Outlines of Training Modules for fast and cheap retrofitting

outPHit

Photo: ecoworks

outPHit wants to…

…lower the barriers to the uptake of high quality deep retrofits by pairing ***prefabrication*** *and* ***streamlined processes*** *with the rigour of the* ***EnerPHit Standard*** *for renovations according to Passive House principles.*

Photo: ecoworks

Content of training materials

Introduction / Legislation context for deep retrofits

What makes deep renovation different

Renovation approach selection

Design recommendations for the building envelope

Implementation concepts for the mechanical equipment

RES implementation in deep retrofits

Embodied energy evaluation of renovation measures

Quality assurance in renovation projects

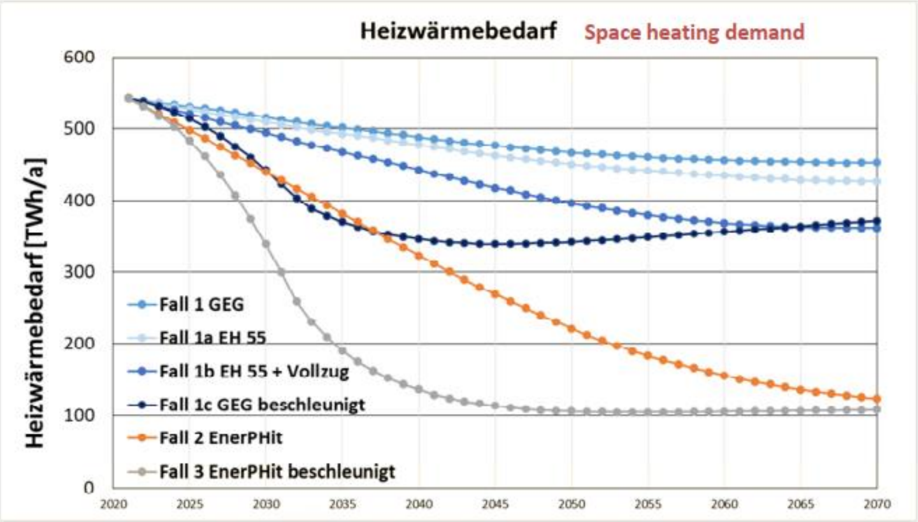
Customer relations

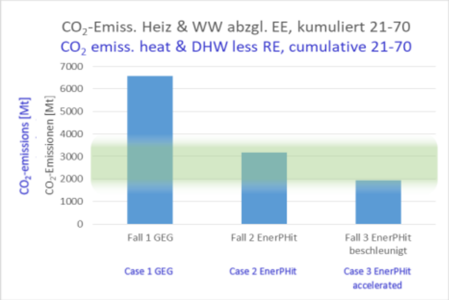
@ Bouwbedrijf Joziasse

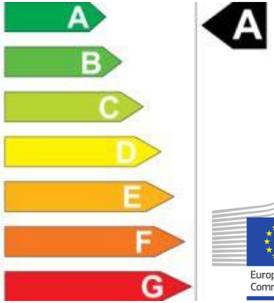
@ UIBK

@ Zeller Kölmel Architekten

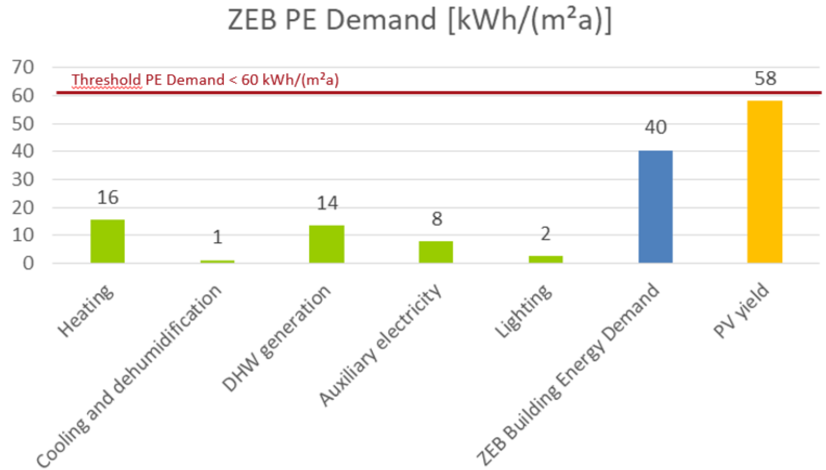
Introduction / Legislation context for deep retrofits

