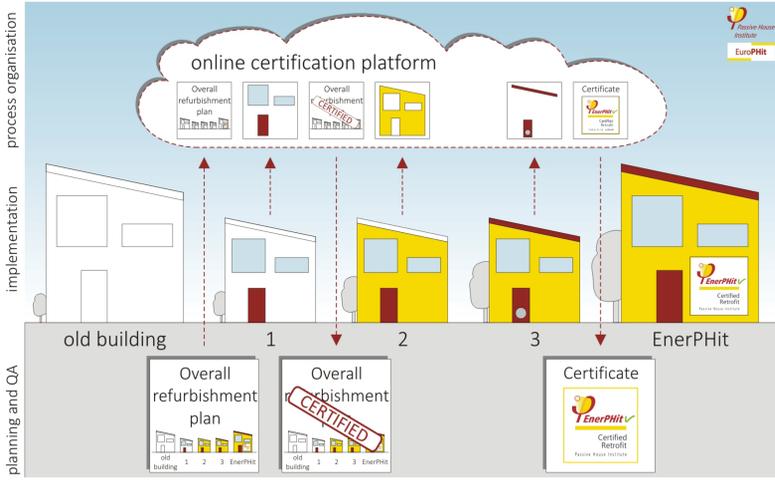
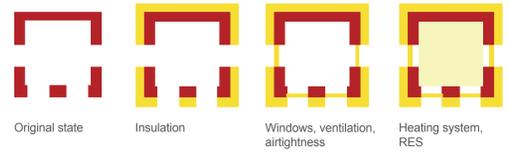


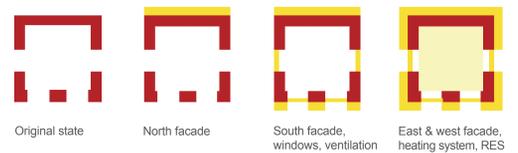
certification of step-by-step retrofits



Example: component by component approach



Example: one facade at a time



A certification process, based on a masterplan tailored to fit the needs of the building and/or its owners/users, has been created to allow the verification of ambitious retrofit processes in early stages, even after the first retrofit step carried out.

case study projects

The map shows 16 case study projects across Europe:

- CS14**: Wilmcote multifamily house, United Kingdom
- CS05**: multifamily social housing, France
- CS06**: semi-detached houses, France
- CS02**: RosMuc Secondary School, Ireland
- CS01**: Rochestown Home for Elderly, Ireland
- CS12**: single family house, Sweden
- CS13**: Rehabilitation Workshop Building, Denmark
- CS10**: Primary School, Gabrovo Bulgaria
- CS16**: single family house Santander, Spain
- CS15**: single family house, Tournon sur Rhone, France
- CS09**: Therapy Center La Santina, Spain
- CS03**: Hotel-Restaurant Valcanover, Italy
- CS11**: Tsanko Dustabanov Primary School, Bulgaria

overall refurbishment plan and certification platform

Variantenberechnung

Passivhaus mit PHPP Version 9.1

Passivhaus-Rechenmodell / Klima: PHPP-Standard / EBF: 156 m² / Heizen: 19,86 kWh/(m²a) / Oberflächentemperatur: 0,7 % / PER: 43,8 kWh/(m²a)

aktive Variante wählen	1-Gruppe	Bestand	Fenster und Türen	Außenwand-dämmung	Dach und Lüftungsbauteile	EnerPHit
Ergebnisse	Einheit	1	2	3	4	5
Heizwärmebedarf	kWh/(m ² a)	174,2	107,1	48,5	27,8	19,9
Heizlast	W/m ²	13,2	7,9	4,3	2,5	1,9
Kühl- + Entfeuchtungsbedarf	kWh/(m ² a)	-	-	-	-	-
Kühllast	W/m ²	-	-	-	-	-
Übertemperaturhäufigkeit (t>25 °C)	%	0,7	0,2	0,2	0,4	0,6
PER-Bedarf	kWh/(m ² a)	43,8	214,2	140,5	76,0	52,2
Passivhaus Classic?	ja / nein	nein	nein	nein	nein	nein
Endenergie						
Nutzerdefiniert: verknapfte Ergebnisse		0,0	0,0	0,0	0,0	0,0

Einflussgrößen

Einheit	Wert
Bauweise	200
Strahlungsbilanz	140
Wärmebrücken	140
Fenster und Verschattung	120
Lüftung	100
Wärmeerzeuger	80
Kompressor-Kühlergeräte	60
Nutzerdefiniert	40
	20
	0

Bar chart showing the contribution of different components to the heating demand reduction:

- 1. Bestand: ~174 kWh/m²a
- 2. Fenster und Türen: ~107 kWh/m²a
- 3. Außenwand-dämmung: ~48 kWh/m²a
- 4. Dach und Lüftungsbauteile: ~28 kWh/m²a
- 5. EnerPHit: ~20 kWh/m²a

The screenshot shows the PHPP certification platform interface. It includes a checklist for document upload and verification:

- 1.1 Completed PHPP as ".xls" file
- 1.2 Overall refurbishment plan
- 1.3 Map Link
- 2. Drawings
- 3. Annex and U-values
- 4. Thermal Bridges
- 5. Windows/doors (Product data sheets, all values with 2 decimals)
- 6. Ventilation
- 7. Description
- 8. Heating/ Cooling + Plumbing
- 9. Construction phase

Step by step retrofits need to be planned with an overall refurbishment, assuring that the refurbishment process will successfully be completed in EnerPHit standard. The overall refurbishment plan describes the retrofit steps to be carried out, demonstrates respective efficiency improvements and assures that quality assurance measures will be available and taken at the right time, and will be supported by a newly created certification platform.

training courses for

- Certified Passive House Consultant
- Certified Passive House Tradesperson
- Airtightness Installation and Measurement specialists



Partners:



Supporters:



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