

Building for the Energy Revolution



*PassREg – Passive House Regions
with Renewable Energies*

Building for the energy revolution



In the face of climate change, the EU has set ambitious goals for an energy revolution...

The building sector represents 40% of our carbon emissions and is KEY to this revolution!

We need solutions! Passive House provides answers...



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Overview



- **Passive House: a solid basis**
- **The PassREg project**
- **Learning from best practice**
- **Key outputs**
- **Building the groundwork: Quality Assurance**
- **Building the groundwork: Training**
- **PassREg events and 2014 Passive House Award**
- **Project partners**



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

www.passreg.eu

International

PASSIVE HOUSE

Association

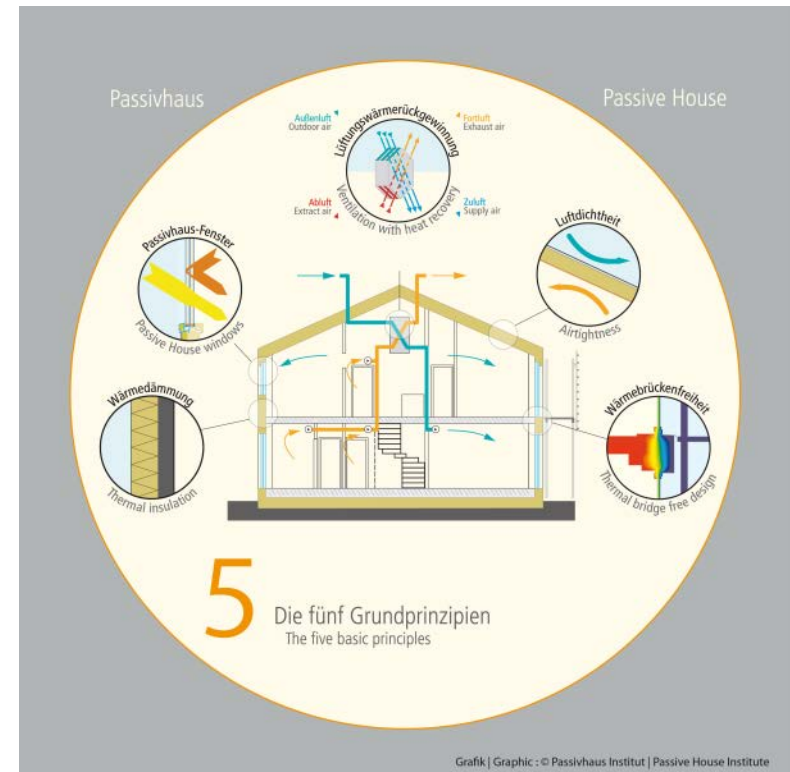


Passive House: a solid basis



Passive House is the basis

- Internationally recognised building energy standard
- Applicable to a variety of climates and building types
- Maximum comfort with minimal energy use and life cycle costs
- Tried and true over 2 decades
- Assessed with the Passive House Planning Package (PHPP)



