

# D2.2\_Certificate for step-by-step energy efficient refurbishment including RES

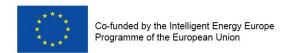
#### **INTELLIGENT ENERGY – EUROPE II**

Energy efficiency and renewable energy in buildings IEE/12/070

#### **EuroPHit**

[Improving the energy performance of step-by-step refurbishment and integration of renewable energies]

Contract N°: SI2.645928





#### **Technical References**

Project Acronym	EuroPHit			
Project Title	Improving the energy performance of step-by-step refurbishment and integration of renewable energies			
Project Coordinator	Jan Steiger Passive House Institute, Dr. Wolfgang Feist Rheinstrasse 44/46 D 64283 Darmstadt jan.steiger@passiv.de			
Project Duration	1 April 2013 – 31 March 2016 (36 Months)			

Deliverable No.	D2.1
Dissemination Level	PU
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Lead beneficiary	01_PHI
Contributing beneficiary(ies)	01_PHI
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## **Certificate**

Certified retrofit 'EnerPHit Premium' (Climate zone: Cool-temperate)



## **End-of-terrace Passive House Example Street 99, 99999 Example City, Germany**



Client	Passivhaus Association of Owners Example Street 99 99999 Example City, Germany			
Architect	Example Architectural Firm Example Street 99 99999 Example City, Germany			
Building Services	Example Mechanical Services Firm Example Street 99 99999 Example City, Germany			
Energy Consultant	Example Energy Consultant Example Street 99 99999 Example City, Germany			

Buildings retrofitted to the EnerPHit Standard offer excellent thermal comfort and very good air quality all year round. Due to their high energy efficiency, energy costs as well as greenhouse gas emissions are extremely low.

## The design of the above-mentioned building meets the criteria defined by the Passive House Institute for modernization to the 'EnerPHit Premium' standard:

Building quality	,			This building	3	Criteria	Alternative criteria
Heating Heating demand		nd [kWh/(m²a)]	14	≤	-	-	
Airtightness	tness Pressurization test result (n <sub>50</sub> )		<sub>50</sub> ) [1/h]	0,3	≤	1,0	
Non-renewable	primary energy (PE)	PE dema	nd [kWh/(m²a)]	39	≤	0	
Renewable primary energy (PER) PER-demand		nd [kWh/(m²a)]	33	≤	0	0	
Generation (reference to ground area)		a) [kWh/(m²a)]	128	≥	30	33	
Component qua	ality						
Building envelope to ambient air (U-value)		e) [W/(m²K)]	0,11	≤	0,15		
Building envelope to ground (U-value)		e) [W/(m²K)]	0,26	≤	0,28		
Windows/	<mark>Exterior doors (U</mark> w,insta	alled)	[W/(m <sup>2</sup> K)]	0,78	≤	0,85	
		Glazin <mark>g (g-valu</mark>	e) [-]	0,50	≥	-	
Glazing/shading (max. solar load)		d) [kWh/(m²a)]	13	≤	-		
Ventilation (effect. heat recovery efficieny)		y) [%]	82	≥	75		

The associated certification booklet contains more characteristic values for this building.

Passivetown, 22. February 2022

Certifier: Paul Passive, Passive House Institute