EXISTING RENOVATION SOLUTIONS TOWARDS NZEB

REFURB DELIVERABLE REPORT 3.2

Overview and
one-stop shop solutions
for private homeowners

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Summary

The REFURB project focuses on the complex interplay of barriers through coordinated process organization, innovation and optimization. This way the REFURB project will bridge the gap between supply and demand side. Therefore, WP2 and WP3 were dedicated to analyse demand and supply-side drivers respectively.

This report is part of WP3 ('supply side mapping') that focuses on the supply side. In this report a market research on the existing solutions for renovation (to NZEB if available) is conducted.

By looking at the state of the renovation market and listing the solutions for renovation to NZEB that are (near-)available on the market, this research determines **which existing renovation solutions can be used in renovation packages[1] that are offered to homeowners to stimulate them to renovate their house to NZEB. Which aspects of those solutions are important to know and to use when developing new renovation packages?**

The objective of this report is to formulate recommendations to offer renovation packages based upon an analysis of currently available renovation solutions, both technical and non-technical, taking into account the country context. Special attention is being paid to one-stop-shop solutions as they are a promising non-technical solution for such renovation packages.

A clear understanding of the **country context** is required in order to estimate the replication potential of the renovation packages on a national and EU level. Therefore, in this report the local conditions that influence the supply side are explored.

The country contexts differ in many aspects:

Firstly, the country context is shaped by the policies in place and those under development as a national transposition of EU directives. If more complex NZEB renovations are to be stimulated, specific support policies and financial incentives should be put in place.

Secondly, the country contexts are shaped by the housing market, i.e. the housing stock and its tenure.

Thirdly, the general building practice, or more specifically, the roles of key-actors are country specific. For example, energy advisors and architects can be involved either obligatory or on voluntary basis. These key-actors have the necessary knowledge or skills to support the homeowner, although in many cases the advantage of involving them is hindered by the (perceived) high upfront cost.

The latter is related to a fourth important aspect, which is the readiness of the building sector itself. Due to a more complex challenge of the deep or NZEB renovations, it is expected that the building sector in which

[1] For the purpose of this project, the term 'renovation package' means: *"An easy-to-understand commercial offer to an end-user, written in non-technical language which satisfies his/her requirement for comfortable living but at a higher energy-efficiency of his/her dwelling. The offer comprises the optimum combination of technologies to be installed in the most logical sequence, tailored to the type of dwelling, the state of the building, the geography in which the dwelling is located and socio-economic parameters. Offers are understood to entail the unburdening of the end-user, so he/she is assured of an agreed higher energy efficiency without having to worry about individual technology choices."*

turnkey solution providers are present, makes faster progress than in a more fragmented construction market.

Some of these aspects of the country context are of high relevance when evaluating the **potential market growth for deep or NZEB renovations**. Specifics on the country context can be found in the Annexes of this report.

As mentioned before, there is ample technical potential for NZEB renovations, but as REFURB partners' experience shows, it is neither the technical nor the financial potential alone which determine the take-up of NZEB renovation packages. Despite this fact, currently there are no studies available regarding the non-technical aspects when considering the full potential of NZEB renovations.

In this report, a selection of **relevant existing renovation solutions** are presented per REFURB partner country. In general, two categories of solutions can be distinguished: technical and non-technical solutions.

The **technical solutions** are less country-specific and are listed in three categories:

- Building envelop,
- Technical installations and
- Renewable energy sources

These are linked to the building typologies in each country.

Looking at the **non-technical solutions** listed, the following categories can be distinguished:

- Innovative financial models (new ways of financing)
- Online tools for management or decision making (which are partially applied by one-stop-shops either as a lead-producing tool or as a first information tool)
- Demonstration projects or showcases visible to other homeowners
- New approaches to organising the supply side through building teams of smaller craftsmen
- Quality assurance
- Renovation packages = One-stop-shop-solutions
- Other solutions (such as innovative communication and marketing)

Nevertheless, it is important to note that multiple categories can be assigned to one solution for renovation to NZEB. Good solutions will likely cover multiple aspects. Taking into account the drivers that can convince homeowners to renovate to NZEB (as mapped in report D2.2), the **non-technical solutions are more important than the technical solutions to seduce homeowners to renovate to NZEB**.

As part of the non-technical solutions giving more attention to the demand side is the customer relationship management. This expertise is being built-up throughout the EU in local renovation programmes.

Further in this report, **one-stop-shop concepts** are analyzed. One-stop-shop-solutions (or renovation packages) seem to have the highest potential to convince the homeowner to renovate to NZEB since they offer a holistic approach.

Out of the examples of one-stop-shop concepts analysed in Europe, these **common characteristics of existing one-stop-shop-solutions** can be identified:

- Targeting individual homeowners.

- Initiative from government or supply side.
- Personal approach to the homeowner.
- Tailored integrated masterplan is offered to the homeowner to avoid lock-ins.
- Step-by -step approach is possible: homeowner has the choice between one deep renovation or a stepwise renovation
- Organisation of the supply side with one single-point-of-contact for the homeowner
- Marketing is important to get the offer well-known, but is often missing.

It is clear that the specific country context determines the success of the one-stop-shop solutions. Furthermore, many of the analysed one-stop-shop-solutions are not isolated initiatives. Most of them are embedded in a much broader programme, project or campaign, with clear demonstration projects.

Recommendations for the involvement and organisation of the supply-side

Regarding the involvement and organisation of the supply side to better fit the drivers of the demand side in relation to energy saving and NZEB renovation measures, it is important to note that the building sector is traditionally **very diverse and fragmented**, especially when renovation measures are concerned. This acts as a barrier for more cooperative models to provide one-stop-shop services.

Moreover, to provide one-stop-shop solutions, smaller contractors would need to work together with firms who coordinate the costs, both time and money, of the supply side. An improved organisation of the supply side will probably result in a collaboration structure in which an independent stakeholder is leading a whole team. One-stop-shop concepts often include an extra person as **single point of contact**; some of them take advantage of existing channels, such as an architect or a general contractor. The limited demand for one-stop-shop solutions provides insufficient incentive for the industry to reorganise and provide one-stop-shop services aimed at deep or NZEB renovations.

In a next step, the supply side needs to better understand the demand side. The supply side should **change their behaviour** towards the demand side and focus on the communication that mobilizes the homeowner into a renovation situation. Then, a supply involvement strategy is useful.

There are currently no widespread specific **financial mechanisms for deep renovations for privately owned dwellings**. The current financial incentives stimulate shallow or in some cases slightly deeper renovations but not deep renovations aimed at 60% of energy savings. Many publications and reports on improving energy efficiency finance in buildings are available, but little attention is being paid to the sector of residential buildings, to privately-owned dwellings. On the other hand, it is clear that the simple availability of subsidies or other incentives can move people to renovate their homes and especially to hire a professional craftsman. Nevertheless, it is unclear whether the incentives available also lead to deeper renovations. Short-term incentives like subsidies with limited availability or temporary reduction in taxes are a barrier to long-term investments offering qualitative one-stop-shops. Suppliers of attractive, new, financial services linked to energy saving are generally absent. Therefore, more cooperation between builders and financers to provide integrated guarantee services is needed to incentivize deeper renovations.

Quality assurance for one-stop-shop solutions for renovations are not or hardly available. Thus, the quality of their advice and of the implementation depends on the experts involved; their education and expertise. The key issue here is that quality assurance measures are available for the physical quality of the work carried out, but not for the long-term effect of the renovation on the energy consumption during the lifetime of the renovated dwelling.