Passive House buildings use up to 90% less energy than 'typical' buildings



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

www.passreg.eu

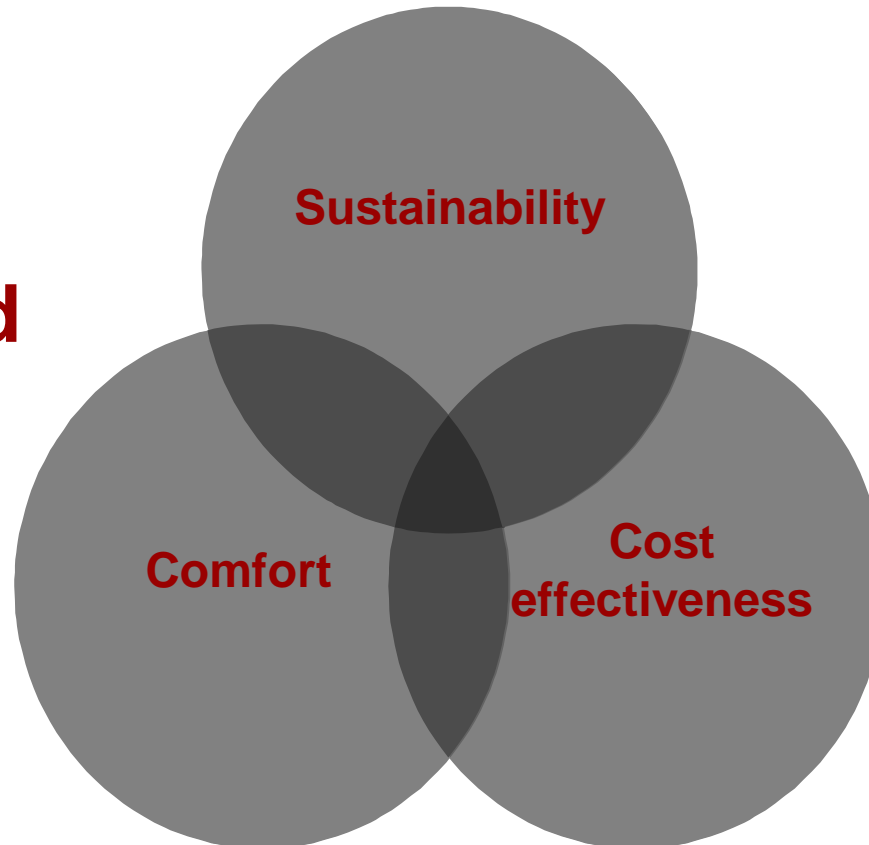
International
PASSIVE HOUSE
Association

The logo for the International Passive House Association (IPHA), featuring a stylized house icon with the letters "IPHA" below it.

Passive House: a solid basis



**Passive
House
Standard**



**Buildings
built
better**

Flexible, straightforward and open to all



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Passive House: a solid basis



Passive House makes
renewables feasible

Energy efficiency first!

Passive House reduces
energy demand such
that it becomes more
feasible and economical
to supply remaining
energy needs with
renewable technologies,
onsite or nearby



