

The implementation of solutions throughout the PassREg project

An evaluation of in-depth interviews with regional stakeholders

D4.9 and D4.10

WP4 task 4.4.1, 4.4.2 and 4.4.3

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April 2015



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

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1 Introduction

This paper distillates the in-depth-interviews, taken by the partners of PassREg amongst participating local stakeholders in November 2014 to January 2015. These interviews were set up as final evaluations of the process of implementing solutions throughout the PassREg project and sharing valuable experiences. Goal of this compilation of information is to share the lessons learned within the PassREg project in order to further deepen the understanding of the complexity of the transition process in the regions. Also the documentation of the interviews may be useful for other interested organisations and regions.

Joined functions of the interviews and combined deliverables

This report is a combined deliverable of D4.9 “Evaluation forms, reporting valuable experiences” and D4.10 “Report of in-depth interviews”. In order to prevent double work for the partners (different interviews where originally planned) the leaders of WP3 and WP4 combined suitable questions for both WPs in the In-depth-interview. As preparation of D4.9, questions on experiences with developing and implementing solutions were included in the In-depth interview, see paragraphs 2.2, “Significant experiences while implementing solutions”, and 4.1 “The most valuable experiences and remarkable effects of PassREg”.

Finally the interviews functioned also as a source of real-time information for the Success Guide, WP2.

The questions handled in the interview

The interviews treated the regional and interregional effects of the PassREg project. The questions especially focussed at the most interesting, useful experiences and solutions in the spectrum of implementation, application and developing solutions, tools and methods, on remaining barriers, main-effects of the PassREg project and specifically study tours, training-activities and interregional exchange of experiences. The format of the in-depth interviews is attached to this report, see the annex.

Individual reflections

The content of this document is derived from interviews that were based on open questions and only reflect the individual perspective of single persons interviewed. Therefore this report contains the most relevant information from these interviews but is not an all-embracing analysis of the PassREg related aspects discussed in this document.

The following interviews are processed

- 1 interview with David Jaques from Housing Development Cardiff, Wales
(I01_PassREg Interview_BRE_1_David Jaques.docx)
- 2 interview with Patrizia Attanasi from Portobello di Gallura in Agleintu, Sardinia
(I02_PassREg Interview_eERG-PoliMI_P. Attanasi.docx)
- 3 interview with Roberto Vincenzi from Energia Casa srl from Villa del Sole in Lonato del Garda
(I03_PassREg Interview_eERG-PoliMI_Vincenzi.docx)
- 4 interview with L. Custers (Dienst Energie, Milieu en Stadsontwikkeling) and D. van Regenmortel (Ecohuis uit Antwerpen)
(I04_PassREg Interview_PHP_ L. Custers and D. van Regenmortel.docx)

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- 5 interview with Klinka Nakova (EcoEnergy Municipal Energy Efficiency Network Sofia)
(I05_PassREg Interview_EnEffect_1_Klinka Nakova.docx)
- 6 interview with Stiliyan Ivanov (Bulgarian Construction Chamber, Sofia)
(I06_PassREg Interview_EnEffect_2_Stiliyan Ivanov.docx)
- 7 interview with Elisabeth Kirscht and Ute Heda (Climate Protection Unit Hannover)
(I07_PassREg Interview_proKlima_E. Kirscht and U.Heda.docx)
- 8 interview with Terèzija Kruste (Rèzekne Municipality, Latvia)
(I08_PassREg Interview_LEIF_1_Terèzija Kruste)
- 9 interview with Jànis Volks van Rèzekne Municipality from Latvia
(I09_PassREg Interview_LEIF_2_Jànis Volks.docx)
- 10 interview with Guntars Velcis (Èrgli Municipality, Latvia)
(I10_PassREg Interview_LEIF_3_Guntars Velcis.docx)
- 11 interview with Andris Spaile (Èrgli Vocationl School, Latvia)
(I11_PassREg Interview_LEIF_4_Andris Spaile.docx)
- 12 interview with Gualtiero Bernabini (Municipality of Cesena, Italy)
(I12_PassREg Interview_Cesena_Bernabini.doc)
- 13 interview with Giovanni Battistini (énergie per la Città Spa Cesena, Italy)
(I13_PassREg Interview_Cesena_2_Battistini.docx)
- 14 interview with Saskia de Jong (DeJong&Verder and DNA in de Bouw, Ede)
(I14_PassREg Interview_DNA_1_Saskia De Jong)
- 15 interview with Marc van de Burght (Municipality Arnhem)
(I15_PassREg Interview_DNA_2_Marc van de Burght)
- 16 interview with Maarten van Ginkel (Municipality Nijmegen)
(I16_PassREg Interview_DNA_3_Maarten van Ginkel)
- 17 interview with Andrew D Tidy (Carmarthenshire Council)
(I17_PassREg Interview_BRE_2_Andrew D Tidy.docx)
- 18 interview with Veselina Petkova-Ilieva (Chief Architect of Burgas Municipality)
(I18_PassREg Interview_Burgas Municipality_1_Veselina Petkova-Ilieva.docx)
- 19 interview with Atanaska Nikolova (Deputy Mayor of Burgas Municipality)
(I19_PassREg interview_Burgas Municipality_2_Atanaska Nikolova.docx)

NB: The original interviews can be found in the Alfresco database, folder 4.4.2. Interviews.

