

Passive House educational seminar for professionals from the building sector

Summary of the seminars, workshops and study tours for professionals organized within WP 3 in the PASS-NET project 2008-2010

*This report presents a summary of the seminars, workshops and study tours for professionals described in workpackage 3 page 15 in the contract document (Annex I)
The document is the final version of deliverable 3.5 as listed on page 28 of the contract document (Annex I)*

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Date: Oct. 29, 2010

Distribution: Public

Deliverable: 3.5

The PASS-NET project is supported by the European Commission under the Intelligent Energy Europe Programme. EIE/07/259/SI2.466712

Contents

Introduction	4
Before PASS-NET	5
Concept	5
Seminar Contents	5
Study tours and workshops.....	Fehler! Textmarke nicht definiert.
Target group for the seminars.....	7
Seminar material	7
Follow-up of the seminar	8
National Seminars	9
Austria.....	9
Belgium.....	9
Czech republic	10
Croatia	10
Germany	10
Romania.....	11
Slovakia	11
Slovenia	11
Sweden	12
United Kingdom.....	12
Summary of all national seminars	Fehler! Textmarke nicht definiert.
Seminars for building professionals after PASS-NET	12
Contacts between PASS-NET and the CEPH-project	12
Conclusions	Fehler! Textmarke nicht definiert.
Appendices	13
Appendix 1 Evaluation template for participants (template)	13
Appendix 2 Copy-right agreement	13
Appendix 3 Promotion folder	13
Appendix 4 Core presentations.....	15

Introduction

One work package within the project PASS-NET funded by Intelligent Energy Europe has been focused on *Passive House educational seminar for professionals from the building sector*. This report summarizes the work within the work-package together with a compiled evaluation of the seminars conducted in the 10 partner countries.

Seminars and training materials are powerful tools in promoting new concepts and was therefore a natural choice when looking for means to introduce and promote the passive house concept and other very low-energy concepts. The aim of this workpackage WP 3 - Training for specialists has been to provide an introductory but yet relevant seminar for building professionals. The work within the workpackage had to include issues that were not foreseen in the beginning of the project, especially the copyright issue for the illustrations in the presentations used in the seminars. The Passivehouse Institute in Darmstadt played a key role in this additional work and their efforts are greatly appreciated.

This report summarizes the work, but also wants to be a source of inspiration for further development of introductory seminars for building professionals in the area of energy efficient buildings.

Before PASS-NET

Several of the partner countries were already involved in educational efforts directed towards professionals in the building sector before the start of PASS-NET. Some of the partners, e.g. Belgium, Germany and United Kingdom, were running courses in PHPP and other issues such as calculation of thermal bridges. Other partners, e.g. Sweden, Belgium, Czech Republic and Slovenia, had developed seminar concepts for building professionals on their own before the PASS-NET project started.

Concept

The seminar in combination with study tour or workshop is designed as a basic educational course about Passive Houses, organised by the local partner in the European funded PASS-NET project. The plan was a two-day seminar and tour package targeted towards the professionals from the building sector, including architects, engineers, energy consultants, developers, construction companies, building component producers (for example windows and doors producers), and university lecturers. The seminar concept consists of:

- theoretical background about International criteria for Passive Houses including regional/local adaptations of the criteria,
- introduction in Passive House design tools for calculating energy balances, the Passive House Planning Package (PHPP) and local national calculation methods, and
- presentation on regional Passive House completed examples.
- Study tour or workshop focusing on built examples of Passive Houses

Seminar contents and material

The Seminars will, although nationally and regionally adapted, contain a common core of information. This core is presented and exemplified in the core presentations available on the PASS-NET website, www.pass-net.net. The core presentations form the basis of the seminars are all in English. The PASS-NET partners were responsible for the translation and national adaptation needed for each country/language domain. The partners were also responsible for distribute a nationally adopted printed material for the participants.

The training material consists of the following topics:

Day 1: Passive House, the theoretical background and design issues

- What is a Passive House?
- Design - According to Passive House criteria
- Design - Heating systems and Energy supply
- Design - Ventilation systems
- Design - Solar Energy Utilization
- Design - Solar shading
- Design - Air tightness

- Design - Windows

Day 2: Passive House, energy and built examples

- Energy calculations including an introduction to PHPP
- Energy statistics and Certification
- Planning and Concept Development
- Realization and Construction Processes

The illustrations of the core presentations can be used within the PASS-NET project as an agreement with the copyright holders of the illustrations have been made. All partners of the PASS-NET project agreed to these terms of usage. The agreement from each partner was documented by signing of copyright agreement as found In Appendix 2. The PASS-NET logo should always be visible on all Seminar materials, including the logo of IEE.

