



## **Promotion of European Passive Houses**

**EIE/04/030/SO7.39990**

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### **Interim Implementation Report M22 - M36**

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**ECN**

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## Executive summary

The objective of the PEP project is to promote the potential of the European Passive House concept in Europe by the development of information packages and design tools for passive houses, the organization of (inter) national workshops, symposia and conferences and the set up of international passive house websites.

This report describes the progress of the PEP-project in months 22 to 36 (end of the project).

### *Progress, Planning and Usage resources*

The project time path is 100% completed.

Most participants spend more budget on the PEP project than the official budget in Annex II.

### *Project performance indicators*

In the period M22-36 of the PEP project 28 workshops took place! Again a broad variety of activities was realized: conferences, study tours, seminars, open passive house days. All PEP partner countries carried out at least two workshops in each country, 7 of 9 partner countries realized considerably more activities than expected.

At the 11th International Passive House Conference held in Bregenz, Austria April 2007, there was nearly twofold increase of non-German speaking visitors compared to previous conference in 2006. In total 278 not German-speaking conference participants took part in 2007 (compares to 153 in 2006). English Conference Proceedings were published.

The number of 'hits' reported in the first Interim Implementation Report, M1-21 was total 270,000 visitors. In the reporting period (M22-36) the number of 'hits' increased significantly. The total number of website 'hits' for M22-36 was 1,640,244 leading to total number of visitors on the PEP project website since its launch till the end of the project of close to 2 million (until 1<sup>st</sup> December 2007 shows 1,910,244). This is a strong indicator of the success of the website as dissemination tool as well as for the interest in the PEP project and presented deliverables.

In terms of number of visitors from PEP partners countries, highest activity is from domains: .be (Belgium), and .nl (the Netherlands), followed by .fr (France), .ie (Ireland), .uk (UK) and .dk (Denmark). Many visitors were also registered from outside Europe, such as from Japan, Australia, United States, Canada, New Zealand, Israel, Argentina, Indonesia, etc.

In the reporting period M22-M36 total of 255 of the PHPP-software by the PHI. This is a significant increase compared to period M1-21 with 77 copies sold. The usage of PHPP grew over three times! The new version of the PHPP v 2007 was released in June 2007.

Members of national Steering Committees were sent draft papers on the content of the Information Package and the proposed certification scheme for passive house buildings, certification of components and possible relation to EPBD. Their views were consulted for the quality, content and suitability of deliverables on national level. Their feedbacks were taken into account in national adaptation of the above deliverables. The eagerness of the Steering Committee was noticed, especially in relation to certification and relation to EPBD.

## Objectives and major achievements

### 1.1 *Project objectives*

The goal of this project is to disseminate the positive experience with the Passive House concept that is gained internationally. The PEP project aims to provide guidance to all those involved in the building process.

The dissemination activities concentrate on:

- National publication and documentation about specific practical solutions for Passive Houses in different regions and climates (available on the project website <http://europeanpassivehouses.org>)
- Preparing a set of information packages with practical information on Passive House buildings targeted at various stakeholders, including: municipalities, architects, energy designers, structural designers and developers (available on the project website <http://europeanpassivehouses.org>)
- Documentation on the energy saving potential of the Passive house concept all over Europe (available on the project website <http://europeanpassivehouses.org>)
- Preparing an (inter)national certification scheme for passive house buildings and passive house building components certification, also in relation to national Energy Performance certifications schemes and the European Performance Building Directive (EPDB), (available on the project website <http://europeanpassivehouses.org>)
- Organization of national and international workshops/conferences (see project website <http://europeanpassivehouses.org>)

### 1.2 *Summary of activities and results for the period M22-36 (end of project)*

In the reporting period the following activities were under taken. Detailed description of activities is presented in Chapter 2.

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WP1 | WP1 was completed in previous period of reporting (M1-21). On request of the PEP project officer an additional discussion was held regarding terminology use for a Passive House. It was agreed that on a national level the translation of 'Passive House' can be used. In relation to the wider European level of the PEP project, the English form 'Passive House' is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| WP2 | The content of the Information Package completed. English version and national adaptations (translated) available from project website. The national adaptation varied according to the country needs. The final Passive House Information Package content: Introduction; Municipalities Guide; Architects' Guide; Energy Designers' Guide; Structural Designers' Guide; Developers Guide                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| WP3 | The final report of WP3.4 sets out the PEP partners' proposals for certification of Passive House dwellings. The report identifies the benefits of a 'supply chain' approach for certification. The PEP partners also proposed a simpler scheme for the current emerging market scenario. This scheme involves the verification of the 'as built' design in accordance with the Passive House Planning Package (PHPP) by a competent PEP partner and confirmation of the air-tightness of the completed building by an accredited organisation or an organisation recognised as competent by the PEP partner. The report also considers the implementation of the Energy Performance of Buildings Directive and the views of the partners on the possible relationship between these certification schemes and the Directive. |

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | The final report of WP3.8 sets out the approach for the PEP Partners to the certification of products and technologies used in Passive House designs. Certification criteria for suitable products are then proposed along with the appropriate standards and test methods. All partners in their national translation of D3.4 and D3.8 included a National Foreword, describing the national discussion, most suitable approach to certification and possible relationship to EPBD. |
| WP4 | Organisation of the 11th international Passive House Conference in Bregenz, April 2007. Several national workshops, symposiums and conferences organised.                                                                                                                                                                                                                                                                                                                            |
| WP5 | Over 2million visitors, highly exceeding the targeted number of 'hits' for the project. Wide European and world wide activity recorded on the website. All PEP deliverables were uploaded on the website. A PEP electronic Newsletter sent to registered website users and all PEP partners as part of the wider ' <i>website promotion strategy</i> '                                                                                                                               |
| WP6 | In all participating countries the PEP-results (e.g. information package to various stake holders of passive house buildings; possible certification process and announcement of conferences) was disseminated on a national level via national conferences, workshops, and websites.                                                                                                                                                                                                |
| WP7 | Project management, communication with the IEEA agency, organisation of three project meetings.                                                                                                                                                                                                                                                                                                                                                                                      |
| WP8 | Coordination with EIE projects "E-RETROFIT KIT" and Passive-On.                                                                                                                                                                                                                                                                                                                                                                                                                      |

### 1.3 *Identified problems and corrective action taken*

The PEP partners discussed the applicability of the proposed 'supply chain' approach to certification and recognized that with the current state of the Passive House market in most of PEP project partners' countries, it would be difficult to introduce such a 'supply chain' approach. The PEP partners have, therefore, also proposed a simpler scheme for the current emerging market scenario. This scheme involves the verification of the 'as built' design in accordance with the Passive House Planning Package (PHPP) by a competent PEP partner and confirmation of the air-tightness of the completed building by a fan pressurization test performed in accordance with EN 13829 by an accredited or a recognized company as competent by the PEP partner. In most countries this simpler certification scheme is envisaged as an intermediate stage, towards establishing a 'supply chain' certification. The report also considers the implementation of the Energy Performance of Buildings Directive and the views of the partners on the possible relationship between these certification schemes and the Directive.

