

Attitudes and Behaviour of German Homebuyers towards Sustainable Housing - A stated Preferences Approach

The building sector is still one of the most important branches of the European economy. In Germany, for example, the total turnover of the construction sector exceeds 200 bn Euro in 2005. At 60% of all investments in construction, the area of new housing developments represents a significant part of the building sector. However, the market share of sustainable housing developments is still very low. A recent study suggests that only about 2 - 8 % of all housing construction in Germany includes some sustainable aspects in planning and building (Wolpensinger, 2007).

The issue of high resource consumption by new housing developments is usually researched using life-cycle analysis, urban metabolism- or indicator-based measurement (Richter et al, 2001). These approaches are mainly concerned with integrating cutting-edge technical, architectural or planning solutions in sustainable new town planning projects and to assess the impacts of these objectives on the neighbourhood or the city. Our study, in contrast, pursues the question how concepts of sustainability can be included in actual land use planning, taking into account that a master plans' objectives need to address the preferences of potential private house owners, who are the clients and principal investors into new housing developments. In Germany, 251.000 housing units have been built by private households in 2005 while only some 30.000 new units have been constructed by companies and only a minor part by public investment. Hence, the target group of our study is the group of private house buyers.

Recent research suggests, that the presently low number of sustainable housing developments is the result of an inefficient market as the housing market does not represent homebuyers preferences (Levine, 2005). This thesis is based on the assumption that sustainable housing's market share could be increased, if developers had more information about the structure of preferences of private house owners. It is argued, that information about the least and most preferred aspects of sustainable housing could be used to generate ideal or "optimum" housing types and neighborhood planning concepts that could at the same time limit resource input and meet private home buyers preferences.

This study uses a behavioural approach to investigate the decision making process of private home owners. The individual decisions of private home owners are strongly characterised by trade-off aspects. Hence, based on *random utility theory*, a *discrete choice experiment* was used to model the preferences of private home owners on aspects of sustainable housing on the neighbourhood scale.

Preceding the empirical study, an operational definition of "sustainable housing development" was derived from a literature review and an analysis of best practices of sustainable housing. The identified attributes were used to design the choice experiment; the resulting *choice sets* were evaluated by private home buyers in an internet survey. A *decision support system* was developed to compute the results and thus to calculate the market share for hypothetical (sustainable or non-sustainable) planning alternatives.

In this study high approval for sustainable aspects of new town planning could be identified, even for segments of home buyers with low environmental awareness. The study's results especially point to new strategies on how to build higher density housing developments within the preference structure of private house owners. Hence it can be concluded that currently there is a lack of supply of sustainable housing and that the market place still has room to exploit the overlap between sustainability and the choice of housing investment made by private home owners.