

# **EuroPHit**

**Retrofitting for the energy revolution,  
one step at a time**



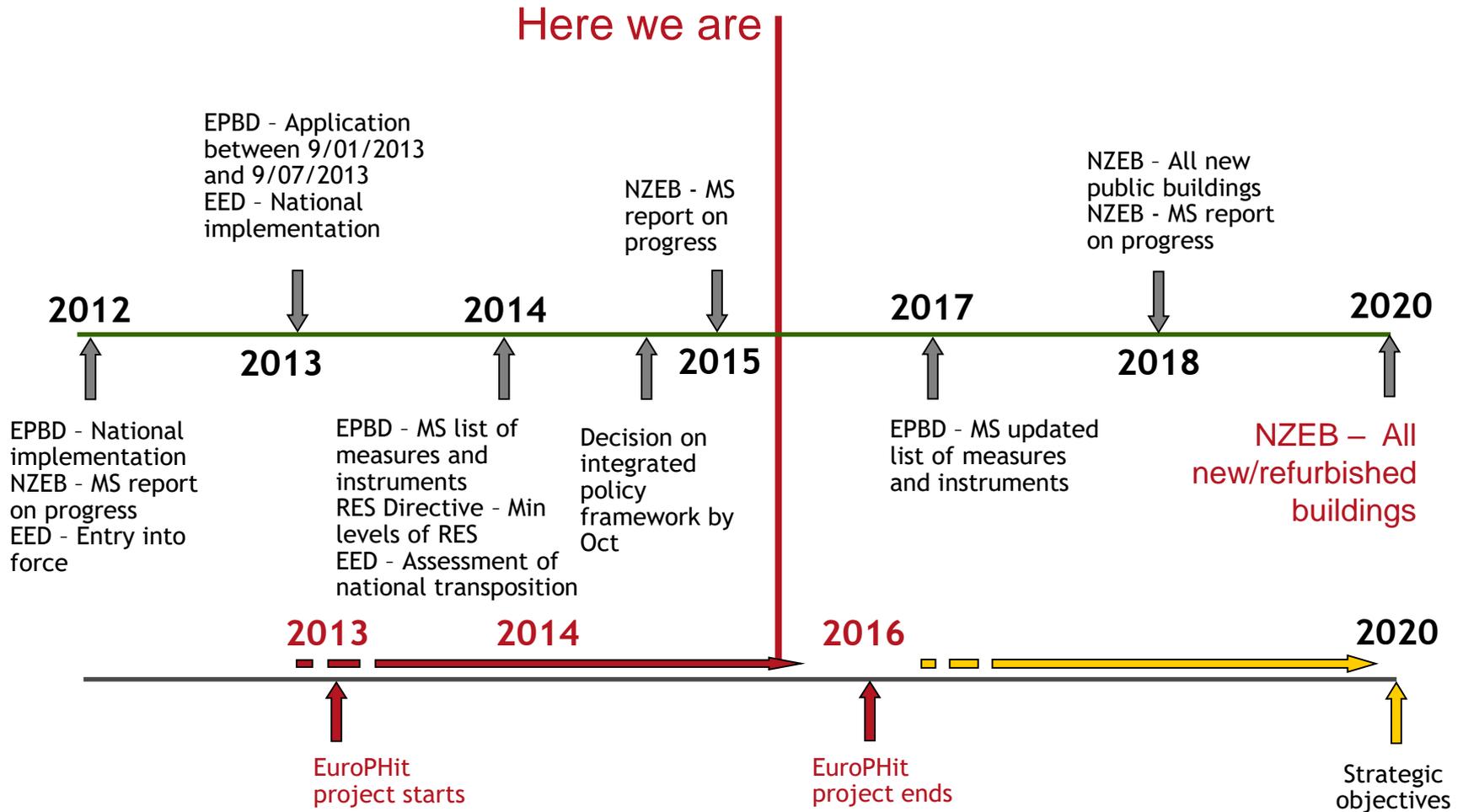
1. EuroPHit project background
2. Energy retrofits
3. Case studies and Observers
4. Products
5. Financing
6. EuroPHit trainings
7. Key past events
8. Key upcoming events
9. Join EuroPHit!



# 1. EuroPHit project background



# The policy background



**Reduce consumption!**

**EuroPHit**

**how do we get there?**

**High efficiency**

**EU 2020 objective:**

All new/refurbished buildings as NZEBs (Nearly Zero Energy Buildings)

**Low efficiency**



Co-funded by the Intelligent Energy Europe Programme of the European Union

[www.europhit.eu](http://www.europhit.eu)



**Step by step vs. one shot retrofit:**  
step by step minimises challenges

**Building stock**

**NZEB**

**Retrofitting challenges**

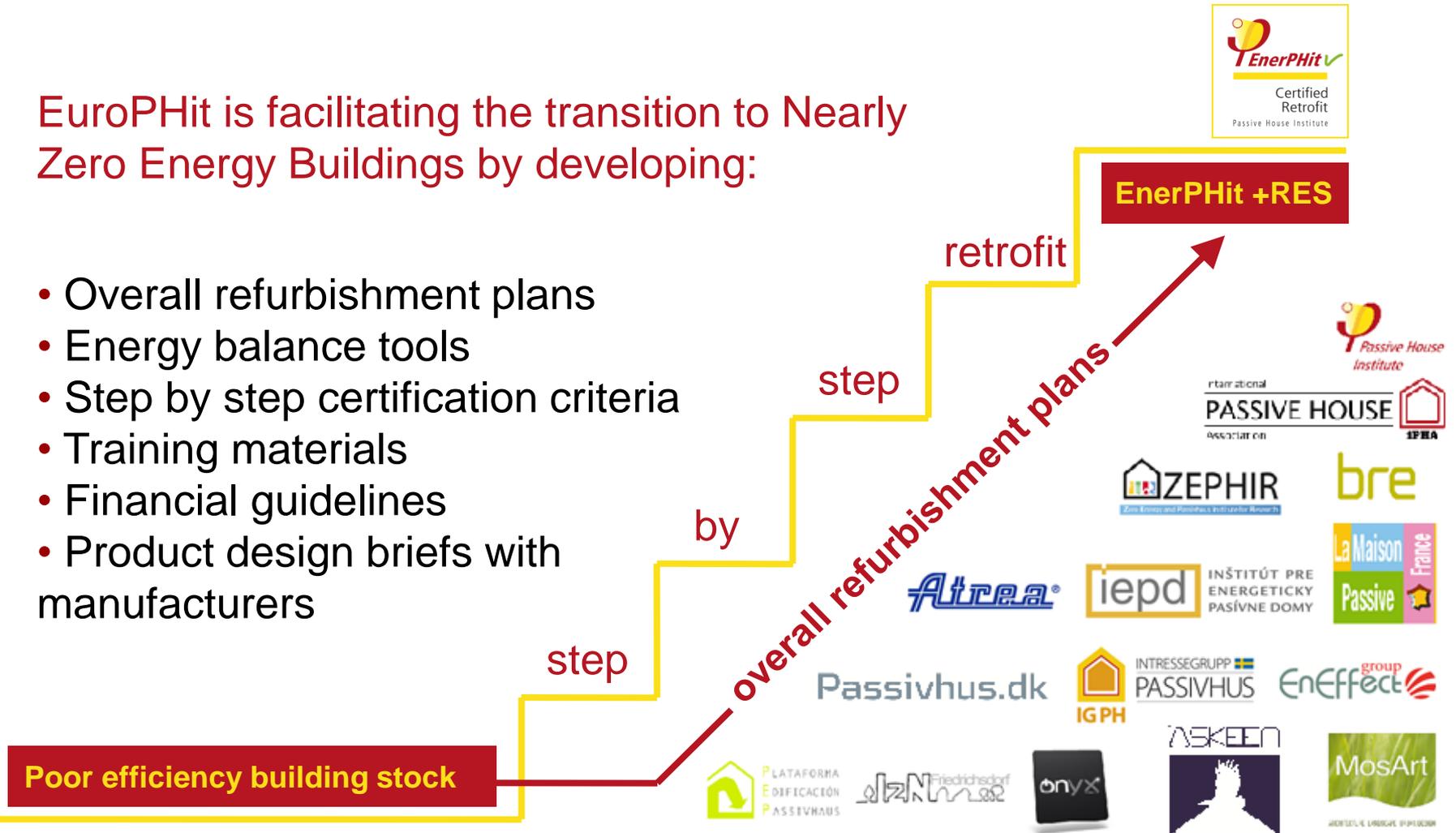
- competence
- motivation
- financing
- life cycle of existing components
- disturbance of inhabitants



# Improving the performance of step by step retrofits

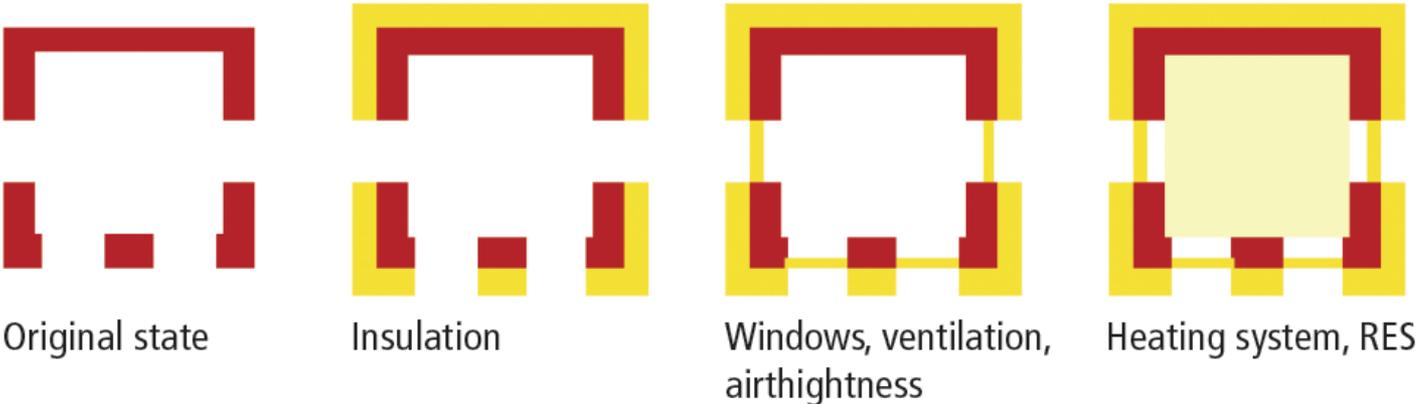
EuroPHit is facilitating the transition to Nearly Zero Energy Buildings by developing:

- Overall refurbishment plans
- Energy balance tools
- Step by step certification criteria
- Training materials
- Financial guidelines
- Product design briefs with manufacturers