## 2 Work package progress

### 2.1 ***WP1: Definition, State of the Art and Energy Saving Potential of the Passive House concept***

Objectives of this work package were the determination of a definition of the Passive House, an inventory of Passive House solutions and the identification of energy savings potential through the development of Passive Houses in partner countries.

The WP1 was completed in M17 of the project, therefore reported in the first Interim Implementation Report (M1-21). Listed below are final papers of the WP1. All documents are posted on the public PEP-website <http://europeanpassivehouses.org>

- “Passive House National Publication” for each partner countries (translated to all national languages).
- “Passive House Solutions” an overview and classification of Passive House solutions and the implementation in partner countries (translated to all national languages).
- “Energy Saving Potential” (in English) a calculation method for determining energy saving potential has been established.

On request of the PEP project officer an additional discussion was held at the project meeting in Dublin (M28) regarding terminology use for a Passive House. It was agreed that on a national level the translation of ‘Passive House’ can be used, such as: ‘PassivHaus’ in Germany and Austria, ‘Passiefhuis’ in the Netherlands and Belgium (Dutch speaking), Passive House in Ireland, PassivHaus in the UK (adopting the German terminology to distinguish from passive – solar house design), Passivhus in Norway, Passiivinen Talo in Finland, Passivhuse in Denmark and Maison Passive in France and French speaking part in Belgium. In relation to the wider European level of the PEP project, the English form ‘Passive House’ is used. The deliverables of this work package were sent with the first Interim Implementation Report (M1-21).

## 2.2 WP2: Information packages on Passive House Concepts and Technologies

The scope of the WP2 is to create information packages for climate and construction tradition related implementation of passive house concepts. The packages form a comprehensive passive package focusing on following stakeholders: municipality, construction industry, and developers and building owners.

### *Achievements*

The WP 2 leader VTT coordinated all activities relating to the production of the Information Package content. The development of the Information Package was based on the draft content produced until M21 of the project. Prior to the project meeting in the Netherlands (M22), VTT distributed to all partners a revised content of the Information Package. Project partners send their review feedback to VTT and a revised draft was then discussed during the meeting.

The project partners agreed on developing Information Package content (in English, available from project website) and National adaptations (translated to national languages). National adaptations of the Information Package reflected the varying roles and responsibilities of Passive House stakeholders by country, varying construction methods and traditions; different state of market penetration, etc. Therefore, the content was varied according to the country needs.

Once the structure and content of the Information Package was agreed amongst all partners, VTT collaborated with NUID (WP5 Leader) on adapting the Information Package for the project website. At the next project meeting held in Dublin (M28), the web based Information Package was shown to all partners. It was agreed to host an English version of the package on-line, with all national translated packages accessible from the corresponding National Information sections of the PEP website, also available from national passive house websites.

The final content of the Information Package is as follows:

Passive House Information Package content:

- [Introduction](#)
- [Municipalities Guide](#)
- [Architects' Guide](#)
- [Energy Designers' Guide](#)
- [Structural Designers' Guide](#)
- [Developers Guide](#)

National translated Information Packages varying to some extent in its content according to specific country stakeholders needs. Several project partners extended their national information package with an in-depth information focusing on specific stakeholders or topics: Extension of the information package by the topic "high quality retrofitting of buildings" (Austria, Germany); "Passive House Guidelines for Architects (Belgium, the Netherlands); Passive homes, guidelines for the design and construction of passive house dwellings in Ireland (Ireland). VTT (Finland) distributed the information packages to the Baltic countries.

Within period M22-36 of the project all work related to WP2 was completed, including translation and adaptation to National languages. Copies of the National Information Packages are sent to the project officer.

### *List of publications*



| Name                              | Overview                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Date | Reference |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| Passive House Information Package | <p><u>Introduction</u> (includes: Passive House Buildings; Benefits and Performance)</p> <p><u>Municipalities Guide</u> (includes subsections on: Urban Structure; Master Planning; Urban Developments; Building Authority)</p> <p><u>Architects' Guide</u> (includes subsections on: Passive Architecture; Building Site; Dwelling Design; Design Principles and Architects' Checklist)</p> <p><u>Energy Designers' Guide</u> (includes subsections on: Indoor Conditions; Building Envelope; Energy Calculation; Performance and Design Checklist)</p> <p><u>Structural Designers' Guide</u> (includes subsections on: Technical Characteristics; Comfort; Building System; Performance and Checklist)</p> <p><u>Developers Guide</u> (includes subsections on: Justification; Requirements and Construction).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | M26  | VTT       |
| Passive House Information Package | Upload final version on the project website                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | M28  | VTT/NUID  |
| Passive House Information Package | <p>Translation and adaptation to national languages:</p> <p><u>AUSTRIA</u><br/> Passivhausinformation<br/> - Einfuehrung für Bauträger<br/> - Stadtplanung<br/> - ArchitekturGebaeudetechniker für Planer<br/> - Thermische Gebauedesanie rung auf Passivhausstandard<br/> - Extension of the information package by the topic "high quality retrofitting of buildings"</p> <p><u>BELGIUM</u><br/> - Passieffhuisgids: instrumentarium voor de architect<br/> - Passieffhuisgids voor gemeenten en stedenbouwkundigen<br/> - Passieffhuisgids voor constructeurs<br/> - Passieffhuisgids voor installateurs en energie-adviseurs<br/> - Passieffhuisgids voor projectontwikkelaars</p> <p><u>DENMARK</u><br/> Guide til passivhuse<br/> - introduction<br/> - Energi for arkitekter<br/> - for byggekonstruktører<br/> - for developere<br/> - for kommuner</p> <p><u>FINLAND</u><br/> Passiivitalo<br/> - ja kaavasuunnittelu<br/> - arkkitehtisuunnittelu<br/> - energiasuunnittelu<br/> - rakennesuunnittelu ohjeita<br/> - rakennuttajalle</p> <p><u>GERMANY</u><br/> Passivhausinformation für Bauträger<br/> Thermische Gebäudesanie rung auf Passivhausstandard<br/> Passivhausinformation für Planer<br/> Passivhausinformation für Gebäudetechniker<br/> Passivhausinformation Stadtplanung<br/> Passivhausinformation Einführung<br/> Passivhausinformation Architektur</p> | M34  | ALL       |

