

Obstacles for Energy Rehabilitation in underprivileged Neighborhoods

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Affected by the steel crisis and the increase in coal prices beginning in the late 1960s up to the 1990s the business climate in mining regions in industrial countries changed. After several decades of economic growth and rising population, a period of recession started. Many of the former industrial sites saw themselves struggling with the effects of structural change. Since the decline of the coal and steel industry they have been confronted with massive job losses, permanently shrinking or at least stagnating population figures (cp. Glock 2007) and declining financial opportunities. In those circumstances, it is nearly impossible to use growth as a driving force for a positive development. Development prospects get obsolete, if they are only based on increasing population.

The Ruhr area is the region in Germany, which was most influenced by the crisis of coal and steel industry. The 13 independent cities of the Ruhr region and their whole history has been closely associated with the appearance of industrial sites. Mines, blast furnace and factories spread out in the region between the rivers Ruhr and Emscher. The former villages and small towns like Dortmund, Essen and Duisburg grew up to big cities with up to half a million inhabitants. Nowadays about 5 million people live in the whole Ruhr area. It is the biggest metropolitan area in Germany and one of the biggest in Europe. Since the crisis the cities of the Ruhr area still have been dealing with the effects of structural change. In some quarters of the cities this leads to a concentration of disproportionately high shrinkage and vacancy rates, obsolete

building structures and massive renovation backlog. The result are underprivileged neighborhoods. They have to deal with complex problems in terms of social and economic structure, less infrastructure, bad quality of housing and environmental problems. In relation to other urban districts they fall back into equipment, condition of buildings and image (cp. BMUB 2014). Instead of new growth, underprivileged quarters come along with dwindling investment activities and scenarios of withdrawal (cp. Kabisch/Peter 2008: 301).

At the same time climate protection measures have to be taken at this local level. “While recognizing that some climate change is unavoidable, global leaders at the 2010 Cancun Climate Conference agreed to limit global warming to 2 °C in this century, relative to the pre-industrial period“ (UNEP 2014: xiii). Increasing energy efficiency is one of the fields of action. According to the World Energy Outlook 2015, increased energy efficiency could account for a contribution as high as renewable energy and other climate change measures taken together. (cp. Pehnt 2010: 10). Although the building sector is of great importance, because it makes up to about 40 % of the energy consumption in Germany, the remediation rate of existing buildings stagnates at approximately 1 % per year. It must be increased in order to reach the German climate targets. (cp. BMWI 2012: 6) Therefore this potential should be activated more strongly in the future (cp. BMWI 2014: 22).

But energetic rehabilitation seems to be difficult in underprivileged neighborhoods. Here the potential for energy improvement is even higher than in other quarters, because they were already rehabilitated in the past. It seems that especially the urban quarters with the highest potential for energy efficiency improvement have the worst opportunities to achieve this goal. As result of the structural change, most of these neighborhoods have structural problems, dealing with a negative demographic and economic framework. Well-off, more mobile and younger people move to other districts or even across municipal boundaries. Business and personal income taxes erode, the vacancy rate rises and a low-income population concentrates in the quarter. (cp. Glock 2007) In addition to the negative development conditions, the economy does not seem to be able to provoke energy rehabilitation in underprivileged neighborhoods.

Due to low rents investments into buildings are financially not attractive and affect redevelopment decisions mostly negatively.

Refinancing the energetic rehabilitation gets harder without population growth and the need for new dwellings. Uncertain future prospects, a bad image, excess supply and vacancy, low rents, poor payment behavior and a problematic social or urban environment can have negative effects on the willingness to implement energy improvement measures (cp. Fryczewski 2014: 105). The low willingness to invest leads to trading down effects and situations, where the stakeholders' investment decisions are mostly blocked by each other. The remaining potential of the quarter will be lost. (ibid.) Without the chance to initiate new growth, it seems necessary to implement external governance.

However, the question arises, which obstacles and factors affect the implementation of energetic rehabilitation in existing quarters. Which factors are most important in disadvantaged neighborhoods? Are there any solutions for the obstacles? The aim of the research paper is to identify the most influencing obstacles of rehabilitation in quarters and show methods of resolution taking into account different approaches of governance. As a result, methods should be presented, which could be used to increase the renovation rate in neighborhoods with bad conditions.

As methodology the research tries to identify the particularly succinct obstacles by literature review and through structured interviews with experts in neighborhood development agencies in problematic districts of the Ruhr region. For example "neighborhood managers", who work within established urban renewal or redevelopment areas, are questioned after their estimation. The contribution of the research paper is to gain answers on particularly important barriers for energy improvement measures and possible solutions such as urban governance methods in demographically and structurally problematic neighborhoods. This should emphasize the importance of urban development in these quarters. Finally the research tries to do an outlook on the transferability of the findings to other districts with comparable conditions in the Ruhr area and beyond.

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