

# DOCUMENTATION



Workshop

## Single Family Housing Estates of the Post - War Era – a European Comparison of Opportunities and Risks

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## Introduction

On 5 September 2013 the International Workshop “Single Family Housing Estates of the Post War Era – a European comparison of Opportunities and Risks” was held in Aachen. Organised by the ILS (Research Institute for Regional and Urban Development), the event was a venue for European researchers working in the wider context of the future development of ageing post-war housing estates faced by such challenges as demographic change and current economic developments.

The e-book covers most of the contributions presented at the workshop, highlighting the diversity of developments in different European countries.

Andrea Berndgen-Kaiser from the ILS (Research Institute for Regional and Urban Development) starts by presenting the findings of a German research project funded by the Wüstenrot Foundation, where strategies for municipalities on how to adapt post-war housing estates to changing requirements were developed.

The following contribution by Huib Haccoû from Saxion University in Deventer (the Netherlands) focuses on changing lifestyles and their impact on the demand for older houses in the Netherlands. Furthermore he analyses different demographic developments in various parts of the Netherlands.

The third article by Ute Baldermann Cornec refers to a study she supported during her junior professorship at the University of Münster (Germany) in cooperation with the municipality of Havixbeck near Münster. The research project focuses on the sustainable development of Havixbeck housing estates built in the 1960s and 1970s.

Anne-Francoise Marique from the University of Liège (Belgium) then presents her PhD thesis on the renewal of Walloon suburban neighbourhoods, focusing on energy efficiency in the building and transportation sectors. Jean-Marie Halleux, also from the University of Liège, completes the presentation with a short description of the BIMBY (Build in my back yard) approach, a strategy focusing on creating new housing by densifying existing neighbourhoods.

The next article, written by Yves Jouffe from the French LVMT (city mobility transport research laboratory), deals with his research about the influence the energy crisis is having on low-income households in French peri-urban neighbourhoods.

Finally, Michel Rousset from the French CAUE 27 (Council of architecture, urban planning and environment) in the Eure département (Upper Normandy) presents the BIMBY approach in the Eure département. The approach involves analysing legal tools and governance procedures supporting the regeneration of detached housing areas and the corresponding in situ experiments in several municipalities.

## The future of mature housing estates in Germany - Recommendations for municipalities to support the long-term sustainable use of houses built from the 1950s to the 1970s

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### Abstract

In collaboration with IREUS, the Stuttgart Institute of Regional Development Planning, and HFT, Stuttgart University of Applied Sciences, the ILS – Research Institute for Regional and Urban Development has conducted a research project (sponsored by the Wüstenrot Foundation) - analysing the quality of housing estates built from the 1950s to the 1970s. The objective of the project was to develop recommendations for local authorities to enhance their post-war housing stock. In the proposed submission, major results of this project will be presented.

With the original owners of these houses gradually dying out, a generation change is now taking place. The demand for certain sections of this housing stock is quite low, especially in certain regions of Germany. Alongside the decline in those population cohorts previously representing the greatest potential for house ownership, qualitative factors are having a growing influence on demand. One observation is that, due to the increased multiplicity of lifestyles and their accompanying spatial and temporal flexibilisation, urban locations are set to gain in importance, being easier to access and having a good infrastructure. The consequence will be that those houses in regions affected by demographic and economic problems as well as houses in sub-prime locations or real estates with structural or insulation deficits will suffer from a downturn in demand. This in turn means that older houses will in future be more vulnerable to falling prices or even in certain cases remain vacant.

An analysis of West German municipalities led to a total of 14 municipalities being examined in five West German Länder (federal states). 13 of them are small and medium-sized towns (at least 5,000 inhabitants). They supported in-depth case studies in specified areas through the provision of data. The research team conducted expert interviews with local officials and real estate experts, assessed detailed data on the selected areas, and asked inhabitants to answer a standardised questionnaire.

Based on the results of the empirical surveys and in contrast to the widespread opinion that post-war housing estates in Germany would fall outside the scope of public intervention, the project revealed a wide range of policies and potential measures for action. The research results underline the importance of housing-stock-oriented development in order to enhance the future attractiveness of post-war housing.

Activating strategies for developing brownfield sites and infilling could be applied at local level, while image-raising campaigns for older housing stock may be needed, with a view to stimulating demand at a meso-level. At the macro-level, collaboration between neighbouring municipalities could help avoid competition in attracting new residents. Even local communities currently not seeing any need for action should conduct continuous

monitoring of their housing stock in order to avoid unfavourable developments and tackle problems in a forward-looking manner.

### **Keywords**

detached and semi-detached houses, post-war housing stock, generation change, housing policy case studies

## **1 Introduction**

In association with IREUS, the Stuttgart Institute of Regional Development Planning, and HFT, the Stuttgart University of Applied Sciences - Faculty of Architecture and Design, the ILS carried out a three-year research project (funded by the Wüstenrot Foundation). The project ended with the publication of the final report in 2012. The project objective was to develop recommendations for local authorities on what to do with their post-war housing estates made up of owner-occupied houses (hereinafter referred to as 'houses' and 'housing estates'<sup>1</sup>). The following paper describes the study and its findings (Wüstenrot Stiftung 2012).

The paper starts by outlining the characteristics of housing estates in Western Germany. The study is then presented, looking at the research questions, methodology and findings (Chapter 2). Practical policy recommendations are subsequently provided (Chapter 3) and the potential significance of the situation for other European countries highlighted (Chapter 4).

Post-war suburbanisation led to large numbers of owner-occupied houses being built in West Germany, with nearly every third residential building in West Germany now being a house built between 1950 and 1980.

One result of Germany's relatively low residential mobility is the deferred generation change of house ownership. In fact, only approximately 20 percent of German home owners relocate after the age of 55 (Neugebauer 2007: 43), implying that four out of every five owner-occupiers stay in their homes as long as possible. This effect leads to a homogeneous and increasingly old age structure. The major proportion of houses built in the 1960s and 1970s is currently in the middle of a generational change of ownership. A quantitative imbalance in the development of supply and demand for houses in post-war estates is considered to be a consequence of population decline and changing household structures. While the proportion of traditional families (two parents + children) is rapidly declining, the number of single households and childless couples is increasing. In addition to this quantitative imbalance, it is assumed that there are also qualitative supply and demand imbalances. With one-parent families and childless couples gaining in importance, family accommodation requirements are expected to change. Accordingly, car-dependent residential areas with a lack of urban services might not be able to fulfill the specific needs of post-traditional families (Häussermann 2007; Siebel 2008).

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<sup>1</sup> The German terms "Einfamilienhaus" (literally "single-family house" and contrasting with a "Zweifamilienhaus" – "two-family house") and "Einfamilienhaussiedlung" (literally a "single-family house estate") are not readily translatable into English. In this article the terms "house" and "housing estate" are used".

## 2 Research project - Housing estates built in the 1950s to 1970s

The following chapter deals with the research project on housing estates built in the 1950s to 1970s. After outlining the research questions (Chapter 2.1), the research methodology is presented (Chapter 2.2). This is followed by a presentation of the results of assessments conducted at two different levels (Chapter 2.3 and 2.4). Chapter 2.5 describes a series of case studies and the conclusions drawn from them.

### 2.1 Research questions

Against a background of changing supply and demand, several research questions were elaborated. The first question was: are there regions more affected than others? Moreover, a classification of the current market situation of the post-war housing stock was considered a relevant outcome. The third research question dealt with the generation change of ownership and how it is taking place. Relating to these questions we hypothesise that older houses will not only be faced with falling demand, but also with qualitatively changing demand (e.g. fewer families with children, more single-person and single-parent households).

Additionally, it was considered important to assess the significance of this housing stock in the perception of municipal stakeholders. The final question was therefore: which measures need to be taken to support the long-term occupancy of the housing stock assessed? These research questions set the frame for the overriding research objective: to develop recommendations for local authorities on what to do with their post-war housing stock.

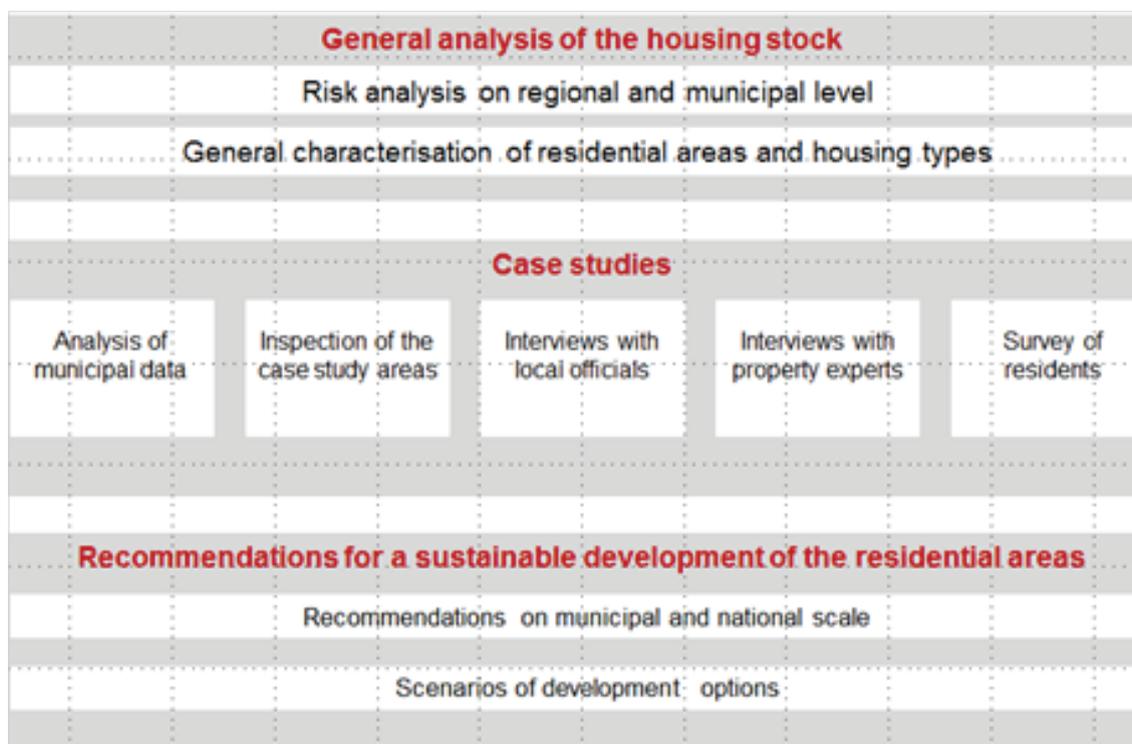


Figure 1: Methodology of the research project, Source: authors' own graph

## 2.2 Research methodology

Our research project was divided into three working phases (cf. Fig. 1). We started by analysing the available data on the housing stock and population development at a regional and municipal scale, identifying counties and municipalities with a high probability of housing supply surpluses.

Supply indicators	Demand indicators
Share of houses built from the 1950s to 1970s in the 2005 stock of houses	Population development from 2005 to 2025
Share of houses from the 1950s to 1970s in relation to the overall stock in 2005	Decrease in the number of larger households (three persons and more) from 2005 to 2025
Increase of the old-age dependency ratio from 2005 to 2025	Employees per 1000 inhabitants in 2005
Average land value of the building areas 2003-2007	Changes in household income from 1996 to 2005
	Access to the next high-order centre

Table 1: Indicators for the regional-level risk assessment, Source: author's own table

After the data analysis phase, we conducted 29 case studies in 14 municipalities in 5 West German Länder. In these we analysed municipal data and assessed in-depth inspections of the selected housing estates.

The table shows the indicators applied in our regional-level data analysis (cf. Table 1). In it, we have combined supply and demand variables for older houses. The coincidence of rising market supply and falling demand is interpreted as a risk of oversupply on the market for such properties.

Moreover, we conducted semi-structured interviews with local authorities and real estate experts to ascertain their problem awareness and solution approaches. In the 10 residential areas chosen as a reference, representing different types of areas, we conducted a residents' survey.

## 2.3 Findings of the regional-level risk assessment

The results of the analysis, using these specified indicators, led to the conclusion that the risk of oversupply did not necessarily increase in areas with quantitatively the highest share of the houses in question (i.e. in suburban areas close to agglomerations).

The regions most likely to be affected are e.g. "peripheral regions" close to the former inner-German border or border regions between Länder.

In conclusion, agglomerations are less affected by potential oversupply, whereas more problems are to be expected in rural areas.

We were able to identify districts with an above-average risk of supply outpacing demand for older houses. Looking specifically at houses built between 1949 and 1978 (6.56 million dwelling units), we divided the West German regions into five risk classes. The darker the colour is, the higher the risk (cf. Fig. 2).

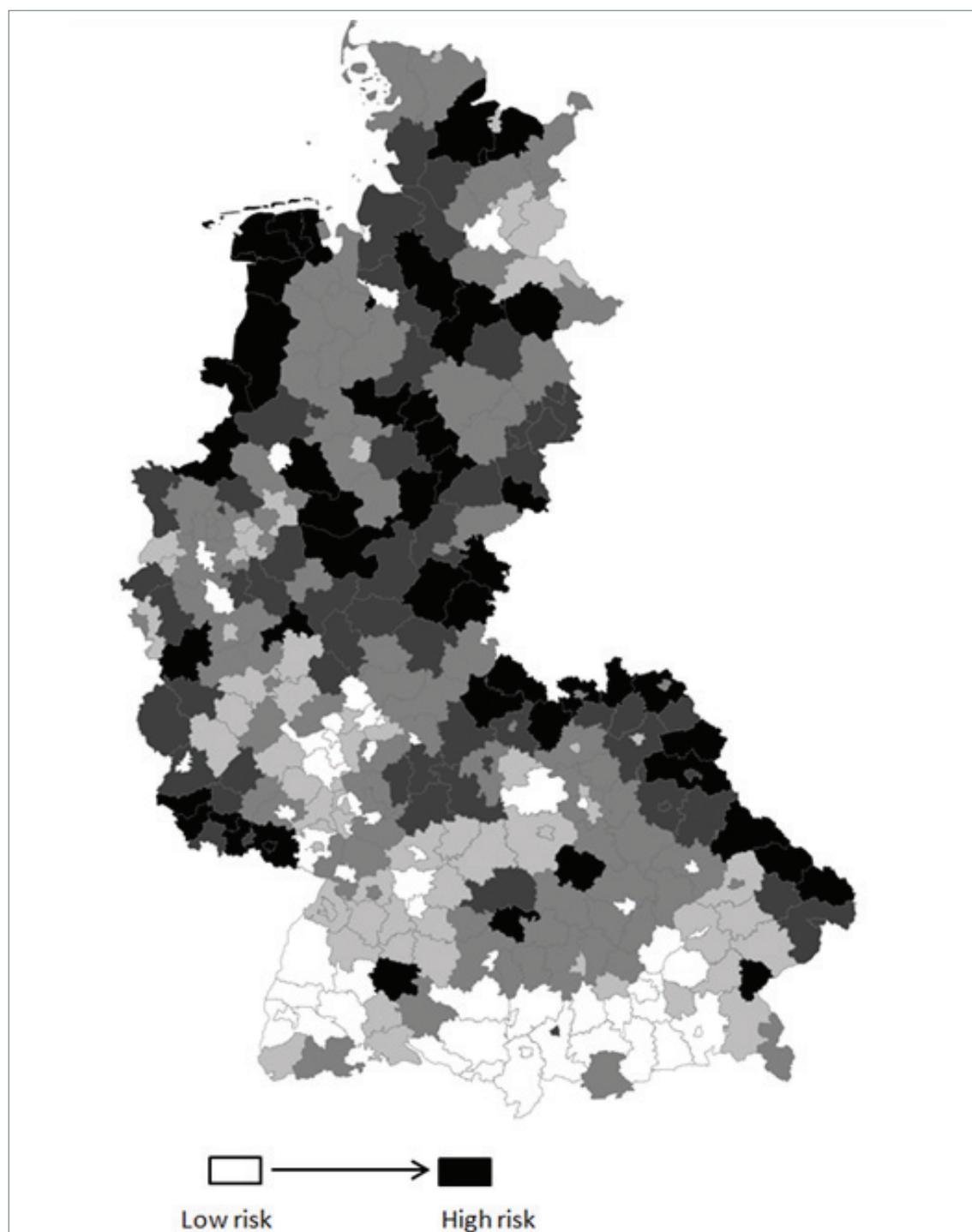


Figure 2: Low- and high-risk regions for oversupply in the housing market, Source: Wüstenrot Stiftung 2012: 29

## 2.4 Findings of the municipal-level risk assessment

Conclusions from the district-level analysis cannot be transferred to the municipal level on account of diverging developments in individual municipalities. Municipal- or neighbourhood-level problems or vacancy levels are dependent on further factors not exclusively assessable through district-level data.