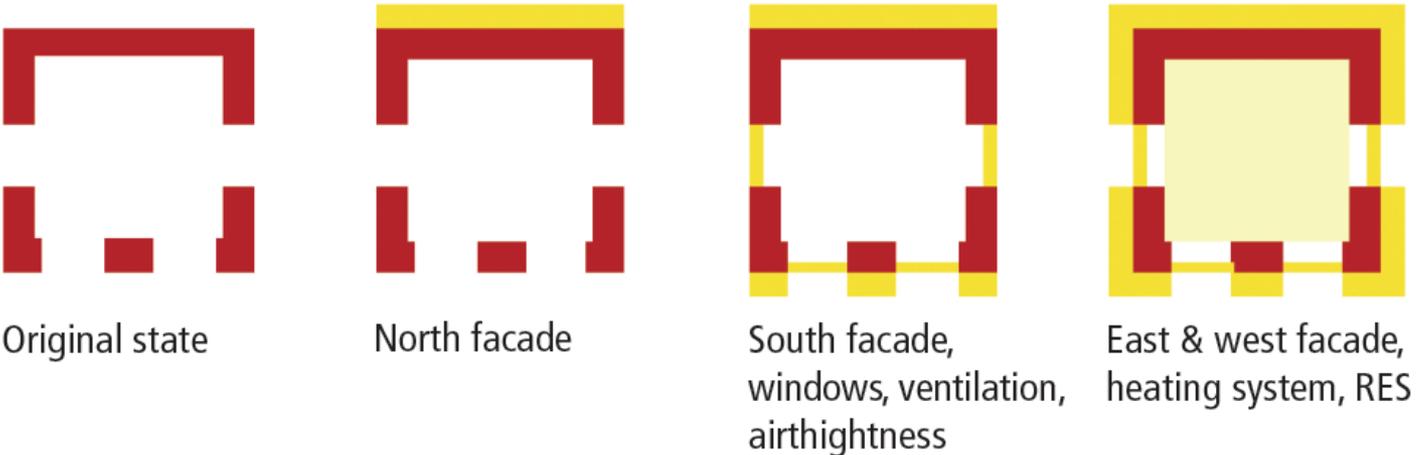


# Many ways to go step by step

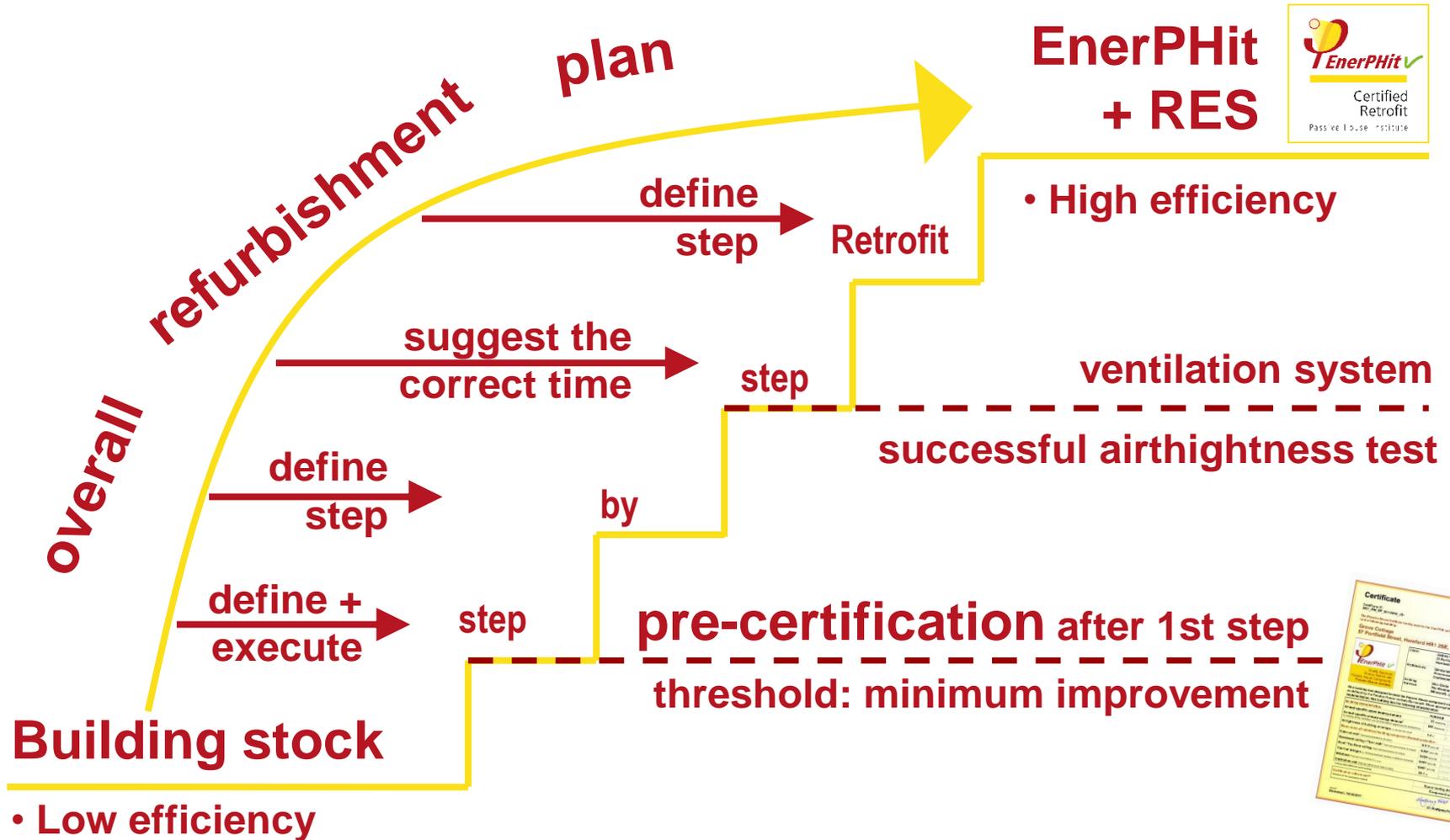
Example: component by component approach



Example: one facade at a time

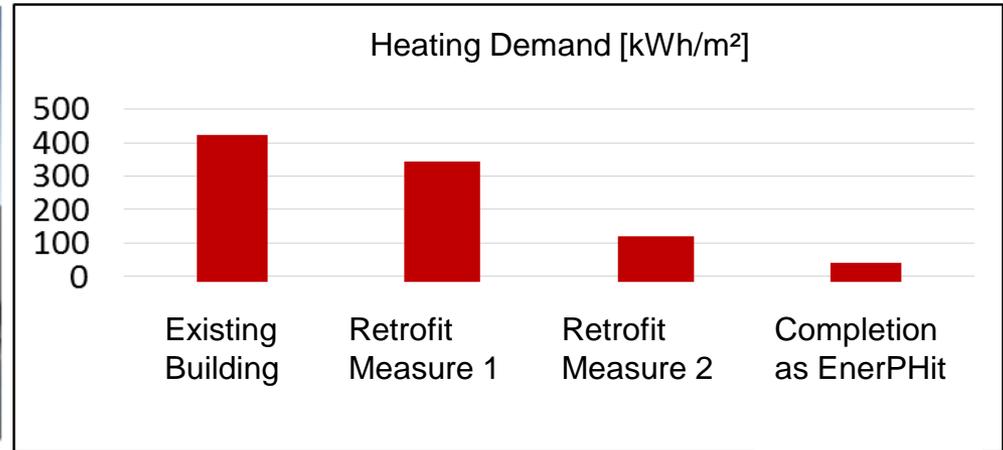


# Implementing deep retrofits step-by-step



# Energy balance calculation tool with features for step by step retrofits

EuroPHit



## The energy balance and design tool for efficient buildings and retrofits



### Variantenberechnung

Passivhaus mit PHPP Version 9.1

Passivhaus-Reihenendhaus / Klima: PHPP-Standard / EBF: 156 m<sup>2</sup> / Heizen: 61,7 kWh/(m<sup>2</sup>a) / Übertemperatur: 0,1 % / PER: 13,1 kWh/(m<sup>2</sup>a)

		aktiv				
		aktive Variante wählen >>	Bestand	Schlechter Wärmeschutz	Mässiger Wärmeschutz	Passivhaus mit WP + Solarthermie
Ergebnisse		3	1	2	3	4
Heizwärmebedarf	kWh/(m <sup>2</sup> a)	61,7	418,8	107,1	61,7	11,6
Heizlast	W/m <sup>2</sup>	36,3	175,1	62,1	36,3	9,5
Kühl- + Entfeuchtungsbedarf	kWh/(m <sup>2</sup> a)					
Kühllast	W/m <sup>2</sup>					
Übertemperaturhäufigkeit (> 25 °C)	%	0,1	2,9	1,6	0,1	1,0
PER-Bedarf	kWh/(m <sup>2</sup> a)	13,1	1131,0	255,9	13,1	33,3
Passivhaus Classic?	ja / nein	nein	nein	nein	nein	nein
Endenergie						
Heizleistung Wärmeerzeuger	kW	8,7	30,3	12,7	8,7	4,5