How to read this document

This document is the summary of the content compiled by the interviews. Even though each interview only reflects the individual vision and perspective of the person that has been interviewed - the whole lot of information from the different regions generates a comprehensive general picture of the experiences in the participating PassREg regions.

This document does not report the information of the interviews question by question but presenting the information per aspect and theme. This method was chosen because the interviews often where discussions with the representatives along the questions but did not stringently followed the interview frame in all cases.

In order to present a decent overview and to keep the document practical the author has chosen a more or less telegram-like style of viewing the essential content without much explanation. The information of the different aspects (e.g. solutions, barriers) is sorted by the structure of themes that have been used in the communication throughout PassREg (e.g. Business case & financing, Knowledge). These aspects cover a large spectrum of the reality of the regional energy transition.

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The code(s) behind a statement refer to the interviews that included this specific information or similar statements.

The document is arranged as follows:

Chapter 2 figures out the solutions that had the biggest impact to the regions. Also the most relevant experiences with the practical development/implementation of the solutions into the regional context are presented here.

Chapter 3 lists the factors that the participants recognized as still hindering the implementation process of Passive House technology with renewable energy supply in their regions. This list is not further analysed in this report but will be part of the *D4.6_PassREg Advisory report on barriers and solutions*.

Chapter 4 identifies the most valuable experiences and remarkable effects of the PassREg project to the participating regions. From this information some conclusions have been drawn by the author. Final to this chapter and report are the suggested actions to secure the effects of PassREg project.

2 Implemented solutions

2.1 Successfully implemented solutions in regional context

This chapter describes the solutions that have been considered as best/most promising in the participating regions. The focus of the interviewees was to the most effective and (for their own work field) tangible solutions. Therefore not all solutions that actually have been implemented in the regions where mentioned.

Best solutions in the field of “Regulation & political agenda”

- Local government selling land below market value in a partnership program to developers to enable better energy performance. (I01)
- Local government initiating beacon-EnerPHit renovations. (I09, I12, I13)
- (The efforts for) political adaptation and compulsory application of PHPP-calculation. This has great potential impact for the acceptance of Passive House approach in NZEB's. (I16)

Best solutions in the field of “Business case & financing”

- Energy performance contracting by ESCO's help to overcome economical barriers. (I12, I13)
- Convincing examples of feasible projects. (I11)
- Tyrol's examples of centralized RE-power plants have a better efficiency in use and maintenance than individual concepts and therefore are cost-effective. (I01, I07)
- Integral design and construction approaches with multidisciplinary teams help reducing initial costs with and lead to higher quality. (I14, I16)

“...The more useful solutions at this time are contracts with ESCO's for making energy improvements in buildings, as in the period of economic crisis in which we are, many people choose not to intervene on buildings because they can not support the costs...”

Quote of Gualtiero Bernabini, Director of the Cesena Municipal Public buildings Department (IT) on solutions being helpful for the actual stage of the regions development.

Best solutions in the field of “Knowledge”

- Adaptation of Passive House principles to specific (Mediterranean) weather conditions. (I02)
- The PassREg SOS database with solutions for designer, builder and owner. (I02, I14)
- Informational material for EnerPHit renovations. (I11)

Best solutions in the field of “Capacity building”

- Establishing an institute for training suppliers (craftsmen, contractors, designers et cetera) in Passive House principles and techniques (I14)
- Beacons that allow the industry to learn and to set an example for others to follow (I01, I03, I05, I06, I08, I10, I11, I12, I13, I16, I18, I19)
- Initial trainings on NZEB-design (I03, I05, I12, I13, I16, I17, I18, I19)
- Training for specific target groups such as suppliers. (I04, I12, I13)
- Applying Passive House approach to existing buildings. (I11, I13)

Best solutions in the field of “Applied products”

Solutions in the field of “Applied products” where not considered as “best solution” by the interviewees.

Best solutions in the field of “PR and marketing”

- Application of NZEB-approach in beacon projects, sometimes first NZEB-building in region: impact on awareness, motivation and skills of government officials, market parties and consumers. (I03, I05, I10, I11, I12, I13, I14, I16, I17, I18, I19)
- Passive House and RE convince by operation: profitability, energy results and comfort have been proved and published. A follow-up on projects helps to avoid misconceptions by technical start-up difficulties or wrong usage by un-instructed costumers. Monitoring on projects provides convincing PR material. (I02, I05, I07, I11, I12, I13, I14)
- Study tours, training days and other dissemination activities were very effective in bringing on the right discussions, increasing confidence in other regions, raising awareness and motivation of local leaders, suppliers and citizens. Meeting users of the buildings was specifically valued. (I01, I02, I03, I05, I07, I11, I13, I14, I15, I16, I19)

“...I was in Brussels where we visited Passive Houses and could visually verify the technical solutions and materials in use. The main thing is that we were able to talk to occupants of the buildings, because that gave us the confidence that “the future house” is exactly the Passive House...”