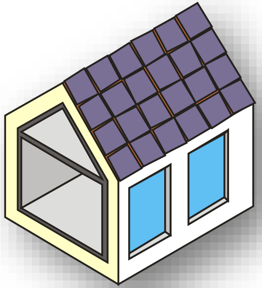






European Commission

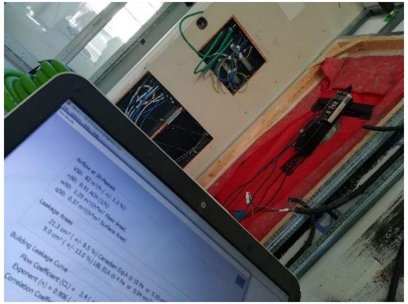




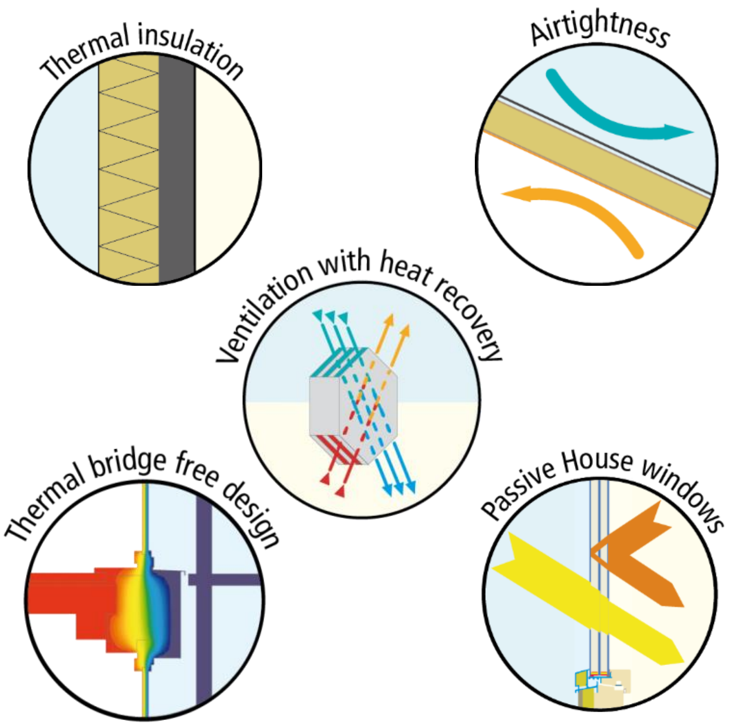
A (very) low energy demand will reliably enable a renewable energy supply