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

www.passreg.eu

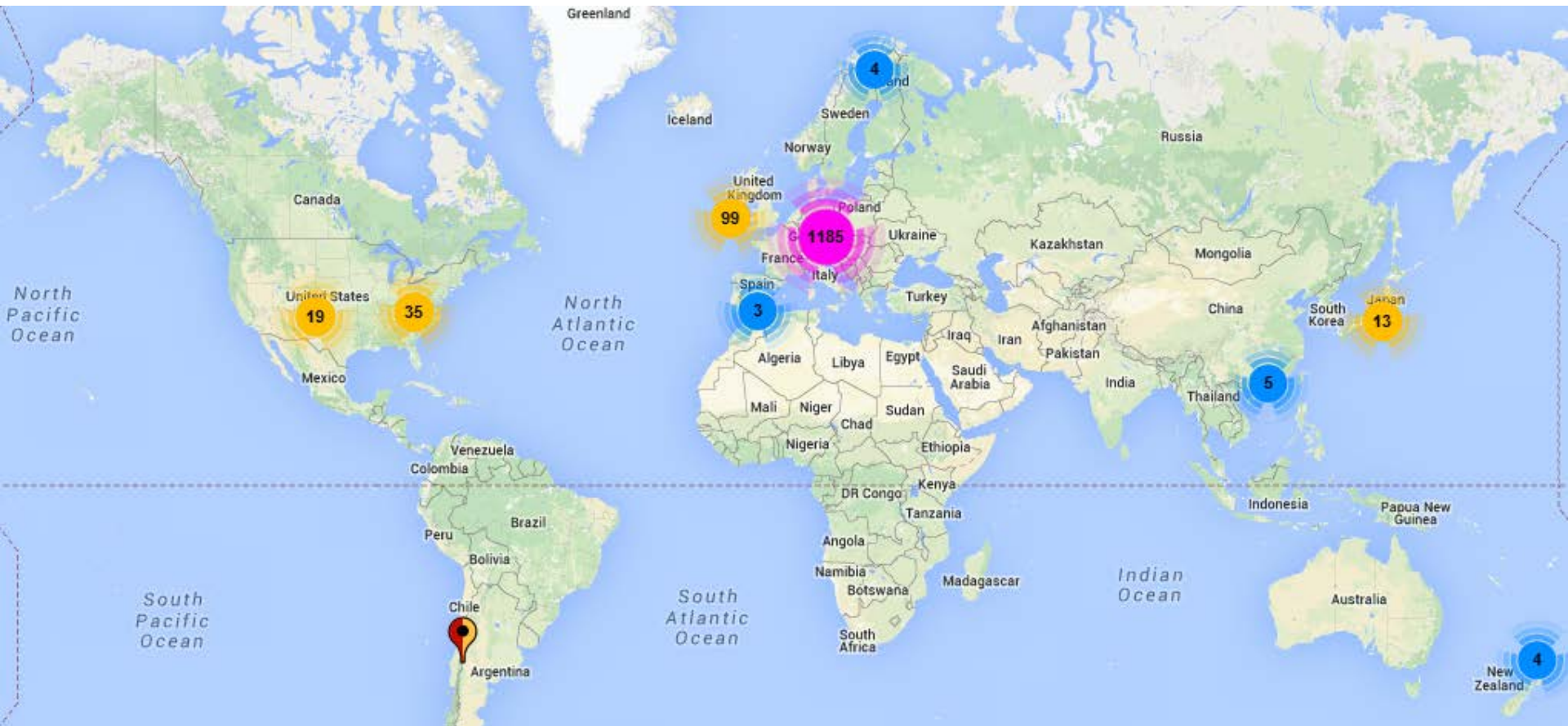
International

PASSIVE HOUSE

Association



Passive House: a solid basis



An estimated 50,000 PH units worldwide ...over 9,500 certified!



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

www.passreg.eu

International

PASSIVE HOUSE

Association



The PassREg project



The PassREg project aims to promote the growth of

Passive House Regions with Renewable Energies

Regions that promote an 'energy efficiency first' approach with the Passive House Standard, thus making renewable energy sources to deliver the remaining energy demand feasible

Some regions are already successfully implementing Passive House with renewable energies; Others have a longer road ahead of them...



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

www.passreg.eu

International

PASSIVE HOUSE

Association



The PassREg project



14 Partners. 11 Countries. 3 Years. 1 Goal.

Supporting the growth of Passive House regions

PassREg helps aspiring regions succeed by

- Investigating successes
- Making them known and accessible
- Building up training, quality assurance and certification infrastructure
- Simulating the market for suitable products and professionals



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

www.passreg.eu

International

PASSIVE HOUSE

Association



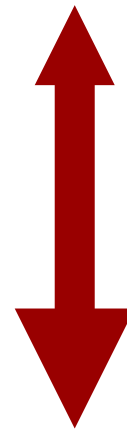
Learning from best practice



PassREg draws from experiences in front runner regions

The Region of Tyrol (Austria)
The Brussels Capital Region (Belgium)
The City of Hanover (Germany)

Front runners may also learn from one another or from aspiring regions in this process!



Through the study of

- Individual building projects
- Whole regions

Makes approaches accessible to aspiring regions striving to become front runners themselves



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

www.passreg.eu

International

PASSIVE HOUSE

Association



THE FRONTRUNNER REGIONS



Hannover, Germany



- Birthplace of PH concept
- Began in the 1980s
- Political consensus present / financial mechanisms in place

Brussels, Belgium



- Heart of EU
- Recent political commitment to the PH standard
- Rapid growth in PH new builds and retrofits

Tyrol, Austria



- Strong national and regional policies
- LPHA dominated construction market
- Vast improvements over last few years



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

www.passreg.eu

Learning from best practice



Key fields of focus

- Policy and strategy implementation
- Financial mechanisms
- Education and training needs
- Quality assurance



© Michael Tribus Architecture

One to one transfer is NOT the goal!

Tailoring successes for local contexts is critical to all areas!!



