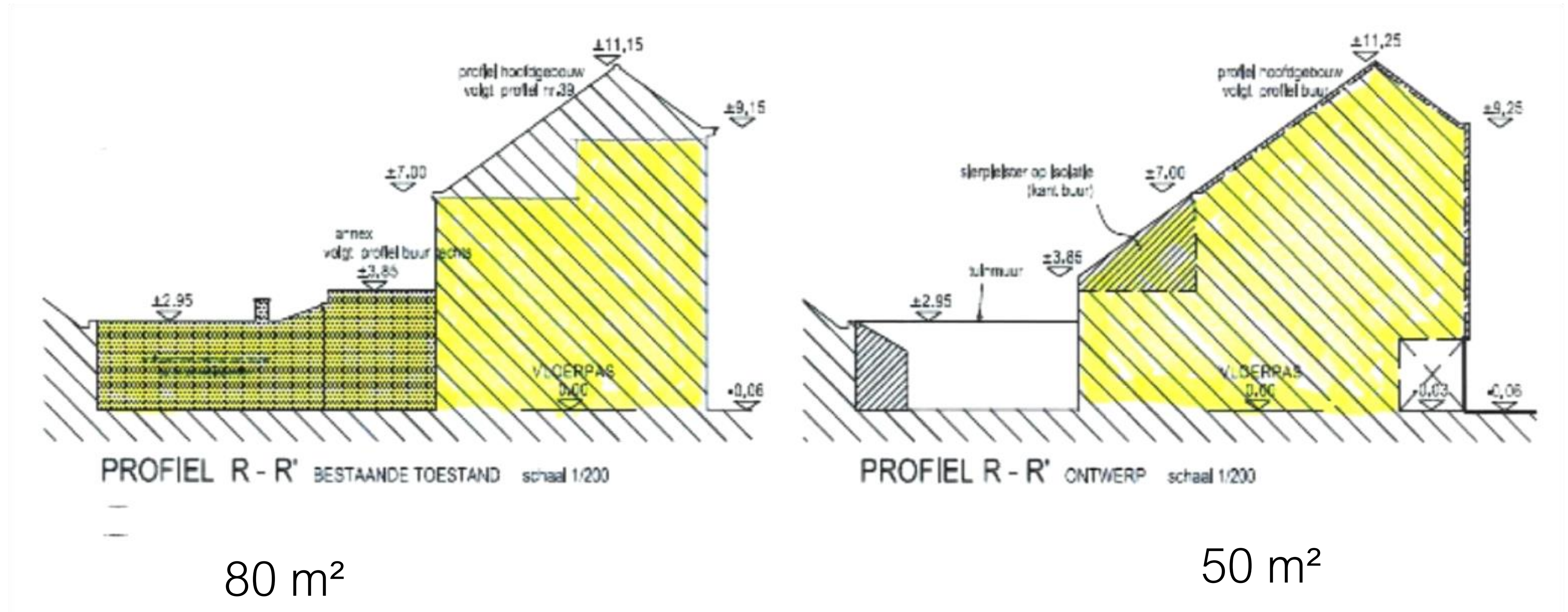
- Preview function to:
 - Owners.
 - Government.
- Showing a realistic and feasible renovation!
- Cradle-to-cradle: limit waste by re-using material!

Motivation

For the owners / landlords:

- Correct rental price.
- Investment.
- upgrade property value.
- 4th pension pillar.
- Financial return from the government by means of premiums & ground charge reduction.
- Social engagement.

Practical



Comfort

- light.
- heat.
- overheating.
- energy efficiency.
- air quality.
- Mobility.



Challenges

inpacts/ influence

- 1/2 house.
- 1/2 Residents. (behaviour)
- Rebound effects.
- Energy price.