Diagrams @ PHI

What makes deep renovation different



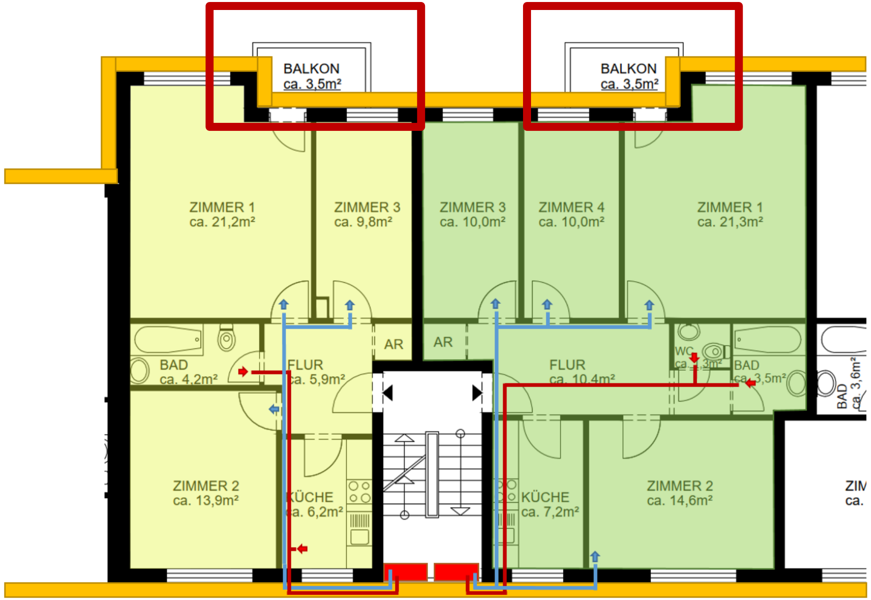
Pictures @ b+haus / VAND arquitectura



Passive House principles @ PHI

Ventilation ducts @ b+haus

Renovation approach selection

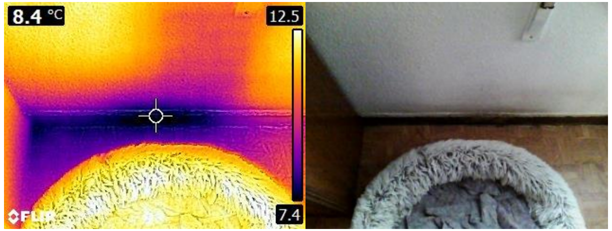


Ventilation implementation @ PHI

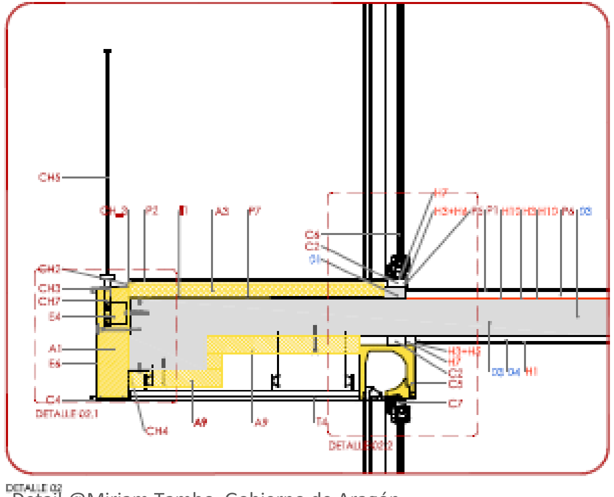
Serial renovation @ ecoworks

Conventional renovation @ HPHI

Design recommendations for the building envelope



Infrared thermography connection @ VAND arquitectura



Detail @Miriam Tambo. Gobierno de Aragón

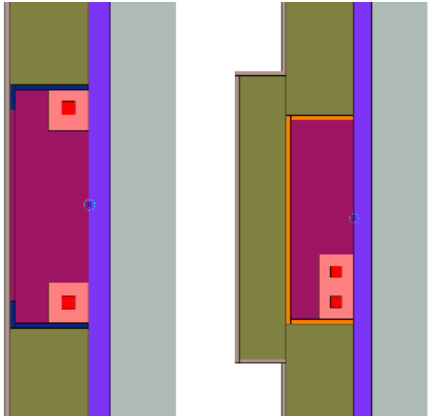

Thermal bridge balconies @ VAND arquitectura

Implementation concepts for the mechanical equipment

Facade integrated „backpackers“

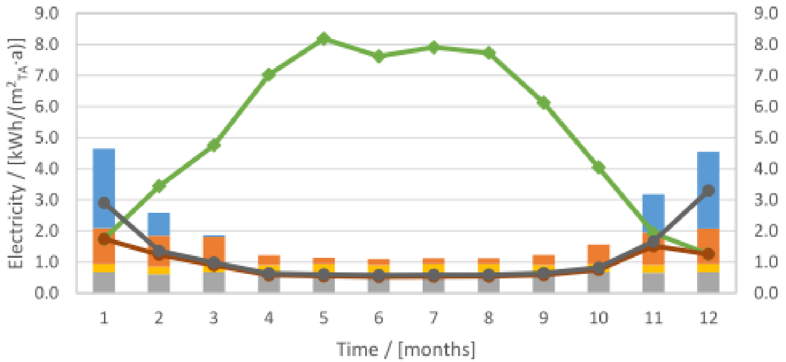
- Wood instead of steel construction
- Overinsulation by min. 20 cm
- Combined tubes to minimize losses