To reliably select potential case studies, a further analysis, this time using municipal-level data, was conducted. Though the results broadly match the spatial pattern of the district-level analysis, the hypothesis of diverging situations at a municipal scale is confirmed, with low-risk and high-risk municipalities sometimes located next to each other.

One of the key findings of the quantitative analysis is the fact that – other than expected – regions, municipalities or areas with a higher market risk for selling houses may only partly be identifiable with the chosen indicator set. Nevertheless, the statistical analysis conducted by us helped generate lower or higher certainties for potential market imbalances on a regional or municipal scale. Marketing difficulties, falling prices or even vacancies caused by structural problems depend on multiple factors particular to each case.

## 2.5 Case studies

As described in the summary of the methodology, case studies were conducted in 14 selected municipalities. Located in 5 German Länder (Lower Saxony, North Rhine-Westphalia, Hesse, Baden-Württemberg and Bavaria - cf. Fig. 3), they were chosen with regard to their vulnerability in relation to unstable supply and demand developments in the market for older houses.

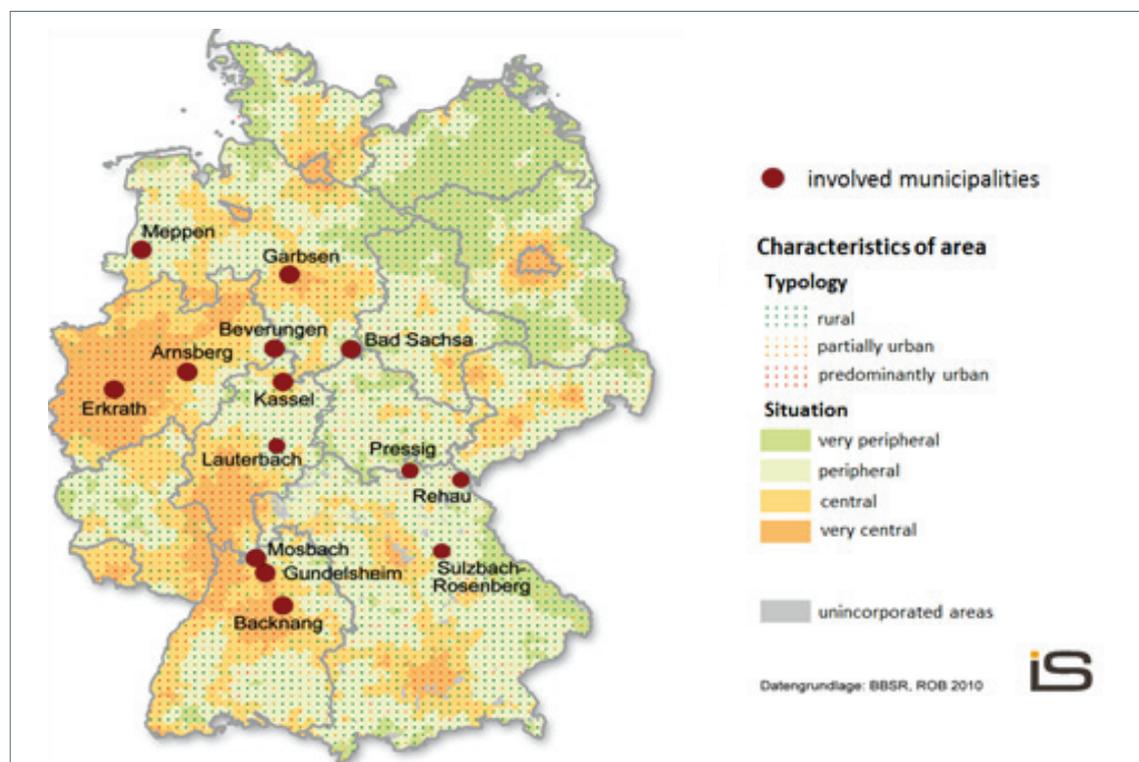


Figure 3: The 14 participating municipalities in West Germany, Source: Wüstenrot Stiftung, based on BBSR Raumtypen 2010: 44

Important criteria for the selection of the case study municipalities were such spatial categories as character (rural, partially urban and predominantly urban) and location (very peripheral, peripheral and central). In each municipality we analysed two or three estates (a total of 29). Another important selection criterion was size. A wide range of town sizes is represented in the study, from a rural municipality of just over 4,000 inhabitants to a city of nearly 200,000 people. Average size was 22,000 inhabitants, indicating that most of the case study municipalities were small or medium-sized.

### 2.5.1 Some findings of the expert interviews

Inspections of the housing areas revealed disparities in the development of structurally similar neighbourhoods, even at a municipal level. These are to a great extent attributable to location factors or a neighbourhood's image, factors also confirmed by the planning and real estate experts interviewed in the case study areas. They stated that the location of the area with regard to the city centre, its image and the state of repair of individual houses were all factors influencing the attractiveness of the housing stock.

The results of local inspections showed that a lot of refurbishment work had already been done. Non-refurbished estates built before 1980 were hardly to be found. Even though not much costly energy-efficient refurbishment work had been done, many residents stated that they were planning such work in the future.

Experts stated that high property density resulted in marketing problems - in contrast to freestanding houses. These disadvantages increased in relation to the distance to the town centre or when the topography made barrier-free access difficult.

### 2.5.2 Some findings of the survey among residents

Supplementing the extrinsic view of real estate and municipal experts on the problems, we conducted a survey among residents in 10 selected residential areas, questioning a total of 2004 residents and achieving a response rate of 29 percent.

A few of the survey findings are illustrated by the following figures:

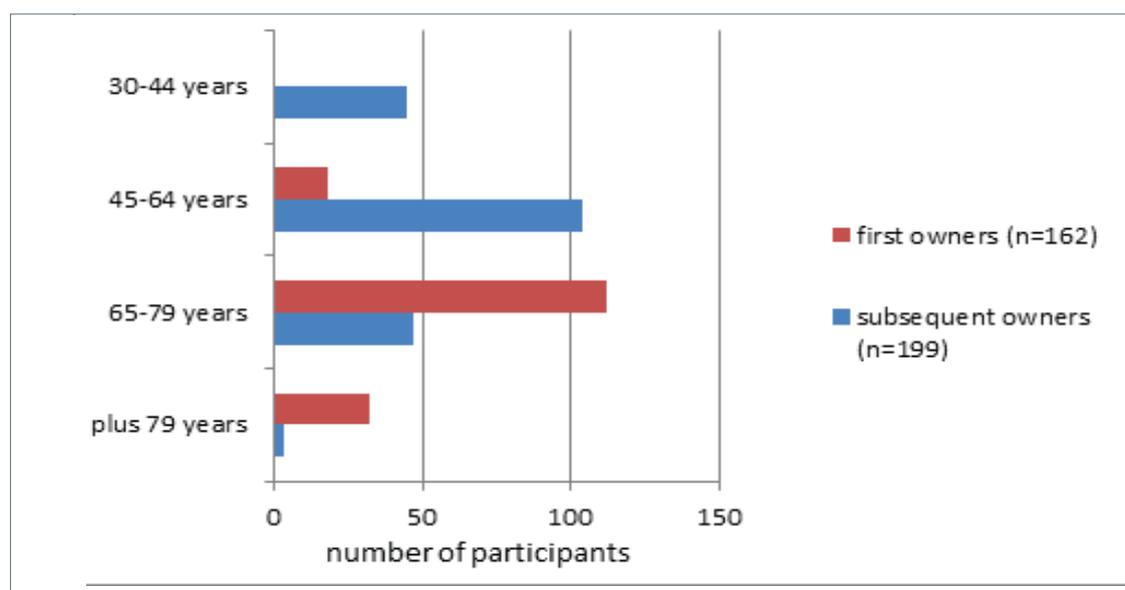


Figure 4: Age of residents, Source: author's own graph

Nearly 90 percent of the first owners are 65 years and older, while subsequent owners are mostly working-age people (cf. Fig. 4).

Asked about potential house-selling problems, 44 percent of the respondents saw difficulties, with nearly 80 percent afraid they would be unable to obtain the desired price, and more than 40 percent fearing they would not find a buyer. A further recurring problem stated by nearly 25 percent of interviewees was the lack of OAP (Old Age Pensioner)-friendly dwellings as an alternative to the current housing situation (cf. Fig. 5 and 6).

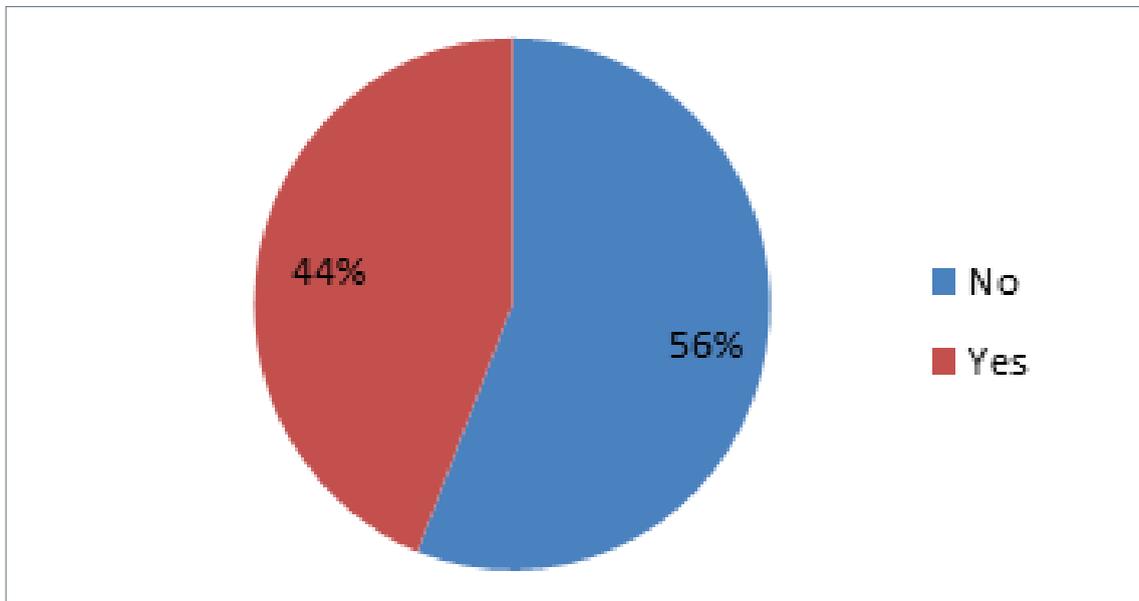


Figure 5: Do the interviewees fear difficulties selling the house? Source: author's own graph

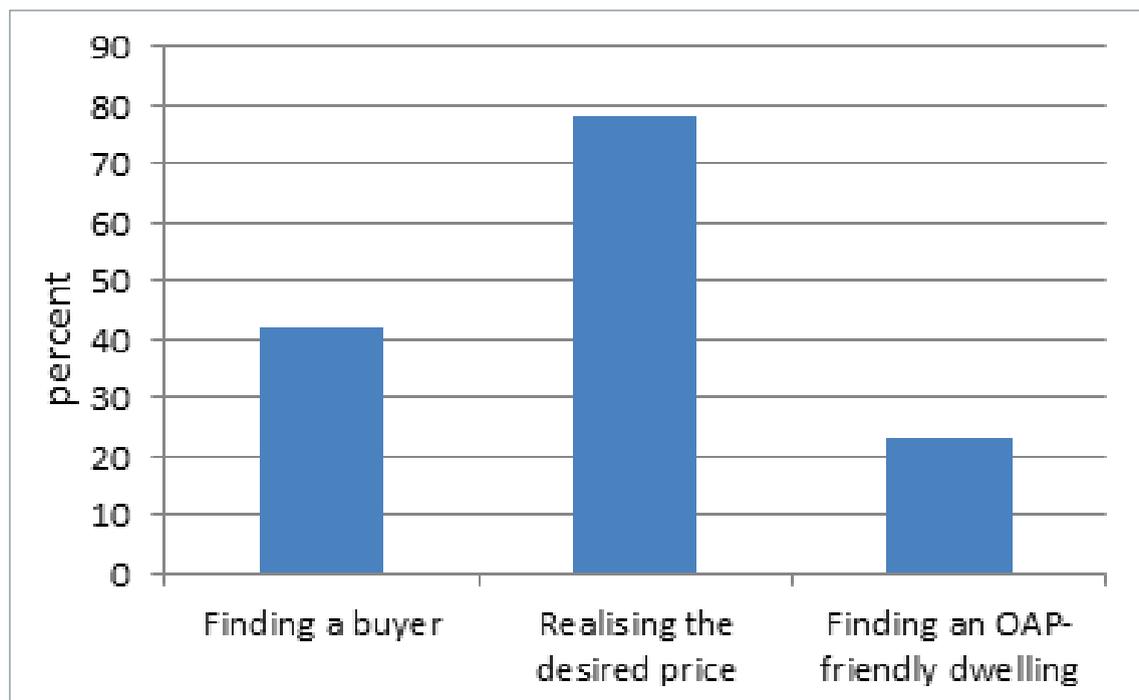


Figure 6: What kind of difficulties do the respondents fear? Source: author's own graph

85 percent of first owners and 99 percent of subsequent owners had carried out minor energy-related refurbishment work and further construction work. Only a few owners had carried out extensive insulation work, though half were considering more comprehensive energy-related measures in the future, pointing to the high motivation of property owners and offering a suitable starting point for corresponding incentives.

### 2.5.3 Case study example: Beverungen Poelten, NRW

In the following the Beverungen case study is presented exemplarily. Beverungen is a small town located in the eastern part of North Rhine -Westphalia bordering Lower Saxony. Over the last decades Beverungen has lost many of its large companies, meaning that employment has dropped one third. The population has been in decline since 1998 and is forecast to drop a further 17 percent between 2010 and 2030.

Two housing estates in Beverungen were examined. The following map (Fig. 7) shows one of them, the centrally located “Poelten” estate.

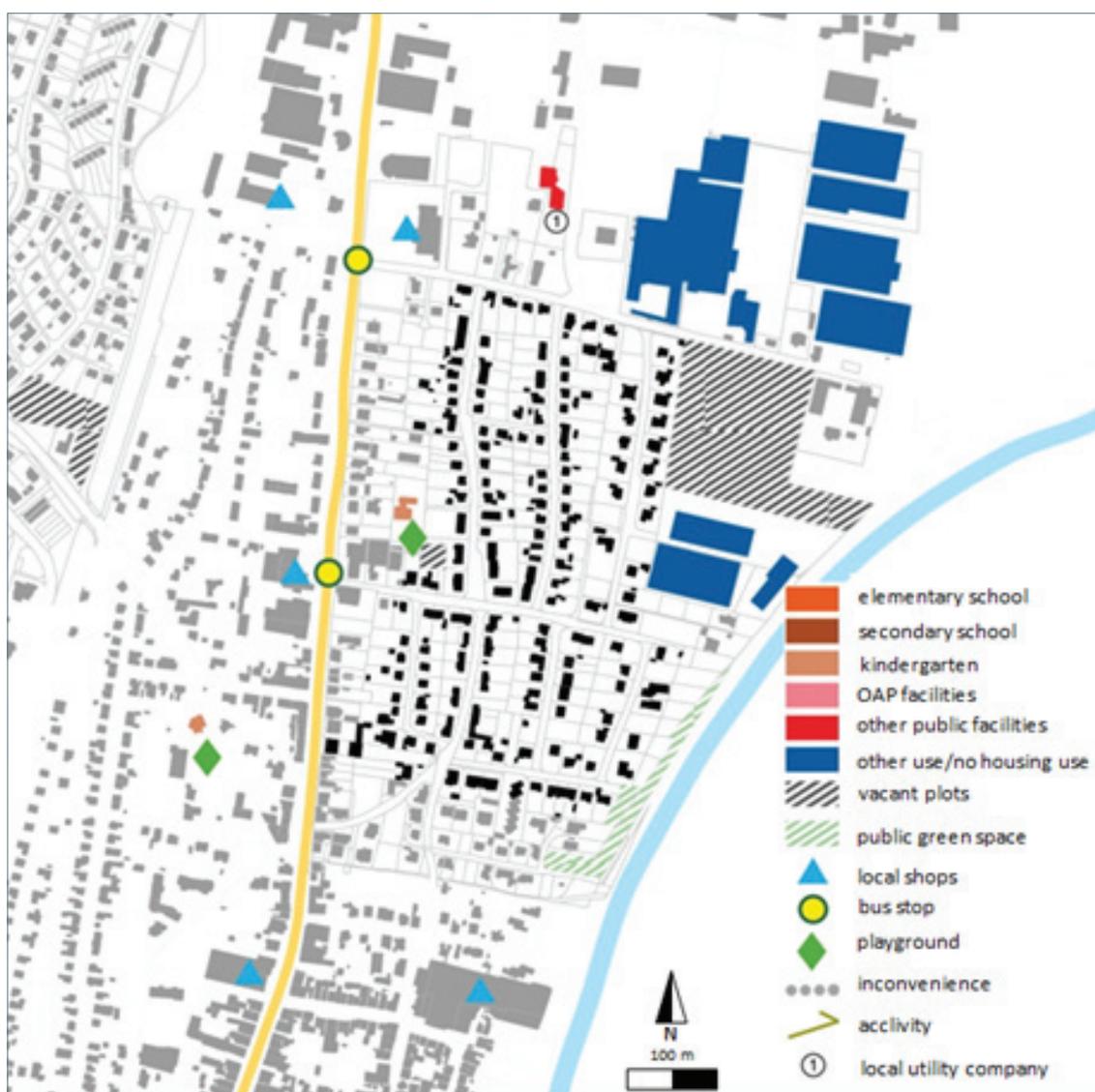


Figure 7: Facilities in Beverungen, Source: Wüstenrot Stiftung 2012: 82

The following table shows some of the topics examined in our case studies and the outcomes for Beverungen Poelten:

Findings of data analysis	
distance to town centre	1.35 km
extent of the estate (net)	33 ha
vacant plots	7.2 ha
number of buildings	293
share of detached houses	71 percent
average plot size	605 m <sup>2</sup>
number of residents	767
old-age dependency ratio 65	0.54
share of foreigners	7.4 percent
settlement density (net)	23 inh./ha

Table 2: Findings of the data analysis of Poelten, Beverungen, Source: author's own table

A comparison of some of the outcomes: in our case studies we found old-age dependency ratios between 0.30 and 1.28. The percentage of foreigners ranges from 0 to 11.9 percent. Traditionally, only few foreigners live in post-war estates.