Isolation

Floor:

up 19 cm level



Isolation

Walls:



Isolation

Roof:

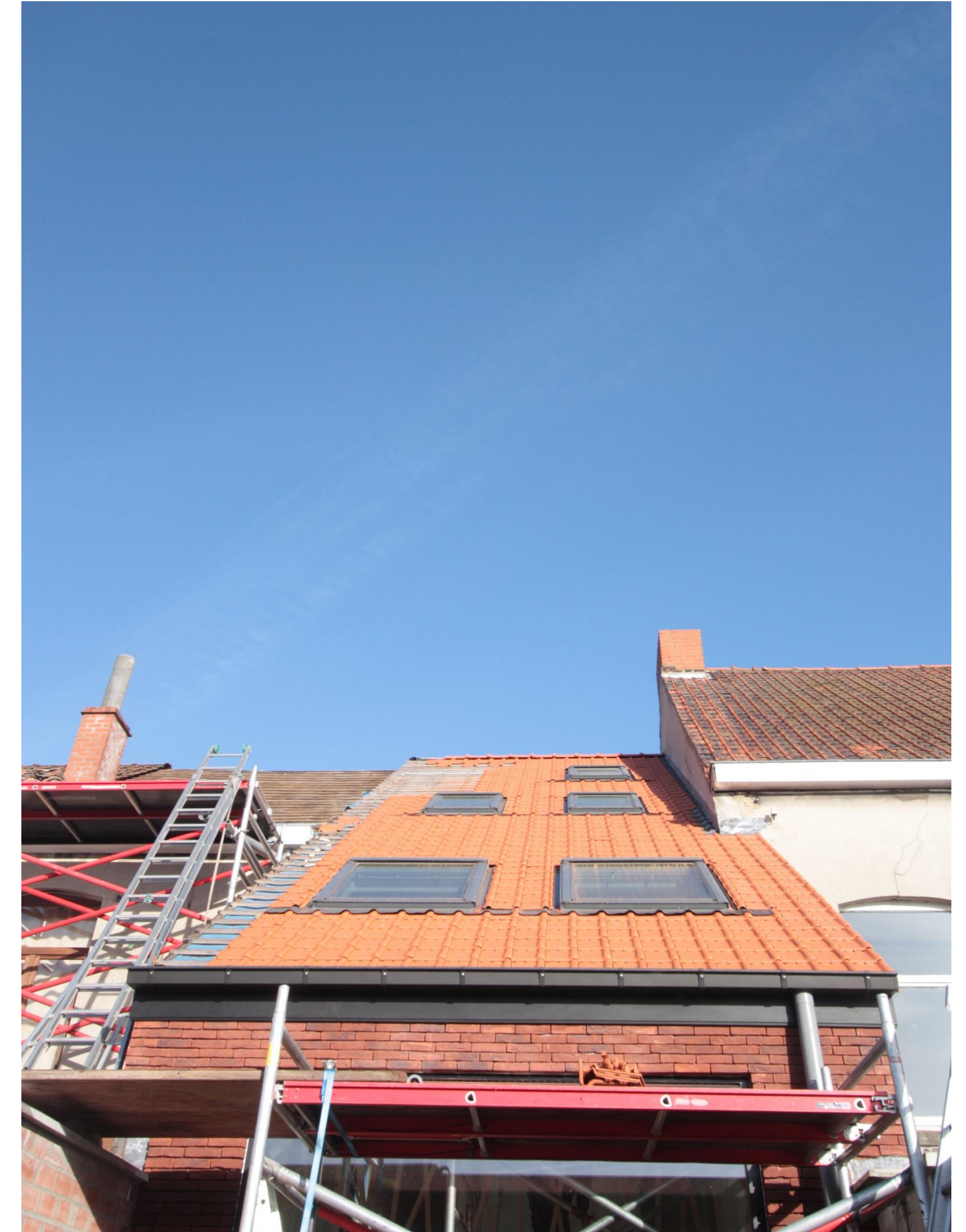
Sandwich panel



Isolation

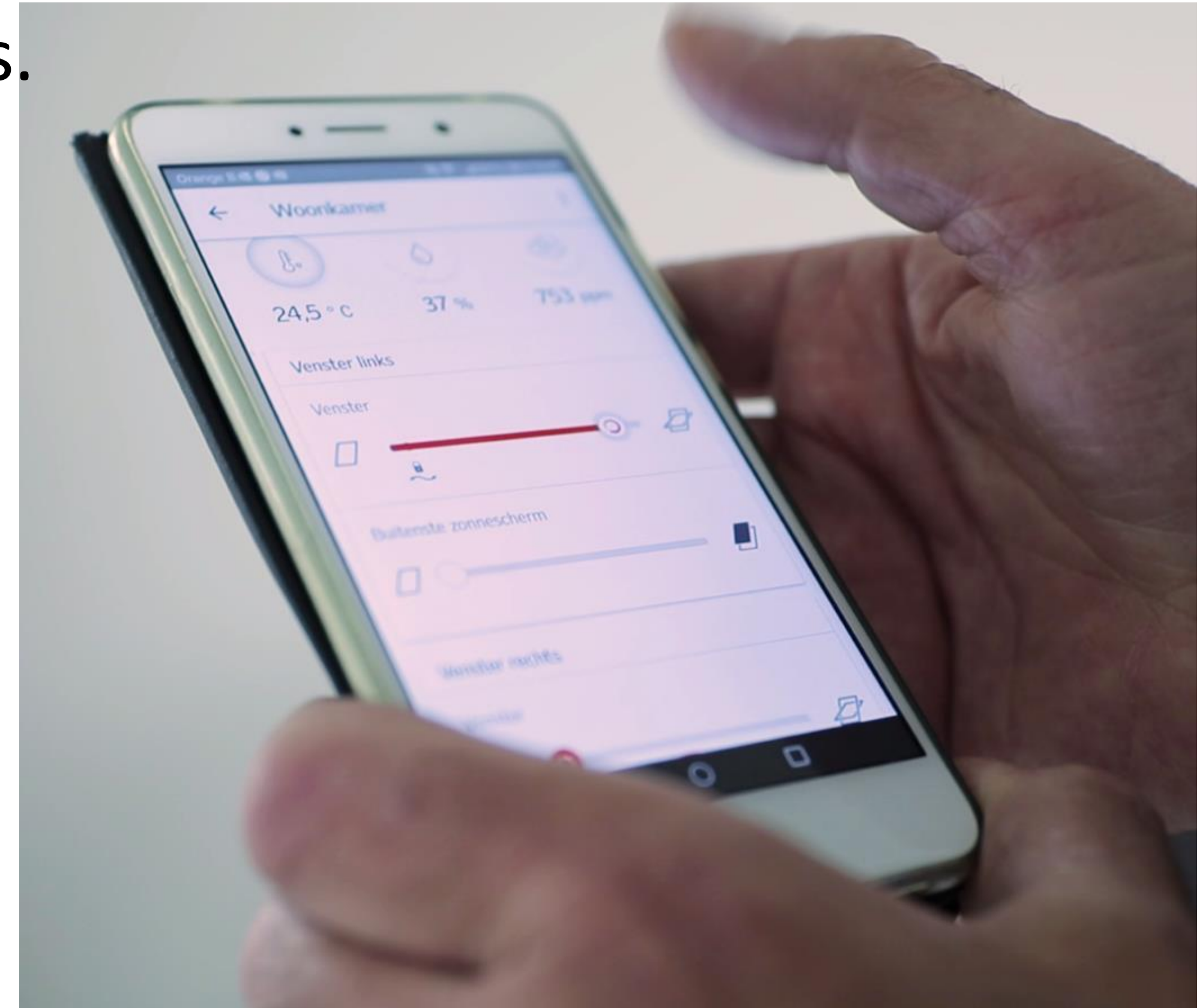
Exterior joinery:

- Doors en windows
- Roof plane windows:



Velux Active

- installed for the first time → learning process.
- link with comfort.
- low energy consumption.
- Experience:
 - decreased perception of comfort → people change system.
 - Beginning, feelings of:
 - “less control”
 - “suspicious”
 - “unsafe”
 - difficulty in giving up autonomy.
 - Present :
 - very satisfied!
 - very good air quality.