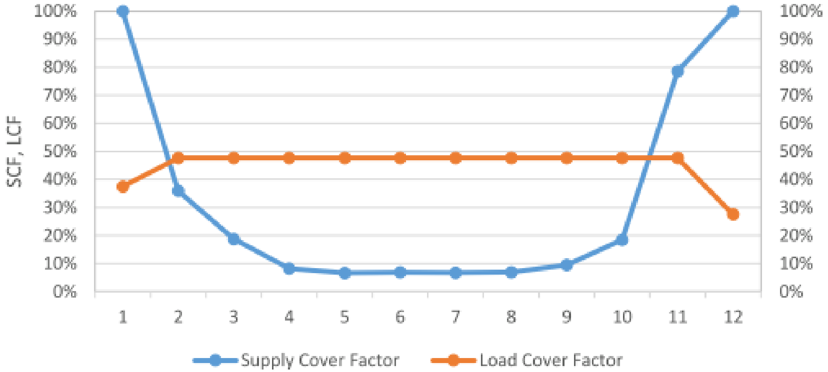
Backpacker ventilation @ PHI



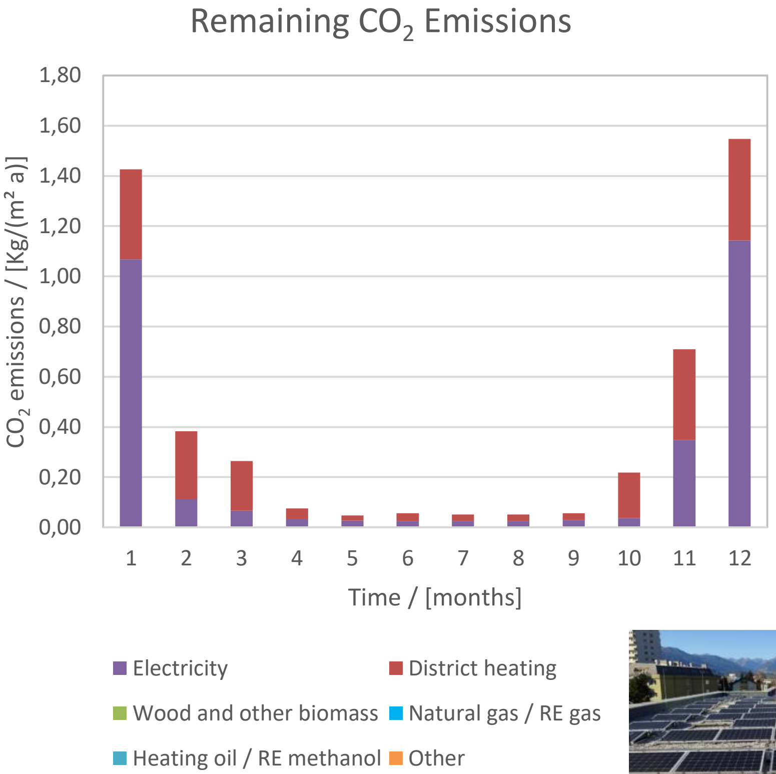
Façade integrated ventilation @ NHT

RES implementation in deep retrofits



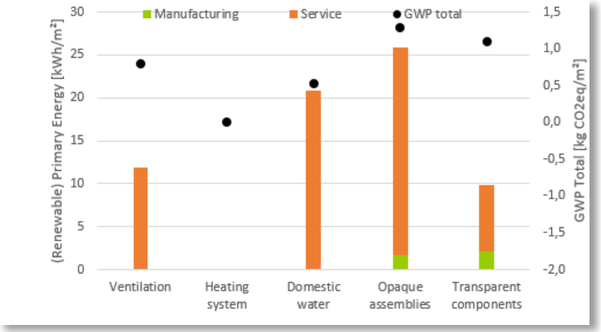


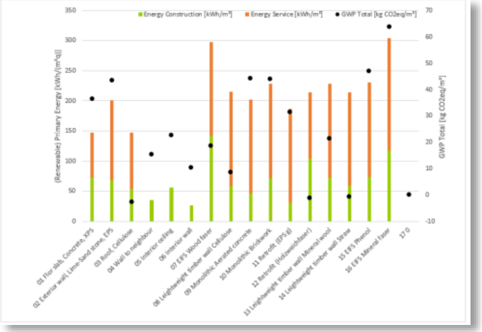
PV supply potential diagrams in PVecon @ UIBK