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

www.passreg.eu



Key outputs



- A 'Success Guide' detailing successes in frontrunner regions
- New Passive House buildings implementing RES (Beacons)
- A set of varied resources detailing individual solutions and guidance
- Training and Capacity building
- International and regional events and study tours
- 2014 Passive House Award



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

www.passreg.eu

International
PASSIVE HOUSE
Association

The logo for the International Passive House Association (IPHA), consisting of a red outline of a house with a chimney, and the letters "IPHA" in black below it.

Key Outputs: Success Guide REGULATIONS VS. INCENTIVES



Hannover, Germany



- Energy concept and standards
- The proKlima fund
- Public-private partnerships and support for SMEs

Brussels, Belgium



- Mandatory local regulations
- The “Exemplary buildings” programme
- Financial incentives in place

Tyrol, Austria



- National framework and strategies
- Energy strategies at federal states level
- Incentives based on energy performance



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

www.passreg.eu



Key Outputs: Success Guide CAPACITY FOR CHANGE



Hannover, Germany



- Agenda 21 and public dialogue
- Functioning networks
- Administrative capacity

Brussels, Belgium



- Institutional arrangements: Brussels environment
- Training of building professionals
- Awareness raising campaigns

Tyrol, Austria



- Knowledge sharing hub: Energy agencies
- Networking and PPP
- Professional capacity building



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

www.passreg.eu

Key Outputs: Success Guide CONCLUSIONS SO FAR



Hanover: success is based on **longstanding political consensus** on the strategic goals of the region.

Brussels: recent explosion of PH construction due to **new legislation / incentive schemes.**

Tyrol: example of **regional and local initiatives**, pioneering role of limited profit housing associations.

Success can be top down or bottom up or both...

EU 2020
Energy goals



Regional and
private
commitment



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Key Outputs: Success Guide CONCLUSIONS SO FAR



- **Implementing Passive House in the definition of national standards for ‘nearly zero-energy buildings’ is a major opportunity and challenge for each EU member state.**
- **The compulsory regulation of PH buildings is effective, when implemented with appropriate *promotional tools*.**
- **Striving for sustainability through Passive House (and ‘green’) buildings creates *new industries and jobs*, boosting economic growth.**
- **The availability of an appropriate national regulatory framework is a favourable condition, but does not reduce the need for active *involvement of regional and local authorities*.**
- **The role of regional/local authorities cannot be fully achieved without attracting a wide range of local *partners and stakeholders*.**

Success guide coming soon on www.passreg.eu



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Key Outputs: REGIONAL ROADMAPS



Each Aspiring Region has created a roadmap for supporting Nearly Zero Energy Buildings on the basis of Passive House in their regions, taking inspiration and best practice examples from the Front Runner Regions



© Studio Associato Secchi - Viganò

More information on
www.passreg.eu



© Municipality of Burgas



© DNA



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Key Outputs: BEACON PROJECTS



Some 35 projects across the EU serve as the PassREg Beacons: examples in which Passive House principles with renewable energies are basis for the Nearly Zero Energy Building.

- The beacons span:
- Completed buildings and those still underway
 - Single family homes to schools and even entire neighbourhoods