The download of the training material from the PASS-NET website has been active since Oct 2009, and during that last year more than 180 users have down loaded the material. The users are categorized after affiliation and country and the majority of the downloads are done by company affiliated users from more than 30 identified countries, see Figures 1 and 2.

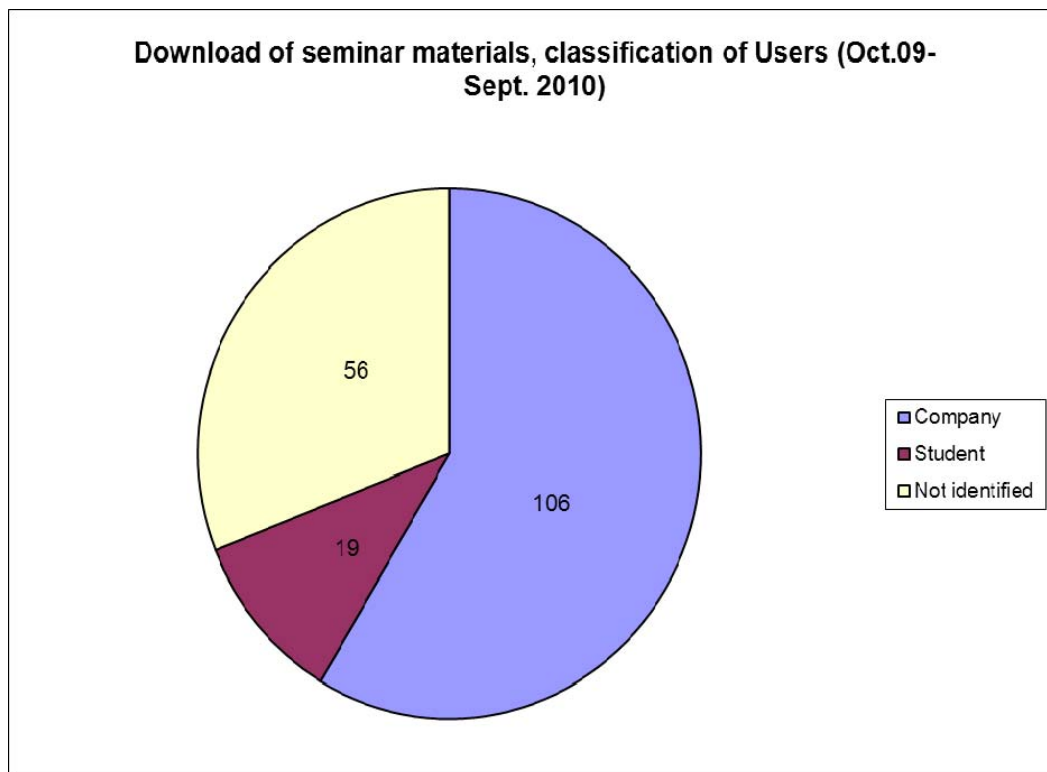


Figure 1. Users downloading training material by affiliation

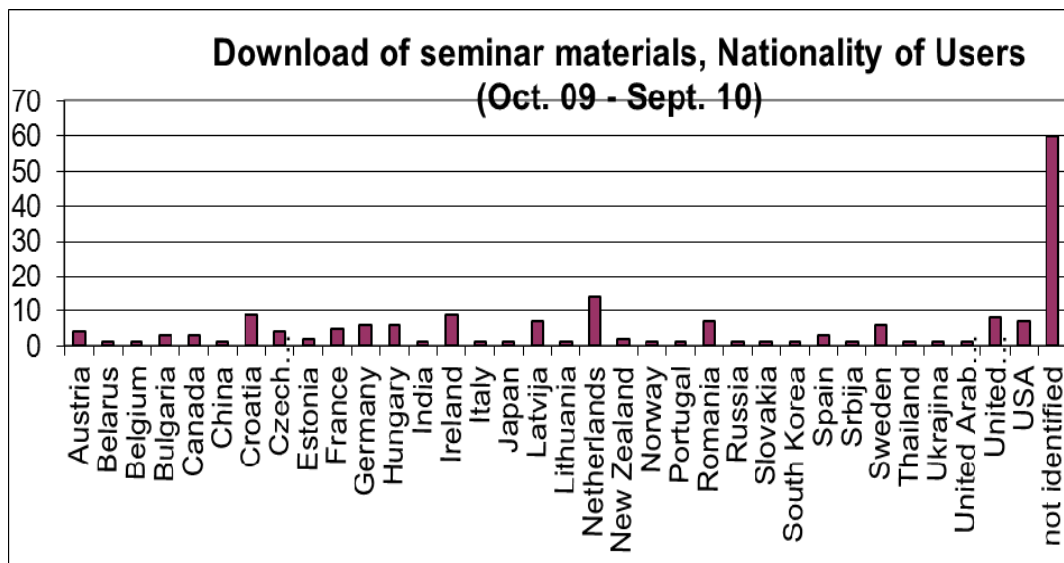


Figure 2. Users downloading training material by country

Target group for the seminars

The seminar and training material were targeted to different actors in the building sector. The Seminar could be used as an introduction course on Passive Houses during the initial stage of a Passive House project where the participants do not have previous experience in building a Passive House. The seminar offers lectures in different topics covering aspects from design to energy calculations, realization and certification. It is important that the different actors in a Passive House project are aware of various aspects connected to success of the project. Therefore it is desirable that the participants at the Passive House seminar should represent all different stages in the building process.