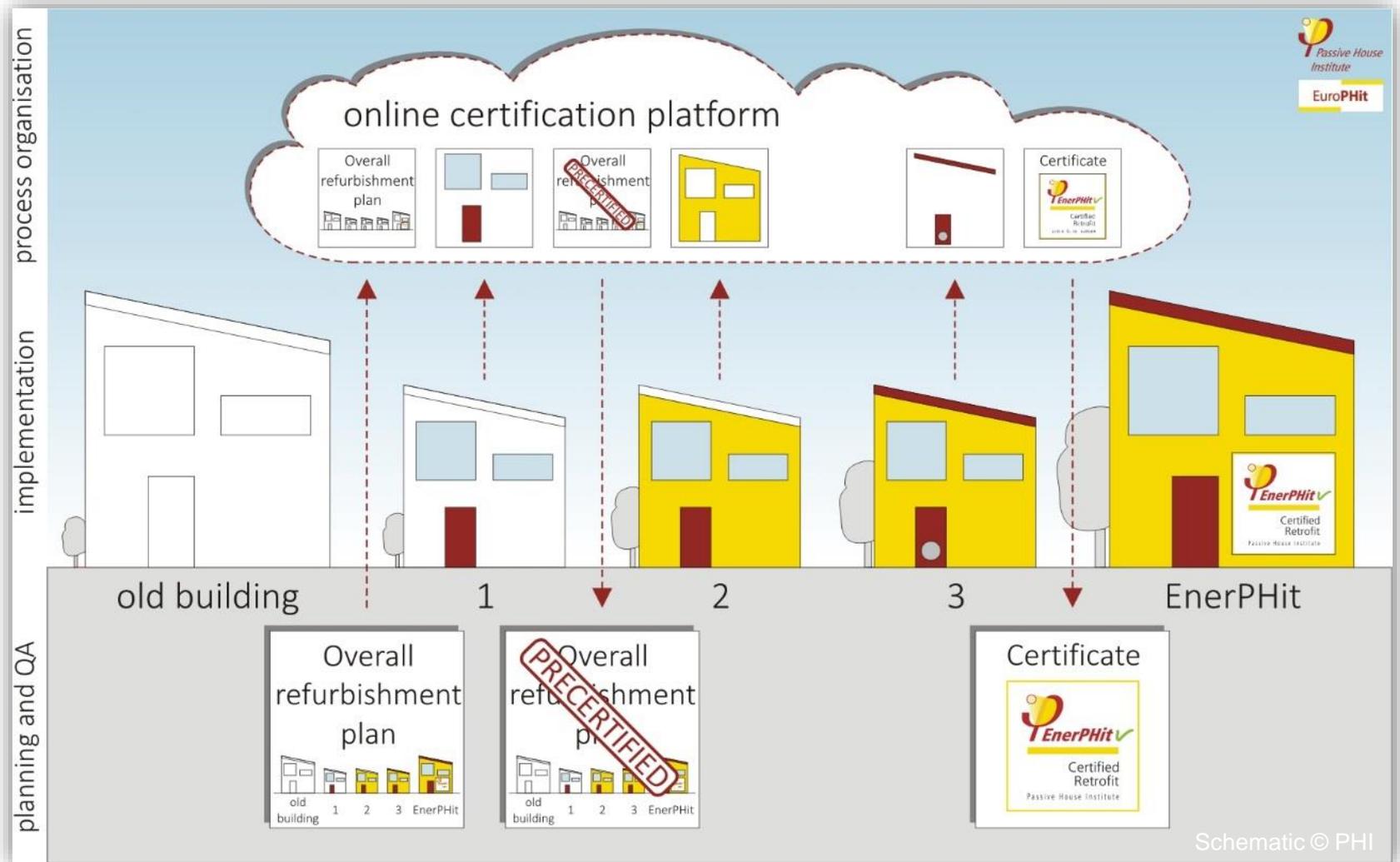


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# Pre-certification for stepwise retrofit



**EuroPHit**

D3.9\_Overall Refurbishment Plan

DRAFT

CS02

School, RosMuc

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

Figure 11: Typical save to new A13PHit1-2014

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

Detail drawings for first step

Schematic drawings for future steps

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

Figure 7: Metanork Block view from the yard

Figure 8: View of the Classroom/Office West facade

Survey of the existing building

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

4 Completion of step-by-step refurbishment plan including RES

4.1 General description

4.2 Retrofit steps carried out

Figure 10: Overview refurbishment steps (the results in table are estimated - to be confirmed)

5.1.2 Efficiency improvements

Figure 11: Overview energy efficiency improvement plan

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

Year	Measure	Specific Heating Demand	Specific Primary Energy Demand
2010	Existing Buildings	100	410
2014	New roof to Main Building & Metanork Block, 4 new Classrooms	130	280
2016	External walls and windows to all existing buildings and new roof to Classroom/Office, New Classrooms Built	115	250
2018	Replacement of windows & doors	52	100
2019	Replacement of D3.1 air changes per hour @ 50 Pa & MERV standard	52	114
2020	Contaminant Gas Filter & new operators installed	51	98
2024	Enclosure of central space to Passive House standard	50	95

Figure 10: Overview refurbishment steps (the results in table are estimated - to be confirmed)

5.1.2 Efficiency improvements

Figure 11: Overview energy efficiency improvement plan

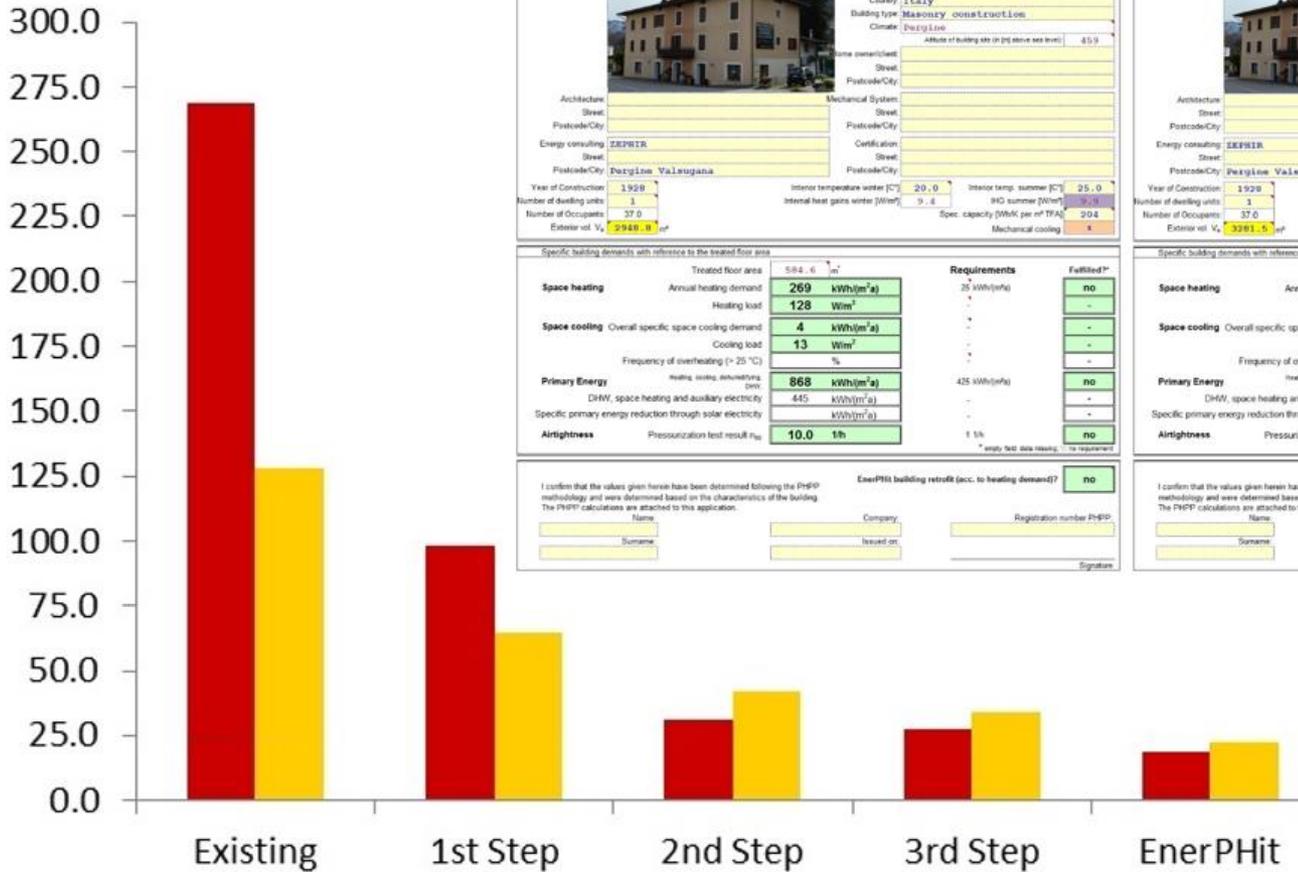
PHPP for all steps with schedule and qualities for all energy saving measures

**EuroPHit**

Detailed D3.9\_CS02\_School\_RosMuc\_OverallRefurbishmentPlan

EnerPHit verification

# Overall refurbishment plan



### EnerPHit verification

Building: Hotel Restaurant Valcaosover  
 Street:   
 Postcode/City:   
 Country: Italy  
 Building type: Masonry construction  
 Climate:   
 Area of building site (in [m] above sea level): 459

Year of Construction: 1929  
 Number of dwelling units: 1  
 Number of Occupants: 37.0  
 Exterior vol. V<sub>e</sub>: 2948.8 m³

Interior temperature winter [°C]: 20.0  
 Interior temp. summer [°C]: 25.0  
 Internal heat gains winter [W/m²]: 9.4  
 SHG summer [W/m²]: 10.0  
 Spec. capacity [MWh per m² TFA]: 204  
 Mechanical cooling: x

Specific building demands with reference to the treated floor area	Requirements	Fulfilled?
Space heating Annual heating demand	25 kWh/(m²a)	no
Heating load	-	-
Space cooling Overall specific space cooling demand	-	-
Cooling load	-	-
Frequency of overheating (> 25 °C)	-	-
Primary Energy heating, cooling, air conditioning	425 kWh/(m²a)	no
DHW, space heating and auxiliary electricity	-	-
Specific primary energy reduction through solar electricity	-	-
Airtightness Pressurization test result μ <sub>leak</sub>	1.5 h	no

EnerPHit building retrofit (acc. to heating demand)?  no

### EnerPHit verification

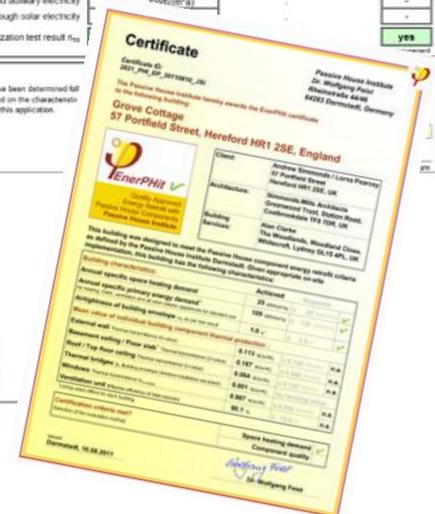
Building: Hotel Restaurant Valcaosover  
 Street:   
 Postcode/City:   
 Country: Italy  
 Building type: Masonry construction  
 Climate:   
 Area of building site (in [m] above sea level): 459

Year of Construction: 1929  
 Number of dwelling units: 1  
 Number of Occupants: 37.0  
 Exterior vol. V<sub>e</sub>: 3281.5 m³

Interior temperature winter [°C]: 20.0  
 Interior temp. summer [°C]: 25.0  
 Internal heat gains winter [W/m²]: 9.4  
 SHG summer [W/m²]: 10.0  
 Spec. capacity [MWh per m² TFA]: 204  
 Mechanical cooling: x

Specific building demands with reference to the treated floor area	Requirements	Fulfilled?
Space heating Annual heating demand	25 kWh/(m²a)	yes
Heating load	-	-
Space cooling Overall specific space cooling demand	-	-
Cooling load	-	-
Frequency of overheating (> 25 °C)	-	-
Primary Energy heating, cooling, air conditioning	123 kWh/(m²a)	yes
DHW, space heating and auxiliary electricity	-	-
Specific primary energy reduction through solar electricity	-	-
Airtightness Pressurization test result μ <sub>leak</sub>	-	yes

I confirm that the values given herein have been determined following the PHPP methodology and were determined based on the characteristics of the building. The PHPP calculations are attached to this application.



# Store projects on a Certification platform

# EuroPHit

Hello certifier!  
Logout

project.progress: 64.0

## Pilot Project

Passive House or EnerPHit: Passive House  
Use: mix  
Type of project: Superhouse+Laboratory  
Super number:  
Super Code Super City:  
Super Region:  
Aruba  
Certifier: certifier  
Designer: designer  
Project checklist created on Feb. 4, 2015, 2:10 p.m.