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |              |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------|
|                                   | <p><u>IRELAND</u></p> <ul style="list-style-type: none"> <li>- Introduction to a Passive House</li> <li>- Architects' Guide to a Passive House</li> <li>- Developers' Guide to a Passive House</li> <li>- Energy Designers' Guide to a Passive House</li> <li>- Local Authority Guide to a Passive House</li> <li>- Structural Designers' Guide to a Passive House</li> <li>- Passive homes, guidelines for the design and construction of passive house dwellings in Ireland</li> </ul> <p><u>NORWAY</u></p> <p>Planlegging av passivhus</p> <ul style="list-style-type: none"> <li>- en veiledning for kommuner</li> <li>- en veiledning introduksjon</li> <li>- en veiledning for utbyggere</li> <li>- en veiledning for arkitekter</li> <li>- en veiledning for RIB</li> <li>- en veiledning for RIV</li> </ul> <p><u>UK</u></p> <p>Introduction<br/>Municipalities Guide<br/>Architects' Guide<br/>Energy Designers' Guide<br/>Structural Designers' Guide<br/>Developers Guide</p> <p><u>THE NETHERLANDS</u></p> <ul style="list-style-type: none"> <li>- Passiefhuishandleiding voor constructeurs</li> <li>- Passiefhuishandleiding voor projectontwikkelaars</li> <li>- Passiefhuishandleiding voor gemeenten en stedenbouwkundigen</li> <li>- Passiefhuishandleiding voor energieadviseurs en installateurs</li> </ul> |     |              |
| Passive House Information Package | Upload National adaptations (translated) on the project website                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | M35 | VTT/<br>NUID |

## 2.3 WP 3 Passive House Concept and Technologies Certification in relation to Energy Performance

The aim of WP3 is to set up a PassivHaus certification programme. The certification scheme makes a link between the Passive House buildings, technologies certification and the national Energy Performance Certification system, according to the EU building directive.

### *Achievements*

The draft content of deliverable D3.4 "Passive House Certification" was discussed at the project meeting in the Netherlands (22). Minimum standards for Passive House certification were defined to supplement the 'supply chain approach' detailed within the original draft of D3.4. The final report of WP3.4 sets out the PEP partners' proposals for certification of Passive House dwellings. The report identifies the benefits of a 'supply chain' approach for certification, which involves certification, and hence the control of quality, of the design process, the construction process, and the post construction inspection and testing of a Passive House. Discussions on the certification approach were also held at a national level and reported to BRE, WP3 leader with feedback on most suitable approach at present and in the future, depending on the level of market penetration of passive house buildings and suitable building components, products and technologies.

The PEP partners discussed the applicability of the proposed 'supply chain' approach to certification and recognized that with the current state of the Passive House market in most of PEP project partners' countries, it would be difficult to introduce such a 'supply chain' approach. The PEP partners have, therefore, also proposed a simpler scheme for the current emerging market scenario. This scheme involves the verification of the 'as built' design in accordance with the Passive House Planning Package (PHPP) by a competent PEP partner and confirmation of the air-tightness of the completed building by a fan pressurization test performed in accordance with EN 13829 by an accredited or a recognized company as competent by the PEP partner. In most countries this simpler certification scheme is envisaged as an intermediate stage, towards establishing a 'supply chain' certification. The report also considers the implementation of the Energy Performance of Buildings Directive and the views of the partners on the possible relationship between these certification schemes and the Directive.

Regarding the energy calculation and certification, Passive House Planning Package 2004 (PHPP) sets out the calculation methodologies to evaluate the design for space heating and total primary energy demand. The PHPP is a scheme operated by the Passive House Institute to verify the design of a building and to provide certificates for individual projects. The PHPP report states that 'Additional quality assurance of the construction process is useful, especially if the construction management and / or the contractor do not have previous experiences with building Passive House dwellings'. This is an important element and one that has been addressed in the D3.4 report under the proposed certification scheme for the 'The Construction process'. For certification of the design and certification of Passive Houses, it is the algorithms implemented in the PHPP which must be used. The project partners recognized that the PHPP tool is not suitable for providing EPBD compliance, i.e. country specific method of calculating and rating the energy performance in buildings will have to be additionally performed for EPBD compliance.

A draft report of D3.8 "Passive House Component Certification" which deals with the certification process of Passive House components was also discussed at the meeting in the Netherlands (M22). The final report of WP3.8 sets out the approach for the PEP Partners to the certification of products and technologies used in Passive House designs. It includes review of the benefits of certification of products, materials and technologies and identifies windows and glazed facades, exterior doors and heat recovery ventilation units as those for which certification is considered most practical and beneficial. Certification criteria for these products are then proposed along with the appropriate standards and test methods.

All partners in their national translation of D3.4 and D3.8 included a national foreword, describing the national discussion (after gathering views of the national Steering Committee), on the most suitable approach to certification and possible relationship to EPBD.

On request of the commission (letter with reference: IEEA/GS D(2006)529 dd 20060516) the most significant deliverables generated within IEE projects supporting the take-off of the EPBD either directly or indirectly (e.g. through calculation methodologies, support to standards, etc.) will be disseminated via The EPBD Buildings Platform. The objective of the Platform is to support the full and continued implementation of the EPBD across Europe and includes mechanisms for the transfer of information between all stakeholders.

As such, the most appropriate deliverables from PEP, the D3.4 "Passive House Certification" and D3.8 "Passive House Component Certification" were disseminated via the Platform, as well as via the project dissemination activities and the PEP website.