A recommendation was that the group size should be from 20 to max 25 persons in order to have good results from the seminar

Promotion folder

A promotion folder (Appendix 3) was produced in English by the workpackage leader IVL Swedish Environmental Research Institute and distributed through the projects intranet Sharehouse in the fall of 2009. The aim was to use it as a promotion of the seminars during the 6th Passive House days in November, 2009.

Follow-up of the seminar

The PASS-NET partner were also responsible for doing a follow -up after the seminar and a template for seminar evaluation was distributed (Appendix 1) and these evaluations was summarized and sent to the work-pasckage leader Since all partners used training materials based on the PASS-NET corepresentations but translated and adopted to national conditions the evaluations form were also nationally adopted making it harder to evaluate the impact of the seminars easily.

The average evaluation score for the overall impression was 4,5 on a 5-grade scale (5 being the top result). The evaluation scores for each country for the each component of the evaluation can be seen in Figure 3.

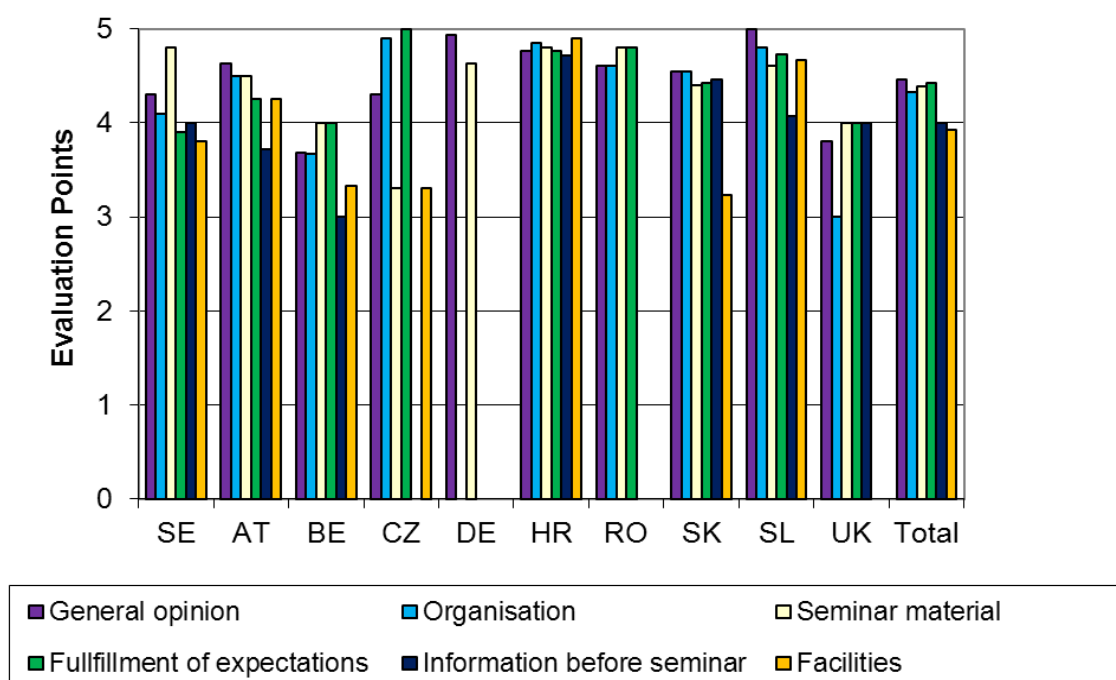
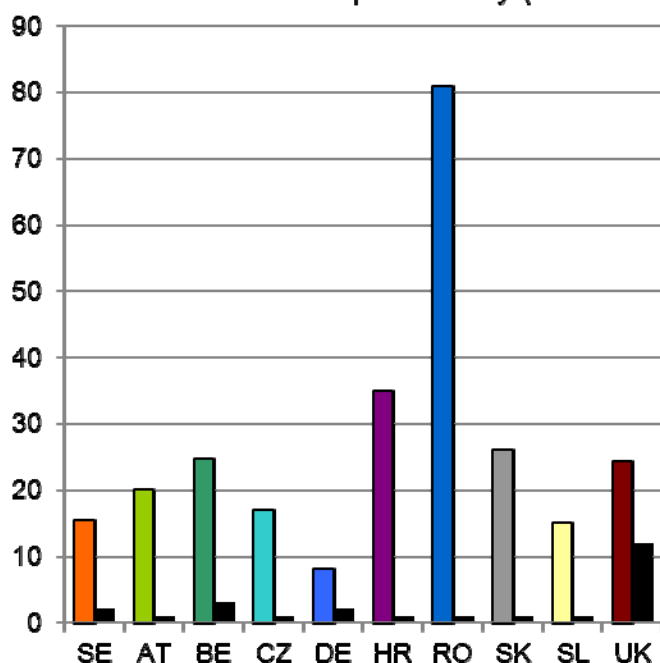