Energy

Heating:

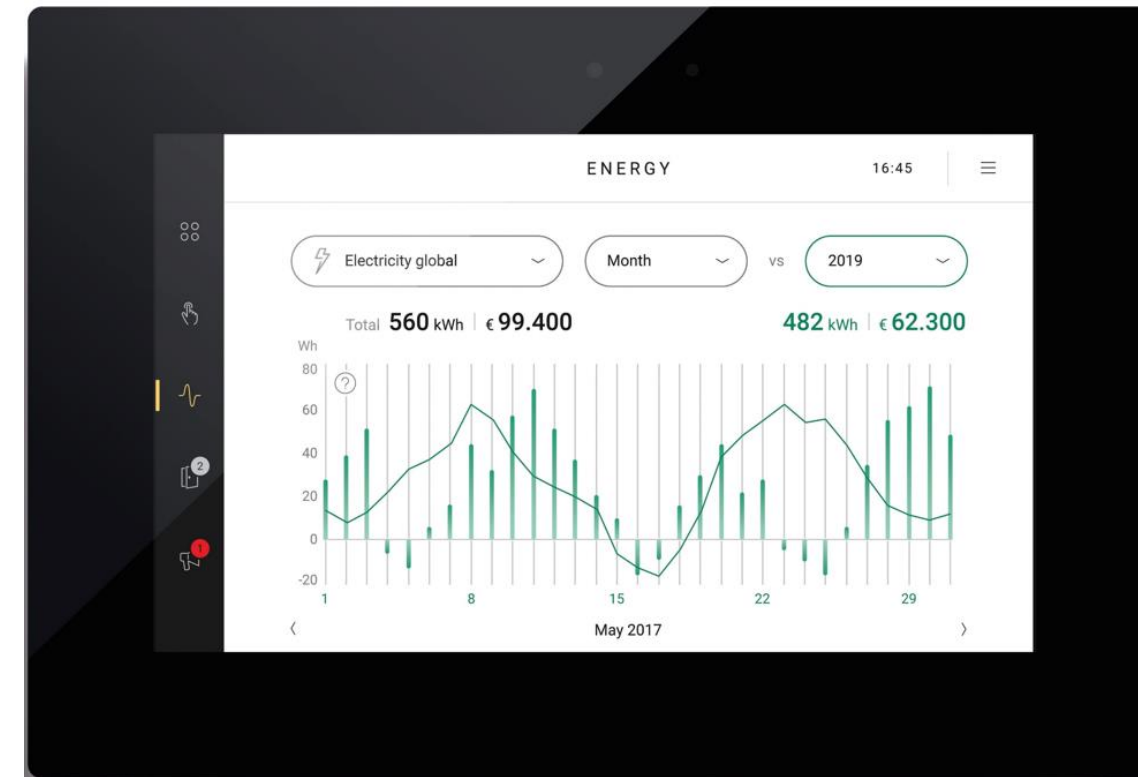
low temp. 30°



Energy

Electricity:

- monitoring
- LED lights
- Automatisation



Energy

- Water saving:
- Energy recovery:



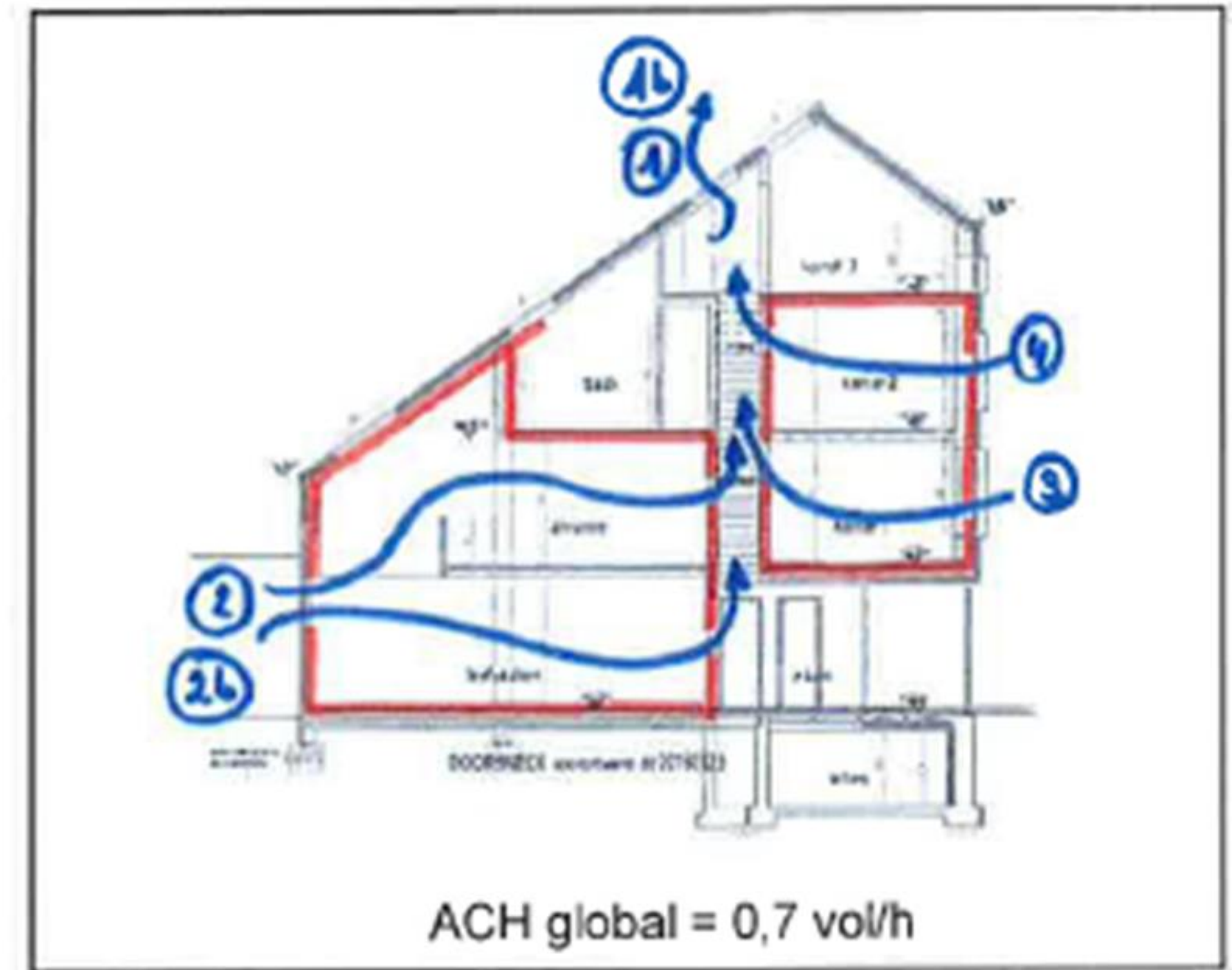
Energy

- Ventilation:
type C



Solution to oververheating

- Central airshaft
- Special coated windows + Additional sun shades



Energy savings

interim evaluation

Heating : 23.000 kWh > 11.000 kWh

Elektricity : equal > to investigate > no PV panels

Water: 360 lit. day > normal > to investigate



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Present



<http://benhuur.blogspot>

thanks for your attention



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