Quote of Jānis Volks, manager logistics and infrastructure department Rēzekne Municipality (LV) on the effects of the PassREg studytours to the region.

- Awareness rising laboratories on energy saving and renewable energy at schools (I12, I13)

Best solutions in the field of “Quality assurance”

The interviewees did not consider solutions in the field of “Quality assurance” as “best solution”.

2.2 Significant experiences while implementing solutions

The interviewees were asked for their experiences on implementing solutions. In the broad variety of experiences in the different stadia implementing different solutions some general lines can be recognized:

First paving the way ...

- In aspiring regions the implementation of solutions is challenged by misconceptions and lack of awareness. When society is not ready to change the point of view on energy efficient buildings this needs to be resolved (by target group specific information campaigns and other PR activities) before other activities can be fruitful. (I11, I14, I19)
- Limited awareness and knowledge about the reasons for the requirement of high quality in NZEB makes it difficult to implement NZEB/Passive House standard. (I12, I13)

“... Antwerp is less visible than Brussels, Brussels is a project example and gets the focus more this way for Brussels. While in Antwerp AG Vespa does the projects, which are off course visible in the streetscape when they are saying here will come a passive house but it's not that visible. We don't come out with it.

We've learned from it that we have to show our example projects more, that we have to communicate about them. The demands are included in the projects but we don't communicate about it. ”

Quote of Dirk Van Regenmortel, coordinator of Ecohuis, Antwerp (B).

- Policy/funding mechanisms: The existence of merely subsidized projects as beacons without independently erected projects create the misconception that Passive House approach is not achievable without funding. Stakeholders are reluctant in implementing higher standards than in regions that do not have access to extra funding. (I04)
- The position/function of an organization is decisive for the impact in the field of changes, for instance for a regional network-organization it is not very likely to have any impact on changes in national policy. On the other hand top-down devices of governments are not supportive for sincere exchange and cooperation in regional networks. (I01, I04)
- Meeting users of the buildings during study tours seems to be very convincing to (political) stakeholders. (I01, I02, I03, I05, I07, I11, I13, I14, I18)

...than adapting solutions step by step

- The study of success models in the FR regions was inspiring and solutions were adapted to regional circumstances. (I14, I18, I19)
- A general methodology cannot be implemented in a regional context. General interregional exchange during PassREg was not very supportive in developing required specific solutions. (I01, I04, I06, I14)

“The study of success models in the FR regions was very important to us. By accumulating knowledge within the project, we managed to find our way to the introduction of NZEB. We adapt solutions and find answers to most of our questions.”

Quote of Arch. Veselina Petkova-Ilieva, Chief Architect of Burgas Municipality on the benefits by the efforts to the exchange of knowledge, success models and solutions to the Burgas Municipality (BG).

On the other hand the exclusive exchange of information needed in a certain process of a specific project can be very effective, such as direct exchange between stakeholders on specific topics and deeper level. (I07, I14)

“Because of actual projects (e.g. Klagesmarkt project) in Hanover and a still running political discussion with passive apartment house buildings, we especially looked to the Project Bahnstadt Heidelberg and others from Frankfurt. These projects are communicated by PassREg. But also the “Brussels model” gives us suggestions.” Quote of Elisabeth Kirscht and Ute Heda, City of Hanover (D), on the learning from other regions that made/will make a difference.

- Many of the solutions that have worked in one region cannot directly be transferred to another region. (I01, I14)
- An engaging local government is very supportive for the implementation of any solutions (beacons, info sessions). (I12, I13, I19)

- The importance of regional communication has been underestimated in the design of the PassREg project: There was too little space for essential regional (PR) activities. (I04, I14)

“...Our beacons were good fodder for the press. ...This media coverage has led to greater awareness of DNA and to much more demand for (information of) passive house projects, solutions and knowledge...”

Quote of Saskia de Jong, communications officer at DNA in de bouw (NL) about the benefits of the visibility of beacons to the region.