Figure 3. Evaluation score for each component of the evaluation plotted per contry

In total 24 seminars were given in all the partner countruires from October 2009 until June 2010. 607 participants were reached through the seminars and the average number of participants in each seminar was 22, while the number of participants varied between 16 and 81. The variation in average participants and number of seminars per partner country can be seen in Figure 4.

Average number of participants in the seminars (in bright colors) and number of seminars per country (in solid black)



ational Seminars

Figure 4. Average number of participants and number of seminars per partner country

In the over all summary of the national seminars one can clearly see that the needs differ greatly from country to country, depending on both how well established very-low energy houses such as Passiv Houses are and also on organization of building professionals. The varying markets is also reflected in the actual outcome of the seminars, but these characters are hard to grasp in statistical terms.

Below a summary of the national evaluations are shown:

Austria

Number of seminars	1
Dates	June, 2010
Seminar material	PASS-NET materials modified
Number of participants	20
Average number of participants	20
Overall evaluation	4,6

Belgium

Number of seminars	3
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Dates	December, 2009; Januari, 2010 and March, 2010
Seminar material	Modified PASS-NET
	Seminars were given in Dutch
Number of participants	74
Average number of participants	25
Overall evaluation	3,7

Czech Republic

Number of seminars	1
Dates	Oct, 2009
Seminar material	
Number of participants	17
Average number of participants	17
Overall evaluation	4,3

Croatia

Number of seminars	1
Dates	Jun, 2010
Seminar material	Translated PASS-NET
Number of participants	35
Average number of participants	35
Overall evaluation	4,8

Germany

Number of seminars	2
Dates	January, 2010 and February, 2010
Seminar material	Modified PASS-NET
Number of participants	16
Average number of participants	8
Overall evaluation	4,9

Romania

Number of seminars	1
Dates	February, 2010
Seminar material	Translated PASS-NET
Number of participants	81
Average number of participants	81
Overall evaluation	4,6

Slovakia

Number of seminars	1
Dates	January, 2010
Seminar material	
Number of participants	26
Average number of participants	26
Overall evaluation	4,5

Slovenia

Number of seminars	1
Dates	24. - 25th August 2009
Seminar material	PASS-NET materials modified
Number of participants	15
Average number of participants	15
Overall evaluation	4,8

Sweden

Number of seminars	2
Dates	December, 2009 and September, 2010
Seminar material	Modified PASS-NET
	One -day seminars. The Swedish partner IVL Swedish Environmental research institute offered several 2-day courses, but they had to be cancelled due to low interest from professionals in the Swedish building sector.
Number of participants	31
Average number of participants	16
Overall evaluation	4,3

United Kingdom

Number of seminars	12
Dates	In the period January, 2010 - April, 2010
Seminar material	
Number of participants	292
Average number of participants	24
Overall evaluation	3,8

Seminars for building professionals after PASS-NET

After the PASS-NET project ends most partners indicate that they will continue to give seminars directed towards professionals in the building sector. Germany and the Czech Republic are both involved in the CEPH project (www.passivehousedesigner.eu) and the 10 - day seminars of CEPH is starting up in different locations over Europe. Sweden have chosen to develop more specific seminars towards HVAC - engineers, architects and public authorities.