### *List of publications*

| <b>Name</b>                                                                                          | <b>Date</b> | <b>Reference</b> |
|------------------------------------------------------------------------------------------------------|-------------|------------------|
| D3.4 Final report "Passive House Certification"                                                      | M30         | BRE              |
| D3.8 Final report "Passive House Component Certification"                                            | M34         | BRE              |
| D3.4 Final report "Passive House Certification with National Foreword for Austria"                   | M32         | AEE-INTEC        |
| D3.8 Final report "Passive House Component Certification with National Foreword for Austria"         | M32         | AEE-INTEC        |
| D3.4 Final report "Passive House Certification with National Foreword for Belgium"                   | M32         | PHP              |
| D3.8 Final report "Passive House Component Certification with National Foreword for Belgium"         | M32         | PHP              |
| D3.4 Final report "Passive House Certification with National Foreword for Denmark"                   | M32         | E&K              |
| D3.8 Final report "Passive House Component Certification with National Foreword for Denmark"         | M32         | E&K              |
| D3.4 Final report "Passive House Certification with National Foreword for Finland"                   | M32         | VTT              |
| D3.8 Final report "Passive House Component Certification with National Foreword for Finland"         | M32         | VTT              |
| D3.4 Final report "Passive House Certification with National Foreword for Germany"                   | M32         | ProKlima         |
| D3.8 Final report "Passive House Component Certification with National Foreword for Germany"         | M32         | ProKlima         |
| D3.4 Final report "Passive House Certification with National Foreword for Ireland"                   | M32         | NUID             |
| D3.8 Final report "Passive House Component Certification with National Foreword for Ireland"         | M32         | NUID             |
| D3.4 Final report "Passive House Certification with National Foreword for Norway"                    | M32         | SINTEF           |
| D3.8 Final report "Passive House Component Certification with National Foreword for Norway"          | M32         | SINTEF           |
| D3.4 Final report "Passive House Certification with National Foreword for the UK"                    | M32         | BRE              |
| D3.8 Final report "Passive House Component Certification with National Foreword for the UK"          | M32         | BRE              |
| D3.4 Final report "Passive House Certification with National Foreword for the Netherlands"           | M32         | ECN              |
| D3.8 Final report "Passive House Component Certification with National Foreword for the Netherlands" | M32         | ECN              |

Above publications are available from the project website. National adaptations (with translated Foreword) are available from the website National Information sections. Hard copies are sent to the project officer.

## **2.4 WP 4 Targeted workshops and International Conferences**

The objectives of the workpackage are organization of the starting workshop, input to the national workshops, organisation of the International Part of the 10<sup>th</sup> and 11th Passive House Conference and elaboration of meetings on the national level. All activities are included in a deliverable as a work package report.

The report consists of: national workshop materials and further dissemination information delivered by PEP partners, such as: national conference proceedings; international conference proceedings; collection of published articles; seminars and symposiums.

### *Achievements*

In the second period of the PEP project 28 workshops took place! Again a broad variety of activities was realized: conferences, study tours, seminars, open passive house days, workshops, and symposiums. All PEP partner countries carried out at least two workshops in each country, 7 of 9 partner countries realized considerably more activities than expected.

The 11<sup>th</sup> International Passive House Conference and the parallel building technology fair was held from 13<sup>th</sup> – 14<sup>th</sup> April 2007 in Bregenz, Austria. The conference was organized by the PassivHaus Institute Darmstadt together with proKlima. At the Conference there was significant increase in non-German speaking visitors compared to previous conference in 2006. In total 278 not German-speaking conference participants took part in 2007 (compares to 153 in 2006). English Conference Proceedings were published. Apart from the promotional and organizational work for the conference the PEP partners contributed with conference papers and poster presentations. The conference proceedings and flyers were translated into English. Simultaneous translation of lectures and discussion to English were provided. Copy of the conference programme and proceedings is included in the CD-ROM attached to this report.

On a national level all participants held conferences, workshops and seminars for various stakeholders in passive house buildings. For example, PHP Passiefhuis-Platform vzw organized the Passive House 2007, Passiefhuis-Symposium 7<sup>th</sup> September 2007, Bruxelles, conference proceedings also included on the CD-ROM. Annex 4.1 shows an overview of all realized activities and workshops in the countries on a national level.

Another achievement of this work package is the work package report. The work package report (CD-ROM attached to this document) is a collection of all national and international held workshops, conferences, written articles, seminars and symposiums during M22-36 of the project.

*List of publications/documents*

In the next table the most important publications are mentioned. All documents, PowerPoint presentations and publications are included on the CD-ROM attached.

| <b>Name</b>                                                                                                                                                                                                                                                                                                    | <b>Date</b>            | <b>Reference</b> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------|
| Work package report                                                                                                                                                                                                                                                                                            | January 2008           | proKlima         |
| International English proceedings 11th IPHC                                                                                                                                                                                                                                                                    | April 2007             | proKlima         |
| Folder "11 <sup>th</sup> International Conference on Passive Houses"                                                                                                                                                                                                                                           | January 2007           | proKlima         |
| Häuser der Zukunft am Prüfstand – Monitoringergebnisse Paper at the 11 <sup>th</sup> International Passive House Conference                                                                                                                                                                                    | February 2007          | AEE INTEC        |
| "Passive House Projects in Norway – An Overview" Paper at the 11 <sup>th</sup> International Passive House Conference                                                                                                                                                                                          | February 2007          | SINTEF           |
| Proceedings PHH, Passive House Happening 2007, "Passive House 2007, more comfort less energy"                                                                                                                                                                                                                  | September 2007         | PHP              |
| Passive House Design Guidelines for Architects, "Passiefhuisgids: instrumentarium voor de architect"                                                                                                                                                                                                           | November 2007          | PHP              |
| "Passive Homes, Guidelines for the design and construction of passive house dwellings in Ireland"                                                                                                                                                                                                              | October 2007           | NUID             |
| PassivhusNorden workshop, Initial meeting to organize a wider Nordic cooperation about passive houses and energy efficient buildings.                                                                                                                                                                          | November 2007          | SINTEF           |
| Proceedings of the International conference Ökosan'07 "high quality ecological building retrofit", Weiz/Styria, Austria                                                                                                                                                                                        | October 2007           | AEE INTEC        |
| Professional brochure, high quality retrofit of large residential buildings "Hochwertige Sanierung von Geschoß-wohnbauten"                                                                                                                                                                                     | December 2007          | AEE INTEC        |
| Information Flyer (Passive House Day Region of Hannover 2006                                                                                                                                                                                                                                                   | November 2007          | ProKlima         |
| Passive House Planning Package 2007, Specifications for Quality Approved Passive Houses, Technical Information PHI-2007/1(E), Germany (Brochure and CD)                                                                                                                                                        | June 2007              | PHI              |
| Seminar material on state of the art passive houses in Finland                                                                                                                                                                                                                                                 | November 2007          | VTT              |
| Seminar material on requirements, impacts and trends of energy-efficiency, future low-energy solutions for heating and electrical energy in construction held in 9 cities (Helsinki, Tampere, Turku, Kouvola, Joensuu, Kuopio, Oulu, Vaasa) "Rakennusten energiatehokkuus – trendit, vaatimukset, vaikutukset" | August – November 2007 | VTT              |

## 2.5 WP 5 Website

The objective of this work package is to provide a website (<http://www.europeanpassivehouses.org>) that will contain information on all aspects of the project and will be continually updated throughout its life. Since its launch on 25<sup>th</sup> January 2006, the website was used as an effective tool for providing information and overcoming technical and non-technical barriers related to passive house buildings. Those include: translated material on national languages, contacts and links on national and international level, research papers, reports, publications, information packages and design guidelines, information on various conferences, workshops and published articles, and the approach to certification of passive house buildings and building components and the PHPP calculation tool.