- A general communication approach for all PassREg partners has not been very effective locally. (I14)
- The development of the market needs more focus. Networking activities turned out to have most impact in the region. (I16)
- More exchange between the participants of PassREg and other relevant regional stakeholders including the surrounding regions would be beneficial. (I11, I15, I17)
- The Solution Open Source /wiki-database at EU-level has not been very effective locally; therefore it was reorganized for national or even regional level.
- Actual support to ambitious building projects would be supportive, especially in relatively poorer societies. (I03, I05)
- As a regional government we have noticed our limited sphere of influence, due to national regulations. Next time I would advise to design and execute a more strategic approach at the beginning of the project to influence the national government from the regional experiences and network. (I16)

Valuable experiences on the general execution of PassREg activities

- Working on work-packages has not always been effective: sometimes it was hard to get results in from all partners. Another method could be for example to create workgroups that interact regularly and communicate on concrete experiences through “simple” workshop sessions. The organization of the project was too complex and should be more pragmatic. (I04)
- More exchange between partners would be supportive. Information exchange between the partners was partly limited because of the very different roles the partners had in their region, different levels and barriers. Exchange makes more sense when partners deal with similar circumstances or can learn/get inspiration from a more advanced region. (I14)

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- The potential of the PassREg-project could not fully be tapped due to the absence of actual construction companies, producers of materials and other market parties in some PassREg-teams. (I06)
- Having more regional stakeholders attend the international partner meetings would have helped: the meetings could have been more effective for the regional results this way. (I14)

3 Barriers

3.1 Unresolved (main-) barriers

This chapter reflects the barriers for the implementation of NZEB based on Passive House technology with RES that could not (fully) be resolved during/through the PassREg project. The interviewees considered the most relevant barriers at the present stage of the development of the regions they represented. The information collected in this chapter is further analysed in the *D4.6_PassREg Advisory report on barriers and solutions*.

Barriers in the field of “Regulation & political agenda”

- Lack of stability and continuity of national and local policies. (I04, I05)
- Lack of political will and bureaucracy. Slow and complex decision-making processes at governmental institutes and the lack of awareness of government officials of the potential of Passive House technology to serve their goals. (I02, I04, I05, I06, I07, I14)
- Lack of clear definitions of NZEB and related targets/definition of NZEB. The definition of NZEB of some member states does not set an optimal building performance prior to the production of renewable energy. This complicates and even prevents the large-scale introduction of cost-efficient and healthy NZEB's based on Passive House approach. (I04, I12, I13, I16)
- Limited political scope of regions. Often there is a big gap between the national regulations and regionally preferred (higher) standards. (I04, I07, I16)
- Officials in municipality do not have enough capacity and time to stimulate the inhabitants towards NZEB (-retrofit). (I15)
- Lack of effective financial solutions/stimuli/funding mechanisms to improve energy efficiency in construction, especially concerning the coverage of higher capital costs to build a NZEB. (I01, I02, I05, I06, I12, I13, I15, I16, I17, I19)
- Lack of consensus and unity between stakeholders. (I14)
- Lack of “incentive” to pursue Passive House standard besides other more recognised labelling-methods, such as BREEAM. (I17)

The main thing we've learned is that there is no barrier that can not be overcome. This is clearly demonstrated by the different models in the FR regions. ... Perhaps the most impressive thing was the construction of passive kindergarten Sun in Gabrovo as a beacon project. This proved categorically that this [Passive House] standard is applicable in our country, despite regulatory barriers.

Quote of Atanaska Nikolova, Deputy Mayor of Burgas Municipality, BG. on the lessons learned of PassREg.

Barriers in the field of “Business case & financing”

- The low income of the citizens and high building costs prevent from any investments in the building stock. The realization of beacons and NZEB-projects on larger scale depends on supportive funding/subsidies. (I05, I06, I09, I10, I12)
- Lack of awareness of the advantages and appropriate valuation and commercial demand of NZEB's. Investors base their decision generally not on life cycle analysis, which is essential for an appropriate valuation of NZEB concepts (I01, I07, I10, I14, I15, I16)
- Retrofitting on larger scale helps resolving the barrier of initial costs. Complicated ownership structure of the building stock prevent from deep renovations to Passive House standard of whole complexes, rows or districts. (I04, I05, I06, I07)

- Lack of financial mechanisms to support the development of the market. (I01, I05, I06, I12)
- Lack of a real market with supply and demand for NZEB's. Developing the market leads to availability of cost competitive certified Passive House products and experiences with design and construction. (I01, I05, I06, I10, I19).
- Pricing for unknown risk by developers and contractors and lack of competitive edge (I01).

Both of the above cases [building costs and lack of skills] are only likely to be overcome with more and more Passivhaus developments so contractors no longer price for risk and costs can become more competitive.

Quote of David Jaques, Cardiff Council, about the hindering factors of the out roll of PH+RES in Wales, UK.