Contacts between PASS-NET and the CEPH-project

The so called CEPH project, an IEE funded project to develop a course for certification of Passive Houses Designers, was started in September 2008 and will be finalized in Feb 2011. To avoid overlapping work and to clarify that the work within WP 3 of PASS-NET and the CEPH project is not in conflict with each other, the Workpackage leader of WP 3 (Kaisa Svennberg at IVL Swedish Environmental Research Institute) have held contact with Dr Henk Kaan, the WP-leader of the workpackage Knowledge Clusters in the CEPH project. Early it was stated from both projects that CEPH begins were PASS-NET ends and that the contents of the PASS-

NET seminar in some way could be seen as representative of the prerequisites for the CEPH courses.

Lessons learnt

The following lessons have been learnt within this workpackage:

- Copyright issues are of high importance and should be addressed as early as possible in the process, preferably before designing training material etc.
- The delay due to the copyright issue was unbeneficial for several partner countries and therefore the impact of the seminar was less than anticipated in these countries.
- The difference in the need and traditions of each countries building sector made it hard to apply the same concept regarding the seminars. For example in Sweden the interest for 2 - day seminars was very low and in the UK much higher.
- The seminars have been well received, the partners have all succeeded to offer high quality seminars relevant for each country's building sector. Therefore the concept of seminars for professionals in the buildings sector has to be seen as a success.
- The possibility to down-load the training material from the project web site seem to be a success as well.

Appendices

Appendix 1

Evaluation template for participants (template)

Appendix 2

Copy-right agreement

Appendix 3

Promotion folder

Appendix 4

Core presentations

Appendix 1 - Evaluation template for participants

Evaluation is an important moment for us that work with realization of the educational seminar in Passive Houses. It is important to get a feedback on our work. Therefore, we would like to know what You think by filling in the questionnaire below (1 is the lowest mark, while 5 is the highest). We would also kindly ask for Your written comments to the questions that offer that option.

Evaluation questions	1	2	3	4	5
What is Your general opinion about the Passive House educational Seminar? Write also Your comments below.					
What was good?					
What could be improved? Did you miss any topic during the Seminar?					
Evaluation questions	1	2	3	4	5
How was the course organised?					
What is Your opinion about the educational material?					
How did the group work function?					
How satisfied are you with the Seminar? How well did the Seminar fulfil your expectations?					
What do you think about the information You got before the Seminar?					
What do you think about the Seminar facilities?					
How much do you think you will use the Seminar material in the future?					
Are you interested in learning more about Passive Houses?	yes			no	

Name and company: _____

Thank you for Your participation!

Appendix 2 - Copyright agreement



Copyright agreement for illustrations used in the PASS-NET Training Seminar Presentations

I, hereby certify with my signature, that we (name of partner) have the legal right to use and distribute all illustrations e.g. pictures, diagrams, figures provided by us and used in the PASS-NET training seminars. This right has been granted to us by the original copyright holder and he/she is informed of the use and distribution to other partners within the PASS-NET project.

We are also aware that we are not allowed to further use the illustrations provided in the presentations from PASS-NET training seminars in any other context without obtaining the copyright for the illustration by the original copyright holder.

Signature

Name of signer in block print

Name of partner in PASS-NET

Address

Country

Date

passnet

with support from

Intelligent Energy  **Europe**

Please save one (1) copy and mail the original signed form to
IVL Swedish Environmental Research Institute Ltd.
att: Kaisa Svennberg,
Box 5302,
SE-400 14 GÖTEBORG,
Sweden

Appendix 3 – Promotion folder

ABOUT PASSIVE HOUSES

Passive Houses are buildings using very energy efficient components such as a highly insulated building envelope and heat recovery of the exhaust air. A Passive House also utilizes the "free" heat gains from solar radiation, occupants and appliances. Passive Houses are designed to have an extremely low heating and cooling load, all year around.

Passive Houses need approximately 80% less energy for heating and cooling compared to new conventional buildings and 90% less energy if compared to the existing European building stock.