### Achievements

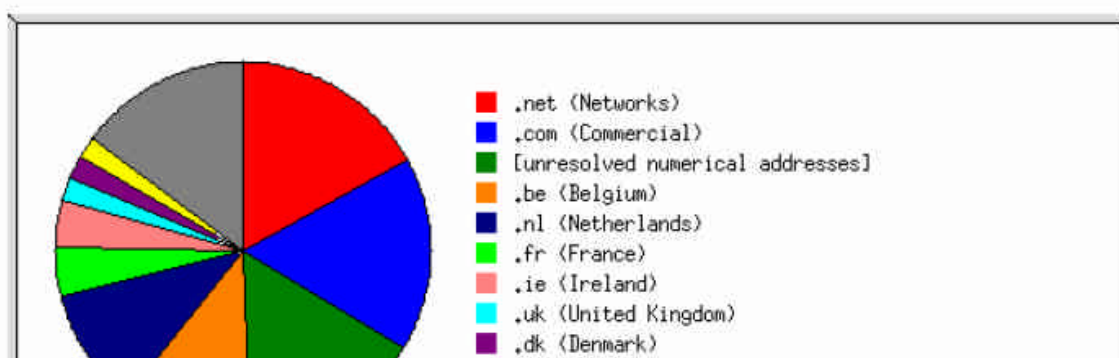
Since 25 January 2006 the website was great success with just over 2million number of 'hits' and geographical spread covering all Europe and beyond. During M22-36 the website performance was monitored and summary of statistical reports presented in work package progress reports and project meetings. The Statistical Report covering period until 1<sup>st</sup> December 2007 shows 1,910,244 visits to the website. This greatly exceeds the number of 'hits' reported in the first Interim Implementation Report, M1-21 total 270,000 visitors. This is a strong indicator of the success of the website as dissemination tool as well as for the interest in the PEP project deliverables and activity!

Interestingly, the busiest month of activity on the website was November 2007, coinciding with the end of the PEP project and all deliverables being available for downloading. In terms of number of visitors from PEP partners countries, highest activity is from .be (Belgium), and .nl (the Netherlands), followed by .fr (France), .ie (Ireland), .uk (UK) and .dk (Denmark). Many visitors were also registered from outside Europe, such as from Japan, Australia, United States, Canada, New Zealand, Israel, Argentina, Indonesia, etc.

### Statistical Report January 2006 – December 2007.

|          |       |        |       |  |
|----------|-------|--------|-------|--|
| Jun 2006 | 9837  | 35785  | 2.60  |  |
| Jul 2006 | 10307 | 33196  | 1.71  |  |
| Aug 2006 | 17266 | 60027  | 3.10  |  |
| Sep 2006 | 16517 | 65188  | 3.39  |  |
| Oct 2006 | 21923 | 93879  | 5.39  |  |
| Nov 2006 | 25230 | 127636 | 6.03  |  |
| Dec 2006 | 18478 | 83441  | 6.45  |  |
| Jan 2007 | 25177 | 117939 | 6.81  |  |
| Feb 2007 | 24994 | 114076 | 8.13  |  |
| Mar 2007 | 28140 | 128681 | 8.10  |  |
| Apr 2007 | 25740 | 118018 | 8.19  |  |
| May 2007 | 25708 | 112102 | 7.98  |  |
| Jun 2007 | 22703 | 97954  | 7.46  |  |
| Jul 2007 | 20336 | 89765  | 7.36  |  |
| Aug 2007 | 19991 | 88990  | 6.16  |  |
| Sep 2007 | 29115 | 134665 | 7.14  |  |
| Oct 2007 | 31116 | 144858 | 8.25  |  |
| Nov 2007 | 37098 | 155760 | 10.22 |  |
| Dec 2007 | 726   | 3414   | 0.37  |  |

Busiest month: Nov 2007 (37,098 requests for pages).



During M22-36 of the project the News & updates section was regularly updated with Passive House related events and announcements. Over one hundred website users subscribed to the PEP electronic Newsletter via the website register option (more details included below).

Main international and national conferences were announced, including: the 11<sup>th</sup> International Passive house Conference in Austria; the Passive house Happening 2007 in Belgium; Ökosan 2007 Conference in Weiz/Styria, Austria; Passive House Conference in Ireland 2007, and other national workshops, symposiums, exhibitions and training programmes.

All project deliverables produced in the reporting period were uploaded on the website and made accessible for the public. Additionally the “Energy Calculation and Certification, PHPP tool and EPBD” section is included for all PEP partners including details where to order the PHPP calculation tool nationally and the available climate data in the tool relating to geographical locations. The PEP website contains the list of all passive house websites and platforms in Europe. Also, links were created from all national website to and from the PEP website.

#### *Wider PEP website promotion strategy*

NUID prepared and distributed via email to PEP project partners and database of over one hundred registered website users an electronic Newsletter for the Promotion of European Passive Houses. Project partners forwarded the Newsletter to their stakeholders on national level. Copy of the Newsletter is in the annex.



**PEP @ Update****Newsletter for the Promotion of European Passive House**

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

---

Hello and welcome to the Promotion of European Passive Houses Newsletter

The intention of this e-update is to inform you regarding activities and results of the PEP project

The following items are now available on the website: [www.europeanpassivehouses.org](http://www.europeanpassivehouses.org)

**PEP Information Pack**

The Information Packages form a comprehensive Passive House handbook for municipalities, architects, energy designers, structural designers and building developers. To view National adaptation and translation of the Information Packages please go to National Information section and select the side navigation.

**PEP Passive House Certification**

The PEP partners' proposal for certification of PassivHaus dwellings is now available. The report identifies the benefits of a 'supply chain' approach for certification, which involves certification, and hence the control of quality, of the design process, the construction process, and the post construction inspection and testing of a PassivHaus. However, the PEP partners recognise that with the current state of the PassivHaus market, it would be difficult to introduce such a 'supply chain' approach in many countries. The PEP partners have, therefore, also proposed a simpler scheme for the current emerging market scenario. Also available is the proposal for certification of products, materials and technologies used in PassivHaus designs. To view please go to About PEP Project / Certification Procedures. To view National adaptation and translation of the Certification Procedure please go to National Information section and select the side navigation.