- Lack of affordable integrated NZEB concepts for better acceptance by the end-consumer (I15)
- Current procurement processes are not optimized for energy efficient construction. (I8)

Barriers in the field of "Knowledge"

- Lack of varied concrete examples and consequently lack of experiences with NZEB in regions. (I01, I02, I05, I06, I11)
- Lack of examples in different kinds of weather and architectural/cultural backgrounds. (I02)
- The apparent contradiction of attitudes to preserve architectural background and the integration of innovative technologies. (I02)

Barriers in the field of "Capacity building"

- Lack of skills on the supply side (including practicing PHPP-calculation). Lack of local training facilities and also the demand for it. Lack of actual projects to develop these skills and to raise demand for it. (I01, I02, I05, I06, I08, I09, I13, I14, I17, I18)
- Local building traditions: change is hard for organizations but implementing affordable and high quality NZEB's requires fundamental change for most players. This goes for designers as much as for constructing parties. (I01, I02, I05, I06, I08)

Barriers in the field of "Applied products"

- Passive House is a niche market in the region. Therefore there is a lack of local cost-competitive (certified) Passive House products. (I01, I17)

Barriers in the field of "PR and marketing"

- Lack of a solid marketing & communication strategy towards the market, and lack of resources for implementing this strategy. Hard to rival other more recognised standards or concepts. (I01, I04, I05, I06)
- Lack of awareness of the benefits of NZEB and misconceptions at the demand-side: e.g. fear of extra costs and scepticisms in functional performance of Passive House buildings. (I01, I09, I14, I15)

"... Antwerp is less visible than Brussels, Brussels is a project example and gets the focus more this way for Brussels. While in Antwerp AG Vespa does the projects, which are off course visible in the streetscape when they are saying here will come a passive house but it's not that visible. We don't come out with it.

We've learned from it that we have to show our example projects more, that we have to communicate about them. The demands are included in the projects but we don't communicate about it. "

Quote of Dirk Van Regenmortel, coordinator of Ecohuis, Antwerp, B.

- The task to retrofit city quarters to higher energy standards and implementation of decentralised renewables remains a great challenge. Campaigns are effective, informational sources are developed. Solutions are needed for motivation of more divers retrofit projects, complex urban quarter solutions and “diversified holdings”. (I07, I09)

Barriers in the field of “Quality assurance”

- Lack of experts with a high level of knowledge, professionalism and accuracy. Selection process for designers and contractors must be thorough to achieve quality in Passive House projects. (I08)
- Training of maintenance teams and tenancy managers is needed to ensure they understand new building methods and services in order to prevent the risk of wrong management and use of buildings. (I01)

4 Impact of the PassREg project to the regions

4.1 The most valuable experiences and remarkable effects of PassREg

...in the field of “Policy & political agenda”

1. The Study tours and lessons learned from FRR’s proved to be very useful to reassure and convince municipalities and other stakeholders to implement NZEB projects with Passive House standard and RES. The contact with occupants was highly appreciated and a convincing factor. E.g. experiences from FRR’s and studytours where convincing to a municipality to set up a programme for landsale subsidizing buildings with high-energy performance. (I01, I02, I05, I07, I08, I10, I12, I13, I14, I15, I16, I18, I19)
2. Through PassREg interregional exchange (e.g. study tours) stakeholders in aspiring regions where convinced and learned how to advocate Passive House principles and how to promote living in Passive Houses. (I01, I02, I09, I10, I13, I15, I16, I17, I18, I19)
3. A committed (local) government appeared to be essential for the implementation of sustainable building policies and for stimulation of the building market to implement energy efficient concepts and examples of how this can work. (I01, I05, I06, I08, I09, I12, I13, I16, I17, I19)
4. PassREg participants understood that the development of the market for NZEB is a matter of politics and a crucial solution for many barriers. In this sense political measures should support the market and not (only) individual projects. (I01, I05, I06, I16, I19)
5. PassREg participants understood the importance of political and market-related solutions to overcome financial barriers. (I01, I05, I06, I10, I12, I13, I16, I18, I19)
6. By learning about the successful integral building strategies of NZEB based on Passive House technology governmental stakeholders got aware that subsidies need to stimulate integral approach instead of separate measures. (I16)
7. Analysing the effects of FRR’s strategies participating stakeholders got aware that large subsidies for NZEB can work counterproductive because the market starts to wait for the next round of public money (re-active) instead of looking for market opportunities (pro-active). (I04¹)
8. National and local policies have major impact on the (large scale out-rolls of the) PassREg approach. The effect of PassREg is limited to the potential influence to the course of national and local policies. (I01, I04, I05, I06, I16, I19) On the other hand the progressive decisions of the (local) government of the district of Brussels enabled the transition of the building sector in this area.
9. The PassREg project could not affect economical barriers as low incomes of citizens or the structure of ownership of buildings. (I05, I06, I12)

...in the field of “Business case & financing”

10. Assurance about feasibility and broad applicability of Passive House technology to all building types, awareness that NZEB is achievable already and not expensive compared to other construction alternatives. (I01, I02, I05, I06, I09, I11, I14, I16, I17, I18)
11. Other, economically similar regions show possibilities, also for economically less developed countries. (I06, I09)

¹ This also appeared in Tyrol. There another negative side effect was increased prices of PH products.
(Note by the author as this partner did not participate in the round of interviews)

12. Out of the niche: The increase of demand leads to increase of supply and dropping costs of products and buildings. (I01, I04, I19)

...in the field of “Knowledge”

