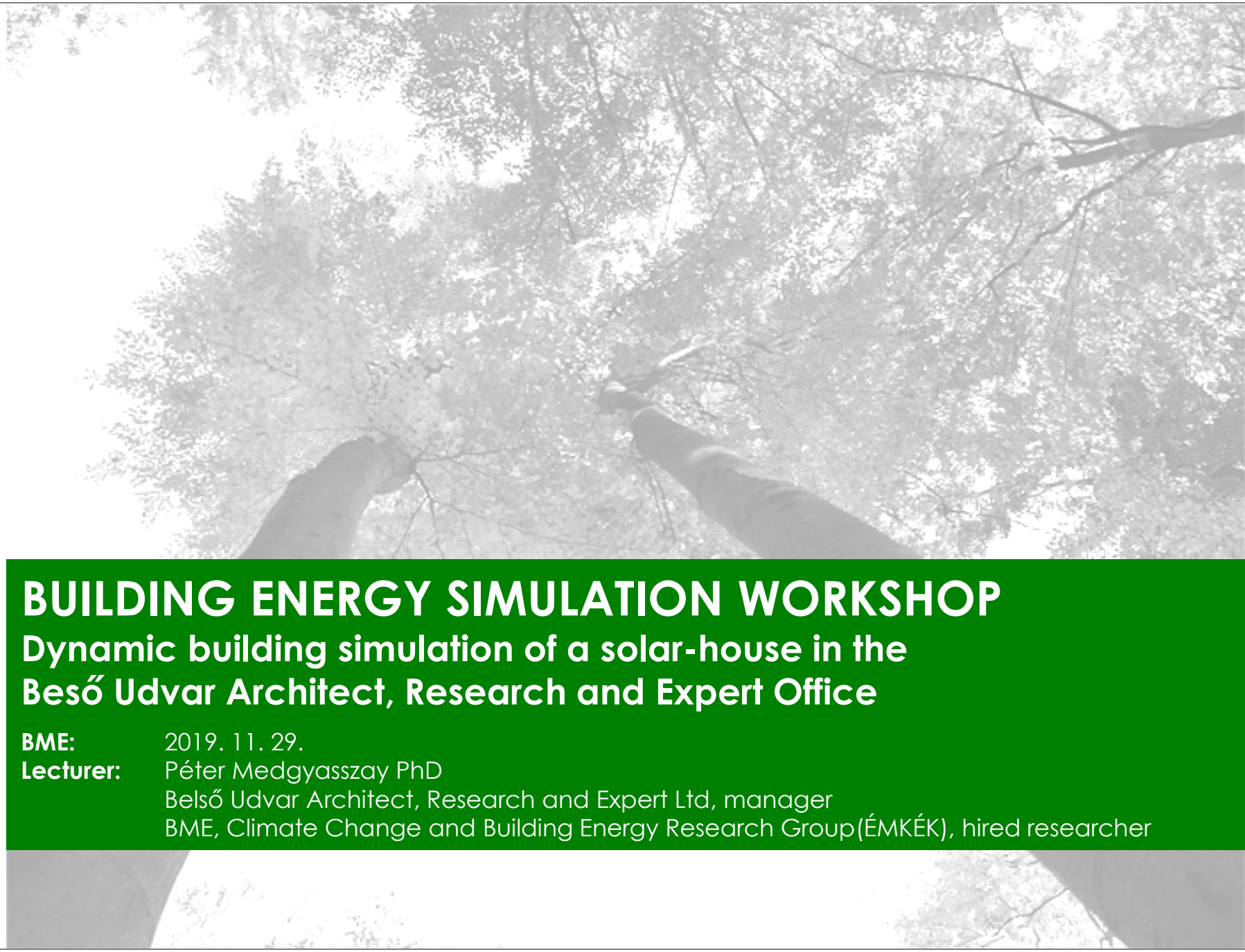


BUILDING ENERGY SIMULATION WORKSHOP

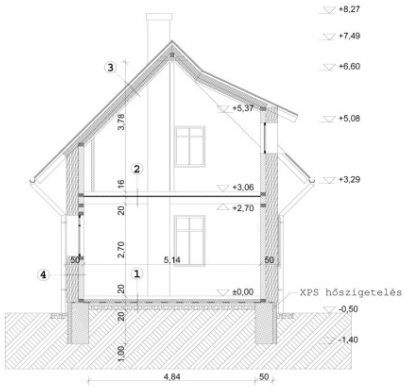
Dynamic building simulation of a solar-house in the Beső Udvar Architect, Research and Expert Office

BME: 2019. 11. 29.