**PEP Passive House National Publications**

The Passive House National Publication is an overview of the passive house measures and barriers in each participating country and provides information on built passive house examples.

To view National adaptation and translation of the Certification Procedure please go to National Information section and select the side navigation.

**News & Updates**

Overview of recent passive house related news and events.

Visit [www.europeanpassivehouses.org](http://www.europeanpassivehouses.org) to find out more about the PEP project



The PEP project is partially supported by the European Commission under the IEE Programme. EIE/04/030/S07.39990

The WP5 Leader, NUID also prepared document relating to the work, statistical performance and dissemination activities of the PEP website. The document included overview of technical and non-technical barriers that were overcome by using the website as dissemination tool for the project (included in the CD-ROM).

The project website will be maintained in operation one year after the end of the project (end 2008).

## 2.6 WP 6 Dissemination and Promotion

The dissemination work package 6 is well integrated into the project. In addition, dissemination work will include published articles to professional and popular magazines relevant to promoting passive house buildings, and promotions on national targeted conferences. The strategic steps employed to reach these objectives in the reporting period M22-36 of the project are listed below:

- Translation and adaptation of the information package /handbook on the national level
- Translation and adaptation of the approach to certification of passive house buildings and suitable technologies to national building practices
- Organise national workshops and conferences
- Contributing to international conferences
- Contribution to national and project main website.

### Achievements

In all participating countries the PEP-results in M21-36 of the project (e.g. information package to various stake holders of passive house buildings; possible certification process and announcement of conferences) was disseminated on a national level via national conferences, workshops, and websites.

- All dissemination activities with respect to national workshop/conferences held in the reporting period M22-M36 are collected in the work package report (attached CD-ROM).
- The progress with respect to the publications is discussed in the chapter of project performance indicators paragraph 3.3.1 "Publications".
- An overview of international conference contributions (papers, presentations, etc.) of participants is discussed in chapter 3.3.2 "Targeted workshops and International Conferences".
- The progress with respect to the steering committee is discussed in paragraph 3.3.6.

In the next table dissemination activities, which cannot be allocated in the above paragraphs, are described below:

#### Other (national) dissemination achievements

| Company | Achievement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AEE     | - AEE INTEC, the City of Weiz and the W.E.I.Z. hosted the 2 <sup>nd</sup> international conference with technical exhibition "oekosan" in the "Weizer Kunsthau".<br>- 1-day-conference the klima:aktiv haus programme                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| DHV     | - PHP Presentation of promotion approach on See the Light 2007 conference in Ireland.<br>- PEP Presentation by Henk Kaan at PHP Passive house Happening, September 2007, Brussels.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| E&K     | - 1-day seminar on passive house buildings in Aarhus, August 2007.<br>- Numerous telephone answers to interested professionals and private persons seeking information via website ( <a href="http://www.AltOmSolvarme.dk">www.AltOmSolvarme.dk</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SINTEF  | - Seminar arranged in connection to the building project NorOne. Arranged by the Norwegian State Housing Bank. Oslo, October 2006.<br>- Meeting of representatives of Norway, Finland, Sweden, Denmark, representing central institutions involved in passive houses. Stockholm, June 2007.<br>- Seminar arranged in connection to the passive house project NorOne. Solutions and products used in this single family project was presented. Arranged by the Norwegian State Housing Bank. Oslo, August 2007.<br>- Seminar about passive houses in Norway. Arranged by the Norwegian State Housing Bank and the University of Agder. Grimstad, September 2007.<br>- Builders and carpenters of the Lovashagen Passive House Project in Bergen. SINTEF presented detailed construction solutions to construct passive house project. Bergen, Sept. 2007.<br>1-day-seminar about the solutions and intentions of the passive house project in Lovashagen, Bergen. Arranged by The Norwegian State Housing Bank and Byggholt (consultant and contractor) and Bergen Tomteselskap (real estate company). Bergen, Sept. 2007. |

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ECN      | <ul style="list-style-type: none"> <li>- Article "Passiefhuizen in international perspectief" in VV++ magazine</li> <li>- Workshop "Passive Houses" for housings associations in cooperation with Builddesk.</li> <li>- Adoption of the Passive House technology in the research programme PEGO and BuildingFuture.</li> </ul>                                                                                                                                                                                                                                                                                                                                       |
| DHV/ECN  | - Dutch dissemination activities by ECN and DHV related to the Dutch Foundation "passiefbouwen.nl". The foundation promotes the passive house concepts in The Netherlands using PEP results.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| VTT      | <ul style="list-style-type: none"> <li>- Article on passive house's heating systems in Sähköala "Passiivitalon lämmitysratkaisut" September 2007</li> <li>- 2 workshops for the students of the International Course of Sustainable Architecture. at the Helsinki University of Technology. "State of the art and trends in the energy efficiency of buildings and build environment" December 2007.</li> <li>- Low-energy and passive houses: Development from concepts to products, symposium for SME construction companies, designers, building authorities, developers (Joensuu and Pori). Matalaenergiatalot ja passiivitalot. May – November 2007.</li> </ul> |
| proKlima | <ul style="list-style-type: none"> <li>- Wallbrecht staff seminar (construction site managers), Energie- und Umweltzentrum am Deister. January 2007. 3 day programme of passive house standard for non residential and multy-family buildings.</li> <li>- Excursion to passive house buildings in Hannover region, organised for the staff of Ramboll (Danish company with more than 6.500 employees). September 2007.</li> </ul>                                                                                                                                                                                                                                    |
| NUID     | <ul style="list-style-type: none"> <li>- The study tour of 40 Irish construction industry stakeholders and policy makers to passive house buildings in Austria. Organized by the Sustainable Energy Ireland, Renewable Energy Information Office in collaboration with the Economic Chamber Voralberg and the Austrian Trade Commission, Austrian Embassy in Ireland.</li> <li>- Presentation at the See the Light conference, specifically dedicated to passive house standard, October 2007, Dublin.</li> </ul>                                                                                                                                                    |
| PHP      | <ul style="list-style-type: none"> <li>- Study trip to passive house buildings by members of the Flemish Parliament. March 2007.</li> <li>- Swedish delegation housing company to learn on EU energy policies and energy efficiency of the Belgian construction industry. May 2007.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |

## 2.7 **WP 7 Project management and Coordination**

Co-ordination of the work packages to fit in the project goals, Organisation of starting workshop, organisation and co-ordination of meetings, co-ordination and communication with the EC-representatives, co-ordination and editing /publishing main reports

The strategic steps employed to reach these objectives are described below:

Communication with the EC is through the project co-ordinator. The co-ordinator will do the financial administration of the project, the progress reports, and the project minutes.