Source: www.passreg.eu



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

www.passreg.eu

International

PASSIVE HOUSE

Association



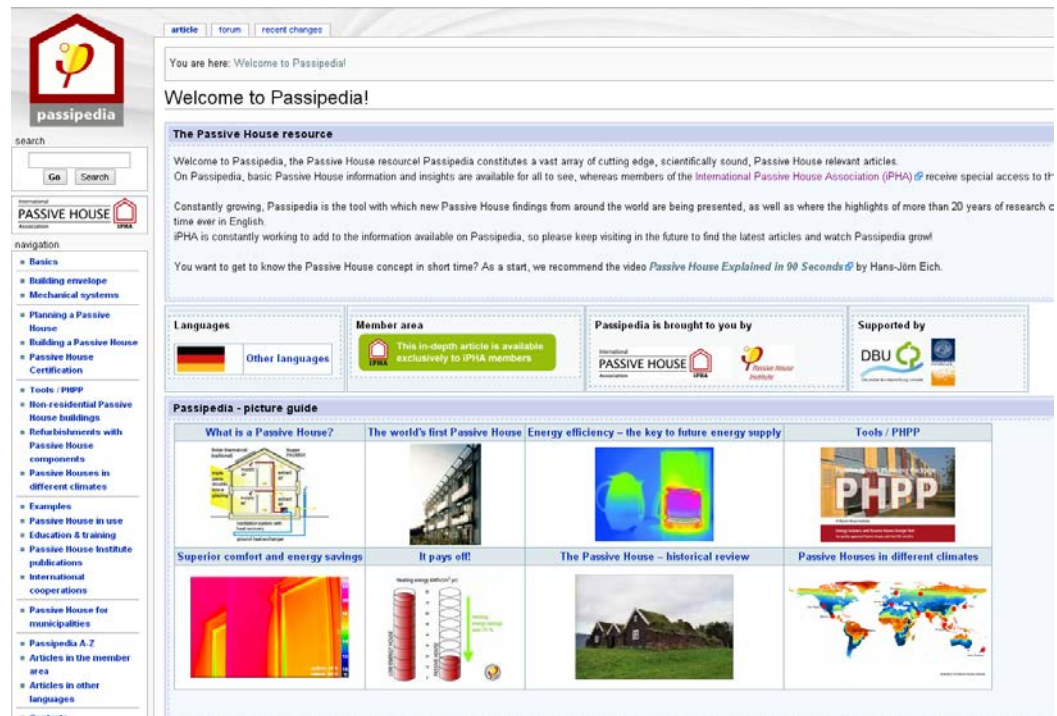
Key Outputs: Solutions PASSIPEDIA



Many PassREg findings are flowing into Passipedia, an array of cutting edge, scientifically sound, Passive House relevant articles

Passipedia is constantly growing and represents some two decades of research

All articles quality checked by the Passive House Institute to provide sound scientific basis



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

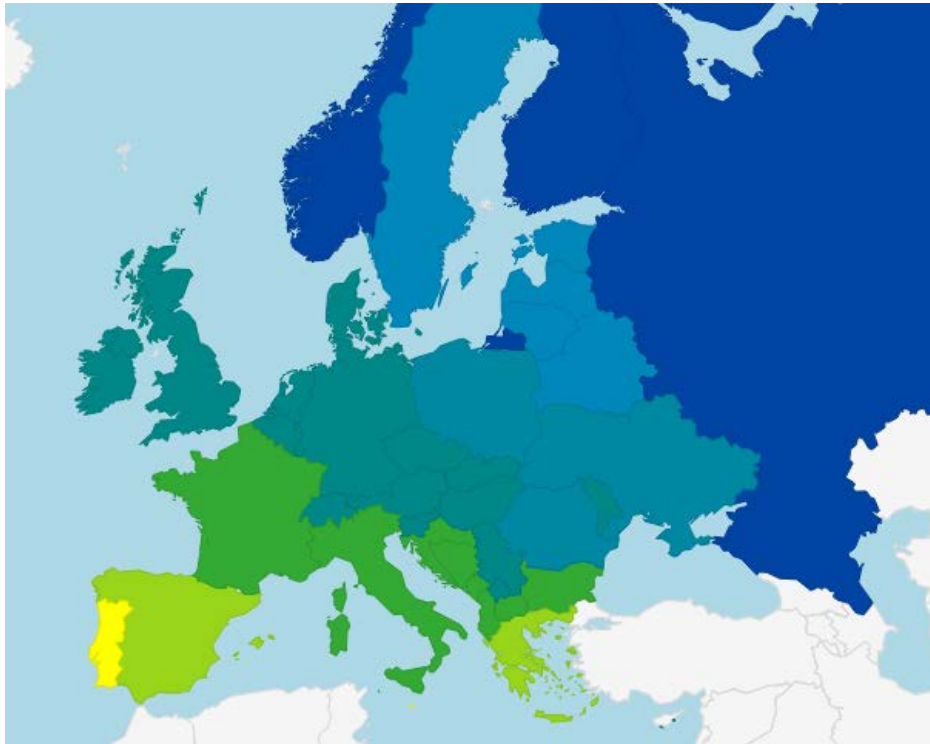
www.passreg.eu



Key Outputs: Solutions COMPONENT MAP



Map of Passive House Component guidelines – through PassREg



- Available on Passipedia
- Provides guidelines for suitable Passive House components in regions across Europe
- Gives intro to viable concepts on a region by region basis
 - Building envelope elements
 - Mechanical systems
 - Renewable energy

www.passipedia.org



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Key Outputs: Solutions SOLUTIONS OPEN SOURCE