- ▶  1. Background documents including PHPP and drawings
  - ▶  2. Key characteristics
  - ▶  3. Constructions
  - ▶  4. Windows
  - ▶  5. Ventilation
  - ▶  6. Other mechanical services
  - ▶  7. Electrical efficiency
  - ▶  8. Indoor climate
  - ▶  9. Moisture, "Building Hazards", "Quality of building envelope"
  - ▶  1. Checks during construction
- Submit

64.0 % approved

**EuroPHit**

Passive House or EnerPHit: Passive House  
Use: mix  
Type of project: Superhouse+Laboratory  
Super number:  
Super Code Super City:  
Super Region:  
Aruba  
Certifier: certifier  
Designer: designer  
Project checklist created on Feb. 4, 2015, 2:10 p.m.

1. Background documents including PHPP and drawings

▶ Overall refurbishment plan

▶ PHPP

▶ Here you attach a pdf and a xls version of the PHPP. Have you made sure that it corresponds to the documentation below?

Okay by designer:  | Okay by certifier:  notify designer:

• certifier:  
changed on: Thu, 5 Feb 2015 15:49:53 +0100  
◦ 7/PHPP\_EN\_V8.5\_example.xls

• New comment:

Keine Datei ausgewählt.  Keine Datei ausgewählt.  Keine Datei ausgewählt.  Keine Datei ausgewählt.  
 Keine Datei ausgewählt.

▶ Generally you should use the newest PHPP available, when the Client signed the contract with the Certifier. Have you done this?

▶ Have additional worksheets been added to PHPP?

▶ When everything else is settled, PHPP/Verification is to be printed, signed and sent to us by letter,



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## **2. Energy retrofits: EnerPHit**



With the **EnerPHit Standard** as the goal and **Passive House principles** as the basis, EuroPHit applies knowledge on **deep energy retrofits** to the oft-overlooked yet critical area of **step by step** refurbishments



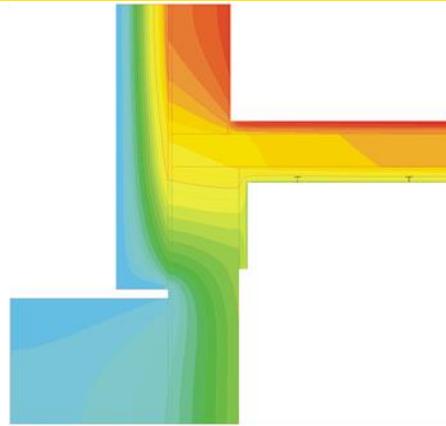
Gymnasium Baesweiler, Germany; Photos © Rongen Architekten



# Passive House standard for energy retrofits?



**Unfavourable  
A/V ratio**



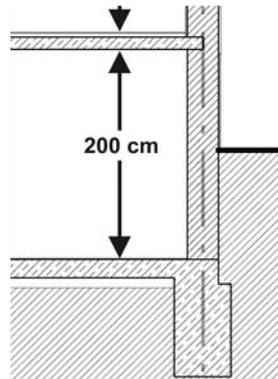
**Thermal bridges**



**Airtightness**



**Unfavourable  
window orientation**



**No space  
for insulation**



**Heritage protection restrictions**



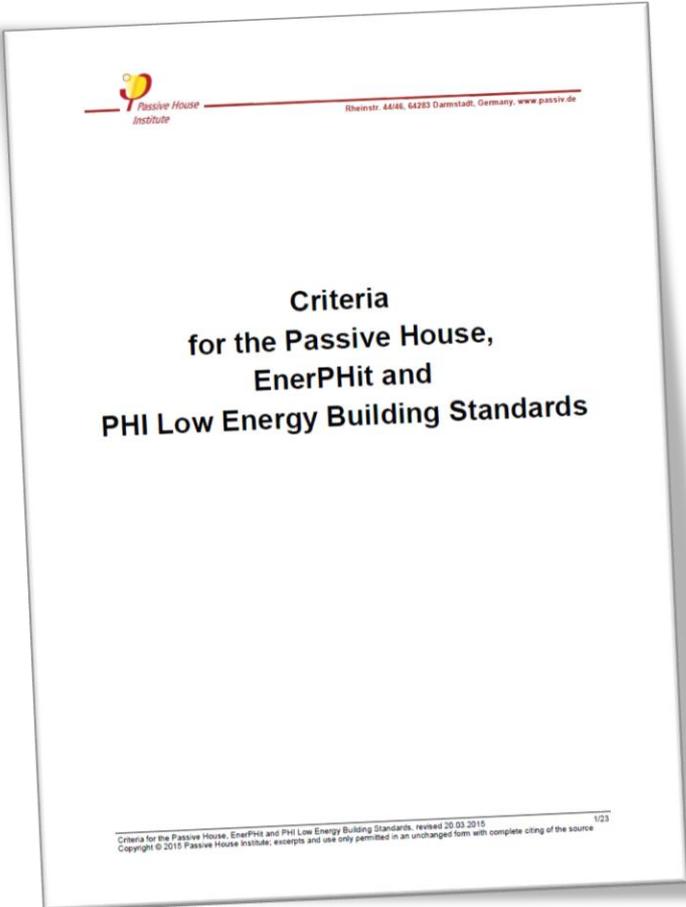
## The Benefits of Retrofit

- Reduce greenhouse gas **emissions**
- Energy savings = reduced energy **bills**
- Retain existing structure/materials
- Improved **thermal comfort**
- Indoor **environmental quality**
- Improved **health** of building occupants
- Community-wide improvements
- Uncover/repair existing **damage**
- Improved building **appearance**/durability
- Extend the useful life of the building
- Higher **re-sale** value
- Increase rental **income**
- Generate **economic/job opportunities**



## PHI building criteria update 2015

- All PHI building energy standards combined in one document
- Verification according to Renewable Primary Energy (PER) demand and generation (optional)
- Classification as Passive House or EnerPHit Classic, Plus and Premium
- Criteria for all standards applicable worldwide
- Introduction of the new PHI Low Energy Building Standard
- **Pre-certification for stepwise retrofit**



Criteria  
for the Passive House,  
EnerPHit and  
PHI Low Energy Building Standards

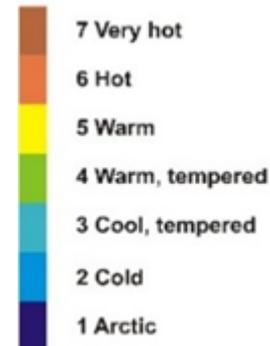


➤ **In effect for English-speaking users from late 2015 (Release of PHPP9 EN)**



# International EnerPHit criteria – 1st possibility

# EuroPHit



or alternatively,  
energy demand method:

Climate Zone according to PHPP	Heating	Cooling
	Max. heating demand	Max. cooling + dehumidification demand
	[kWh/(m <sup>2</sup> a)]	[kWh/(m <sup>2</sup> a)]
Arctic	35	equal to Passive House requirement
Cold	30	
Cool-temperate	25	
Warm-temperate	20	
Warm	15	
Hot	-	
Very hot	-	



# International EnerPHit criteria – 2nd possibility

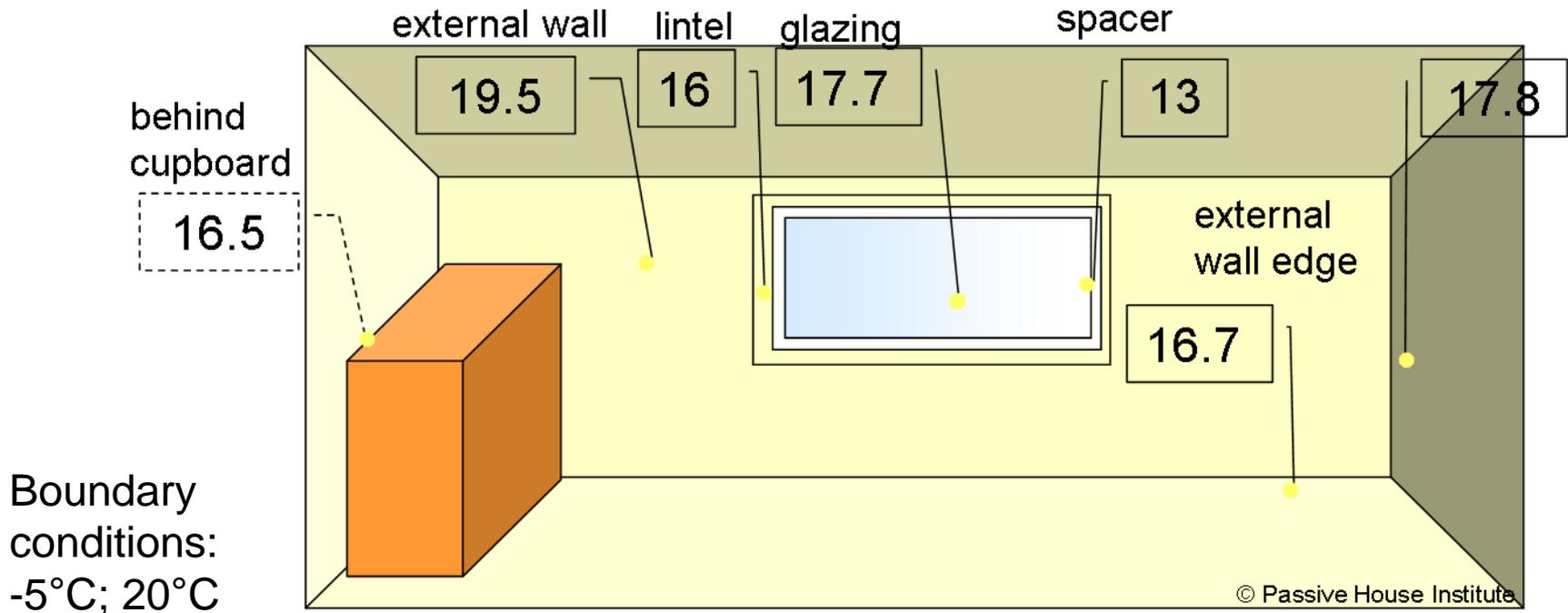
building component method:

Climate Zone according to PHPP	Opaque envelope <sup>1</sup> against...				Windows (including exterior doors)				Ventilation		
	...ground	...ambient air			Overall <sup>4</sup>			Glazing	Solar load <sup>5</sup>	Min. heat recovery rate <sup>6</sup>	Min. humidity recovery rate <sup>7</sup>
	Insulation	Exterior insulation	Interior insulation <sup>2</sup>	Exterior paint <sup>3</sup>	Max. heat transfer coefficient ( $U_{D/W, installed}$ )			Solar heat gain coefficient (g-value), only if active heating present	Max. specific solar load during cooling period		
	Max. heat transfer coefficient (U-value)			Cool colours						[W/(m <sup>2</sup> K)]	
	[W/(m <sup>2</sup> K)]			-	[W/(m <sup>2</sup> K)]	-	[kWh/m <sup>2</sup> a]	%			
Arctic	Determined in PHPP from project specific heating and cooling degree days against ground.	0.09	0.25	-	0,45	0,50	0,60	$U_g - g*0.7 \leq 0$	100	80%	-
Cold		0.12	0.30	-	0,65	0,70	0,80	$U_g - g*1.0 \leq 0$		80%	-
Cool-temperate		0.15	0.35	-	0,85	1,00	1,10	$U_g - g*1.6 \leq 0$		75%	-
Warm-temperate		0,30	0,50	-	1,05	1,10	1,20	$U_g - g*2.8 \leq -1$		75%	-
Warm		0.50	0.75	-	1,25	1,30	1,40	-		-	-
Hot		0.50	0.75	Yes	1,25	1,30	1,40	-		-	60 % (humid climate)
Very hot		0.25	0.45	Yes	1,05	1,10	1,20	-		-	60 % (humid climate)



# EnerPHit retrofit: 20cm insulation + PH windows

EuroPHit



- temperature of key surfaces greater than 16°C
- no mould problems, even behind furniture!
- internal relative humidity can reach 62% without fear of mould growth



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You can achieve the same airtightness in a retrofit as you can in Passive House new builds with n50 values of 0.60 h-1 and less!