Figure 8: A typical Poelten street, Source: author's own picture

The neighbourhood's architecture is typical of estates built in the 1950s and 1960s (cf. Fig. 8). Close to Beverungen town centre, the area was steadily developed in the 1950s and 1960s, with many freestanding houses being built. Since the 1990s the estate's population has declined 17 percent, explainable by a negative birth rate and out-migration for economic reasons. "Prices for non-modernised or non-refurbished houses have declined significantly[...] leading to fears that the generation change will cause vacancies in such housing estates" (Statement of a real estate expert 2011).

### 2.5.4 Conclusions from the case studies

Our case studies revealed no serious marketing problem as yet, with only a few sporadic vacancies. Nevertheless, future problems need to be anticipated, as population decline is unpreventable in the short term and can only be stopped by immigration.

The survey reveals that generation change has not yet terminated, as observed by the high average age of residents and the very low dwelling density. It is not uncommon to find just one resident per house (the so-called “inner vacancy”). Former family homes are often not appropriate for the elderly because of stairs and other barriers restricting movement. Most of the buildings have been upgraded to a certain extent, though extensive insulation measures remain outstanding.

One important result is that no problems are anticipated for dwelling areas in urban and suburban locations, though there is a need for action in rural-peripheral and economically underdeveloped regions.

## 3 Practical impact and policy options

The following section deals with practical impacts and policy options, based on the study's outcomes. After describing options for municipalities to cope with the difficulties revealed (Chapter 3.1), different measures are presented (Chapter 3.2).

### 3.1 Options for municipal intervention

With regard to privately owned houses, a housing category where state and local authority influence is limited, we have identified the following options for municipal intervention.

**Stabilisation:** In estates considered as “fast-selling items”, preserving the current structure and functions and leveraging location potential represent the key tasks for local communities. This includes upgrading amenities to match the needs of the ageing residents.

**Upgrading:** Where problems related to long-term use are already apparent, upgrading action is required to improve utilisation prospects. Such action includes measures to support generation change and attract new target groups to the area.

**Restructuring:** In estates where reuse problems are evident, more radical measures can be the correct answer. These include demolishing existing buildings and replacing them with new buildings or converting existing buildings to create more adapted dwellings and other possible uses.

Though such strategies reveal ways of intervention for the municipalities, they have to be tailored to the individual situation of different areas.

### 3.2 Toolbox of measures

A range of policies and measures to adapt post-war housing estates were addressed. Municipalities bear the main responsibility for executing improvement measures, though there are also options available which fall within the responsibility of the State and the Länder.

To deal with differing conditions in different municipalities and areas we have developed a “toolbox”, a flexible set of instruments applicable in different combinations. They have in common such central aspects as:

- strategic urban development planning and monitoring
- policies focusing on existing estates
- infrastructure and local amenities
- public space and townscape
- transport and mobility
- buildings and houses
- residents and their public involvement
- overriding topics (governmental and regional level)

Two of the tools listed above are outlined in the following subchapters.

### 3.2.1 Strategic urban development planning and monitoring

Municipalities need to focus greater attention on such older housing estates. The first step involves monitoring and analysing the state of older housing estates and their significance for the local housing market.

Potential problems that could occur in these areas are:

- serious decline in the number of residents and in population density
- increasing average age
- a high number of vacant houses
- a decrease in homes registered as main residences (i.e. not second homes)
- disappearance of public amenities like shops, nurseries...

As a kind of early warning system (cf. Fig. 9) enabling local authorities to anticipate unfavourable developments and implement forward-looking measures, municipalities could use a traffic-light system, with the colours indicating different task categories for municipalities.

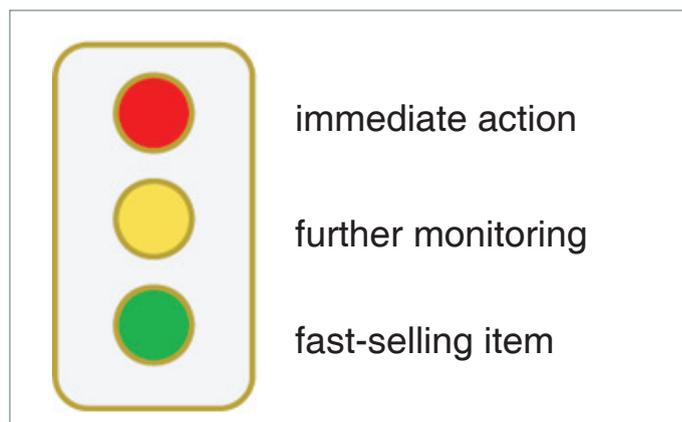


Figure 9: Traffic light early warning system, Source: author's own graph

Overall monitoring of supply and demand is needed. To achieve this, municipalities need to collect available local statistics on such aspects as inhabitants, (vacant) plots, (vacant) buildings, resident status (owner or tenant), domicile (main place of residence or second home). In most cases this data already exists, but needs to be correlated. Further data such as land values and infrastructure details should be included.

Moreover, municipalities may obtain more comprehensive information through interviewing residents and/or estate agents.

### 3.2.2 Policies focusing on existing estates

An important first step would see a municipality giving priority to developing existing neighbourhoods. Other possible actions include strategies to redevelop vacant buildings, to close building gaps by vacant land management and to start marketing actions for existing neighbourhoods. Moreover, actions covering the whole municipality such as the establishment of urban development concepts need to be taken. In addition, measures balancing the interests of neighbouring municipalities with regard to decisions on building land are required, whereby the results of inter-municipal agreements may lead to informal political obligations or higher legal contractual obligations. These can however be counteracted by an open information policy and a trust-building culture of debate.

The following two examples represent measures already implemented.

“**Flächenpool NRW**” is a new instrument for channeling existing resources into reusing built-up plots and brownfield sites in a local community in order to promote inner-urban development. The instrument can be used to develop perspectives, remove obstacles, tap potential and manage subsequent usage, underlining a clear commitment to an infill policy.

The campaign „**Jung kauft Alt**“ (young buys old) in the small town of Hiddenhausen supports families buying a house at least 25 years old instead of building a new one (cf. Fig. 10).



Figure 10: Advertisement of “Jung kauft Alt” campaign, Source: Hiddenhausen (s.a.)

Families can obtain subsidies of up to 9,000 € from a municipal programme. The programme was evaluated as a win-win-situation for both families and the local community. After the first 5 years of the programme, the number of vacant houses has decreased noticeably.

#### 4 Significance for other European countries

The situation of houses built in the post-war period will be a challenge for many German regions in coming decades. However, not every European region is confronted with a problem as significant as that in West Germany on account of the fact that such pronounced suburbanisation or other specific developments leading to the current situation did not exist. Nevertheless, with regard to the projected demographic developments, other European regions might be confronted with similar problems concerning their older housing stock.

The following charts show the projected developments of the 65+ population and the family-raising population in various European countries.

The share of the 65+ population, the classical seller or vendor generation, is set to grow strongly in all considered European countries over the next decades (cf. Fig. 11). As a consequence, a high supply of used houses may be expected.

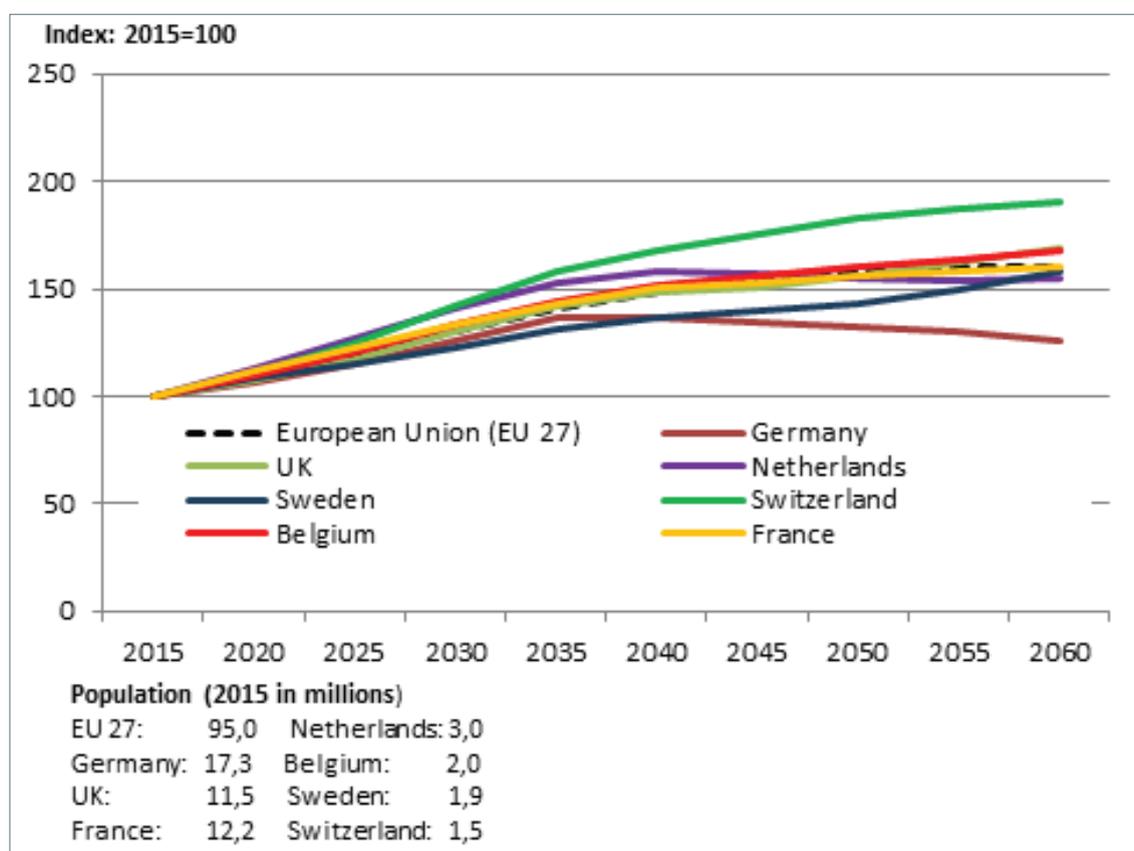


Figure 11: Projection of the dependent population (aged 65 and above), Source: authors' own graph based on Eurostat 2012

At the same time, the share of the family-raising population (20 - 34 years-old), the classical buyer generation for houses, is declining on a European average. Nevertheless, developments in different countries differ greatly (cf. Fig. 12).

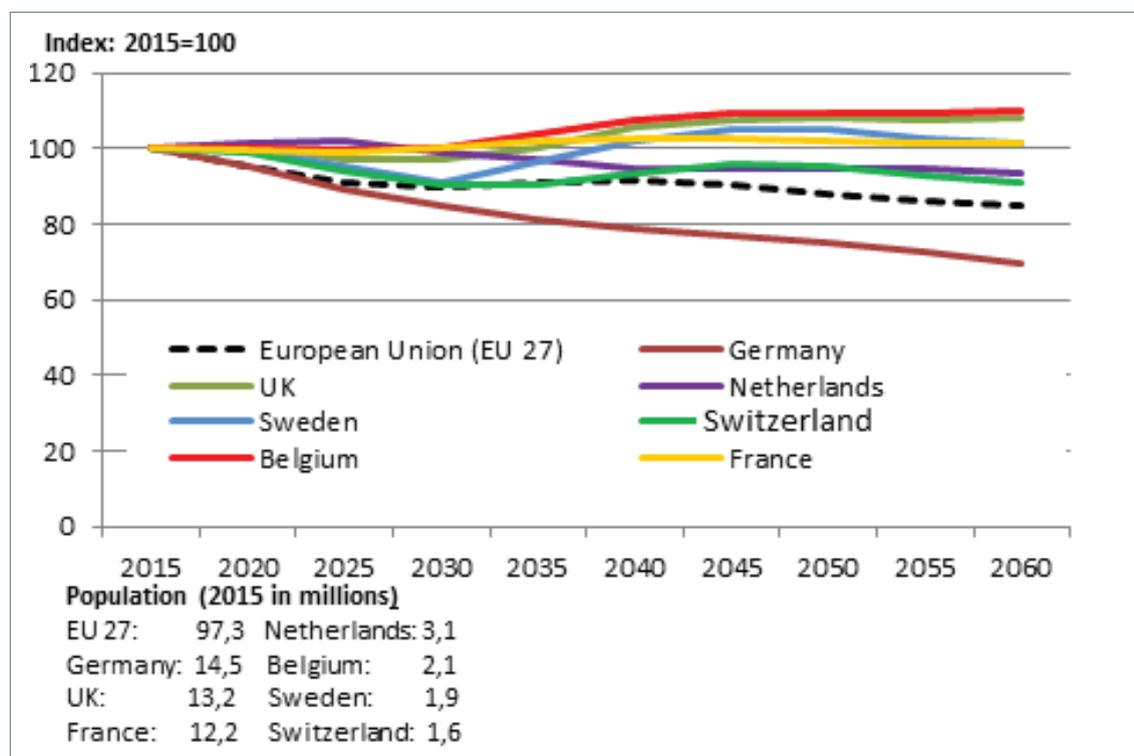


Figure 12: Projection of the family-raising population in (aged 20-34) in the European Union and chosen European countries, Source: authors' own graph based on Eurostat 2012

Looking at countries confronted with a growing share of older people and a growing share of potential family-raising buyers (e.g. Belgium, the UK, Sweden and France) the situation will assumedly be solved by the market. By contrast, in countries with a growing seller and shrinking buyer population (e.g. Germany, Switzerland and the Netherlands), demand for older houses might be low in certain regions.

In these countries, the imbalance between supply and demand for family homes may cause oversupply. This is just one factor influencing the current market situation and it can differ at national and regional levels. Further factors not yet assessed need also to be taken into account. Nevertheless, demographic projections point to similar demographic developments, clearly showing the potential significance of the topic for other European countries.

## 5 Conclusions

Due to Germans' traditionally high affinity to freestanding houses, a negative development in this sector has not been anticipated to date. Demographic change in Germany is however expected to have a long-term effect on the market for post-war housing. Population decline and substantial changes in household structures are leading to falling demand for such houses. On top of these general changes, a regional divide is appearing. Regions suffering from structural economic weakness and ongoing out-migration are heading towards a decline in demand for such houses. By contrast, in prospering metropolitan regions, positive population developments coupled with a lack of developable land are boosting demand.

When emerging problems are recognised and counteracted at an early stage, the housing estates in question can be preserved as liveable habitats, even with a lower population density. However, this requires stabilisation and upgrading measures, often in a situation where local authorities have no systematic experience in managing such older housing stock. Against this background the research team was able to show various opportunities for municipal action, developing a set of strategies and measures for pro-active local government measures. It is crucial for local communities to start tackling the problems of their post-war housing stock. A first step involves monitoring and analysing the current state of these estates and their significance for the local housing market. This requires a clear municipal commitment to upgrading existing neighbourhoods.

