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).
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

80 m²  50 m²
Comfort

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

impacts/ influence

• ½ house.
• ½ 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 overheating

- 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
Present

http://benhuur.blogspot
thanks for your attention