# Ventilation is key

Ventilation always makes sense!

- **removing humidity lowers the risk of moisture damage!!!**
- an old building may have more pre-existing thermal bridges
- a retrofit will become much more airtight upon installing new windows
- occupants may not be used to opening windows regularly

*If you install a ventilation system, invest in an efficient one!*



## **3. Case studies and Observer projects**



# Case studies



- CS01 ● Home for the Elderly, County Dublin
- CS02 ● Secondary School, Galway
- CS03 ● Hotel, Valcanover
- CS05 ● Social Housing, Courcelles
- CS06 ● Social Housing, Liévin
- CS15 ● Family Home, Tournon-sur-Rhone
- CS08 ● Therapy Centre, Asturias
- CS16 ● Single Family Home, Santander
- CS10,CS11 ● Two Schools, Gabrovo
- CS12 ● Family Home, Svartbäcksvägen
- CS13 ● Rehab Workshop, Naestved
- CS14 ● Council Apart. Block, Portsmouth

<http://europhit.eu/casestudies>



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## CS 1: Rochestown Home for Elderly



Client: Dun Laoghaire  
Rathdown (DLR) County  
Council

Passive House Consultant:  
MosArt, Ireland,  
[www.mosart.ie](http://www.mosart.ie)

## CS 2: RosMuc Secondary School



Client: Vocational  
Educational Committee  
(VEC)

Passive House Consultant:  
MosArt, Ireland,  
[www.mosart.ie](http://www.mosart.ie)



## CS 3: Hotel-Restaurant Valcanover



Client: Maria Biasi and  
Monica Valcanover

Passive House Consultant:  
ZEPHIR, Italy, [www.zephir.ph](http://www.zephir.ph)

## CS 14: Wilmcote multifamily house (UK)



Client: Portsmouth City  
Council

Passive House Consultant:  
Sustainable By Design,  
Encraft, ECD Architects



## CS 5: Multifamily social housing in Courcelles-lès-Lens



Client: SIA Habitat

Passive House Consultant:  
not yet decided

[www.lamaisonpassive.fr](http://www.lamaisonpassive.fr)

## CS 6: Social semi-detached houses in Auby



Client: SIA Habitat

Passive House Consultant:  
not yet decided

[www.lamaisonpassive.fr](http://www.lamaisonpassive.fr)



## CS 15: Single family house, Tournon sur Rhône



Client: Family André

Passive House Consultant:  
not yet decided

[www.lamaisonpassive.fr](http://www.lamaisonpassive.fr)

## OP 4: Student house, Maison des Industries Agricoles et Alimentaires



Client: Association Maison  
des Industries Agricoles et  
Alimentaires

Passive House Consultant:  
Atelier D architecture &  
urbanisme durable

[www.atelier-d.fr](http://www.atelier-d.fr)



# Spain

**EuroPHit**

## CS 8: Therapy Center La Santina



Client: HH. MM.  
Capuchinos de España

Passive House Consultant:  
PEP, Nuria Díaz Antón /  
Anne Vogt

[www.plataforma-pep.org](http://www.plataforma-pep.org)

## CS 16: Single family house Centón



Client: Cesar Blanco  
Sancibrián

Passive House Consultant:  
PEP, Nuria Díaz Antón /  
Anne Vogt

[www.plataforma-pep.org](http://www.plataforma-pep.org)



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## CS 10: Primary school “St.St. Kiril and Methodius”



Client: Municipality of  
Gabrovo

Passive House Consultant:  
Eneffect Group,  
[www.eneffect.bg](http://www.eneffect.bg)

## CS 11: Primary school “Tsanko Dustabanov”



Client: Municipality of  
Gabrovo

Passive House Consultant:  
Eneffect Group,  
[www.eneffect.bg](http://www.eneffect.bg)



## CS 12: Single family house (SE)



Client: Ville & Andrea  
Mäkinen

Passive House Consultant:  
IGPH Sverige AB,  
[www.igpassivhus.se](http://www.igpassivhus.se)

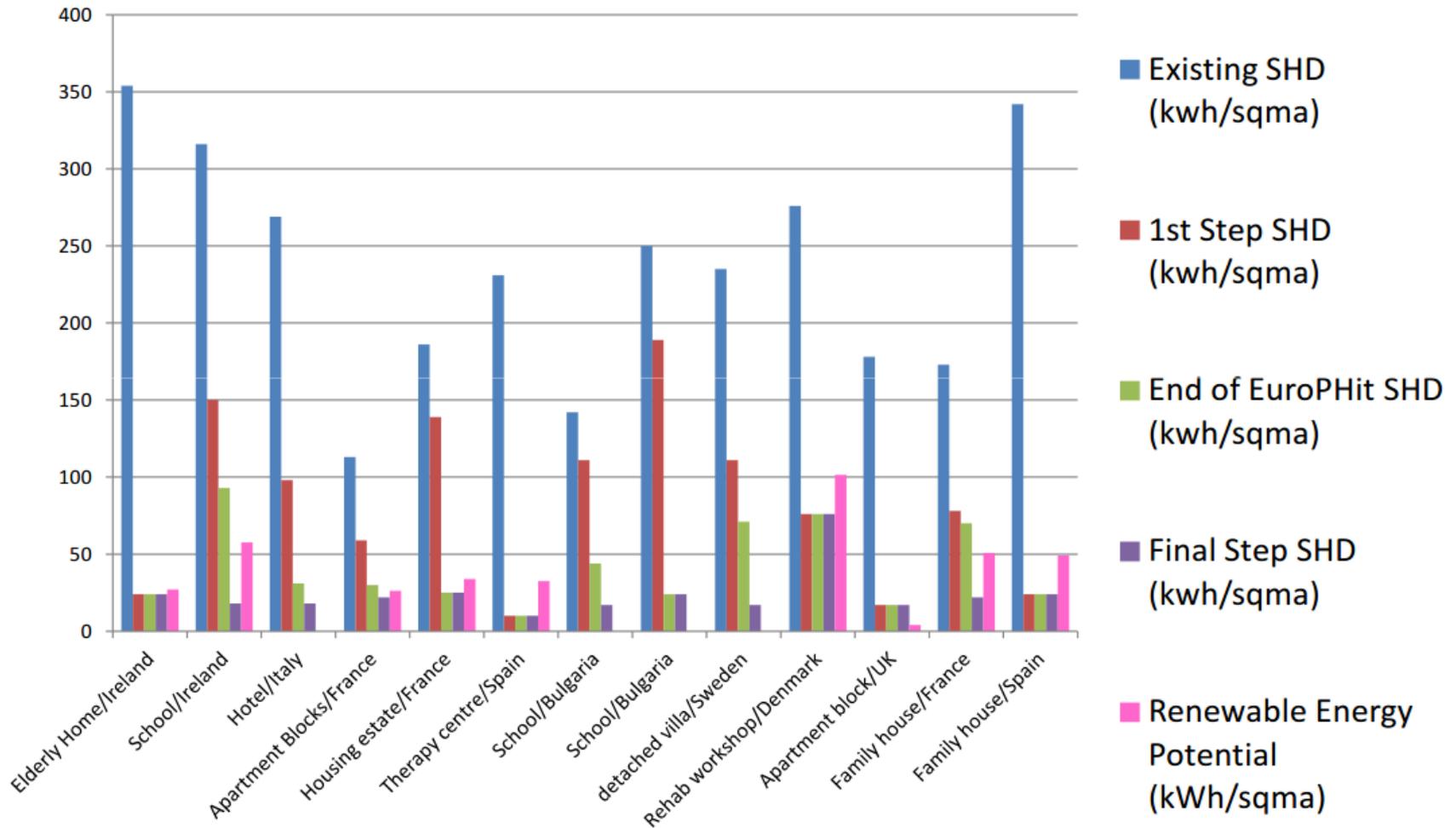
## CS 13: Tommerupvej 8B, Rehabilitation workshop building (DK)



Client: Næstved Kommune

Passive House Consultant:  
Passivhus.dk ApS,  
[www.passivhus.dk](http://www.passivhus.dk)





Overview of EuroPHit case studies performance, © MosArt, Passive House Academy



# Case studies

Visit Case studies information on EuroPHit website and find out more about:

- Technical solutions
- Modernisation proposals and Current situation
- Efficient step-by-step improvement
- Photos from the construction site
- Technical details
- Contact informations

The screenshot displays the EuroPHit website interface. At the top, there is a navigation menu with links for Home, Energy Retrofits, Projects, Finance, Products, Events/Awards, Info & News, and Members. Below the menu, the page title is 'Case Studies'. On the right side, there is a search bar and a yellow banner that reads 'Hot EuroPHit Forum Discussions NOW!' with buttons for 'NOW' and 'FORUM'. The main content area lists three case studies:

- CS01 Rochestown Home for Elderly**  
Building Owner: Dun Laoghaire Rathdown (DLR) County Council  
Consulting EuroPHit Partner: MosArt - Contact person: Mariana Moreira  
Country: Ireland  
Existing treated fl
- CS02 RosMuc Sec**  
Building Owner: Consulting Euro  
MosArt - Contac
- CS03 Hotel'**  
Building Ov  
Consulting ZEPHIR - C  
Country:

Below the text, there are three small images of buildings. To the right of the text, there are two technical diagrams showing cross-sections of a wall and floor junction. The diagrams are labeled 'EXISTING' and 'Final Step'. The 'EXISTING' diagram shows a cross-section with a 'Losses = 20.4 W/m' and a ' $\psi$ -value [W/m<sup>2</sup>K] = -0.057'. The 'Final Step' diagram shows a cross-section with a 'Losses = 16.3 W/m' and a ' $\psi$ -value [W/m<sup>2</sup>K] = -0.036'. A color-coded legend for thermal bridges is provided next to the diagrams. Below the diagrams, there is a section titled 'Case Study\_OPxx\_Treviana Street Flat\_Spain' with a '3 STEP' diagram showing a vertical section of a wall and floor junction. The diagram includes a legend for 'COLOR CODE' and 'DESCRIPTION/CHALLENGES'.