Extending the perspective to look at the situation of post-war housing estates in different European countries, a European working team has been established, with members coming from various research institutions in Belgium, France, Germany, the Netherlands, Switzerland and the UK.

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## Emerging trends and their demographic origins; their impact on the US, EU and Dutch housing markets

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### 1 Introduction

This paper discusses the emerging mismatch between supply and demand for housing in the Western world - more specifically in the US and the EU – caused by demographics, changes in the life style of past, present and future generations, and other emerging trends of relevance to housing issues.

It outlines the life style differences between generations and the demographic trends in the Western world that are prompting planners to fundamentally change their perspectives on the key factors fundamental to the planning profession and teaching.

From this broader perspective we zoom in on the situation in the Netherlands.

### 2 Life style differences between generations<sup>1</sup>

Michel Silver, planning practitioner from the USA, distinguishes between the following generations: the Greatest Generation; the Baby Boomers and most importantly the Generation XYZ.

The Greatest Generation – the generation that grew up in the United States during the deprivation of the Great Depression, and then went on to fight in World War II - is gradually dying out. Its members understood the meaning of hard work and sacrifice, and the value of money and saving. The extended family lived nearby and mutual support in the family - and the surrounding community - was the norm. Most importantly their attitude to life was to give **their today for our tomorrow**.

The Baby Boomers born between 1946 -1964 are now the lead generation, occupying the decision-making positions. They lived through the flower power era where they learned to focus on their inner self. They did not take for granted what their parents thought was best for them, as seen in their aversion to the Vietnam war. Having experienced the rise of information technology and the service and knowledge economy, they have grown accustomed to the age of consumerism, facilitated by the abundant opportunities of the credit card and substituting personal debt for savings. Their “we want it all and we want it now” mentality is nourished by the expectation of lifelong prosperity and an entitlement to immortality. Their attitude to life is typified by **your tomorrow for their today**.

Born between the early 1960s and the late 90s, the cohorts of the generations X, Y and Z are now approximately between 14 and 55 years of age.

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<sup>1</sup> This section is based on Michel Silver's keynote presentation to the IFHP Centennial World Conference held in London on 2-8 June 2013.

The so called generation X follows the generation of the Baby-Boomers and has been born between the early 1960s and the early 80s. This generation is often characterized as the first generation after World War II that has been raised without any experience of war. On the other hand it is also the first generation to experience less economic prosperity and security than their parents did (economic miracle in the 50s).

Generation Y describes those who have been born in the late 1980s to the early 90s, this cohort is also called the Millennials. This generation is regarded as being highly educated and has a high technological affinity because they have been raised surrounded by the internet and mobile communication devices.

Generation Z is the term used to describe the cohort born after the Millennials. It comprises those who have been born from the mid-90s until now. Members of this generation are highly connected and familiar with the use of electronic communication and media.

The “Millennials”, their life style echoes that of the baby boomer generation that raised them. Living with their parents’ consumerism, they have always known abundance, leading them to expect a wide range of choices (e.g. a breakfast with a choice of cereals, bread, eggs, fruit, yoghurt or porridge, while in former days one had only the choice between breakfast or no breakfast). This generation is savvy with internet and digital technology in general, and is permanently online.

Their attitude to life has been shaped by the permanent attention they have claimed and received. One can say that they were brought up as “trophy kids”: no one loses and everyone gets rewarded, no matter what effort is invested or what results are achieved. This XYZ generation attaches little value to long-term jobs (changing jobs frequently), has an urban lifestyle, and opportunities and choices in abundance. They are however significantly more environmentally-aware, in line with their appreciation of where they live. Location matters more than a good job and they prefer to stay living in the city even if this means a less-paid job. This is combined with a high cultural tolerance.

Such changes in life style are not generally recognized as driving forces for planning. However, they need to become part and parcel of any analysis determining the trends that have to be accommodated in housing and planning policies.

### 3 Demographics

From a demographic perspective, this XYZ generation born between 1960 and 1995 comprises about 60 % of the population in Europe and the US. Western demographics Compare statistical information the “Kerncijfers van de bevolkingprognose 2004-2050 ” on page 4 for the Netherlands , which is in line with the statistics for the USA) are further characterised by the following trends highly relevant to housing issues:

- One in five Americans has one or more disabilities. For Europe we assume the same figures.
- By 2030 one in five Americans (and Europeans) will be over the age of 65 and retired, i.e. not contributing to the earning capacity of the economy.
- Life expectancy is forecast to increase from 76 years in 1993 to 82 years in 2050.
- In the US the over-85 population will triple from 5.4 to 19 million in 2050. We assume similar figures for Europe.

With regard to household composition, forecasts for the USA predict that by 2025 the number of single households will equal family households and that by 2050 the overwhelming majority of households will be single.

Looking at family culture and the type of dwellings in demand, it is important to note that, in addition to this forecast overwhelming majority of single households, there is an unmistakable tendency towards non-marital births. Already in 2009, 41% of registered births in the US were non-marital. What this means in terms of the robustness of parental relationships remains to be seen, as is the influence on housing preferences.

The pattern of shrinking neighbourhoods established for the US is the result not only of a natural decrease in population (i.e. the death rate exceeding the birth rate), but also of an exodus of young adults whose employment prospects (at least in rural areas) are low. They seek job opportunities elsewhere, mostly in urban areas.

These demographics are paired with other factors boosting the downward spiral:

- The worldwide trend of rapidly increasing urbanisation;
- Aging (post-war) infrastructure and building stock, both in the US and EU;
- Local authority tax bases are shrinking precisely because of the shrinking trends, whereby the effects of the financial crisis are boosting this development;
- Planning systems are antiquated, and such public health issues as rising obesity levels need to be urgently taken into account;
- There is an urgent need for new perspectives offering jobs for the upcoming generation.

The bottom-line trends for our planning and housing focus are therefore: population greying and the changing household composition into single households and of non marital births and single parent families .

## 4 The Netherlands in the European context

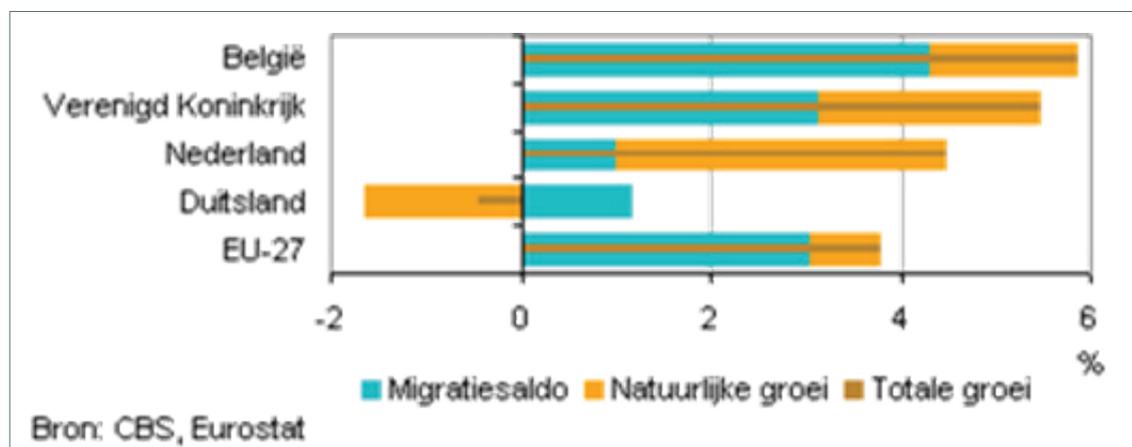


Figure 1: The Netherlands migration versus natural growth, Source: CBS 06.07.2011/ Stephan Netsch et al. ppt 20-03-2012

The Dutch population is still growing, with growth based on two factors. Due to the good economic situation in the past the country was very attractive to migrants, and ca. 1 % of annual population growth is attributable to work-related immigration. In the period between 1995 and 2011 there was a clear migration surplus, not only attributable to family reunification but also to the positive economic situation creating a demand for workers (CBS, 2012) exceeding local availability. Immigrants came not only from such traditional countries as Morocco, Surinam and Turkey but also increasingly from other European countries (Buursink, 2013).

In addition to immigration, the Netherlands (still) has a positive birth rate (i.e. a birth rate exceeding the death rate), with the Dutch population increasing naturally by 40,000 a year on average. This trend is attributable to two factors: over the last years the average number of births per woman has risen from 1.7 to 1.8. But an even bigger influence is the quality of Dutch healthcare (Demos, 2009).

	Perioden	2007	2012	2017	2022	2027	2032	2037	2042	2047	2050
<b>Bevolkingsomvang</b>		16 360 820	16 534 260	16 706 540	16 867 480	16 975 470	17 040 730	17 044 000	16 997 480	16 935 920	16 905 910
<b>0 tot 20 jaar</b>	absoluut	3 976 352	3 893 238	3 814 973	3 737 592	3 716 938	3 766 916	3 819 564	3 830 905	3 812 624	3 800 865
<b>20 tot 65 jaar</b>		10 036 229	10 011 697	9 889 402	9 810 431	9 643 574	9 393 590	9 183 500	9 208 377	9 324 611	9 408 654
<b>65 jaar en ouder</b>		2 348 243	2 629 321	3 002 165	3 309 460	3 614 962	3 880 233	4 040 934	3 958 197	3 798 690	3 696 403
<b>% 0 tot 20 jaar</b>		%	24,3	23,5	22,8	22,2	21,9	22,1	22,4	22,5	22,5
<b>% 20 tot 65 jaar</b>	61,3		60,6	59,2	58,2	56,8	55,1	53,9	54,2	55,1	55,7
<b>% 65 jaar en ouder</b>	14,4		15,9	18,0	19,6	21,3	22,8	23,7	23,3	22,4	21,9
<b>Demografische druk</b>		63,0	65,1	68,9	71,8	76,0	81,4	86,6	84,6	81,6	79,7

bron: CBS

Figure 2: Population growth in the Netherlands 2004-2050, source: CBS 06.07.2011/ Stephan Netsch et al. ppt 20-03-2012

The forecast is that total Dutch population will increase moderately until 2039 and then remain stable. The predicted growth of the total population is in sharp contrast to the forecasts for the country's rural regions, and what we are currently witnessing is overall national population growth combined with regional demographic shrinkage. The Netherlands are showing signs of being a country with two different paces of development. This aspect is not new in the Netherlands, as seen by the 1966 national spatial programme which already referred to precisely such a process. The programme attempted to mitigate the expected consequences, only to discover a couple of years later that this process had never actually materialised, with instead a period of unprecedented growth ensuing. Another important demographic factor is population ageing in general. The age breakdown of the population is shifting, with an increasing proportion of the Dutch population

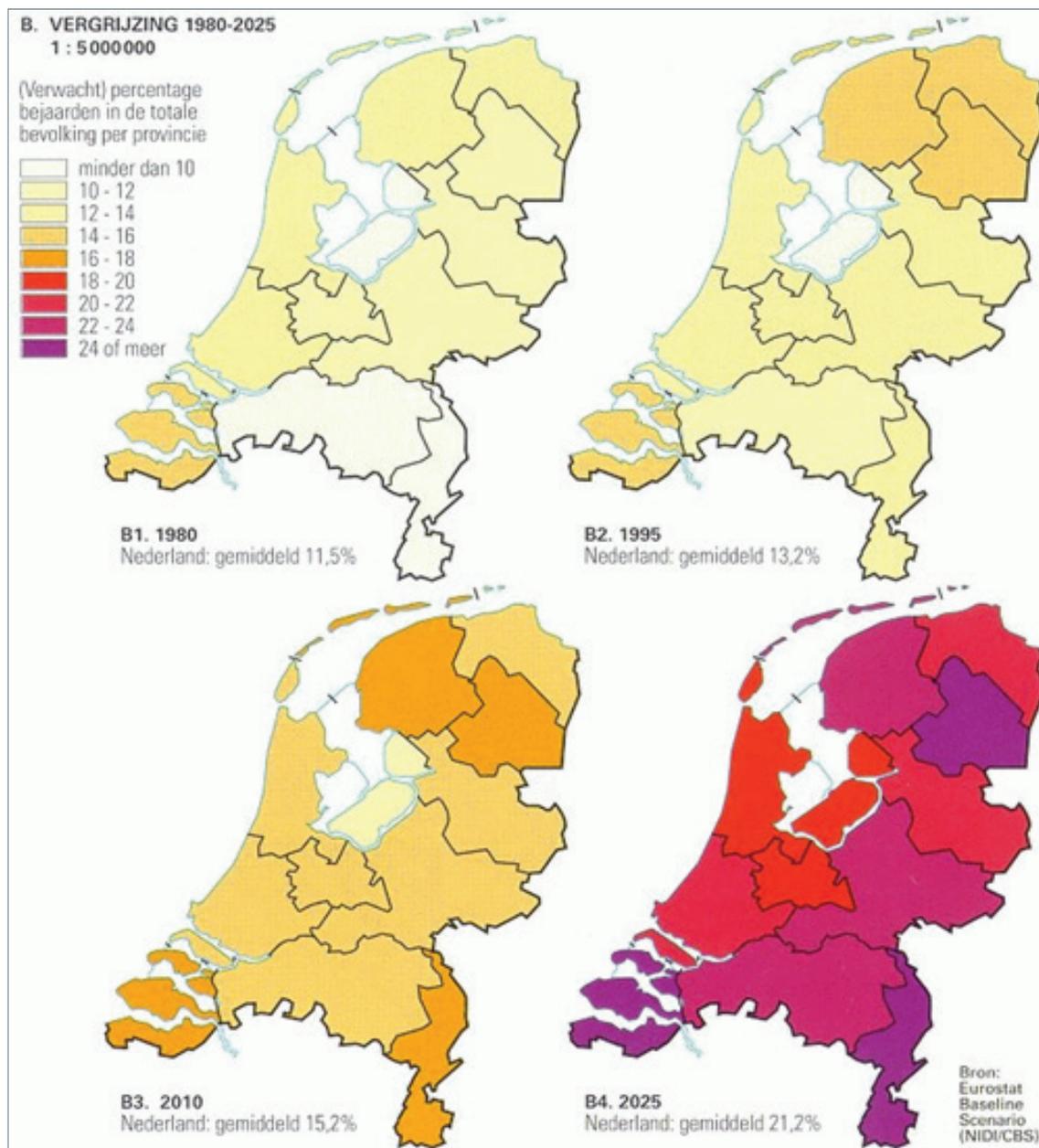


Figure 3: Greying in the Netherlands 1980-2025 in percentage of total population, Source: CPB/PBL

aged 65 or older. At present constituting 16 % of the total population, this proportion is set to increase to 20 % in the near future and even more in certain regions. The increase in people over 65 will come at the cost of the population between 20 and 65 years old, i.e. the working population. This group will consistently account for less than 60 % of the total population. In absolute numbers there has been an increase of 2,500,000 people over 65 years of age in the period 1980-2025. In line with this trend, the statutory retirement age has been raised. We can also observe that this ageing population is increasingly impacting the economy and health costs in particular.

Overall forecasts show that the total population will keep on growing in the coming years, from the current figure of 16.7 million people to 18 million in 2040. Nevertheless, the public debate in the Netherlands is dominated by the general notion that the population is in fact shrinking. Looking at the regional forecast for 2010 (published by the Planbureau voor de Leefomgeving), it is clear why this general opinion dominates the debate in general and the press in particular. The reason lies with the local and regional differences in population build-up. During the period 1998 – 2010, rural areas like the northern part of Groningen or Limburg were already showing a clear decline in growth of the population.