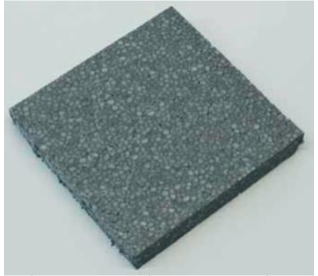
PV implementation @ UIBK

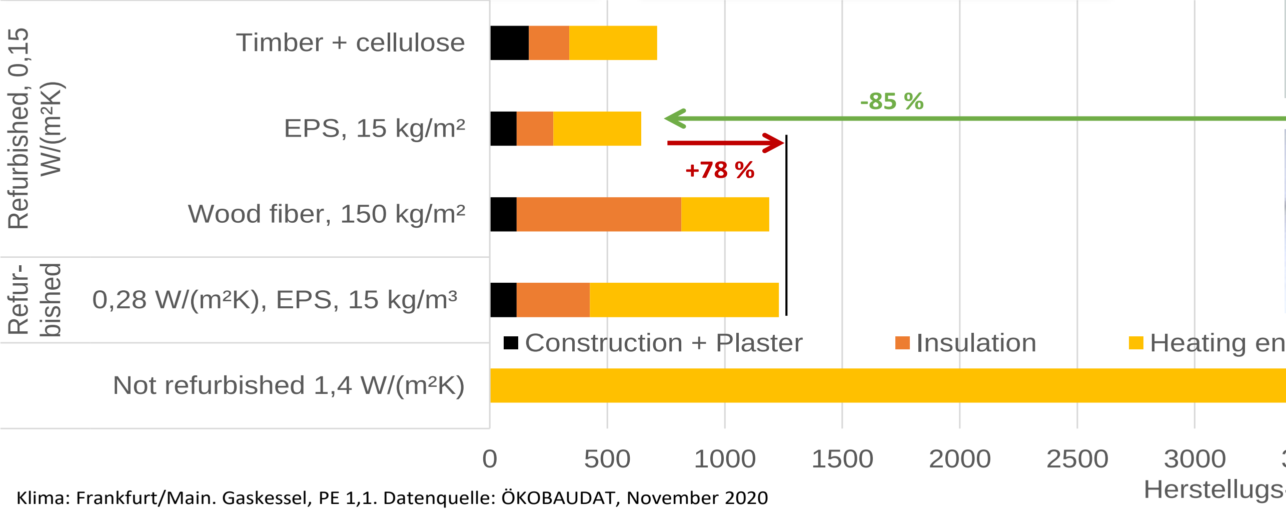
Embodied energy evaluation of renovation measures