# Observers projects

# EuroPHit

## Call for observers projects

<http://europhit.eu/observerprojects>

→ Want to get involved in EuroPHit?

→ Do you have an old building in need of retrofitting?

→ Do you want to retrofit with a view to energy efficiency?

Even if you are only planning to make a single upgrade on the way to a step-by-step renovation, EuroPHit could help you.

**We are interested in your experiences! Contact us to get involved!**



EuroPHit Observer projects: Single family house in Lyon, France © LaMP; Family house in Zellingen am Main, Germany © PHI; Family house Stella Marris, Ireland © MosArt (from left to right)



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## 4. Products



# Products for step-by-step refurbishment

# EuroPHit

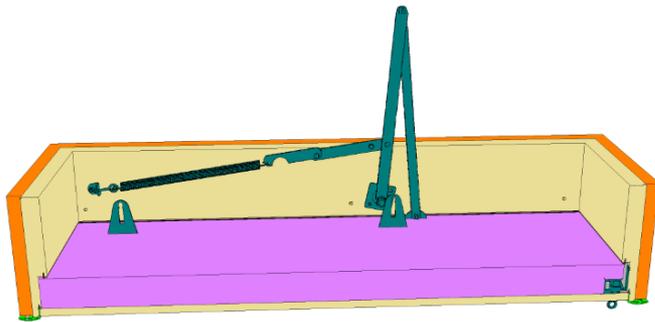


Figure © PHI

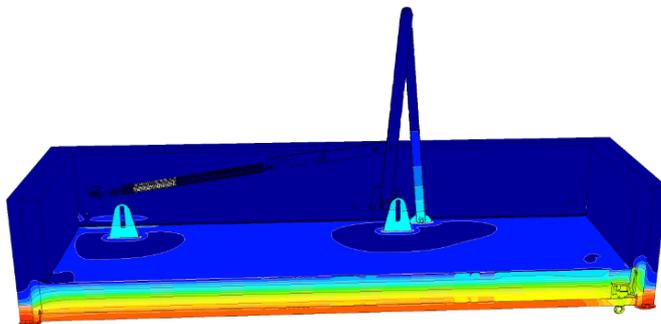


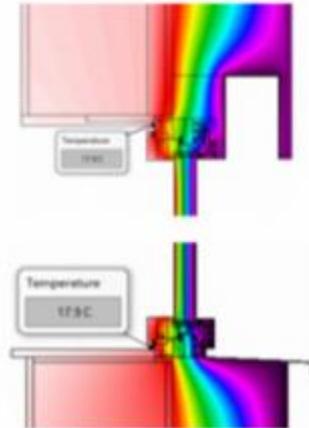
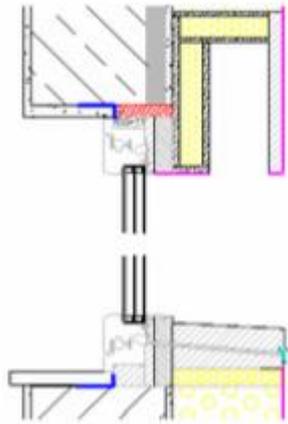
Figure © PHI



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The main challenge in the Component Award 2015 for Passive House windows was that the product had to show a degree of flexibility since refurbishments are often carried out in a step-by-step manner.

Ideal windows had to deliver excellent results during the transitional period as well as after the completion of all refurbishment measures.

The cost effectiveness of the windows was assessed first and foremost, with a comparison of purchase costs with potential savings.

## The right products

EuroPHit supports manufacturers in designing products that aid step-by-step renovation

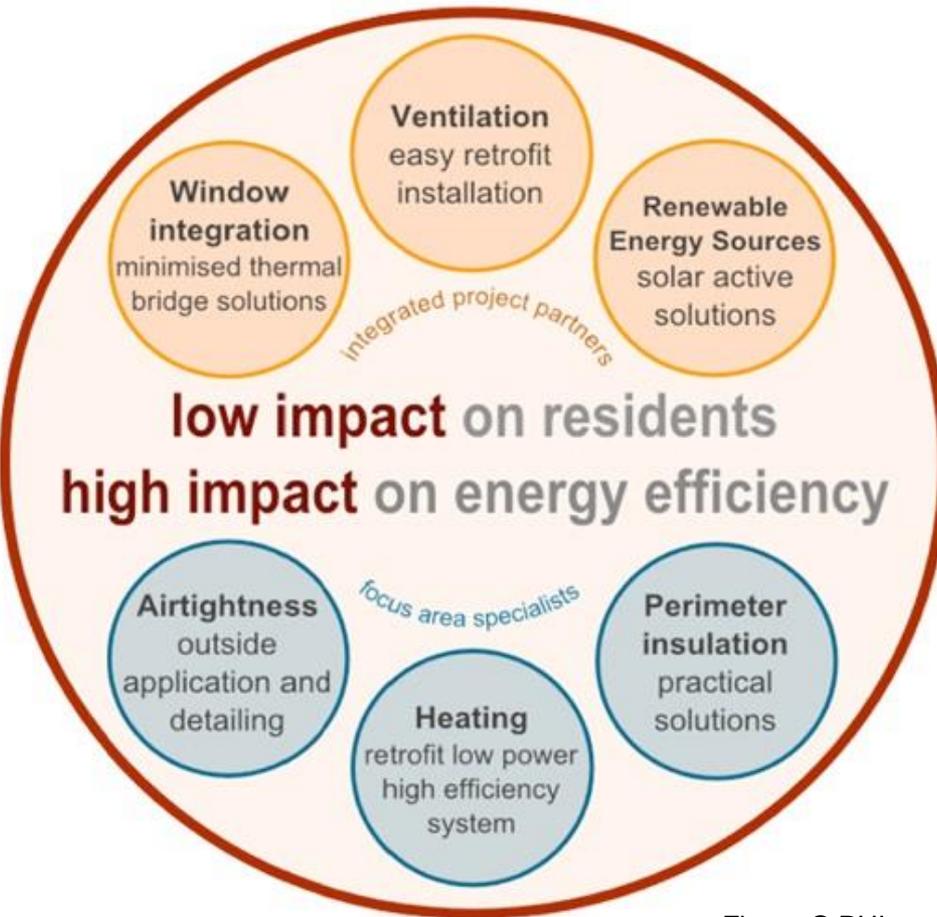


Figure © PHI

## Calling for

- Ideas for product suited to step by step retrofitting
- Manufacturers interested in working with EuroPHit on products

**We want to hear from you!**

## Cost efficient ventilation for residential buildings

- Refurbishment of multi-family houses
- 3 room apartment
  - ✓ Heat recovery unit
  - ✓ Ducting system
  - ✓ Installation and additional costs
  - ✓ Maintenance costs
- No preference for central or flatwise solutions
- Energy and cost efficient solutions for both types needed



Photos © PHI



## Requirements: Certified Passive House Components

### 1. Hygiene criterion

Outside air filter at least F7, Exhaust Filter at least G4

### 2. Comfort criteria

Minimum supply air temperature: 16.5 °C @  
-10°C outside air temperature

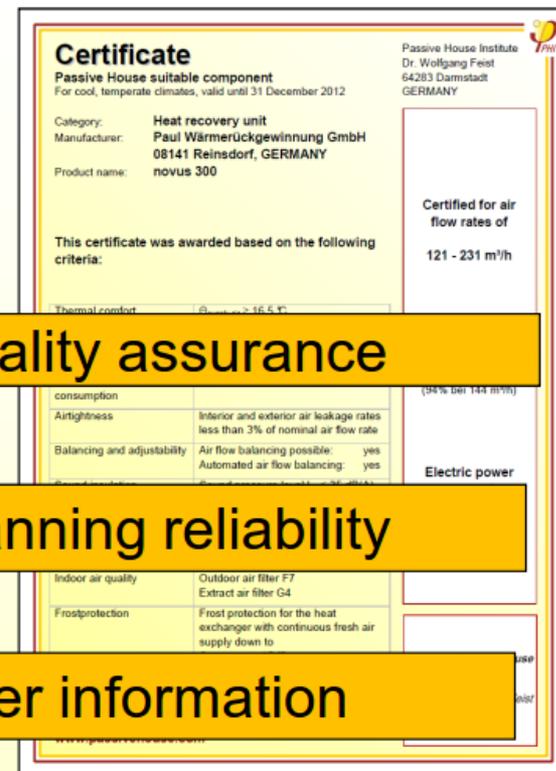
### 3. Efficiency criteria

- a. Heat:  $\eta_{HR} > 75 \%$
- b. Electricity (1): max. 0,45 Wh/m<sup>3</sup>
- c. Electricity (2): Standby: max 1 W

### 4. Control strategy

Min. 3 ventilation level

### 5. Frost protection



<http://europhit.eu/component-award-2016>



## 5. Financing



# Financial case for retrofitting

## Annual payments

*The annuity method*

Example: investing in ETHICS insulation

- Initial costs of €106/m<sup>2</sup> minus €20/m<sup>2</sup> (no need to remove old plaster)
- 30 year loan, 2.5% interest; Payments at 4.8% annually (interest + principle)

### Annual breakdown

- Total costs: €3.86/m<sup>2</sup>
- Total savings (heating): €6.79/m<sup>2</sup>
- Resulting profits: €2.93/m<sup>2</sup>

***Result: an 8% tax free annual cash return***

Attractive at current energy prices

Guaranteed, risk-free and tax-free return of 4 to 15% annually for 30 years!



**Energy retrofits pay off!!!**

**...still, finding appropriate financing for the investment needed is key.**



Photo © Images Money,  
TaxRebate.org.uk

EuroPHit is providing financial institutes with the information they need to offer appropriate financial products for step by step retrofits

**Help guide EuroPHit's work today by completing the **online financial survey** for construction project managers, surveyors, financiers, and other stakeholders**

bre  
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### EuroPHit Questionnaire

This questionnaire is intended to investigate people's experience of energy efficient (EE) refurbishments in European countries as part of the research for the EuroPHit project. We would be very grateful if you would spend a few minutes to complete the questionnaire which is in four sections.

Section 1: General Information  
Section 2: Financial opportunities and barriers  
Section 3: Existing finance models  
Section 4: Your experience of EE refurbishments

All information you provide will be treated in confidence by the research team. Please note that until you submit your response at the end of the survey, your answers will be saved so you can take a break and return to the survey at any time as long as you use the same e mail address.