This decline in growth is expected to continue in most regions outside the Randstad, and will turn into a moderate decline in population outside the Randstad, with the result that the Netherlands will be split between a densely populated and economically strong urban area (the Randstad) and rural regions experiencing declines in both population

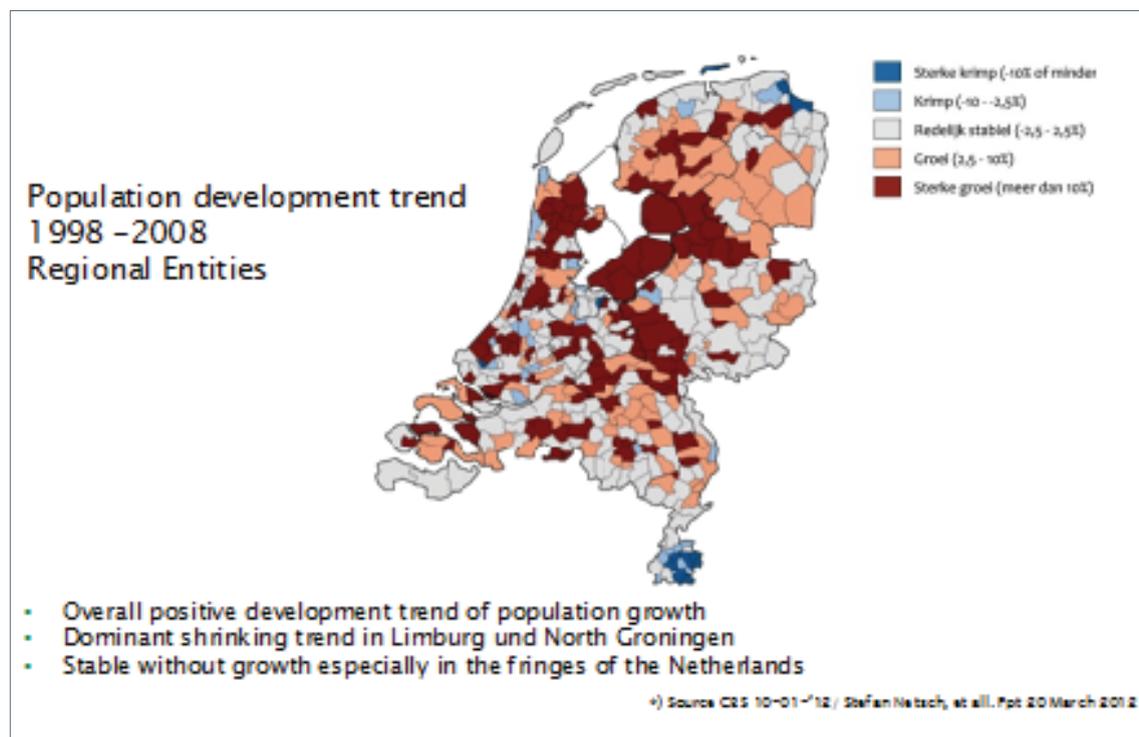


Figure 4: Population growth and shrinkage per regional entity in the Netherlands 1998-2025, Source: CBS/PBL

figures and in economic weight. The impact will be greatest in those regions with a long tradition of agricultural production or in industrial decline, e.g. former coalmining regions where the mines closed in the 1980's.

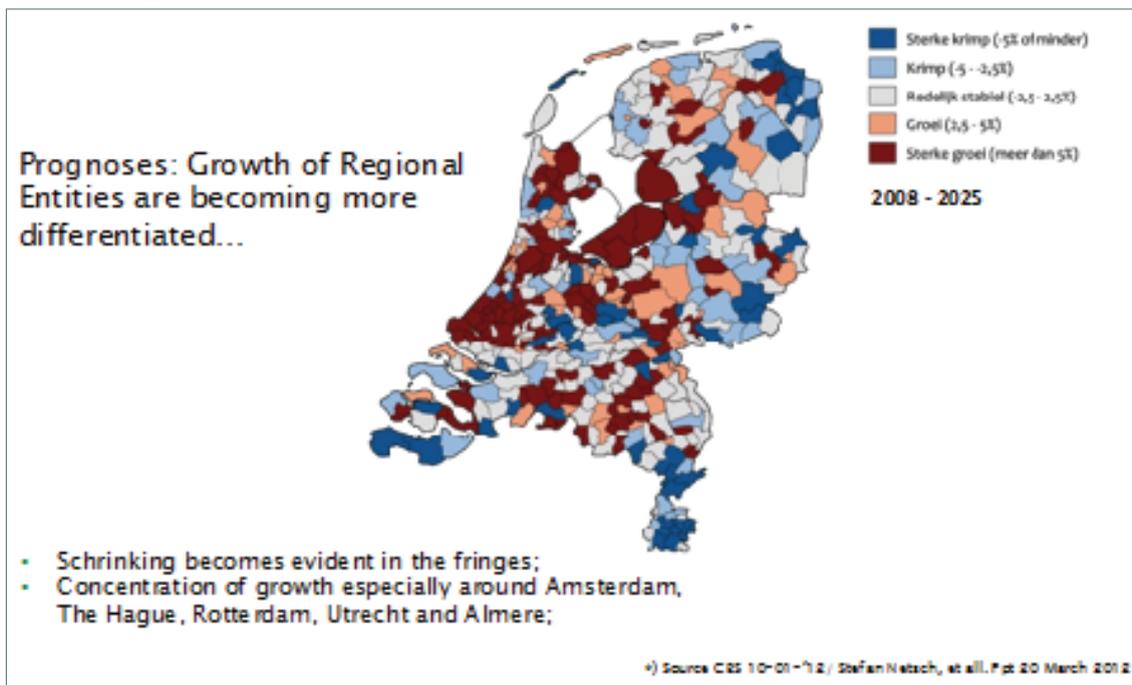


Figure 5: Prognosis of growth (brown) and shrinkage (blue) per regional entity in the Netherlands 2008-2025, Source: CBS/PBL 2012

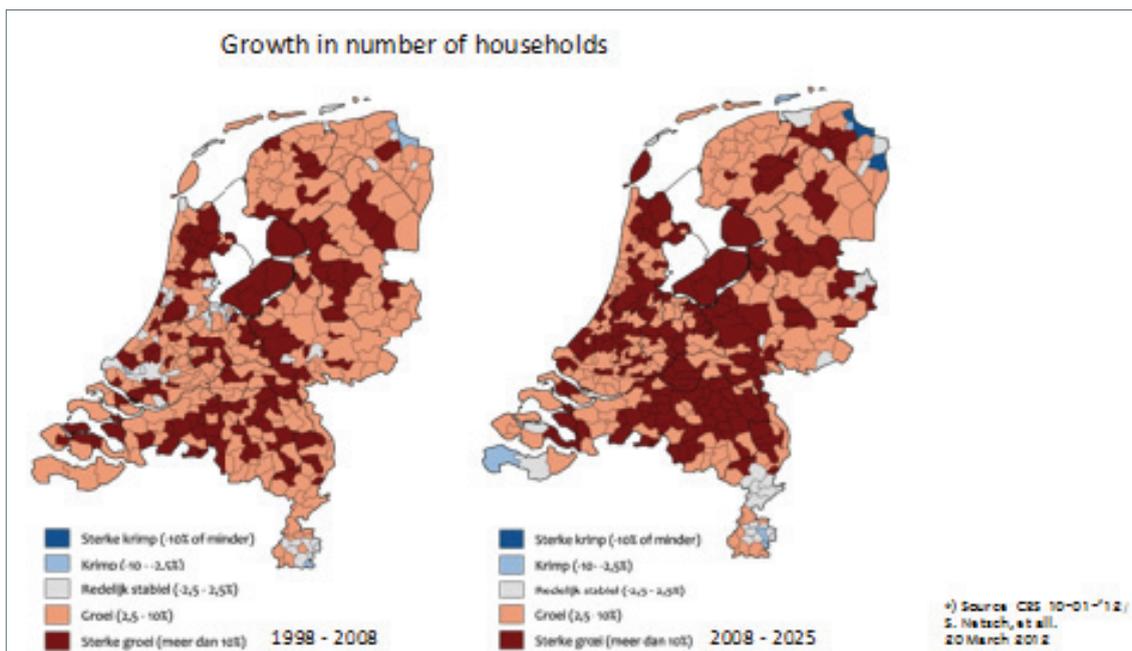


Figure 6: Growth (brown) and shrinkage (blue) in number of households in the Netherlands 1998-2025, Source: CBS/PBL

At the same time the total number of households has increased since 1998 on account of the average size of a Dutch household dropping to 2.2 persons per household (CBS 2007). When a population is concurrently shrinking and growing, it is interesting to observe the development of the number of households. The increase seen here is attributable to two factors: population ageing and social changes in general. As more and more people belonging to the Baby-Boom generation (born between the 1946 and 1964) die, the number of single households within this demographic category is set to rise.

Together with social changes like increasing divorce rates and different life styles, demand for one-person dwellings will increase over time. The combination of increasing in-migration to the Randstad and the rising demand for one-person homes will naturally fuel the real estate market in the more urbanized areas of the Netherlands, while the market in the country's other regions is set to shrink.

### Conclusions:

- Overall the Dutch population is not shrinking
- The greying population is increasing
- The number of households is increasing
- The population is decreasing in de periferie of the Randstad more specific the province of Limburg Groningen and Zeeland.
- Re-urbanisation and growth will occur in the metropolitan regions (the Randstad)

This is impacting the country's housing situation. Demand for new homes is not so much being driven by young families, but more by the growing number of single households. In the long term there is no need for major new developments, with a focus needing to be put instead on refurbishing and adapting the existing housing stock.



Figure 7: Zooming in the bordering area Province of Overijssel

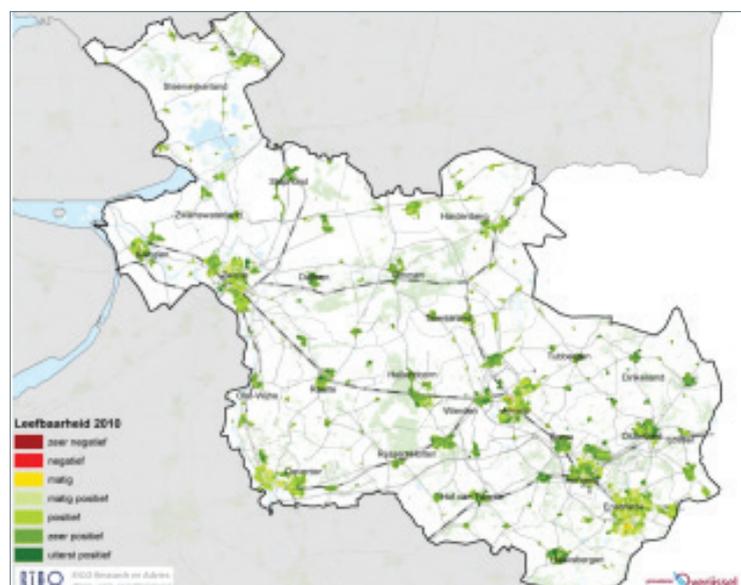


Figure 8: Livability index 2010 Province of Overijssel 2010, Source: CBS/PBL

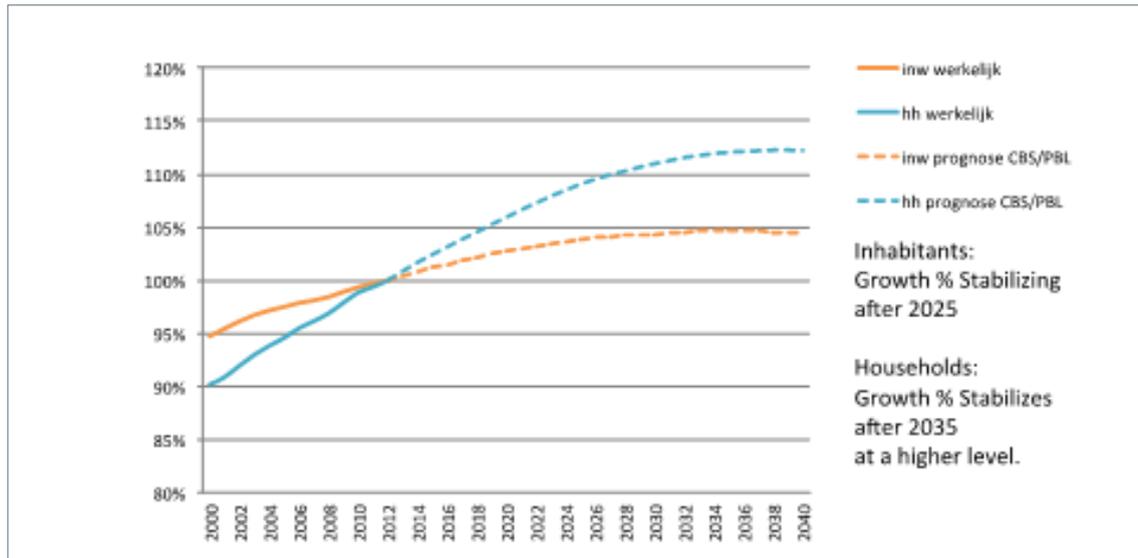


Figure 9: Comparison of population development and development in number of households in the Province of Overijssel 2000 – 2040, Source: CBS/PBL

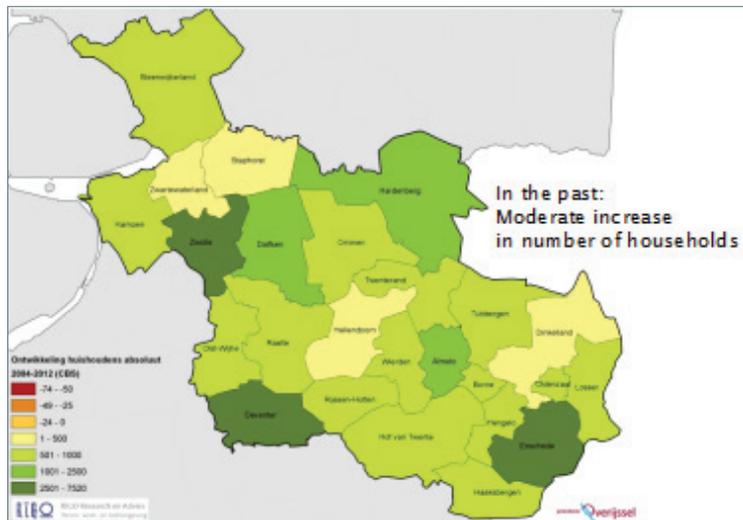


Figure 10: Development of number of households in the Province of Overijssel 2004-2012 of households, Source: CBS/PBS

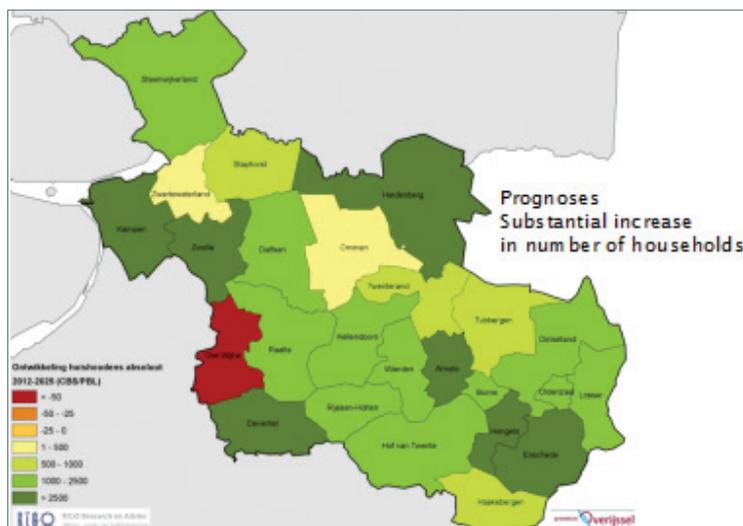


Figure 11: Development in number of households in the Province of Overijssel 2012-2025, Source: CBS/PBL

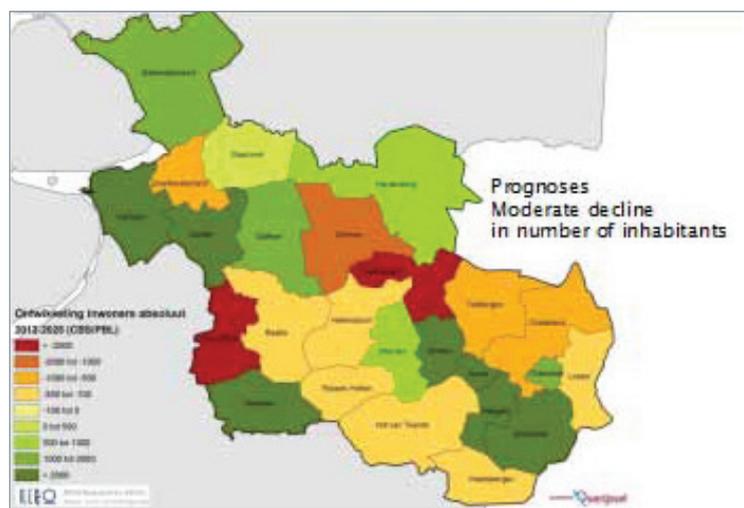


Figure 12: Population development in the Province of Overijssel 2012-2025, Source: CBS/PBL

Looking closer at the Netherlands, we find a country split into a rural part and the metropolitan Randstad. The rural areas, mainly concentrated along the borders to Germany and Belgium, are experiencing a significant decline in their populations. By contrast, the region around Amsterdam and Utrecht is becoming more urbanized and is still growing. This development is also due to the job situation.

## 5 Conclusion regarding Overijssel

Developments in Overijssel are overall in line with developments in the Netherlands as a whole. Increasing pressure on the housing market due to the increase in the number of households, despite a forecast of moderate decline of the population as a whole. The existing housing stock does not match demand for more differentiated forms of housing.