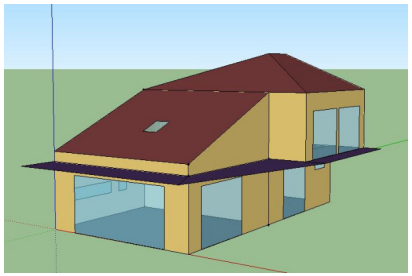
Lecturer: Péter Medgyasszay PhD
Belső Udvar Architect, Research and Expert Ltd, manager
BME, Climate Change and Building Energy Research Group(ÉMKÉK), hired researcher

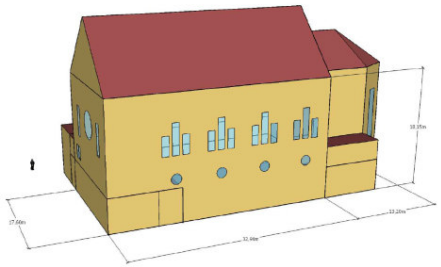
HISTORY

2008



2012-2018





2018-19

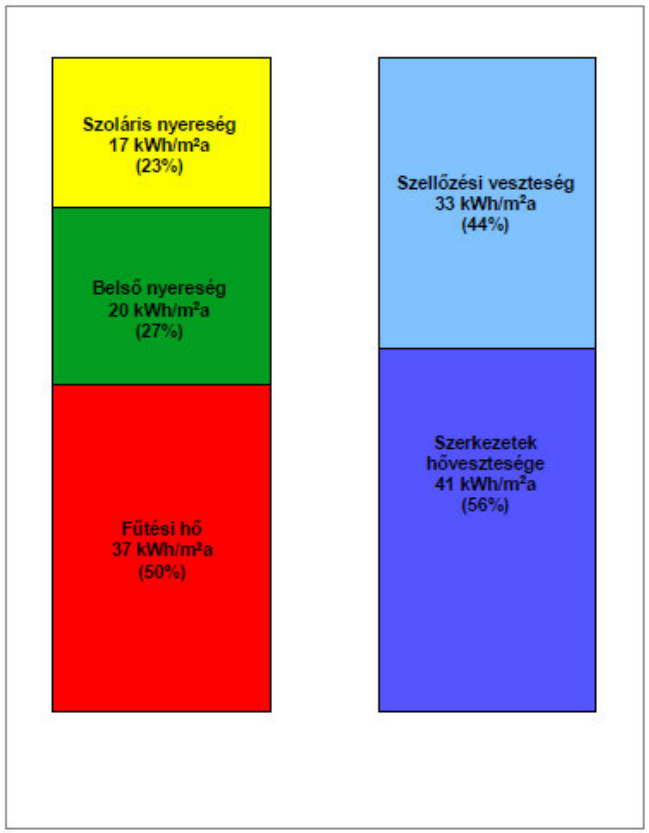
EnergyPlus

OpenStudio

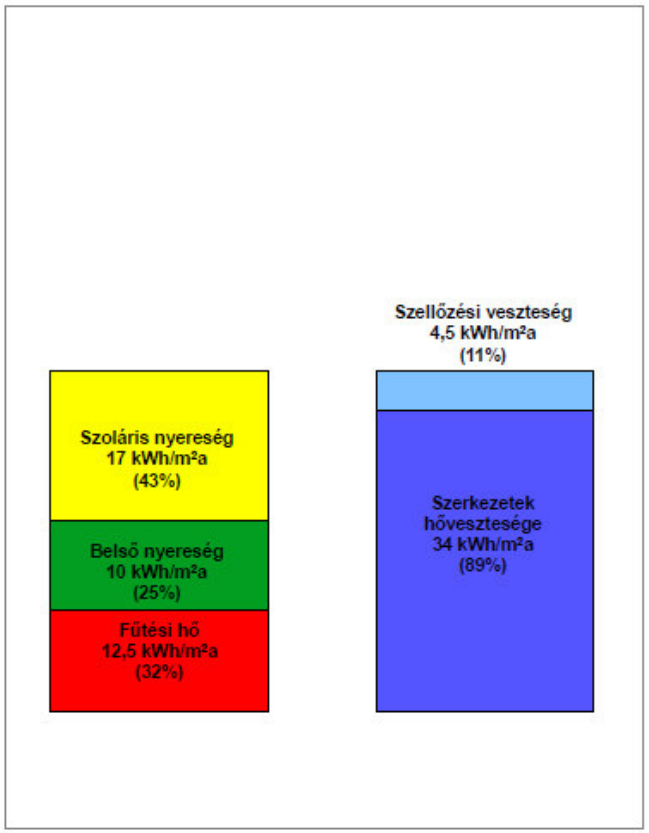
EnergyPlus

Design principles

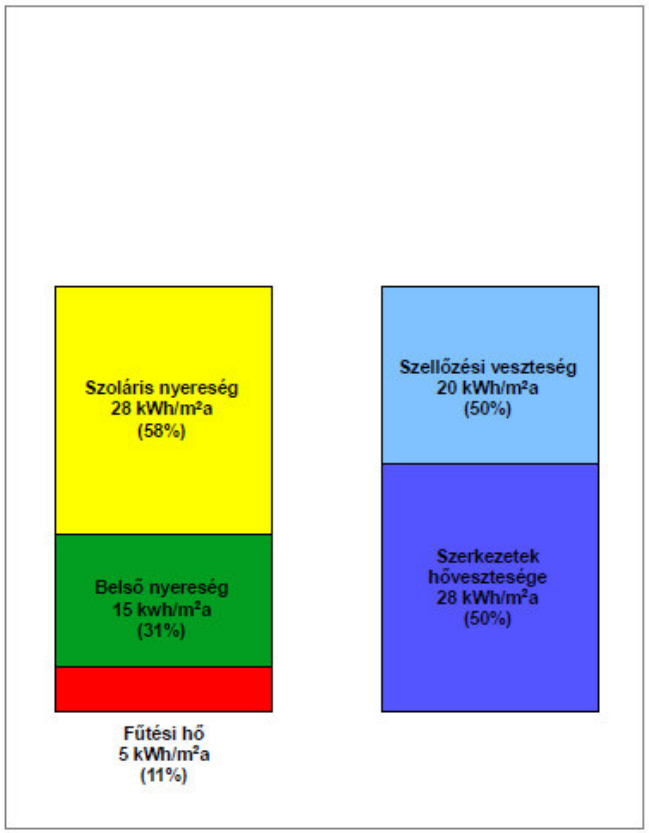
Our common method



Passive house method

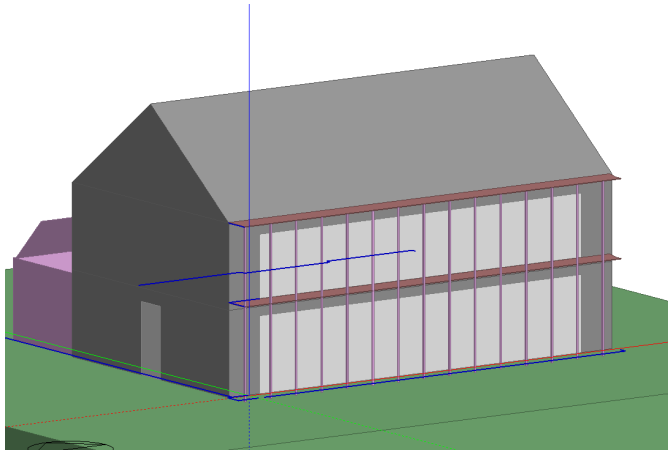


Solar house design



Applied measures:

1) Minimization of heat losses
2) Maximisation of solar gains
3) Absorption of solar radiation
Against summer overheating
4a) thermal mass
4b) shading
4c) night ventilation



Proposed results, further tasks

Final plans, details

On site measures

LCA, LCC calculations

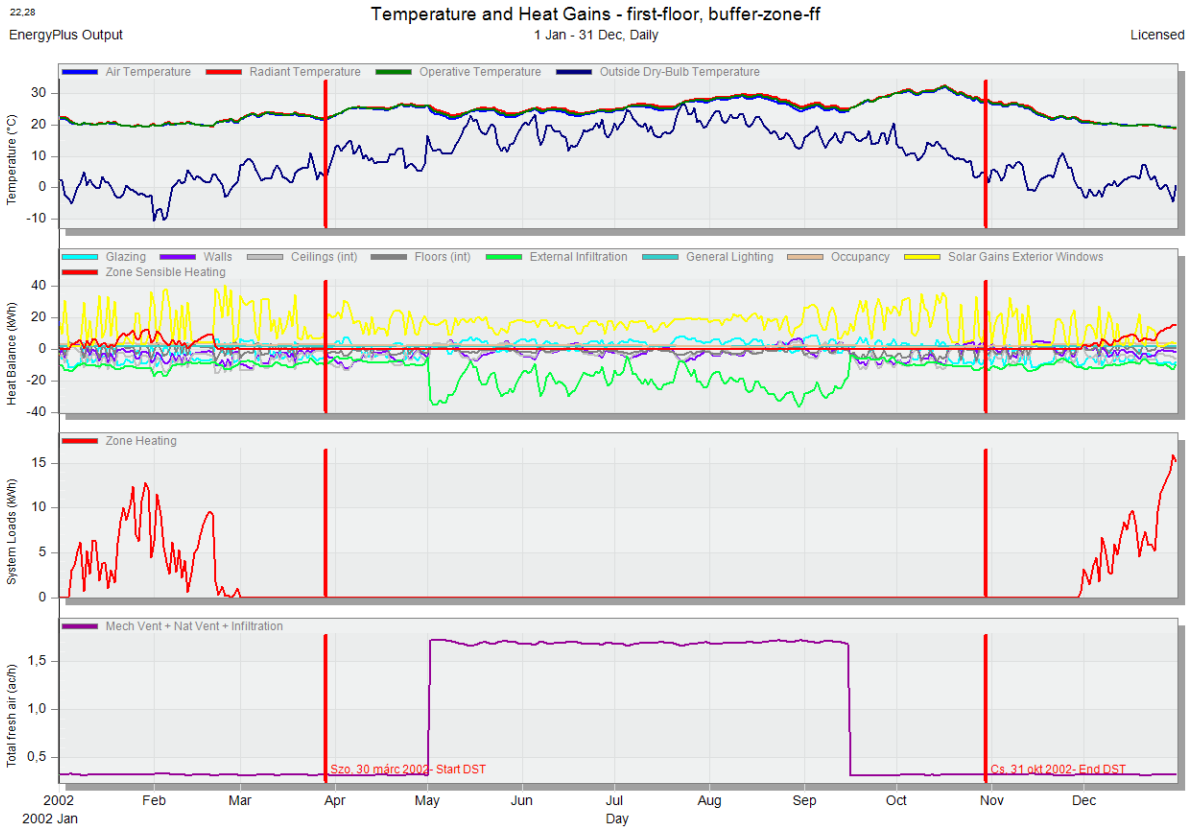
Simulations with future climate

Further dissemination of results…

6 kWh/m²a net heating demand

23 C° at the first floor

23,5 C° at the ground floor



Thank you for your attention

Belső Udvar Architect and Expert Office

and

Budapest University of Technology and Economics
Department of Construction Materials and Technologies
Climate Change and Building Energy Research Group (ÉMKÉK)

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