Welcome to the **PassREg - Solutions Open Source**
your site for regional Passive House practice and energy-transition

I am...

- DESIGNER
- PRODUCER
- POLITICIAN
- TRAINER
- INVESTOR
- CERTIFIER
- BUILDER
- OWNER

I am searching for...

REGULATORY FRAMEWORK

BUSINESS CASE AND FINANCING

KNOWLEDGE AND COMMUNICATION

CONSTRUCTION

DESIGN AND CONSULTANCY

QUALITY ASSURANCE AND MONITORING

Frontrunner regions: Brussels (B), Hannover (D), Tyrol (AT), Heidelberg (D), Hamburg (D), Frankfurt (D)

Aspiring regions: Antwerp (B), Italian Regions (IT), Zagreb (HR), Cesena (IT), Sofia (BG), Arnhem-Nijmegen (NL), Aquitaine (FR), Riga (LV), Bargas (BG), Cardiff (GB)

more links:

ALL CATEGORIES

This Wiki database contains useful information supporting the local transition to zero energy construction. Inspired by the findings in frontrunner regions, this wiki provides an interactive, continually growing **Solutions Open Source (SoS)** on Passive House technology and compatible renewable energy supply. Generation of the SoS is within the frame of the PassREg project. Special thanks to our partners in the frontrunner regions Hannover (DE), Brussels (BE) and Tyrol (AT) for willingly providing information. You are welcome to visit this site and also to help to complete information, adding articles on relevant subjects or developments in Europe or outside of Europe.

- The Solutions Open Source – A freely editable platform containing:
- Solutions from the Front runner regions: Brussels, Hannover, Tyrol
- Solutions from Aspiring regions
- Individual solutions
- Add the next solution today!

www.passregSOS.passiv.de



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

www.passreg.eu

International


PASSIVE HOUSE

Association



Key Outputs: Solutions FORUM





iPHA
Where Passive House stakeholders meet

Advanced search





Board index



User Control Panel (0 new messages) • View your posts





[FAQ](#) [Members](#) [Logout](#) [smekjian]

It is currently Fri 15. Aug 2014, 11:08
[Moderator Control Panel] Last visit was: Tue 12. Aug 2014, 13:02


View unanswered posts • View unread posts • View new posts • View active topics Mark forums read

TECHNICAL	TOPICS	POSTS	LAST POST
 Building envelope and building services windows, insulation, wall systems, airtightness, thermal bridges as well as ventilation units, heating and cooling, DHW... Moderator: eva.vahalova@passiv.de	59	268	by ciaran_o_leary@hotmail.com  Fri 1. Aug 2014, 08:33
 PHPP and certification PHPP calculations, software issues, certification criteria and the certification process... Moderator: oksana.dzeva@passiv.de	46	220	by brettsichello design  Wed 13. Aug 2014, 20:34

SOCIAL	TOPICS	POSTS	LAST POST
 Networking and opportunities Passive House networks, job opportunities, education, events ... Moderator: oksana.dzeva@passiv.de	7	10	by sarah  Thu 3. Jul 2014, 16:16

STRATEGIC AND FAQ	TOPICS	POSTS	LAST POST
 Strategic discussions Zero energy, fuel factors, intergration of renewables, nearly zero energy buildings, cost effectiveness, legislation... Moderator: eva.vahalova@passiv.de	6	36	by sarah  Tue 29. Jul 2014, 14:23
 General FAQ For general questions, questions about the forum and other random stuff... Moderator: eva.vahalova@passiv.de	2	3	by ipha  Wed 5. Oct 2011, 11:16