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## A strategy for dealing with older housing estates built in the 1960s and 1970s in Havixbeck (Münsterland)

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### 1 Introduction

The early 1960s saw a perceptible suburbanisation of residential areas taking place in West German cities, driven by the high birth-rate age groups of the 1930s and 1950s and resulting in a building boom in suburban areas (cf. DGD 2007, p. 9; GLASZE and GRAZE 2007, p. 467 HEINEBERG 2007, p. 312).

With demographic change (ageing population and low birth rates), increasing employment in cities and changing lifestyles leading to decreased suburbanisation at the beginning of the 21st century, a number of suburban municipalities found themselves facing negative population development.

Furthermore, the situation of suburban households has changed – in many cases, children have moved out, spouses have died or couples have separated. The loss of family ties, demographic change in the suburban areas and decreasing household sizes all mean that there is a need to critically review suburban housing situations (cf. GLASZE and GRAZE 2007, pp. 467-468).

In the final analysis, increasing environmental awareness and technological progress require an up-to-date evaluation of the situation in suburban areas. In its “Sustainability Strategy”, the German federal government states that land use for new residential and road developments should be cut to 30 hectares per day by 2020 (2007 - 2010 average: 87ha/day) (cf. UMWELTBUNDESAMT 2012, n. p.). This requires the space-saving development of new housing estates and the densification of existing estates. In addition, technological progress is leading to a widening range of aids for physically handicapped people - a cohort whose numbers are rising with increasing life expectancy -, opening up new possibilities for the barrier-free conversion of existing properties.

### 2 Case study: Havixbeck in the Münsterland

Against a background of the growing percentage of elderly people in Havixbeck, the municipality commissioned the University of Münster to conduct a research project, “Strategies for the sustainable development of single-family housing estates built in the 1960s and 1970s”, for the 2012 summer term and the 2012/13 winter term. Five students taking a Master’s degree programme in Geography - Cora Berger, Vanessa Helmer, Tobias Komurka, Stefano Rossi and Peter Stroms - were entrusted with the task. The aim of the cooperation project between the local authorities and the university was to compile a problem-oriented guide for residents wishing to refurbish their homes.

To respond to the increase in the percentage of old people and its consequences (e.g. waste of living space, isolation of residents, decreasing revenues for the municipality)

and to attract future generations, restructuring is needed. Cooperation between the municipality and residents is therefore essential.

Against this background, the municipality of Havixbeck wanted to learn more about the residents of these housing estates built in the 1960s and 1970s. Semi-structured interviews were used here, with residents questioned on the facilities and condition of the buildings, but also their attitudes and wishes. The map below shows the area surveyed. The houses marked in blue are the ones with participating residents (cf. Fig. 1).

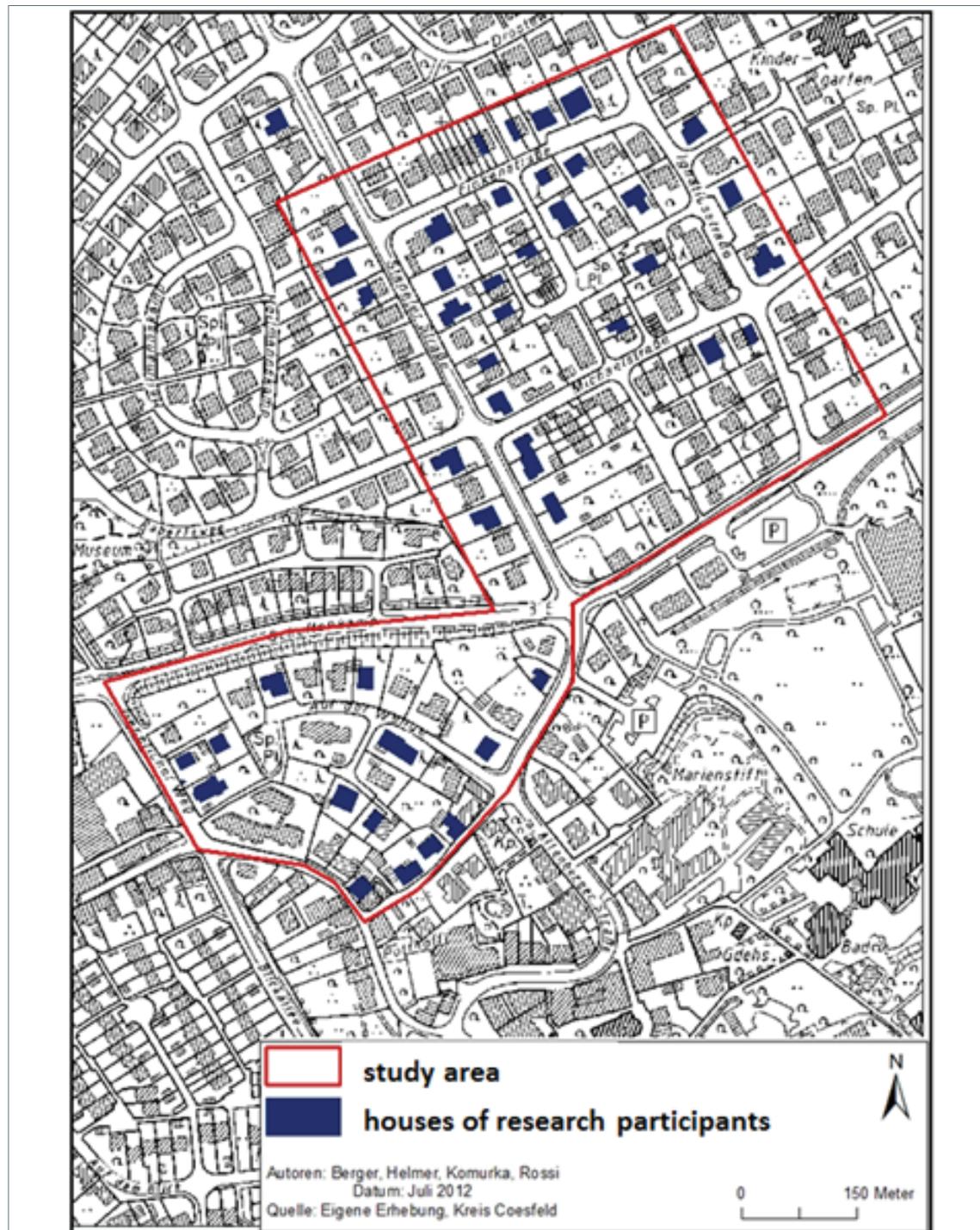


Figure 1: Map of research area

The questionnaire was divided into four main sections. The first focus was on the residents themselves. Questions relating to the estate's population structure included how many people lived in a house and how old they were. The second part of the questionnaire aimed at finding out the building's state of repair and whether any refurbishment work had already been carried out. The next section was about the quality of living conditions, while the last section looked at the building's future. This last aspect was expected to provide qualified insights into the residents' wishes to stay living in their homes in the future and whether they deemed this possible given the current state of their property. As shown by experience the willingness of the residents to participate in the survey increased through the physical presence of the interviewer, as reflected by the fact that 52 households took part in the survey.

The data analysis shows that the study area mainly consists of single-family houses in private ownership. Most of them are single- and two-person households who generally state that the quality of living conditions is good or very good (86%). One unexpected result of the questionnaire was the high rate of refurbishment work already done: 75% of the houses had been refurbished. Most of the investment had gone into energy-related improvements such as new heating systems, double- or triple-glazed windows and improved insulation.

The chart (Fig. 2) below shows the main refurbishment areas. From top: a retrofitting of the heating system, bathroom refurbishment, new windows, improved thermal insulation, new floor plans, new fuse boxes, cellar/loft conversion and other measures.

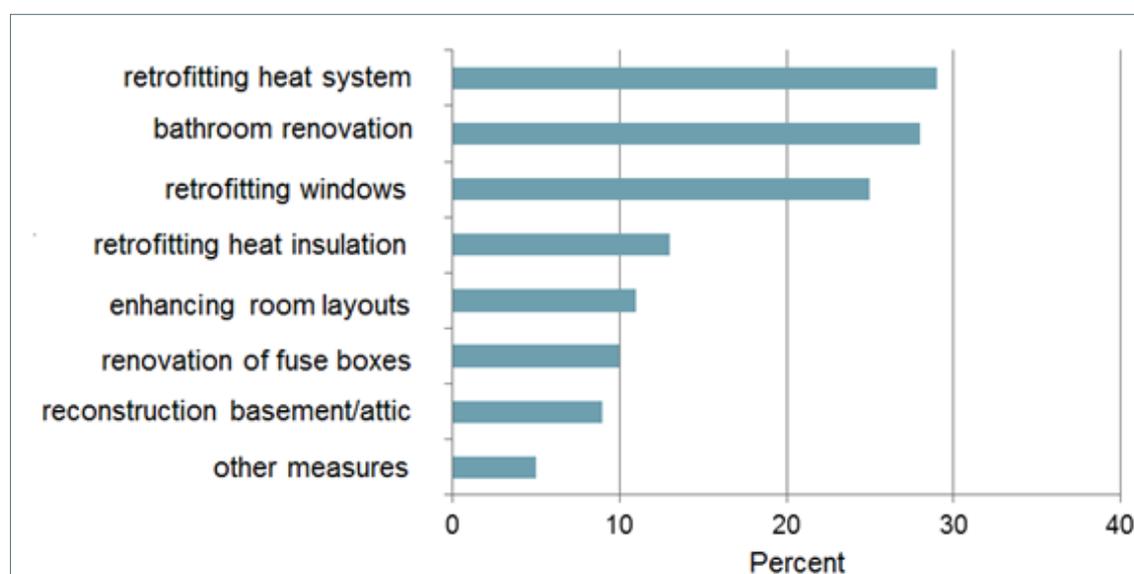


Figure 2: Main refurbishment areas of the households, Source: Questionnaire: Cora Berger, Vanessa Helmer, Tobias Komurka, Stefano Rossi (2012)

The negative side of this high refurbishment rate is a possibly lower willingness to invest further in the coming years. This theory is supported by the responses to the question whether further energy-related refurbishment measures were planned: Even with government subsidies available, less than 50 percent of participants planned such measures (Fig. 3).

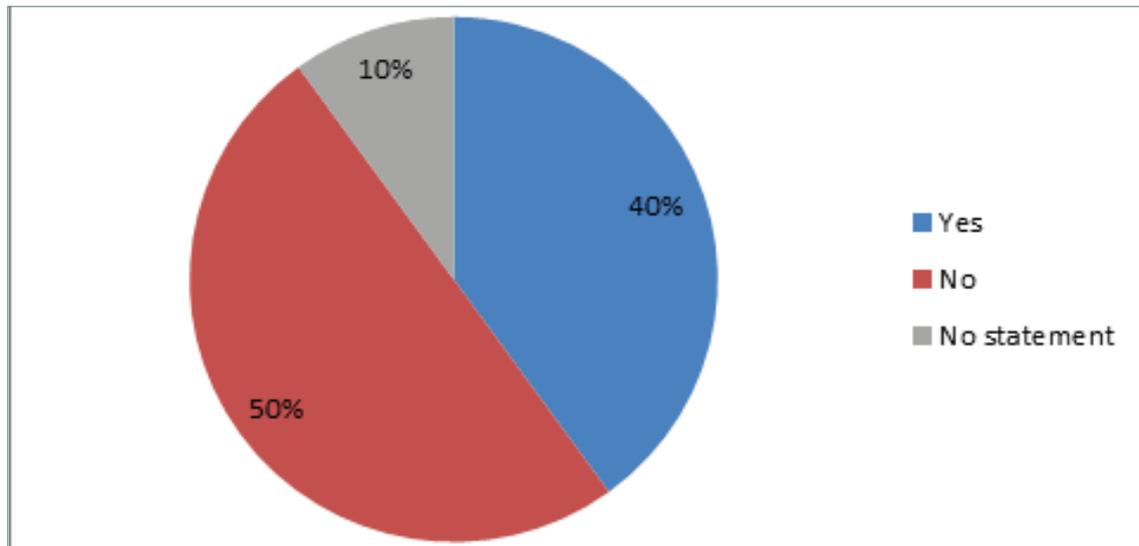


Figure 3: Answers to the question: will you take investments for refurbishment in future? Source: Questionnaire: Cora Berger, Vanessa Helmer, Tobias Komurka, Stefano Rossi (2012)

Considering the age structure and the state of refurbishment, action is undoubtedly needed (Fig. 4).

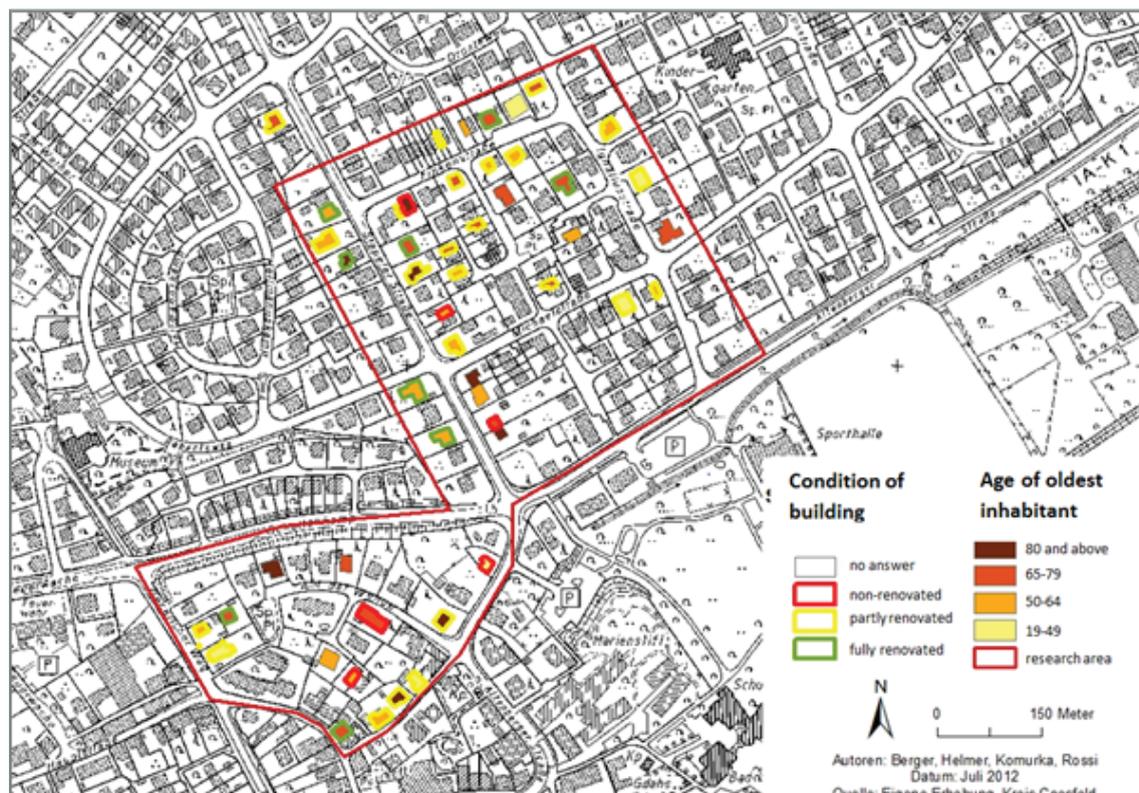


Figure 4: Refurbishment and age of residents

As can be seen in the diagram above, few of the surveyed houses have been fully refurbished (green frame). Those living in a refurbished property are mainly between the age of 50 and 65 (orange), i.e. most of the older people live in houses which are not or only partly refurbished. One reason for this could be the fact that it is more difficult for elderly people to handle the necessary building work.

Creating awareness for the need for refurbishment therefore became one of the main goals of the survey. Drawing up a guide was deemed premature in that stage of the project, hence in the second term the students focused on events aimed at raising residents' awareness and providing them with information. These events addressed both current residents and potential successors, and were organised as a travelling exhibition highlighting demographic developments, property price trends in Havixbeck and the consequences of energy price rises (Fig. 5 and Fig. 6).