13. Understanding that NZEB’s do not only benefit energy savings, but also high quality of life for users of the buildings. (I01, I05, I09, I14, I16)
14. Frontrunners did learn approaches and techniques from other frontrunners. (I07)
15. Beacon projects helped to gain experience of market players. Experiences at beacon projects support the out-roll in the region later on. (I01, I02, I04, I05, I06, I07, I08, I09, I10, I11, I12, I14, I15, I16, I18, I19)
16. Technical expertise gained via studytours about techniques, calculation methods and materials. (I01, I02, I04, I05, I06, I07, I08, I09, I10, I12, I18, I19)
17. Technical expertise gained via exchange of information, experience and insights on NZEB’s with colleagues. (I03, I05, I07, I08, I10, I12, I19)
18. Experiences from beacons helped to improve educational material. (I11)
19. Importance of an integrated approach in design was noted and made feasible. (I06, I14)

...in the field of “Capacity building”

20. Understanding of the importance of a skilled construction-workforce that pays particular attention to the demanded high quality of construction, and thus of proper training facilities, tailor-made programs for specific target audiences. (I03, I04, I05, I06, I10, I11, I13, I14, I16, I18, I19)
21. Regional and national organisations have been facilitated to educate builders and designers. Train the trainer courses where a useful start. (I03, I04, I14, I16, I18)

...in the field of “Applied products”

22. Understanding of the importance of good (local) supply of needed products (I01, I05, I06, I19).

...in the field of “PR and marketing”

23. Understanding of the importance of marketing & communication, a clear Passive House message helps develop the market (demand & supply) (I01, I05, I06, I14, I18, I19)
24. PassREg stimulated the market in many directions, and it provided knowledge to the involved actors. (I02, I03, I06, I10, I18)
25. PassREg provided network opportunities for all players involved; not only within their own branche, but also connecting with other branches (like members of commercial organizations networking with government officials) and other countries. (I03, I07, I14, I16)
26. PassREg provided good (national and international) exposure for certain cities (I04, I07, I14)
27. PassREg provided good (national and international) exposure for beacon projects and their developers/supply parties. (I03, I07, I10, I11, I14, I18, I19)
28. Emergence of exemplar case studies / beacon projects. Confidence is gained by seeing the effect of beacon projects in other regions: “we can do that too”. (I02, I03, I05, I06, I08, I09, I10, I11, I12, I14, I15, I16, I18, I19).
29. The effect of information campaigns around beacon projects: helped many stakeholders to build trust and confidence to start their own projects and use these for further promotion and building skills in the supply side. (I03, I07, I16, I18, I19)

30. The back up of a EU-project helps to bring out press releases and get them published: it professes independency to the press. (I14)
31. Setting up a professional membership organization with a strong programme and good chances to continue independently after PassREg (I14)
32. The demand for NZEB's is rising. (I14, I16, I18, I19)

...in the field of "Quality assurance"

33. Insight that the building process has to change to guaranteed quality. Constructing in multidisciplinary teams has potential. Governmental control on quality is not realistic (too bureaucratic). (I16)

...in general

34. Understanding that an multifaceted approach is needed that combines all aspects (political, technical, economical ect) (I14)
35. Awareness that regional stakeholders need to cooperate, the collective objectives have to be considered prior to individual interests (I14)
36. Understanding that is it not possible to simply take over successful solutions from other regions: every region has to go through her own complex process. The success of it depends on committed actors from all relevant fields believing in the relevance of the collective course of action. (I04, I05, I06)
37. Recognizing the main lessons and principles to be followed as an important basis for the on-going transition process in the different regions. (I04, I05, I06, I14, I18, I19)
38. PassREg cannot directly influence obstructive cost-factors in a region. (I01, I05, I06, I07, I10)
39. Projects like PassREg provide local players more impact, because it helps them to easier access to e.g. political stakeholders, media. (I14)

4.2 Extrapolation of the regional impact

The sum of experiences and effects described in the interviews are evoking the observation of red lines on the effects of the PassREg project to the different regions. As the deeper analysis of the information is part of the *D4.6_PassREg Advisory report on barriers and solutions* this report does not analyse the coherences of the situations and the effects but presents the information derived from the interviews and from this extrapolates the individual experiences to the regional impact of the PassREg approach.

Firstly the interviews clearly show that the PassREg project had an impact to every participating region and stakeholders involved. Additionally the impact to the regions can be generalized as the following non-sequentially listed points:

1. Directly involved stakeholders and PassREg-participants got aware of the success factors for implementing NZEB based on Passive House constructions. This helped to improve the regional approach.

Related remarkable effects: 1, 2, 4, 5, 6 7, 8, 10, 11, 12, 13, 14, 15, 16, 19, 20, 22, 23, 29, 33, 34, 36, 37.

Main drivers for these results were interregional exchange of experiences / successmodels.

2. PassREg has limited impact to resolve massive barriers.

Related remarkable effects: 8, 9, 34, 38.