**Section A: About you and your organisation**

A1: Please provide some details about you and your organisation

Name of your organisation

Your name

Your e-mail

Your phone number

Work address 1

Work address 2

Work address 3

Post Code

Country

Next

Survey Powered By Qualtrics

# Financial workshops

EuroPHit



Financial workshops held around Europe: in UK (top left), in Denmark (top right, middle bottom), in Ireland (bottom left), in Slovakia (bottom right); Photos © EuroPHit partners

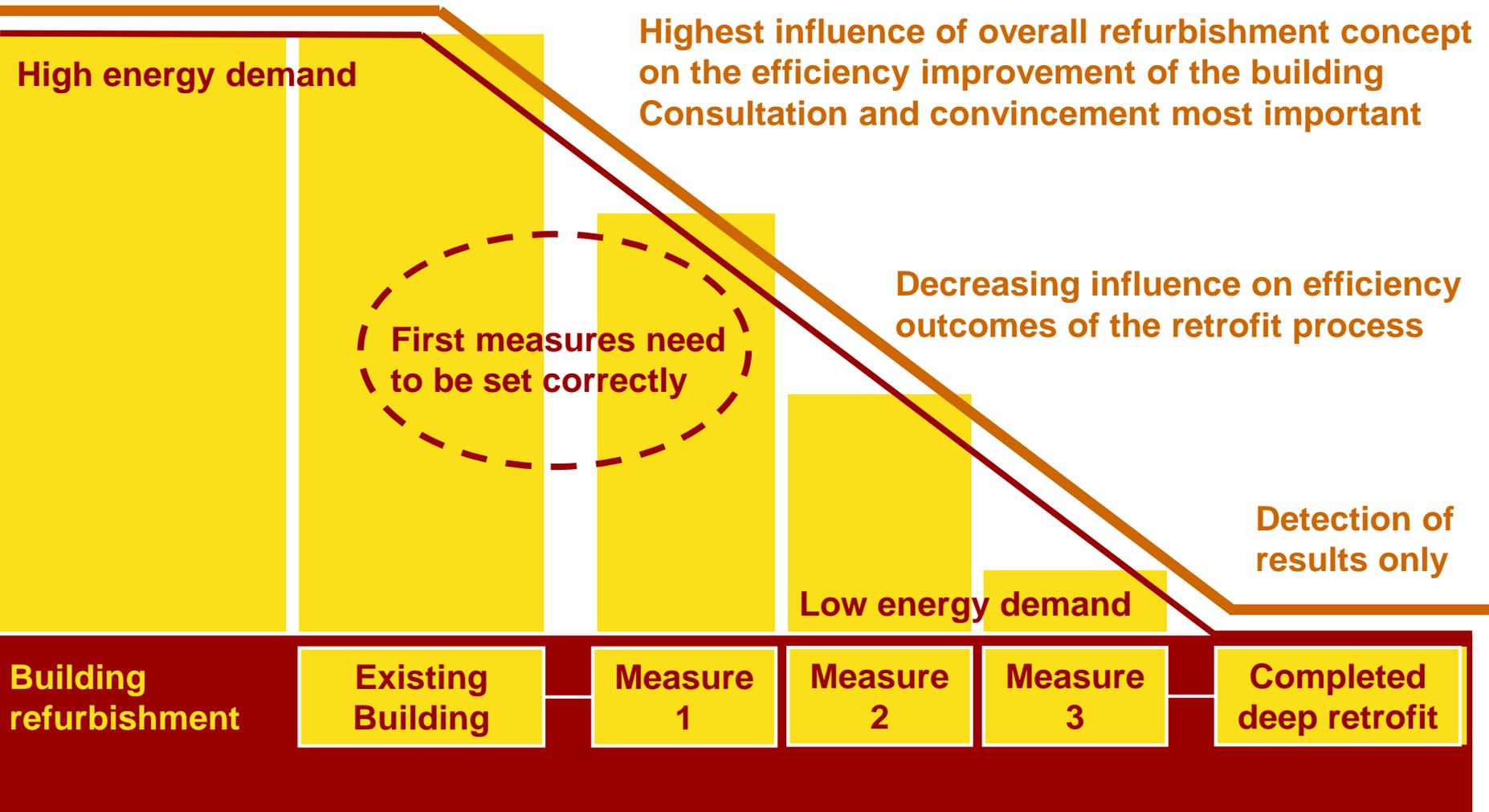


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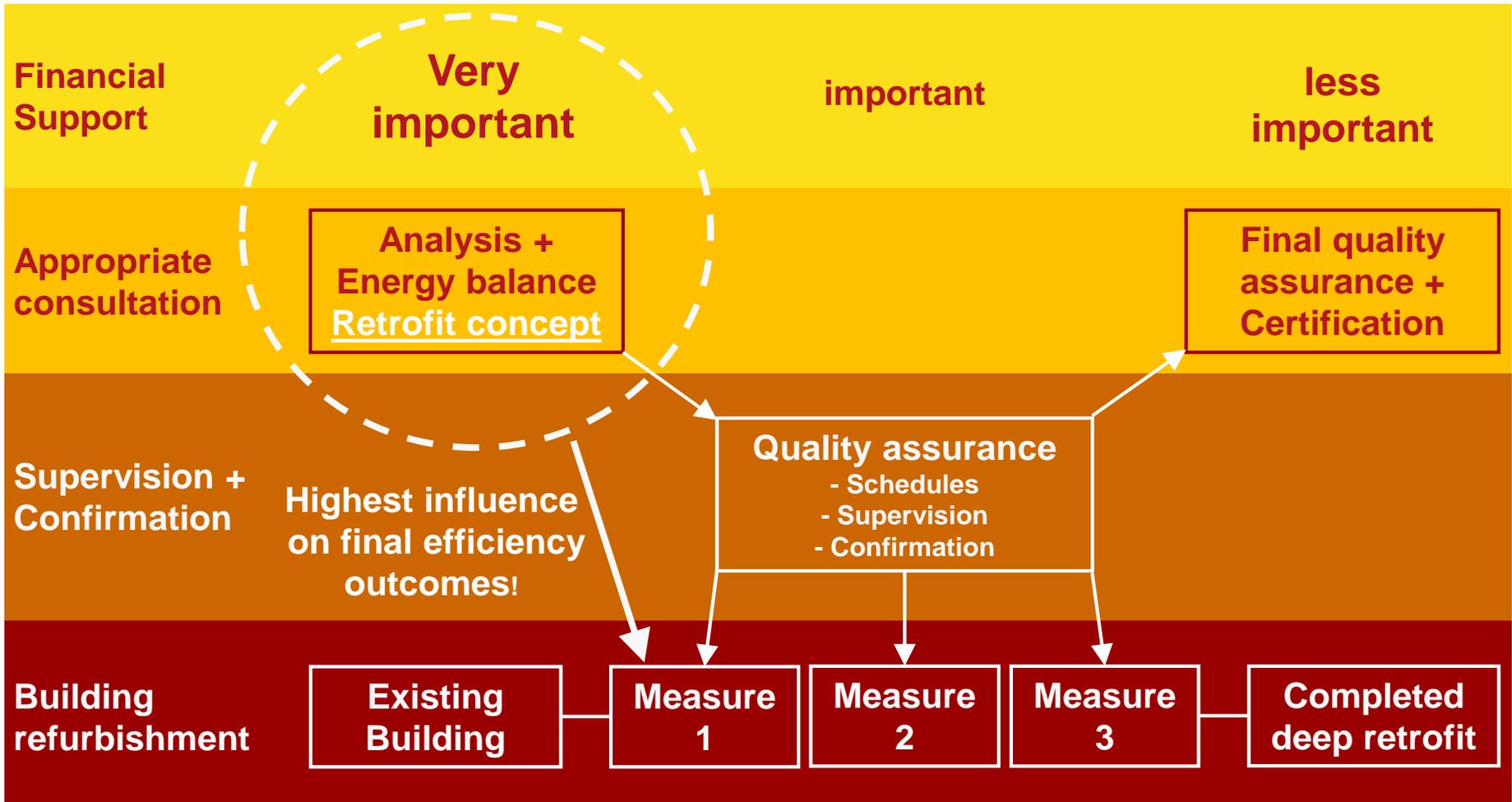
[www.europhit.eu](http://www.europhit.eu)



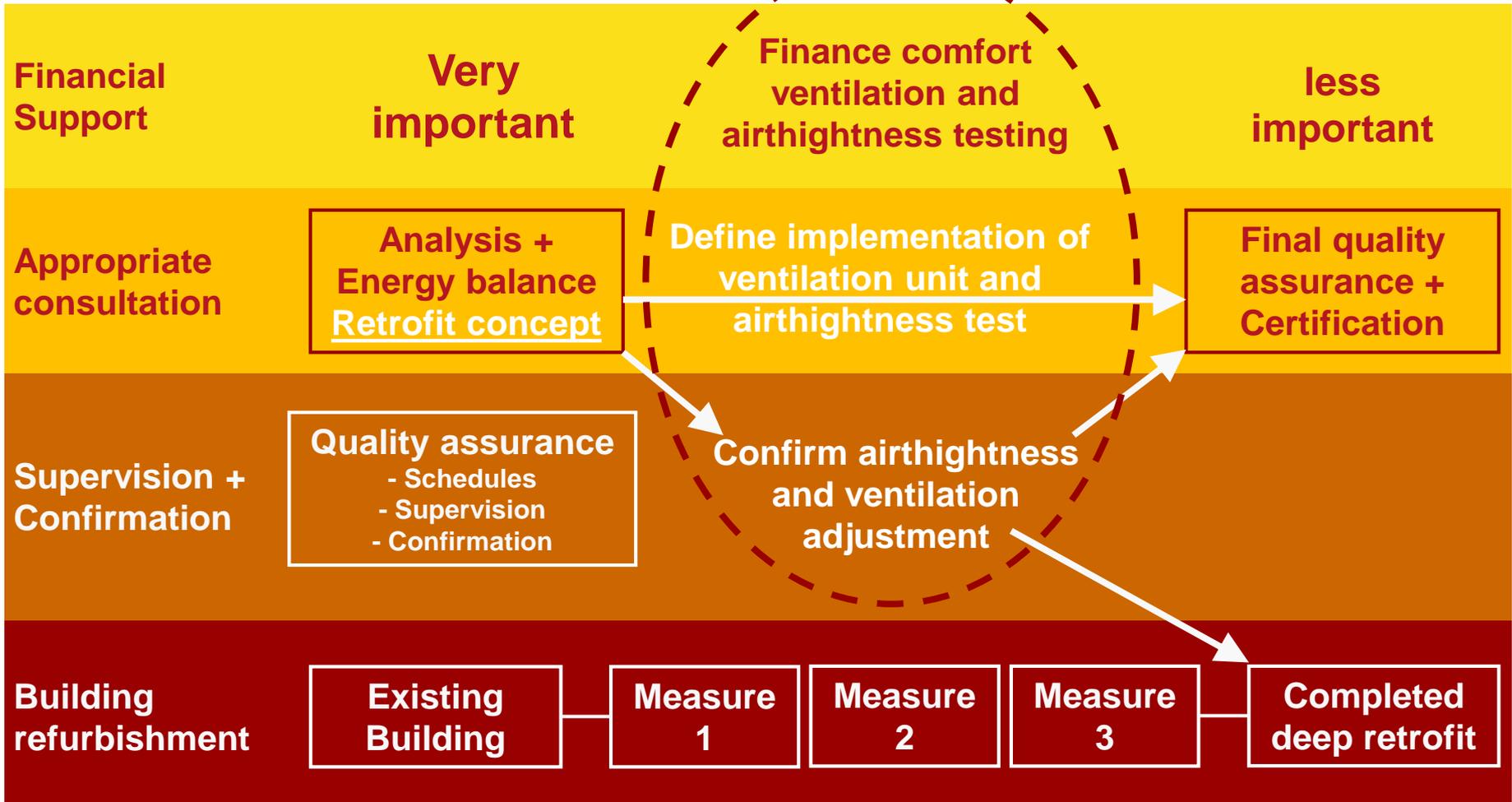
# Better concepts for step-by-step financing



# Financial focus on initial consultation



# Support unpopular measures



## 6. EuroPHit trainings



Trained professionals are invaluable!