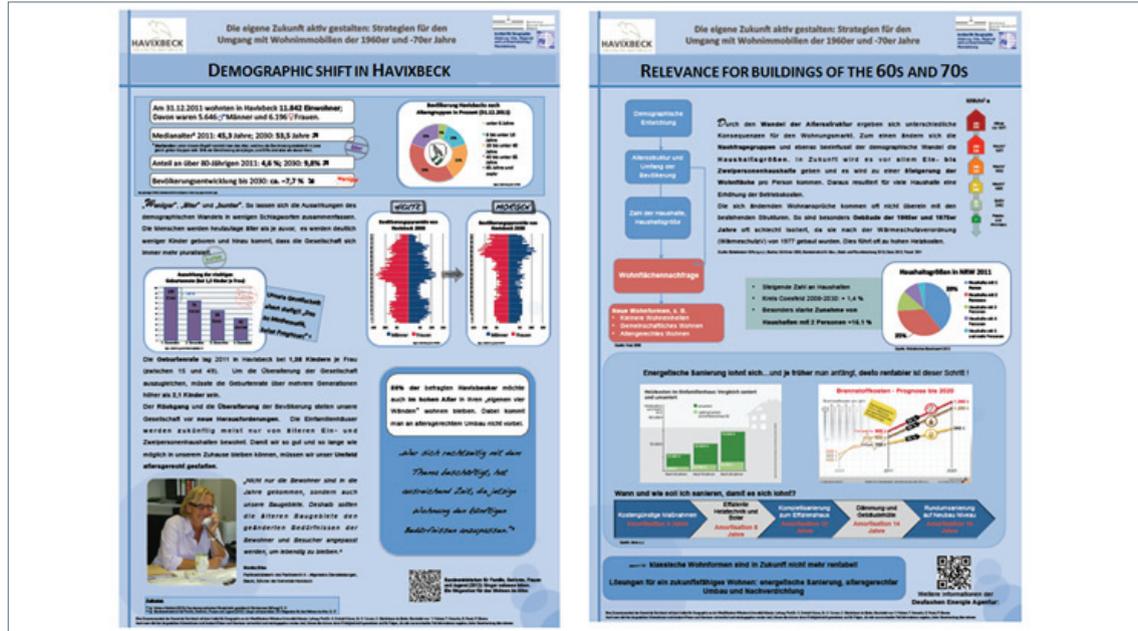


Figure 5: Posters 1 and 2: Facts about demographic change and their relevance for houses built in the 1960s and 1970s, Source: Vanessa Helmer, Tobias Komurka, Stefano Rossi, Peter Stroms (2013)

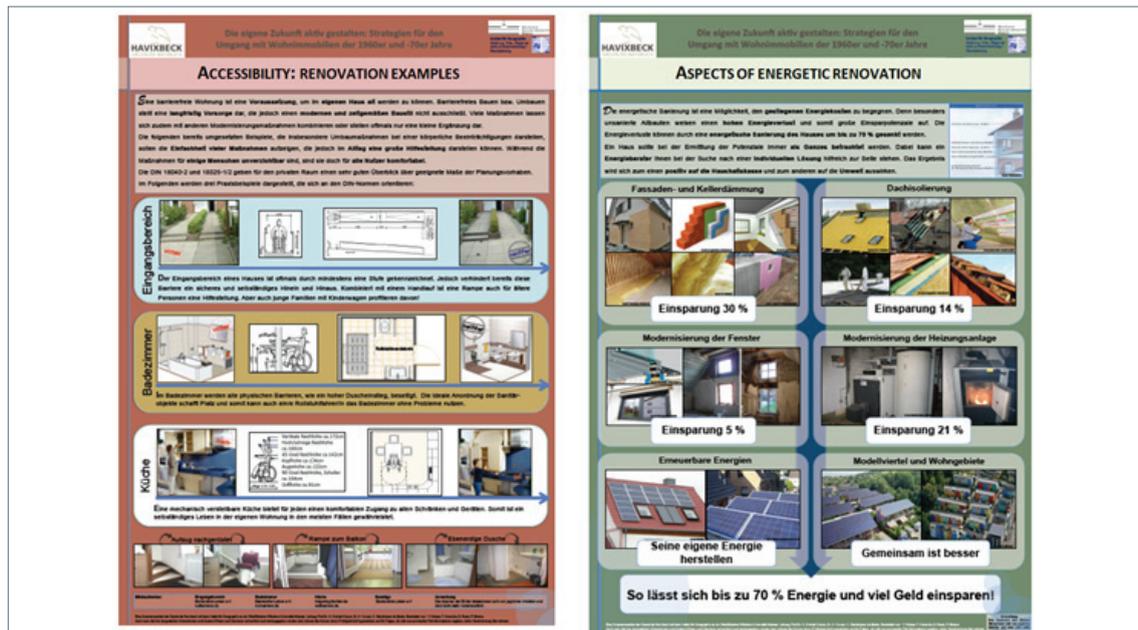


Figure 6: Posters 3 and 4: Examples for barrier-free living and energy-related refurbishment. The percentages shown in poster 4 denote the energy-saving potential, Source: Vanessa Helmer, Tobias Komurka, Stefano Rossi, Peter Stroms (2013)

Some practical examples of energy-related refurbishment and barrier-free access measures were also shown. Moreover, cost-benefit calculation examples were provided during the events. In cooperation with a number of participating residents, possible measures were presented in detail, highlighting pragmatic ways of making best use of their homes and plots. One example involved the new parcelling of plots at the edge of the estate (making three out of two) (cf. Fig. 7). The money gained from selling the one-third plot could then be invested in refurbishment. A second example showed a densification concept, with the existing building being demolished and a new building constructed where different generations could live together.

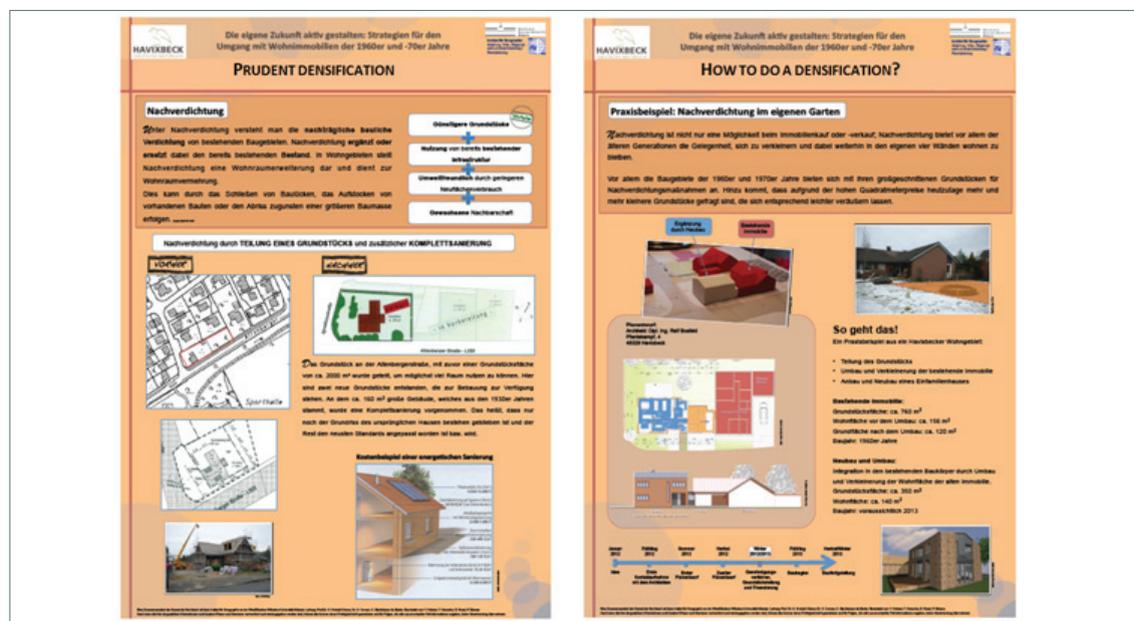


Figure 7: Posters 5 and 6: Possibilities for and practical examples of increasing density, Source: Vanessa Helmer, Tobias Komurka, Stefano Rossi, Peter Stroms (2013)

The main objective was to raise the awareness of Havixbeck residents with regard to the need for refurbishment, and to motivate them to invest in building work to develop their neighbourhood in response to demographic- and climate change. Though the survey addressed residents of houses built in the 1960s and 1970s, the findings will also be helpful for other Havixbeck residents with both older and newer properties.

The project was accompanied by the students until the posters were printed, with the municipal authorities then taking over to hold the workshops. These took place in a former local 'Schlecker' drugstore in the neighbourhood. The Havixbeck authorities soon saw that refurbishment issues would also be important outside of Havixbeck, and even considered informing its French twin town of Bellegarde (near Orleans) about this project. This led to the posters being translated into French. They will be presented in Bellegarde on the occasion of the 40th anniversary of the town twinning.

Nevertheless, it is very important to understand the exhibition as just the first step of a series of necessary measures. The municipal authorities should also check for densification opportunities in existing estates, as well as pushing for higher levels of energy-related refurbishment and barrier-free access and encouraging new forms of housing.

### 3 Conclusion

The survey concluded that raising awareness for the problems of demographic change is the core challenge for Havixbeck with regard to its housing estates built in the 1960s and 1970s. Many residents do not yet realise the challenge of ageing estates. To be prepared for the future, residents need to be informed that refurbishment and conversion measures are necessary for a long-term quality of life. Another unsolved problem is the definition of the target groups for awareness-raising campaigns. The survey finds that most of the older residents are unwilling to invest in building work, even when supported by government subsidies. Therefore, their heirs have to be included in the decision-making process, though this is often very complicated.

Possible reasons why older residents do not invest:

- a) Fear of decision-making stress and dealing with architects and construction companies
- b) Noise and dust pollution, inconvenience during building work
- c) Complications and delays (planning the measure)
- d) Previous refurbishment measures (“I have done enough...”)
- e) Amortisation periods
- f) Uncertainty about the “wishes” of the heirs

Some of these anxieties (a-c) can be addressed through the help of the municipal authorities and through information campaigns, while the others (d-f) are more difficult to allay. Whatever the case, there is an ongoing need for further research. Though the problem of ageing housing estates is recurrent in many European countries, there is no coherent strategy, whether in a tight property market (e.g. Havixbeck) or in a slack (e.g. shrinking areas) market. Both situations – the waste of valuable living space in times of serious housing shortages and ageing housing estates - constitute future challenges for the German government.

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## Renewal of Walloon suburban neighbourhoods and perspectives for a research project on “suburban densification”

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### Abstract

This paper addresses the challenges and conditions of a sustainability transition of suburban areas in Wallonia (Belgium), focusing on energy efficiency in the building and transportation sectors. Three scenarios focusing on the evolution of the existing building stock are modelled and assessed (building insulation, an increase in the built density, and demolition / reconstruction). Our main findings show that, beyond the traditional polarisation of debates on the energy efficiency of our built environment between the “compact city” and the “sprawled city”, a new pragmatic paradigm, focused on the transition of suburban areas by “densification”, can make suburban areas evolve towards greater sustainability. However, these main results focusing on energy efficiency need to be studied in a larger framework to concretely operationalise a sustainability transition in suburban areas. In this respect, concrete ideas for a further research project on “suburban densification” are put forward, addressing the opportunities for transnational cooperation as well as proposing potential research activities.

### 1 Introduction and context

There is general agreement that urban forms affect sustainability and that urban sprawl is a major issue of sustainable development (EEA, 2006). The impacts, causes and consequences of urban sprawl are now well documented. It is recognised that urban sprawl significantly contributes to the overall energy consumption of a territory, namely for the energy needs of buildings and transport. But although it is often defined in terms of “undesirable” land-use patterns in the scientific field (e.g. Ewing, 1994, UTF, 1999), urban sprawl also often leads to lower land prices and more affordable housing (Gordon and Richardson, 1997). Moreover, low-density neighbourhoods still constitute a preferred living environment (Couch and Karecha, 2006; Howley, 2009). However, continuing to promote such a development model, even with very high construction standards limiting buildings’ heating energy requirements, will not help to solve any of the numerous problems, including soil sealing, car dependency or higher costs for infrastructure and collective services.

Opponents of urban sprawl often highlight the “compact city” model, in contrast to the “sprawled city” model, looking at the concepts of centrality, high density, mixed use and the performance of urban transportation systems. They argue that more compact urban forms would significantly reduce energy consumption in both buildings and the transport sector (e.g. Newman and Kenworthy, 1999; Steemers 2003; Ewing et al., 2008,). However, although numerous research projects and policies state that it is crucial to favour city compactness and to prevent urban sprawl, they do not come up with any adequate tools or policies to meet these goals. Moreover, several impacts linked to a high level of compactness (such as congestion, pollution, increasing land prices, etc.) are not really addressed. Finally, in numerous European countries the renewal rate of

the building stock is quite low (1 - 2% per year in Wallonia (Belgium)) and numerous low-density suburban neighbourhoods are already developed, meaning that the main challenge concerns the renewal of this existing stock and its transition towards greater energy efficiency.

Urban sprawl is to be found in many European regions and particularly in Wallonia (Belgium), where 52% of the existing building stock consists of detached and semi-detached houses. Because of the personal preferences of households for single family houses with large gardens and a regulatory framework supporting this kind of development, urban sprawl is a concern in a large part of the region's territory. Walloon urban sprawl has several specific features distinguishing it from neighbouring regions. According to cadastral data, 50% of the census blocks have a mean housing density between five and twelve dwellings per hectare. In comparison to Flanders, where public authorities are trying to reduce plot size in new development zones, or to the Netherlands, where land supply is historically limited, land pressure remains limited in Wallonia and land is still available in large quantities, especially when far away from existing cores. Suburban neighbourhoods are spread out throughout Wallonia, dependent on land availability and car accessibility (which is high because the road network is very well developed throughout the region).

In this context, the main objective of this short paper is to investigate the sustainability transition of existing Walloon suburban neighbourhoods, with a focus on energy efficiency both in buildings and the transport sector. Section 2 presents the method developed to assess the energy efficiency of suburban neighbourhoods as well as its application to twelve renewal scenarios representing three main possible strategies: insulating existing buildings, increasing the built density and demolition / reconstruction. In Section 3, we look closer at the strategy of densification, considering the chances for developing a new research programme on "suburban densification". Section 4 summarises our main findings.

## **2 The energy efficiency of suburban neighbourhoods**

The following section deals with forms of intervention in suburban neighbourhoods. After explaining the method used and our hypotheses (2.1), a scenario analysis on possible measures is carried out (2.2). The final sub-section deals with potential areas of intervention in Wallonia (2.3).

### **2.1 Method and hypotheses**

A method was developed to evaluate the energy consumption of suburban neighbourhoods and renewal scenarios. The first part of the method allows us to calculate the energy requirements of buildings and was presented extensively by Marique and Reiter (2012a). This methodology combines a typological classification of buildings, thermal dynamic simulations and statistical processing of national census data to assess the annual energy consumption for room heating at neighbourhood level.

The second part of the energy assessment deals with the energy consumption for daily mobility and is assessed using a performance index developed by Boussaux and Witlox (2009) and adapted by Marique and Reiter (2012b) for suburban areas. This index is

expressed in kWh/travel.person, a value representing the mean energy consumption for transport of one person living within a given neighbourhood. This index takes into account the distances travelled, the means of transport used and their relative consumption rates.

Please note that the data used in this paper only concerns commuting to home and school, even if we could use the same methodology for data from in situ surveys taking all travel into account. Although commuting to work and school is losing in significance in daily travel patterns in the Western world due to the dramatic growth in other activities (Graham, 2000), it still has more structural weight than other forms of travel because it occurs systematically and repetitively.

## **2.2 Forms of intervention in suburban neighbourhoods**

Three main types of scenarios focusing on possible evolutions of the suburban building stock are then defined, modelled and assessed to answer a first main question: „how to intervene in suburban areas to improve the energy efficiency of the existing building stock“.

The first scenario involves improving the insulation of existing suburban buildings without any other interventions in the existing neighbourhoods (retaining their characteristics in terms of density, functional diversity, etc.). Five sub-scenarios (A1 to A5) are defined to capture different levels of intervention, from insulating a building's roof to completely retrofitting the building envelope to the “passive house” standard.

The second main scenario involves a steady increase in the built density of existing neighbourhoods, constructing new energy-efficient houses or apartments. Four sub-scenarios are defined. In B1, new dwellings are built on unoccupied plots. In B2, existing plots are sub-divided to allow the construction of new dwellings at the bottom of the plots. In B3, new dwellings (detached houses) are built between existing houses, while in B4, new dwellings (terraced houses) are built between existing houses (see Figure 1 for an illustration of these four sub-scenarios).

The third main scenario is more theoretical and consists of investigating energy efficiency gained from demolishing and re-building existing neighbourhoods, using different characteristics with regards to density, urban form, functional diversity, etc.

Three sub-scenarios are defined. In C1, the urban form of the neighborhood remains unchanged (detached houses built on large individual plots) but with new houses being built to current European standard for new buildings. In the last two sub-scenarios, the number of dwellings and the built surface area remain constant but in C2 new dwellings are terraced houses (ground floor + 1 floor) arranged in traditional urban blocks and in C3 new dwellings are apartment buildings (ground floor + 2 or 3 floors), as illustrated in Figure 2. In sub-scenario C2 and C3, new dwellings are also built to the current standard for new buildings as far as energy requirements for heating are concerned.