Each work package is co-ordinated by one of the partners. WP leaders:

| WP     | 1   | 2   | 3   | 4        | 5    | 6   | 7   | 8   |
|--------|-----|-----|-----|----------|------|-----|-----|-----|
| Leader | DHV | VTT | BRE | Proklima | NUID | ECN | ECN | ECN |

Within the work packages, the core of the work is done by a number of partners who have special knowledge and affinity for the topic that the work package is dealing with (these "core task group" may differ per work package). The other partners have a significant role on the national level, by gathering information and bringing this into a suitable form for an input in the core task. Furthermore, they will transform the results of the core task group into a national accessible form.

Steering Committee group was established in each PEP partner country (up to 8 members) for the project, consisting of representatives of the target groups of the project. As members of the Steering Committee hold important positions on national level, communication was held electronically by sending PEP material for comments.

### *Achievements*

In M22-M36 ECN, NUID and AEE INTECH hosted respectively a meeting in Petten/Alkmaar (October 2006), Dublin (March 2007) and Graz (October 2007). Each participants held on each meeting a presentation about the national progress in relation to the PassivHaus concept. ECN wrote all minutes and meeting agendas.

On a project management level ECN provided project-planning updates and document templates.

NUID and AEE INTECH requested a budget shift between cost categories which was send to the EACI by the coordinator.

All participants wrote and distributed their project activities report for the three technical progress reports.

ECN coordinated and edited the interim report and final report.

### *Publications / deliverables / documents produced*

| Name                                            | Overview                       | Date          | Responsible |
|-------------------------------------------------|--------------------------------|---------------|-------------|
| ECN_MIN_WP07_20061106.doc                       | Minutes 4rd project meeting    | November 2006 | ECN         |
| ECN_MIN_WP07_20070402.doc                       | Minutes 5th project meeting    | April 2007    | ECN         |
| Minutes PEP meeting, October 8-9 2007, Graz.doc | Minutes final project meeting  | October 2007  | ECN         |
| PPR_04_PEP_20070507.pdf                         | Progress report period 22 - 27 | May 2007      | ECN         |
| IR_01_PEP_20061102.doc                          | Interim report M1-M18          | November 2006 | ECN         |
| IR_02_PEP_200802xx.                             | Interim report M1-M18          | February 2008 | ECN         |
| Final public report                             |                                | February 2008 | ECN         |

## 2.8 **WP 8 Common Work Package on Dissemination**

- *Task 1:* Contribution, upon request of the Commission, to the development of online information systems under EC management.
- *Task 2:* Participation, upon request of the Commission, at contractors' meetings and conferences in association with the EIE and other relevant programmes, EU-wide exhibitions, etc.
- *Task 3:* Contribution, upon request of the Commission, to the preparation of common presentation material related to EIE actions.

### *Achievements*

#### *PEP "Overall project promotion activities"*

|     |                                                     |      |
|-----|-----------------------------------------------------|------|
| ECN | Presentation PEP project at IEEA infoday April 2007 | 2007 |
|-----|-----------------------------------------------------|------|

#### *Coordination with EIE Passive-On project / E-Retrofit kit*

- Distribution of PEP-deliverables to project coordinators
- E-retrofit uses passive house definition, which was defined within the PEP-project. E retrofit slightly changed the PEP logo and used it as their own project logo. PEP decided to put energy in more useful discussions. PEP always initiated the exchange of project deliverables to the project coordinators of Passive On and E-retrofit kit. Unfortunately, we never received any project results from them.

#### *List of publications*

- Presentation IEEA info day.

## 2.9 Deviations

There are no major deviations in the project compared to the project plan with respect to the contents of the project. All deliverables were finished within the project period. The final results were not achieved via the work plan described in Annex I as reported in the first interim report.

Although the deliver D3.4 "certification via the supply chain method" describes an ideal and complete certification process of Passive Houses it was not one-on-one translated to a national publications. Feedback from national steering committees showed that the certification scheme for passive houses in this market introduction phase needed to be low key in order to be accepted. It was decided that on a national level the responsible project partner added a national foreword with the status of the present or wishful way of certifying passive houses in their countries reflected to the supply chain method described in D3.4. This approach was accepted by the national steering committees.

The highly defined and developed deliverables are attached to this report.

## 2.10 List of deliverables

The updated deliverable list is given in the next table:

| <b>D</b> | <b>Name deliverable</b>                                                                                                                                                                 | <b>Delivery month</b> | <b>Status</b> | <b>Dis. level</b> |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------|-------------------|
| 1.1      | Working paper 1.1<br>"What is a passive House?" National publications (English)                                                                                                         | 12 (6)                | Closed        | PU                |
| 1.2      | National versions of working paper 1.1. (translated to national languages)                                                                                                              | 13 (8)                | Closed        | PU                |
| 1.4      | Working paper 1.2<br>Practical solutions Passive Houses (English)                                                                                                                       | 12 (8)                | Closed        | PU                |
| 1.5      | National versions of working paper 1.2 (translated to national languages)                                                                                                               | 13 (9)                | Closed        | PU                |
| 1.6      | Working paper 1.3<br>Energy saving potential through passive houses includes method for determining energy saving potential of Passive Building (English)                               | 13 (9)                | Closed        | PU                |
| 2.6      | Draft Information Package (English)                                                                                                                                                     | 18                    | Closed        | PU                |
| 2.7      | Information packages per country per target group (National brochures for potential customers about basics; national websites, Information package, in national languages)              | 26 (11)               | Closed        | PU                |
| 3.3      | List of criteria for passive houses based on PHPP and EPC (Contribution to EU buildings directive concerning buildings with very low energy demand) (English)                           | 26 (11)               | Closed        | PU                |
| 3.4      | National Passive House certification systems (Generalized Planning tool with the possibility of regional diversification) (National languages)                                          | 30 (17)               | Closed        | PU                |
| 3.8      | National Passive House Technologies Certification systems (Concepts for Passive house refurbishment) (National languages)                                                               | 34 (14)               | Closed        | PU                |
| 4.3      | Workshops for targeted audiences (at least 2 per country) (National languages)                                                                                                          | 13 (26)               | Closed        | PU                |
| 4.5      | International Passive House Conference; Passive House Conference Proceedings including multilingual International Conference Proceedings of the international work group Multi-lingual) | 17                    | Closed        | PU                |
| 4.6      | Work package report (English)                                                                                                                                                           | 23 & 36               | Closed        | PU                |
| 5.       | National websites on Passive Houses (National languages)                                                                                                                                | 23 (13)               | Closed        | PU                |

### 3 Management and coordination aspects

#### 3.1 General

##### *Deviations*

There are no major deviations in the project compared to the project plan with respect to the contents of the project.