WHO IS ONLINE

 In total there are 2 users online :: 2 registered, 0 hidden and 0 guests (based on users active over the past 5 minutes)
 Most users ever online was 29 on Fri 5. Apr 2013, 18:51


Registered users: [Exabot \[Bot\]](#), [smekjian](#)
 Legend: [Administrators](#), [Global moderators](#), [PassREg](#)


STATISTICS


Total posts 568 • Total topics 129 • Total members 535

[Board index](#)

[The team](#) • [Delete all board cookies](#) • All times are UTC + 1 hour [DST]







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

Powered by phpBB® Forum Software © phpBB Group
Style by Marc Alexander ©

The iPHA Forum is a valuable resource for finding solutions and exchanging with professionals worldwide

PassREg members may access the iPHA Forum for free!

Join the PassREg network, free of charge, today!

forum.passipedia.org



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

www.passreg.eu

International

PASSIVE HOUSE

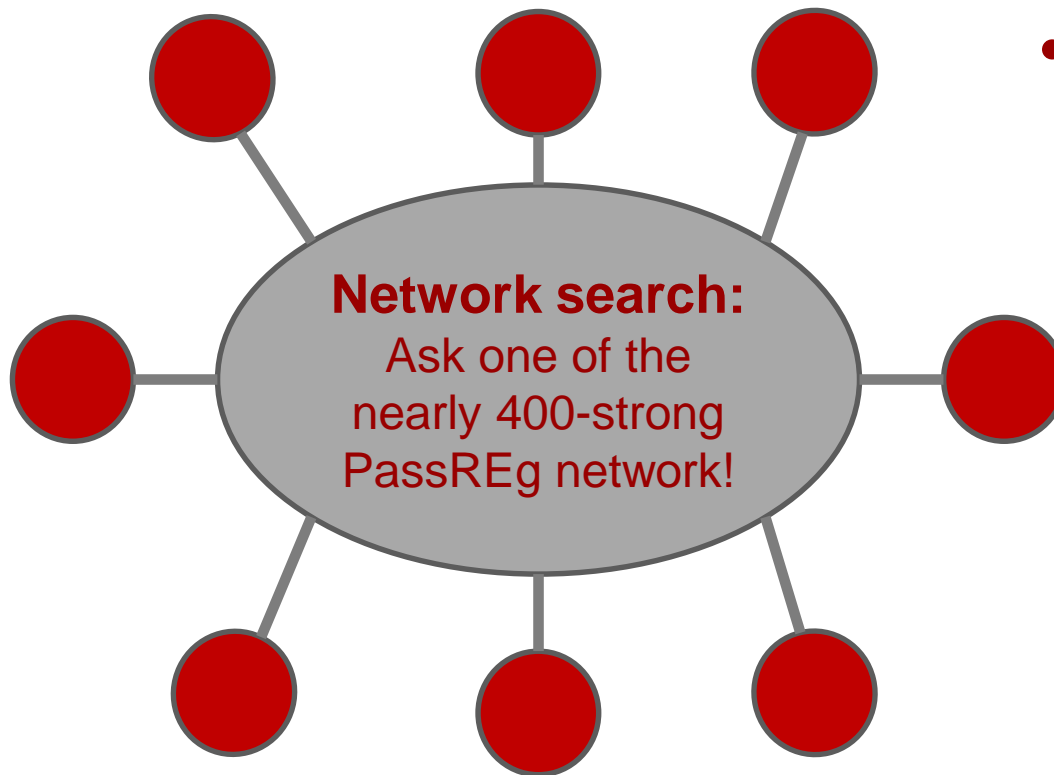
Association



Key Outputs: Solutions PASSREG NETWORK



If you need answers, you can make use of the PassREg network!