3. PassREg-participants and directly involved marketplayers got aware of the benefits and got confidence in the feasibility of NZEB. This positively effected the development of the local market resulting in the increase of the amount of realized NZEB's.

Related remarkable effects: 2 10, 11, 12, 13, 15, 16, 17, 19, 23, 24, 25, 27, 28, 29.

Main driver was the sharing of information at guided tours, regional events and publications.

For regions lacking of beacon projects interregional activities were crucial.

"We will also look to raise awareness with the general public about Passivhaus with RES – currently there is little awareness about Passivhaus so there is no commercial demand. However, we have seen examples of regional demand (in London) where there is more awareness and knowledge and a new Passivhaus apartment block sold out very quickly (before they were even built)."

Quote of David Jaques, Housing Development Manager for Cardiff Council on the barriers for Wales (UK).

4. Directly involved executing construction parties, attendees of trainings and dissemination events from the construction sector increased their knowledge and skills. This positively effected the development of the local supply-side.

Related remarkable effects: 10, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 28, 29, 31, 32, 33

Main driver for these results was sharing information at guided tours, regional dissemination events and specialized technical publications. For regions lacking of experienced experts and sources of information interregional exchange with colleagues was crucial.

5. Directly involved political stakeholders and representatives increased their knowledge and skills. This positively affected the political/public acceptance and (starting) resolving regulatory barriers.

Related remarkable effects: 1, 2, 3, 4, 5, 6, 7, 10, 11, 13, 14, 20, 23, 25, 28, 29, 34, 35, 36, 37, 38, 39.

Main driver for these results was the sharing of information at guided tours, regional events and publications. For regions lacking of beacon projects interregional activities were crucial.

6. Some regions, cities, projects experienced good national and international exposure. This positively affected the local and broader spread acceptance and appreciation of NZEB-projects and the implementation processes.

Related remarkable effects: 25, 26.

Main driver for these results was communication through guided tours, regional, national and interregional dissemination events with accompanying media attention.

7. Networks of regional stakeholders were established and consolidated. This positively affected the regional cohesion and exchange of experiences amongst direct involved regional stakeholders and participants of the networks.

Related remarkable effects: 25, 31

Main driver for these results was regional communication and the organisation of regional events (beacons often served as the occasion).

4.3 Suggested actions to secure the effects of PassREg project

Suggestions on interregional level

- Annual updates between partners would be helpful to continue the sharing of experiences after the project. (I01, I07, I12, I13)
- An action plan of next steps by the project partners could be supportive for the continuation of the momentum gained during PassREg. (I01)
- Initiating a PassREg phase 2 could help to consolidate a lasting impact in the regions. (I02)
- In order to continue the effects in the regions cities and municipalities have to work together and continue to share concrete experience. (I04)

Suggestions on regional level

In the field of policy

- A strategic plan supported by the main stakeholders about how to continue after the project would be useful.
- Hand over the regional results and conclusions to the national government to stimulate ministries support of Passive House construction. (I15)
- Lobby and make sure that the PassREg conclusions are heard and understood by local and national governments to integrate NZEB into their missions and regular activities. (I05, I11, I15)
- The direct support of the local actors such as designers, craftsmen, ... (financial support, specific training courses) would be helpful to consolidate the new approaches. (I03)
- The only way to continue is to make the market strong enough. There is no way to stop and development is going in the PassREg direction but the market should be additionally stimulated. (I06)
- Governmental support is need for the acceptance of Passive House standard and pursuing this standard next to other more recognised methods, such as BREEAM. Competence of architects and designers in AR's to use PHPP software needs to be improved. (I17)

In the field of communication

- Consolidate regional networks to communicate lessons learned at local level, to involve more stakeholders and to stimulate local players to integrate this into their regular activities. (I14, I19)
- The functioning of the portal PassREg-SOS (solutions open source) and active sharing of experiences is required after the end of the project. (I19)
- Informative campaigns and building forums are needed to continue spreading the knowledge. (I13, I14, I18, I19)
- Workshops are a good to share concrete experiences and do continuous learning. (I04, I10)
- Consolidate training activities by marketing and lobbying with local and national government over integration of Passive House Standard (principles) into funding criteria. (I14, I17, I18, I19)
- Join to other regional activities that go same direction. (I15)
- Emphasize the benefits for the users. (I18)
- Stimulate developers to add life cycle analysis in their decision base. (I04)

Suggestions on EU-level

In the field of policy

- An analysis and evaluation of the different national approaches could be useful to identify the best ones and work on simplifying the regulations throughout Europe. Keep sending high ambitions, targets and regulations from the EU. It is a very important instrument to have impact for the national and local government and other stakeholders. It would not work (this fast) without it. (I05, I16, I02)
- EU could place some extra encouragement for governments to address some of the identified barriers, like funding issues (covering additional costs in the learning phase): on-going attention is needed after the project. (I01, I05, I09)
- Public money could be used more to support the implementation of advanced solutions and the physical realization of highly ambitious NZEB projects based on Passive House and EnerPHit. There is a need of funding mechanisms to cover higher capital costs to build to Passive House standard compared to building regulation standards. Also the market needs additionally being stimulated. See chapter 4.1, point 4. (I17, I05)
- Regions with major social barriers, e.g. low income of the citizens need specific support to enable implementing the PassREg process. Lessons learned from PassREg are useful for the design of the support programmes, which can be proposed to the responsible authorities. (I05, I10)