Photo: Ulla Janson

ABOUT PASSNET

The aim of the project is to spread the Passive House standard in Europe, especially in the new EU member states. To reach this target, PASS-NET, a network of expert organisations managed by ÖGUT, has been established. Participating project partners come from Austria, Belgium, Croatia, Czech Republic, Germany, Great Britain, Romania, Slovak Republic, Slovenia and Sweden.

Visit www.pass-net.net for more information.

passnet

www.pass-net.net

PROJECT PARTNERS

Austrian Society for Environment and Technology – ÖGUT
Project coordination (AT) www.oegut.at

Interessensgemeinschaft Passivhaus Österreich (AT)
www.igpassivhaus.at

Passiefhuis-Platform vzw Belgium – PHP (BE)
www.passiefhuisplatform.be

Centrum pasivního domu – CPD (CZ)
www.pasivnidomy.cz

Passivhauskreis Rosenheim Traunstein e.V – PHK (DE)
www.passivhauskreis.de

Passivhaus Institut Darmstadt – PHI (Cooperation partner) (DE)
www.passiv.de

Arhitektonski Fakultet Sveučilišta u Zagrebu (University of Zagreb, Faculty of Architecture) (HR) www.unizg.hr/homepage

Institutul de studii și proiectări energetice – ISPE (RO)
www.ispe.ro

IVL Swedish Environmental Research Institute (SE)
www.ivl.se

Mariborska razvojna agencija – MRA (Maribor Development Agency) (SI) www.mra.si

Inštitút pre energeticky pasívne domy – IEPD (SK)
www.iepd.sk

Association for Environment Conscious Building – AECB (UK)
www.aecb.net

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www.pass-net.net

Passive House educational seminar

for professionals from the building sector



passnet

Intelligent Energy Europe

www.pass-net.net

ABOUT THE PASSIVE HOUSE EDUCATIONAL SEMINAR

The seminar is a basic educational course about Passive Houses for professionals from the building sector, organised by the local partner in the European funded PASS-NET project.



Photo: Ulla Janson

The seminar is targeted towards the professionals from the building sector, including architects, engineers, energy consultants, developers, construction companies, building component producers (for example windows and doors producers), and university lecturers.

The seminar consists of:

- theoretical background about international criteria for Passive Houses including regional/local adaptations of the criteria,
- an overview of the special considerations for the design of a Passive House including energy calculations and an introduction to the Passive House Planning Package (PHPP)
- presentation on regional passive house completed examples.

www.pass-net.net

SEMINAR CONTENT

The 2-day seminar covers the following topics – adapted to the regional and national conditions:

- What is a Passive House?
- Design According to the Passive House Criteria
- Heating Systems and Energy Supply
- Solar Energy Utilization, Windows and Shading
- Air tightness and Ventilation systems
- Planning, Concept Development and Construction Processes
- Energy Calculations – including an introduction to PHPP
- Energy Statistics, Standards and Certification
- Regional and national examples of built Passive Houses



Photo: Ulla Janson

Contact your local/regional PassNet-partner for more information or to sign up for the seminar. www.pass-net.net

www.pass-net.net



Photo: Ulla Janson

STUDY TOUR - "THEORY IN PRACTICE"

To facilitate a better understanding of the Passive House concept a supplementary study tour or workshop will be organized in connection to the Seminar.

The theme is "Theory in practice" and in case there are no Passive Houses built or under construction in the proximity of the Seminar location, a workshop will be organised instead. The duration of the study tour or workshop will be half a day to one day.

Contact:

www.pass-net.net

Appendix 4 - Core presentations

The core presentations are available for download on the PASS-NET web-site www.pass-net.net in accordance to the copy-right agreement. National adaptiaons as well as translations of the presentations can be and should be made, in order to give accurate information regarding contry specific factors such as building regulation, climate and building traditions. The following topics gives an overview of the core presentations

Day 1

- 1 What is a Passive House?
- 1.2 Design According to the Passive House Criteria
- 1.3 Design – Heating Systems and Energy Supply
- 1.4 Design - Ventilation Systems
- 1.5 Design - Solar Energy Utilisation
- 1.6 Design - Solar Shadings
- 1.7 Design - Air tightness
- 1.8 Design – Windows

Day 2

- 2.1 Energy calculation incl. PHPP
 - 2.2 Energy Statistics and Certification
 - 2.3 Planning and Concept Developement
 - 2.4 Realisation and Construction Processes
-

Download of the training material can be done at the PASS-NET website
[Hwww.pass-net.net](http://www.pass-net.net)