C4E Serock - Poland

PASSIVE HOUSE CONCEPT

CENTRUM PASIVNÍHO DOMU

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Content

- Why passive house concept, compared to NZEB existing on the market
- How do these concepts reflect European strategy for EPB and smart buildings/cities.
- Do such concepts apply to existing buildings as well and with reasonable costs?
- Is labelling an easy process and at an affordable cost to make people willing to ask for it?

Why passive house concept exist on the market?

Full definitions almost for 30 years

Proper orientation to the cardinal directions

Thermal comfort and healthy internal ambient comfort

- construction without thermal bridges
- comfortable internal surface temperature
- mechanical ventilation with heat recovery imperceptibly supplies constant fresh air
- acoustic protection (Can you imagine how loud it is fan on a toilet/bathroom ?)

Proper thermal insulation

- walls, roof, ceiling and floor
- appropriate doors and windows
- no air leakages through the envelop

Environment protection

- primary energy consumption
- declared energy demand for the

What's new?

- a lot of good examples and experiences
- an offer of materials and technologies to use for construction
- acceptance of the concept among decisions makers

What's different?

- Passive house concept has got a stable strategy for the sustainability in building sector.
- NZEB, the definition is still under development (usually follow the other aspects - political, economical etc.)

Passive motion & active mind

Career & Business

Helpful people

Education and knowledge

Creativity

Family and health

Wealth & Prosperity

Marriage & Partnerships

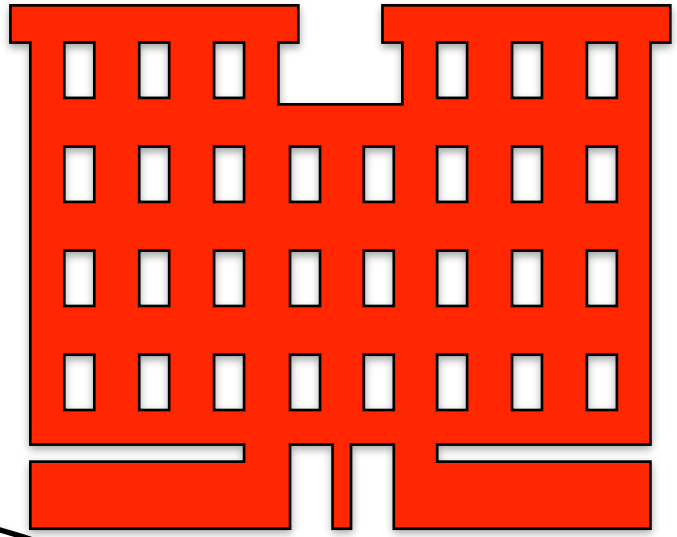
Recognition & Fame

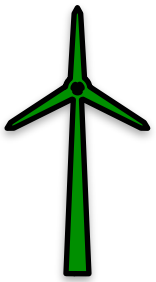
How do the concept reflect European strategy…

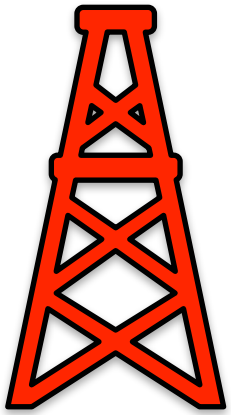
21th century

Low energy demand/consumption

Rational use of energy & Renewable energy sources







High energy demand/consumption

No much thoughts about energy consumption

20th century

The passive concept for existing buildings vs reasonable costs?

Two different ways

before WW2 - heritage protection

Difficult to apply all principles of PHC

Energy saving measures are a small part of the hole investment and heritage protection

Average energy consumption for heating since 2014 is approx. 30 kWh/m2.a

after WW2

Technically is easy to apply all principles of the PHC.

Energy saving measures in passive standard may help to the outside facelift, healthy interior…

Energy saving measures in passive standard may open a gate for a reasonable application of RES and smart grids.

Additional cost are reasonable from extended LCA period (if the concept is done for urban area).

Labelling

Is labelling an easy process and at an affordable cost to make people willing to ask for it?

My personal opinion:

Easy process

- existing assessment process is still under development - and it is a bit confusing for experts and for public too
- easier assessment based on experiences and long term stability could be positive

affordable cost to make people willing to ask for it?

- cost for the labelling is not high in the mean time but people are not care energy performance much. They do not understand too much numbers and technical data.
- generally people do not want to pay for a piece of paper in the Czech Republic
- the cost for the labelling can be higher if there is a long term validity and impact for a property price.

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Thank you for your attention

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