Strawbale system @ ecococon

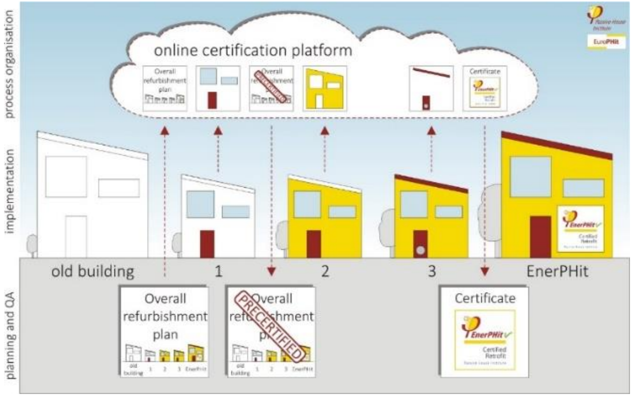


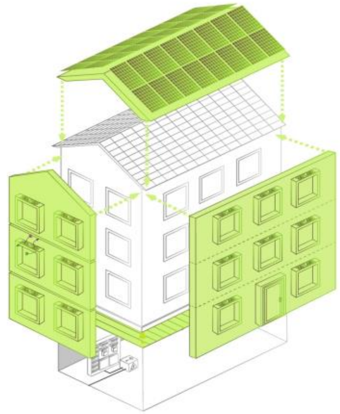


Klima: Frankfurt/Main. Gaskessel, PE 1,1. Datenquelle: ÖKOBAUDAT, November 2020

Diagrams @ PHI

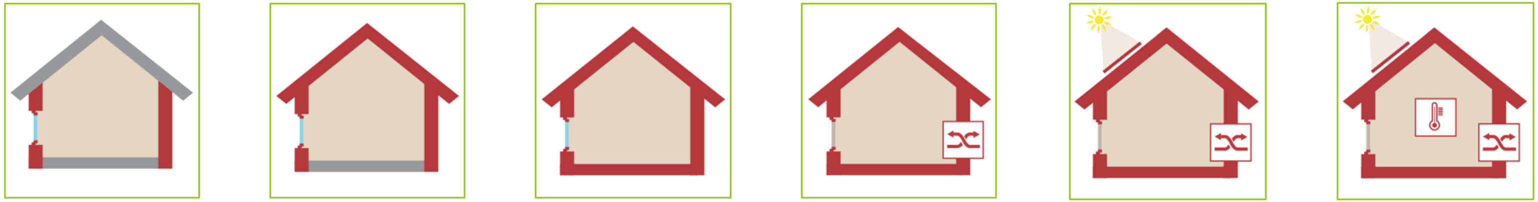
Quality assurance in renovation projects





Quality assurance concept @ PHI

Serial renovation system @ ecoworks

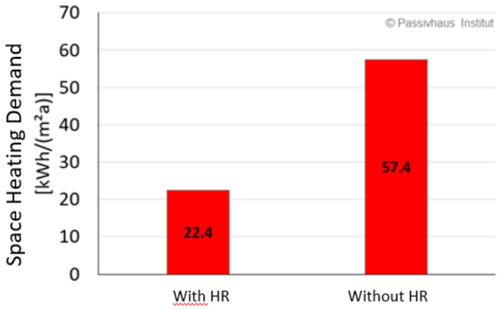


Renovation System Certification @ PHI

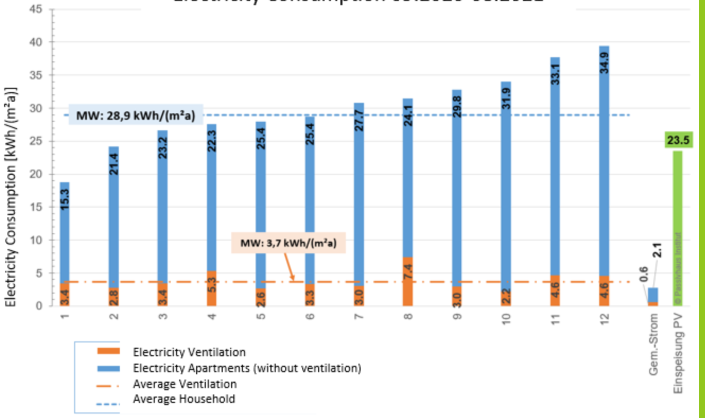
Customer relations / FAQ´s

Does venitlation with heat recovery consume more energy than it can save?

Answer: Not at all



Energy use diagrams ventilation @ PHI



Pictures of renovation phases @ UIBK

1.

3.

5.

2.

4.

Why prefab renovation?

Conventional retrofit:

2 years intermediate removals

outPHit

Deep retrofits made faster, cheaper and more reliable

outPHit pairs such approaches with the rigour of Passive House principles to make deep retrofits cost-effective, faster and more reliable. On the basis of case studies across Europe and in collaboration with a wide variety of stakeholders, outPHit is addressing barriers to the uptake of high quality deep retrofits while facilitating the development of high performance renovation systems, tools for decision making and quality assurance safeguards

Find out more at **outphit.eu**

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 957175. The presented contents are the author's sole responsibility and do not necessarily reflect the views of the European Union. Neither the CINEA nor the European Commission are responsible for any use that may be made of the information contained therein.

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