

SUMMARY REPORT ON ONE-STOP-SHOP SERVICE FOR SUSTAINABLE RENOVATION OF SINGLE FAMILY HOUSE

Abstract

In Nordic countries significant primary energy efficiency potential exists in houses built before 1980. These houses are more than 30 years old and need to be renovated, which provides an opportunity for implementation of energy efficiency measures. However, there are several economic and market barriers and the renovation markets are dominated by handicraft-based individual solutions. In this project we analyze the opportunities for implementation of one-stop-shop business models where a single actor offers full-service holistic renovation packages including consulting, independent energy audit, renovation work, follow-up (independent quality control and commissioning) and financing.

The project participants are VTT, Finland (project co-ordinator), Technical University of Denmark, Mid Sweden University, and Segel AS, Norway. The reports (or deliverables) from the project are based on literature review, workshops, input from industry representatives and project participants' experience and judgment. This summary report (D3.3) contains synthesized information from other reports from the project which cover a review of existing sustainable renovation concepts (D1.1), identification of target groups and energy efficiency potential of packages of measures (D1.2), proposals on improved sustainable renovation concepts (D1.3), analysis of stakeholder interests (D2.1) and market strategies (D2.2), analysis of financing schemes (D3.1) and business models (D3.2).

There is a significant business potential for a one-stop-shop business model as the renovation market for single-family houses could be in the order of hundreds of million Euros per year in each Nordic country. Homeowners will get a quality renovated house with little risk and responsibility which usually is the case with traditional handicraft renovations. The energy cost will be reduced, market value of the house may increase, mortgage banks will have a safer asset and there are societal benefits in terms of reduced energy use and greenhouse gas emission. However, there is uncertainty over who will be responsible for guarantee of the renovation work if the service provider goes bankrupt.

Recently, some companies have started to offer full service renovation of detached houses in the Nordic countries e.g. Bolig-Enøk in Norway, K-Rauta & Rautia and ENRA in Finland, and Dong Energy Cleantech and ProjektLavenergi (not targeted to single-family houses at present) in Denmark. In Sweden, the only identified company to offer such a service is Energieffektiva Hus AB, which renovated one house in Öckerö. A comparative assessment of the business models shows that different type of actors may play the key role in a one-stop-shop for energy efficient renovation of single-family houses. In some models the service provider collaborates with financing institutions to provide renovation financing. There are differences on how customers are contacted, while the similarities are more on how the service is provided. A main challenge is how to secure independent advising.

Even though there is a strong business potential for one-stop-shop energy renovation concept, still it has been difficult to start or run such a business, e.g. Dong Energy Cleantech and ENRA concepts have ceased to operate. One of the main reasons is the uncertainty about the customer base. There is a lack of awareness about the possible energy efficiency measures and their benefits. The uncertainty regarding the level of energy savings, partly due to a varying household energy behaviour and lack of standardised measurements and verifications

protocol may not encourage, both the customers and financiers, to go for energy efficiency investments.

High investment cost is an obstacle for energy efficiency renovations. In Nordic countries mortgage financing seems to be the most cost efficient option to finance such investments for single-family houses. Banks are willing to lend money to those homeowners whose existing house loan is significantly lower than the value of the house and the household income is sufficient to cover an increase of the loan. This suggests that people who have lived in a house for long time and paid back most part of their mortgage have the financial capacity to invest in energy efficiency renovation. However, people who availed mortgage financing to buy a house recently may find it difficult to avail additional mortgage financing to invest in energy efficiency renovation, even though they are much likely to be interested in such renovations. One option to address this issue is that banks may consider an energy efficient renovation plan prepared by an entrepreneur and pre-evaluate the post-renovation value of the house in collaboration with real estate agents. This evaluation could form the basis for the bank to confirm the homeowner and the entrepreneur that certain amount of investment cost would be covered by mortgage financing.

National governments may provide soft loans (low interest and long-term) and subsidies for energy efficiency renovations, especially for energy audit of houses and to cover the investment cost beyond the mortgage loan. Also, tax deduction programs for labour cost for home renovation and other household work (as in Denmark, Sweden and Finland) could be amended to incorporate specific requirements regarding energy efficiency of the measures implemented. This would strengthen the market for energy efficiency renovation.

There could be a national goal for the energy efficiency improvement in existing buildings and a list of actions needed to achieve that goal. The incentives can then be tailored so that they consistently support this plan. In this case, better support could be given to those actions that strive to whole-building solution instead of single solutions. For a single-family house owner, the goal could be set by energy-certificate, and then one-stop-shop service would provide the plan and actions needed to get there.

A guarantee on energy saving may encourage energy efficient renovation of houses as energy cost saving is one of the most important factors in the homeowners' decision to implement energy efficiency measures. At present it is less likely that a guarantee will be given due to uncertainties regarding energy savings potential and also in the context of varying household energy behaviour. However, such concepts exist for industrial and public buildings (the ESCO concept) and may emerge for residential buildings.

Information campaigns highlighting the benefits of energy efficiency improvements and availability of economic incentives may create customer interest in energy efficient renovations. Emphasizing the loss incurred by residents due to non-adoption of energy efficiency measures may be more effective than the one projecting the gains made by adoption of such measures as people act more to avoid a loss than to achieve a gain. Public funded energy advisers as in Sweden and Finland may encourage homeowners to adopt energy efficiency measures as the energy advisers are mandated to provide independent advice which improves their trustworthiness. Also, the installers/sellers, who have a strong influence on homeowners' choice of energy efficiency measures, may be trained to provide comprehensive information on holistic energy efficiency renovation.

One way to develop the concepts and the market potential may be to provide public funding for few demonstration projects to test different business models, e.g. those identified in this project. Such projects will bring together actors interested in one-stop-shop concept and they will gain important experience. Advertisement of results of successful demonstration projects may attract more customers and entrepreneurs.