##### *Cooperation and communication between partners*

The cooperation between partners is in principle good. There is sufficiently and appropriate exchange of information and cooperation.

##### *Cooperation with other projects/programmes*

The PEP project cooperates with the Passive-On project and the EIE-project E-RETROFIT-KIT. PEP project results were sent to the project coordinators to avoid double work. However, we never got anything in return. Fortunately our project partner PHI who was participant in PEP and Passive-On presented the progress of Passive-On and ECN presented the progress of E-Retrokit. These presentations were requested by the PEP coordinator.

PEP always initiated the exchange of project deliverables to the project coordinators of Passive On and E-retrofit kit. Unfortunately, we never received any project results from them.

In the reporting period observers from Poland, Czech Republic, France and Belgium joined our project meetings. Our French observer Phillip Fessard rejoined the Pep-project in Graz.

#### 3.2 Resource usage

These figures are based on the real overall cost statement M1-M36. The cost statement only supplies overall project costs not the costs made per workpackage. The project time path is 100% completed. Most participants spend more budget on the PEP project then the official budget in Annex II.

|                | ECN        | DHV        | NUID       | BRE        | SINTEF     | EK         | VTT        | Proklima   | AEE INTECH | PHP        |
|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Total budget   | 177,240.00 | 102,400.00 | 105,902.00 | 96,784.00  | 109,980.00 | 82,920.00  | 115,280.00 | 224,657.00 | 88,100.00  | 99,143.00  |
| Realised 1-21  | 129,888.68 | 89,396.00  | 56,621.75  | 89,022.29  | 64,962.63  | 60,233.59  | 76,499.50  | 107,018.27 | 43,174.48  | 64,247.60  |
| Realised 22-36 | 63,503.01  | 31,804.89  | 49,144.77  | 45,601.45  | 52,591.00  | 43,116.97  | 38,357.52  | 109,711.46 | 50,112.31  | 66,908.74  |
|                | 193,391.69 | 121,200.89 | 105,766.52 | 134,623.74 | 117,553.63 | 103,350.56 | 114,857.02 | 216,729.73 | 93,286.79  | 131,156.34 |
| progress %     | 109        | 118        | 100        | 139        | 107        | 125        | 100        | 96         | 106        | 132        |

### 3.3 *Performance indicators*

The performance indicators of the project are:

- Publications that are accepted by national professional and popular magazines (at least 2 per country)
- Number of targeted workshops per country (at least 3 per country)
- The increase of interest in the International Passive House Conference by foreign visitors (i.e. from outside the German-speaking countries) at least growing with 10% per year
- The number of 'hits' of the websites
- The growth of the use of the PHPP
- The eagerness of participation of the target group representatives to the steering committee.

#### 3.3.1 Publications

In the reporting period a number of publications were completed by the project partners. Extensive list per each country can be found in the Final Report, Work Package 4, in the Annex.

#### 3.3.2 Workshops/Symposia/Conferences

In the second period of the PEP project 28 workshops took place. Again a broad variety of activities was realized: study tours, workshops, seminars, symposia and open passive house days. All PEP partner countries carried out at least two workshops in each country, 7 of 9 partner countries realized considerably more activities than expected. Detailed description of these dissemination activities is included in the Final Report WP4 included in the Annex.

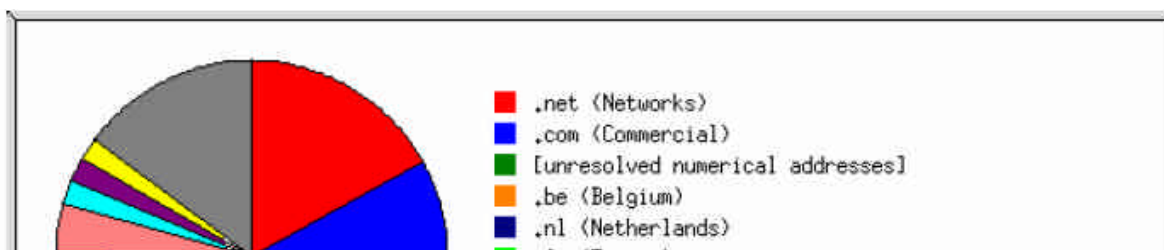
#### 3.3.3 Number of 'hits' of the websites

The launch of the pep-website (<http://www.europeanpassivehouses.org>) was in January 2006. The web site is structured to produce a statistical report, which records all details of the web site users.

Since 25 January 2006 the website was great success with just over 2million number of 'hits' and geographical spread covering all Europe and beyond. During M22-36 the website performance was monitored and summary of statistical reports presented in work package progress reports and project meetings. The Statistical Report covering period until 1<sup>st</sup> December 2007 shows 1,910,244 visits to the website. This greatly exceeds the number of 'hits' reported in the first Interim Implementation Report, M1-21 total 270,000 visitors. This is a strong indicator of the success of the website as dissemination tool as well as for the interest in the PEP project deliverables and activity!

Interestingly, the busiest month of activity on the website was November 2007, coinciding with the end of the PEP project and all deliverables being available for downloading. In terms of number of visitors from PEP partners countries, highest activity is from .be (Belgium), and .nl (the Netherlands), followed by .fr (France), .ie (Ireland), .uk (IK) and .dk (Denmark).

#### **Statistical Report January 2006 – December 2007.**





#### 3.3.4 Increase of interest in the International Passive House Conference by foreign visitors

At the 11th International Passive House Conference held in Bregenz, Austria April 2007, there was nearly twofold increase of non-German speaking visitors compared to previous conference in 2006. In total 278 not German-speaking conference participants took part in 2007 (compares to 153 in 2006). English Conference Proceedings were published. Simultaneous translation to English was provided during the conference.

#### 3.3.5 Growth of the use of the PHPP

In the reporting period M22-M36 total of 255 of the PHPP-software by the PHI. This is a significant increase compared to period M1-21 with 77 copies sold. The usage of PHPP grew over three times! The new version of the PHPP v 2007 was released in June 2007.

#### 3.3.6 Eagerness of participation in the steering committee.

In the reporting period, members of national Steering Committees were sent draft papers on the content of the Information Package and the proposed certification scheme for passive house buildings, certification of components and possible relation to EPBD. Their views were consulted for the quality, content and suitability of deliverables on national level. Their comments were taken into account in developing national adaptation of the above deliverables. The eagerness of the Steering Committee was noticed, especially in relation to certification and relation to EPBD.

## 4 Annex Final Report WP4