“...There are many barriers which cannot be described in a few words. For example, the low income of the citizens and the ownership structure of the building stock prevent building renovations to Passive House standard, especially in the multifamily buildings. We count very much on EU support to overcome this barrier, and lessons learned from PassREg are very useful for our ideas for the design of the support programmes, which we would propose to the responsible authorities.”

Quote of Kalinka Nakova, Executive Director of the EcoEnergy Municipal Energy Efficiency Network (BG).

- Stimulation is needed of the transparency and public participation in the policy-making processes in order to make sure that authorities really comply with the EU directives and we don't try to go one step behind but one step ahead. (I06)

In the field of communication

- A correlation of the results from PassREg to other projects like LEAP or CONCERTO² also dealing with renewables and high efficient buildings might be helpful. (I07)
- The PassREg programme could be developed for urban areas. There is a need for more ideas and support for urban quarter solutions and retrofit projects with diversified ownership structure of the building stock (PassREg has mainly addressed single building projects). (I07, I18)
- The PassREg SOS-database needs to address regional stakeholders. (I14)
- An up to date portal with innovative and clear legislative information for each single region would be useful. (I02)
- There is an urgent need of training to prepare the workforce for the legal obligation of NZEB by 2018/2020. (I13, I17)

² www.concerto.eu, www.leap-eu.org



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- Support is needed in order to stimulate the local development of cost competitive Passive House (certified) products. (I17)

5 ANNEX: Format of the In-depth interviews

Task 4.4.2

Interview on the regional effects of the PassREg project activities

Name interviewer:

Name interviewee:

Organization:

Email:

General

1. What is your professional position and specific involvement in the PassREg project?

The interregional effects of the PassREg project

2. Was the potential of interregional exchange during the PassREg project fully tapped? Yes / No.

Can you explain further your selected answer?

3. In what way has your region/city benefitted by the efforts to the exchange of knowledge, success models and solutions?
4. In what way has your region/city benefitted from the Study Tours organized to the three Front Runner regions (Hanover, Tirol and Brussels)?
5. What did you/your colleagues learn from other regions that made/will make a difference to your region?
6. In what way has your region/city benefitted from the visibility of PassREg Beacon Projects? (e.g. inspiration, contacts, etc.)
http://www.passreg.eu/index.php?page_id=70
7. What solutions do you consider being helpful for the actual stage of the development in your region?



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- 8. Are there factors hindering the implementation of passive house technology with renewables in your region where you have not found a solution within the scope of the PassREg project?**

If yes, could you please describe the barrier(s) and in what way are they hindering? What do you consider may help to overcome these barrier(s)?

The regional impact of the PassREg project - barriers and solutions

- 9. What do you consider as the most remarkable effects of the PassREg-project in your region?**
- 10. There were 3 major barriers appointed for the PassREg development in your region. Do you consider them still as the main barriers? Have they mitigated or did other significant barriers appear? Did PassREg activities play a role in this?**
- 11. What is the effect from the Info Sessions activities in your region/city?**
- 12. What is the effect of the Trainings activities in your region/city?**
- 13. What are the best PassREg solutions developed or implemented in your region?**
- 14. What did you experience while implementing solutions in your region? Were - next to possible language barrier - other difficulties to be resolved? What factors have played a role in a successful implementation?**

Finally

- 15. If you had the chance to do PassREg over again with all you know now, what would you do different?**



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16. We have 7 months to go... what needs to happen so the interregional and regional PassREg-process will not stop after the closing of the project?

17. Can you think of comments, recommendations or special aspects to include into the concluding advisory report (with the focus on barriers and needed solutions) to the European commission from your region? Please describe.

Instruction for the interviewer

This interview has a focus on the most interesting, useful experiences at the implementation, application and developing of PassREg solutions. Please select two persons who are directly or indirectly involved in the PassREg project and who can provide the most interesting and complete information.

This interview should not only confirm what we already know. Therefore please pay special attention to answers and aspects that are new, not expected or of special interest for other regions.

Thank you very much for taking the interviews. Please don't forget to check with the interviewees if your report of the interview is alright with them. After that: Please send them to email address: joyce@hetschippershuis.nl. Joyce will collect and congregate the results.

We would appreciate to receive your interviews (in written English) before Friday the 21st of November 2014.

The information from these interviews will be processed into

1. WP 2 and WP 4 deliverables
2. the WP4 advisory report, part of WP7, to contribute to dissemination of knowledge across different IEE-supported actions (beyond PassReg).



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