- Network members:
 - Receive newsletters and updates from the PassREg project
 - Have special access to information developed by PassREg
 - Have access to the iPHA forum
 - Are featured on the PassREg site



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Building the groundwork: Quality Assurance



K
P:

**CERTIFIED
PASSIVE HOUSE
TRADESPERSON**

TRADESPERSON

DESIGNER

**CERTIFIED
PASSIVE HOUSE
DESIGNER**

© Passive House Institute
Energy balance and Passive Ho
for quality approved Passive Houses an

for

Passive House Institute

CERTIFIED
PASSIVE HOUSE
DESIGNER



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

www.passreg.eu

International

PASSIVE HOUSE

Association



Key Outputs: Quality assurance TRAINING



Training is key!

New training modules for the Passive House Designer certification programme have been developed on

- Integrated design procedures
- Integration of renewable energy supplies
- Energy efficient cooling

Throughout the PassREg regions

- Courses to train new course trainers have been rolled out
- Passive House Tradesperson courses have been are being rolled



Future Passive House Designer and Tradesperson trainers in Cesena; photo: Passive House Institute



A new course for Accredited Building Certifiers is under development



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

www.passreg.eu

International

PASSIVE HOUSE

Association



19TH INTERNATIONAL PASSIVE HOUSE CONFERENCE 2015

Leipzig | Germany

17 - 18 April 2015

with exhibition and
framework programme

(16 – 19 April 2014)



pbr Planungsbüro Rohling | Erich-Kästner School © Stadt Leipzig



www.passivehouseconference.org

Key Outputs: Events PASSIVE HOUSE DAYS



PASSIVE HOUSE RESIDENTS WORLDWIDE OPEN THEIR HOMES:

International Passive House Days

7-9
November
2014

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

EuroPHit



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

International
PASSIVE HOUSE
Association



Please see www.passivehouse-international.org for further information.
Participating buildings will be listed as of September 2014 on
www.passivehouse-database.org

The sole responsibility for the content of this [webpage, publication etc.] lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EACI nor the European Commission are responsible for any use that may be made of the information contained therein.



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

www.passreg.eu

International

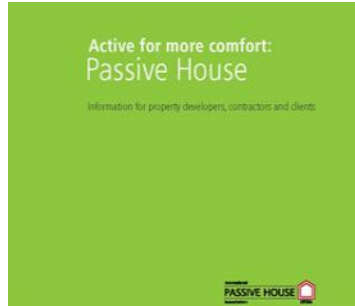
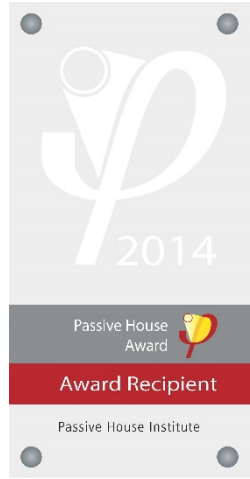
PASSIVE HOUSE

Association



2014 PASSIVE HOUSE AWARD

92 Projects from 21 Countries including retrofits, commercial buildings, special use buildings, apartments buildings, education facilities, and entire regions...



Key Outputs: PassREg Region Award winner



Bahnstadt in Heidelberg, Germany – a PassREg beacon, this Passive House city district won the 2014 Passive House Award in the Regions category. The district encompasses apartments, commercial buildings, a laboratory, restaurants, supermarkets, etc. and all energy provided by district heating network.



See the PassREg beacons list for more information!



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

www.passreg.eu



Project partners



Get involved! www.passreg.eu



Passive House Institute (DE)
iPHA (DE)
Passiefhuis-Platform (BE)
Plate-forme Maison Passive (BE)
EnEffect Group (BG)
DNA in de Bouw (NL)
City of Zagreb (HR)
End Use Efficiency Research Group, Politecnico di Milano (IT)
IG Passivhaus Tyrol (AT)
Environmental Investment Fund (LV)
Municipality of Cesena (IT)
Nobatek (FR)
BRE Wales (UK)
proKlima (DE)
Burgas Municipality (BG)



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

www.passreg.eu



Thank you for your attention

Passive House Regions with Renewable Energies
www.passreg.eu

You can find more information on:

www.passivehouse-international.org

www.passivehouse.com

www.passipedia.org



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

www.passreg.eu

International

PASSIVE HOUSE

Association