Photo © MosArt

**EuroPHit training for designers and contractors with a focus on step by step retrofits**

- Courses being rolled out across the EU wherever there is a EuroPHit case study
- A special course will be dedicated to the key topic of airtightness

**Check the EuroPHit events calendar for more information!**



# EuroPHit Trainings

# EuroPHit

Outlines of the training materials for designers, tradespeople and airtightness installations are available for download on the [EuroPHit website](http://www.europhit.eu).

[www.europhit.eu/downloads](http://www.europhit.eu/downloads)



Theoretical and practical training in dedicated PH labs in Madrid. Spain, Photos © PEP



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[www.europhit.eu](http://www.europhit.eu)



## 7. Key past events



# 10th International Passive House Days 2014

# EuroPHit



PH Days 2014: 'Out of blue' Passive House in Wicklow (top left), Photo © Tomás O'leary; Passive House in the Bavarian village of Biburg-Alling (top middle), Photo © Justus Well; A residential building in Hamburg, certified to the EnerPHit Standard for refurbishment (top right), Photo © Markus Tollhopf; View of rear elevation of a Passive House in Dublin (bottom left), Photo © MosArt, The front view of a Passive House in Dublin, Photo © Niall Walsh

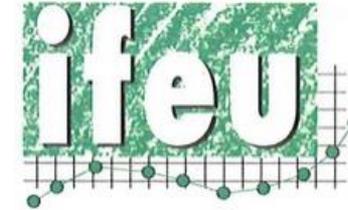


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[www.europhit.eu](http://www.europhit.eu)



- A concept developed by PHI, and largely developed within EuroPHit project, for the energy-focused modernisation of buildings has won first prize in a competition. The award jury especially lauded the approach of a "refurbishment road map" with appropriate individual steps.
- The intent is to provide both a certification of such "overall road maps" as well as an energy assessment of the individual refurbishment steps in the planning tool PHPP.
- The award was initiated by the Institute for Energy and Environmental Research in Heidelberg (ifeu).

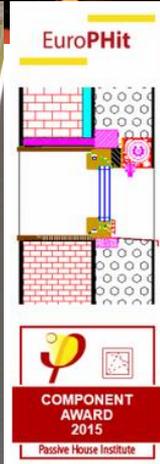


A screenshot of the website 'Gebäude Energieberater'. The header is red with a yellow navigation bar. The main content area is white and features a central diagram titled 'Die Zukunft im Blick' (The Future in Sight). The diagram shows a progression from 'Altbau' (old building) to 'EnerPHit' (modernized building) through three stages (1, 2, 3). Stage 1 is 'Modernisierungs-Fahrplan' (Modernization Roadmap), stage 2 is 'Modernisierungs-ZERTIFIKAT' (Modernization Certificate), and stage 3 is 'Zertifikat' (Certificate). The diagram is supported by an 'Online-Zertifizierungs-Plattform' (Online Certification Platform) which includes modules for 'Moderner Energie-Fahrplan', 'Moderner Energie-Zertifikat', and 'Zertifikat'. The website also features a search bar, a newsletter sign-up, and a 'WISSENSCHECK' (Knowledge Check) section.



# 19th Passive House Conference, Leipzig 2015

# EuroPHit



Photos © PHI



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[www.europhit.eu](http://www.europhit.eu)



## 8. Key upcoming events



With step by step retrofit projects, EnerPHit refurbishes and Passive House buildings taking part throughout the 11 partner countries and beyond!

[www.passivehouse-database.org](http://www.passivehouse-database.org)



PASSIVE HOUSE RESIDENTS WORLDWIDE OPEN THEIR HOMES:

# International Passive House Days

13–15  
November  
2015

Invitation

*Visit Passive House buildings or showcase your own project!*

**Doing more with less:**

- » Superior comfort
- » Minimal heating and cooling costs
- » For new builds and retrofits alike

**Experience Passive House buildings first hand!**

- Visits and guided tours offered across the globe
- Architects show how it's done
- Residents share their experiences

Please see  
[www.passivehouse-international.org](http://www.passivehouse-international.org)  
for further information. Participating buildings  
will be listed as of September on  
[www.passivehouse-database.org](http://www.passivehouse-database.org)

Foto: Alessandro Luchner Photography

International  
**PASSIVE HOUSE**  
Association 



**EuroPHit**

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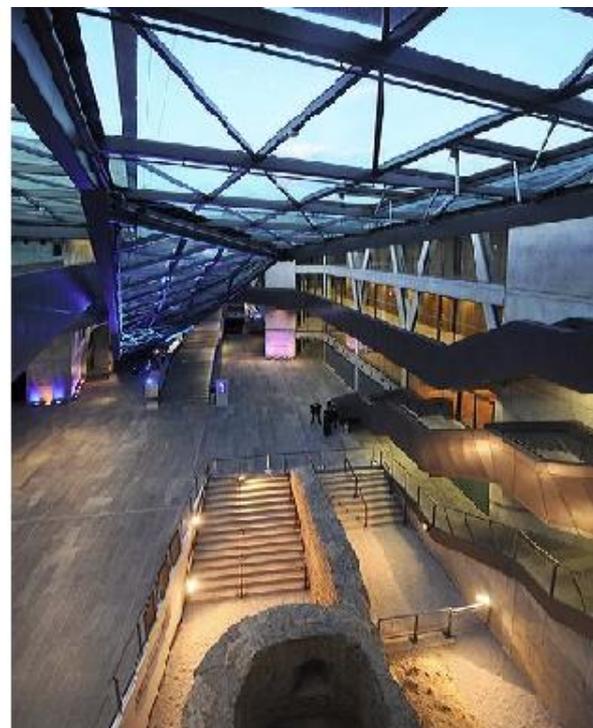
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# 20<sup>TH</sup> INTERNATIONAL PASSIVE HOUSE CONFERENCE 2016

22 – 23 April 2016  
Darmstadt, Germany



Photos © Darmstadtium



**Including special sessions on step-by-step retrofits, EuroPHit project results, and more!**

[www.passivehouseconference.org](http://www.passivehouseconference.org)

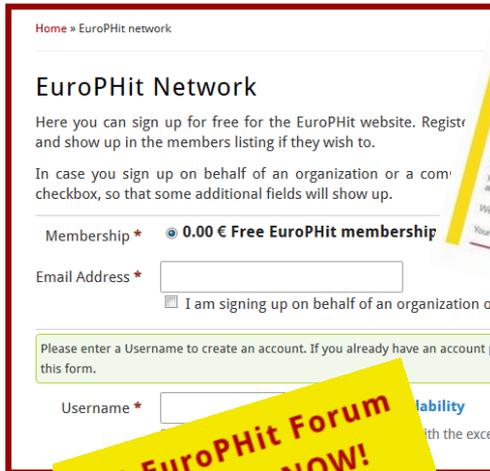
## **9. Join EuroPHit!**



# Getting involved

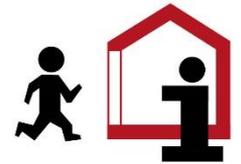
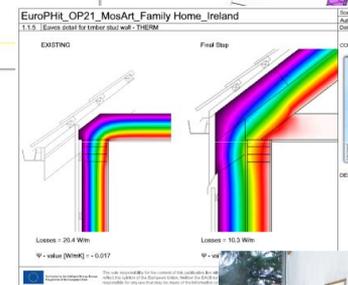
- Join the EuroPHit network for **FREE** and get **Forum access** and **updates of the project outcomes**
- Learn something new from EuroPHit outcomes

[europhit.eu/downloads](http://europhit.eu/downloads)



**Hot EuroPHit Forum Discussions NOW!**

Join EuroPHit posts!



- Contribute on our Forum with your questions and comments
- Attend one of our upcoming events:

[europhit.eu/events](http://europhit.eu/events)



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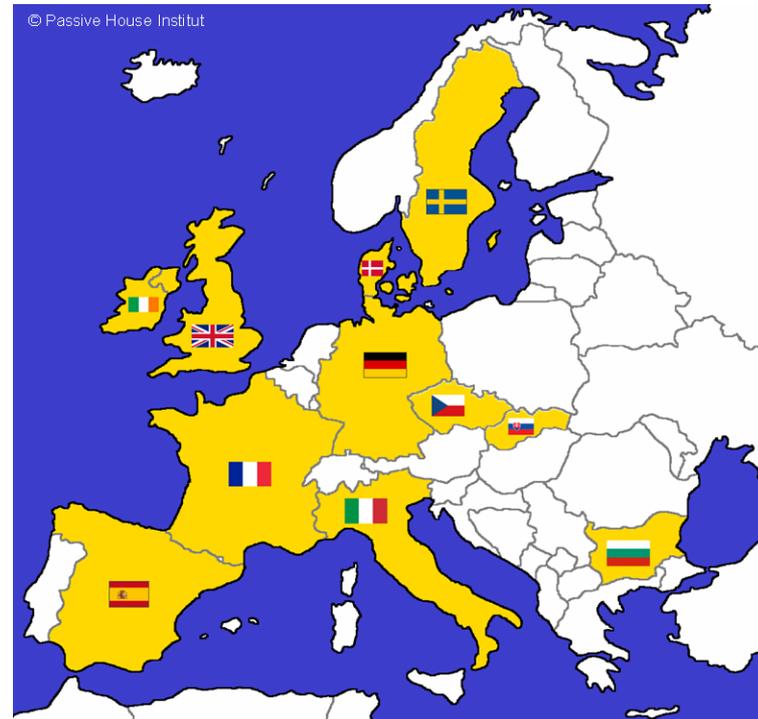
[www.europhit.eu](http://www.europhit.eu)



**Thank you  
for your attention**

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