As highlighted in Table 1, from an energy point of view all scenarios present interesting results (from -7.3% when only the roofs of existing buildings are insulated to -70.4% when more compact urban forms complying with the current energy-efficiency standard



Figure 1: Sub-scenarios B1 to B4 dealing with an increase in the built density of existing suburban neighbourhoods (existing houses are in black, new dwellings are in grey)

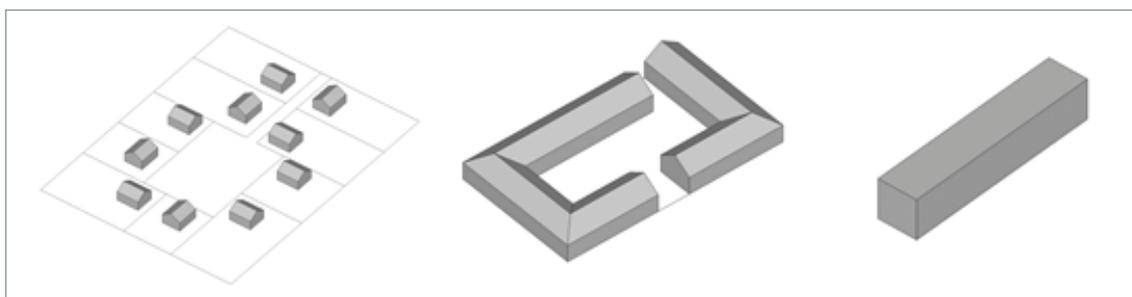


Figure 2: Sub-scenarios C1 to C3 relating to demolition / reconstruction (C1. Detached houses, C2. Terraced houses in urban block and C3. Apartment building)

A.INSULATION		B.DENSITY		C.DEMOLITION / RECONSTRUCTION	
Scenarios	Energy consumption reductions	Scenarios	Energy consumption reductions	Scenarios	Energy consumption reductions
A1.Insulation of the roof	-7.3%	B1.Unoccupied plots	-5.2%	C1.Reconstruction "detached houses"	-45.2%
A2.Insulation of the roof + double glazing	-14.8%	B2.Bottom of the plots	-17.4%	C2.Reconstruction "urban blocks"	-68.1%
A3.Retrofitting to actual standard	-45.2%	B3.Detached houses between existing houses	-12.9%	C3.Reconstruction "apartment buildings"	-70.4%
A4.Retrofitting to low energy standard	-59.2%	B4.Terraced houses between existing houses	-30.4%		
A5.Retrofitting to passive standard	-89.8%				

Table 1: Average reductions in energy consumption for heating buildings; for the twelve renewal scenarios

are promoted (apartment buildings), and even to -89.8% when more energy-efficient insulation standards are used in retrofitting (scenario A5)). Combining highly efficient insulation standards when reconstructing a more compact urban form will lead to even better results. An increase in the built density of existing neighbourhoods improves their energy efficiency, as houses with better energy performance than current dwellings can be constructed (B1 to B3). B4 results are better because both the insulation of new buildings and the building distribution (terraced houses) are combined. Another interesting scenario, similar to B4, involves the construction of new collective dwellings in existing neighbourhoods where large plots remain available (for example in the centre of suburban blocks that were only urbanized on their perimeter). To optimize energy consump-

tion in the scenarios involving an increase in built density, it would seem necessary to improve the insulation of existing buildings as well. It is also interesting to note that, for a determined level of insulation (e.g. current energy requirements set forth in the European Directive on the Energy Performance of Buildings), the most efficient strategies involve rebuilding existing neighbourhoods in a more compact urban form (terraced blocks or apartment buildings).

These scenarios result in an energy reduction of respectively 68.1% and 70.4% while the “detached houses” scenario only achieves a 45.2% reduction. These results highlight the fact that for a determined level of insulation the energy efficiency of detached houses remains low.

### 2.3 Where to intervene to limit car dependency and transport energy consumption?

Scenarios dealing with an increase in the built density and the demolition / reconstruction of neighbourhoods cannot be recommended throughout the territory. A neighbourhood’s location must be taken into account when drawing up these strategies because car dependency and transportation energy consumption can be high in some neighbourhoods. Application of the energy performance index to the whole Walloon territory highlights the dependency of transport energy consumption on a neighbourhood’s location (Marique et al. 2013; Figure 3).

The parameters with the strongest impact on the variation of transport energy consumption are a neighbourhood’s functional diversity and its built density. Transport energy consumption is greatly dependent on the distance travelled, and not so much on the means of transport chosen.

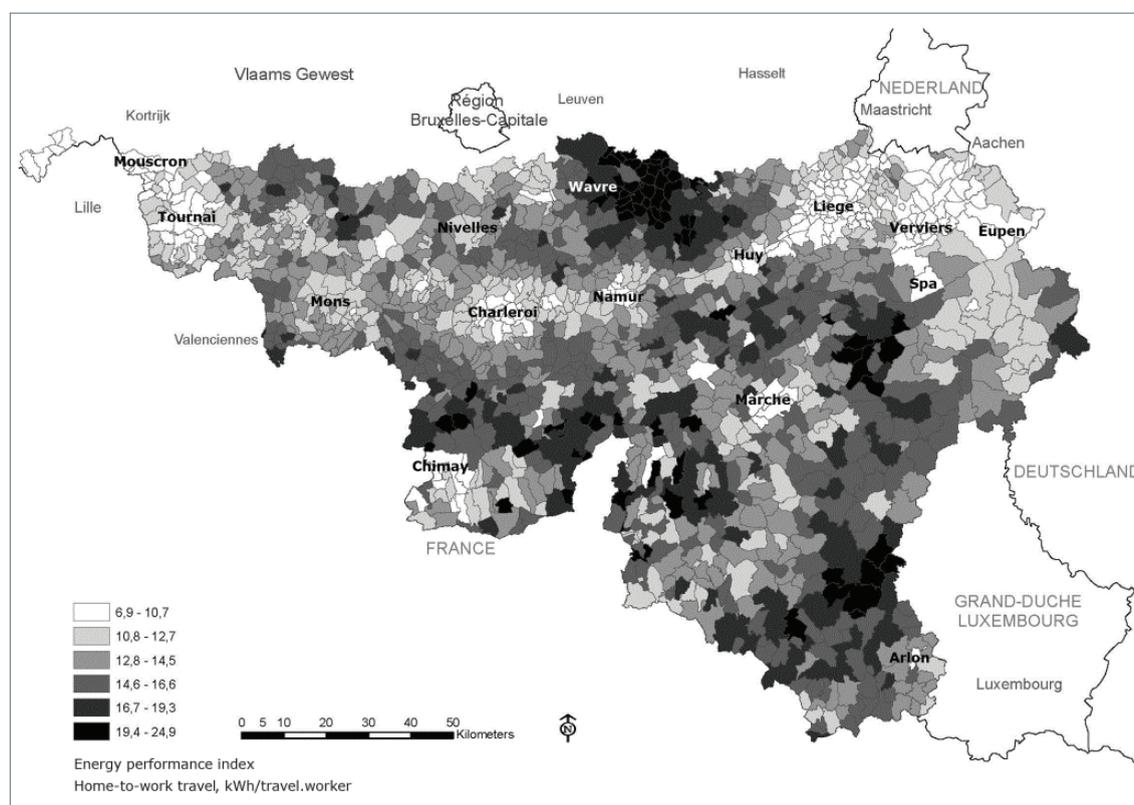


Figure 3: Energy performance index for home-to-work travel, in kWh/person.travel, at neighbourhood level (Marique et al., 2013)

These results are finally used in an attempt to identify the most appropriate suburban neighbourhoods, where an increase in the built density and demolition / reconstruction could be given priority without increasing the energy performance index for commuting. This simulation is based on the proximity of a suburban neighbourhood to one or more existing dense cores offering a wide range of functions. Figure 4 highlights, in yellow, the most appropriate neighbourhoods. Neighbourhoods located further from existing cores are represented in green. In the latter, an increase in the built density and demolition / reconstruction is not recommended. Because of their location and characteristics, transport energy consumption can be expected to remain high. This first application of territorial application will be further developed, namely by taking into account accessibility criteria such as distance to train station, bus services, etc.

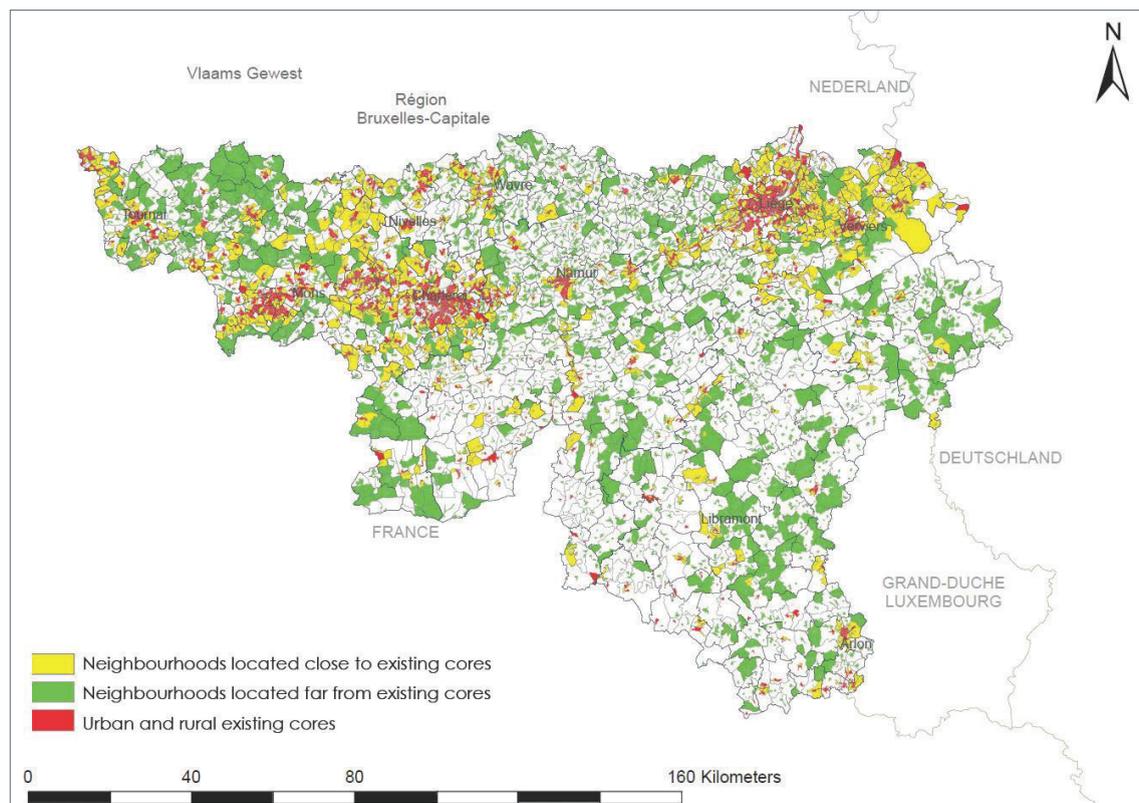


Figure 4: Neighbourhoods located close to an urban/rural core (in yellow)

### **3 Opportunities and perspectives for a research programme on suburban densification and the Bimby development model**

The analyses in the previous section focused on energy efficiency. Parallel to this issue, it is also important to take into account the strengths and weaknesses of each strategy in a broader context. As far as the insulation of existing buildings is concerned, a huge reduction in building energy consumption can be achieved. Though insulation is technically feasible, this strategy involves immense investment costs for private owners, without any reduction of transport energy consumption. As far as demolition / reconstruction is concerned, the main positive impact is achieved through the possibility to relocate neighbourhoods and build more compact urban forms. Nevertheless there are numerous constraints very difficult to overcome (social acceptability, funding, adaptation of the regulation framework, impact on the life cycle of buildings, etc.). By contrast, a strategy focusing on an increase in the built density of existing neighbourhoods seems more realistic and feasible, and the following part of the paper will reflect on the idea of developing an international research programme dedicated to this issue.

Our reflections on suburban densification are inspired by recent French works dedicated to the issue of Bimby, or Build In My Back Yard, a neologism first used in the context of a research programme financed by the French National Research Agency (ANR) (Miet and Le Foll, 2013). The main objective of a new research project dedicated to Bimby would be to develop a housing development model capable of exploiting the large land resources available in suburban gardens.

#### **3.1 What would be the benefits of suburban densification and garden developments?**

As highlighted in the previous sections, the densification strategy relates to energy saving through increasing the energy efficiency of buildings and reducing transport needs. At the same time, by reducing the need to extend urban sprawl into the countryside, the densification strategy also involves the sparing use of land as well as to the preservation of open countryside.

It is well-known in urban economics that concavity is the dominant relationship between urban land prices and lot size (Colwell and Munneke, 1999) - when a lot's size decreases, the total price decreases though the price per surface unit (the marginal price) increases. As a consequence, plot division leads to an increase in land values! Given this potential added value, the densification strategy could be an efficient way of accommodating new forms of housing. Indeed, as recently put forward by Sabatier and Fordin (2012), when property owners decide to sell a portion of their land, the income can be used to meet such housing challenges as adapting a house to the needs of the elderly or improving a building's energy performance. In other words, we see here concrete relationships between the densification scenario and the insulation scenario.

The Bimby housing development model is closely tied to self-provided housing. Self-provision can be further divided into two major forms: self-building where households invest their own labour in the construction process, and self-development where the prospective owner mainly has a coordination role, commissioning a company to build the dwelling. Although sometimes considered as a primitive approach to housing provision, self-provided housing is actually a major form of housing supply in industrialized socie-

ties, particularly in North-West Europe. Compared to commercial developments, self-provided housing has the major advantage of reducing building costs. A recent French analysis estimates the cost reduction to be 10-15% (Castel and Jardinier, 2011). The key reasons are the internalisation of different tasks by the households and the absence of profit margins for the developer. This means that strengthening the Bimby development model can ease demand for affordable housing. This benefit becomes crucial in regions with a growing number of households and in suburban belts where the issue of housing affordability is acute. Another advantage is the greater involvement of local construction companies, thereby boosting the local economy.

Besides the environmental dimension, the development of a project on steady suburban intensification also provides opportunities from both an economic and a social point of view. Although there are many arguments in favour of using gardens for housing developments (garden development), there are also many against it (such as, breach of privacy, increase in traffic, loss of habitats and biodiversity, an increased risks of flask flooding). In this perspective, the research project should not only aim to quantitatively strengthen the development models, but also to qualitatively improve them.

### **3.2 An opportunity for transnational cooperation**

Transnational cooperation will undoubtedly be very helpful in strengthening and improving Bimby housing development. The potential interest of international cooperation in this domain relates to the great variability of garden developments thorough Europe. While building on garden land remains marginal in most European countries, recent UK government estimates show that housing construction in gardens could represent up to 25% of overall housing production<sup>1</sup>. Given such a situation, there is no doubt that continental planners could gain valuable insights from UK experiences and possible mistakes.

A key explanation of the quantitative importance of garden development in the UK is the compact city strategy. Looking at this issue, Adams and Watkins (2002) distinguished between the planning objectives of containment and more ambitious compaction. In containment policies, low-density greenfield urban sprawl is accepted as long as the new housing areas are adjacent to existing urban areas. By contrast, the compact city objective aims to increase density and the proportion of building construction within urban boundaries or, if necessary, on selected sites directly adjacent to existing urban areas. Since the 1990s, British anti-sprawl policies have evolved from mere urban containment to urban compaction.

As developed by Sayce et al. (2012), the strict compaction policy has put strong pressure on English gardens. In their recent research, they notably noticed that the level of conflict between developers and local residents (and through them local politicians) is highly dependent on planning practices, particularly the integration of garden house-building in a coherent local planning framework.

In contrast to the situation in the UK, housing construction in gardens remains marginal in countries such as France or Belgium. Due to the major urban sprawl characterising those two nations in the last half-century, they definitely represent huge potential for the

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<sup>1</sup>Source: <http://news.bbc.co.uk/2/hi/8728633.stm> (accessed 2 May 2013)

Bimby development model. Urban sprawl in the two countries has not been adequately contained and large residential parcels have become commonplace in suburban spaces. By contrast, the Netherlands and Germany have developed a planning tradition allowing a more efficient use of land resources (Sellers, 2004; Halleux et al., 2012).

### 3.3 Potential research activities

The issue of residential developments in gardens was explicitly considered in a pioneer paper published by Whitehand and Larkham (1991). They pointed out that, compared to urban regeneration within high-density inner-city areas, the issue of garden development has attracted little attention among scholars. They also stated that this weak interest is in sharp contrast to the high level of concern which such forms of development can create for households living in the immediate vicinity. To date, despite its potential for suburban intensification and urban compactness, the topic of residential development in gardens remains relatively little-researched (Sayce et al., 2010). Therefore, the research activities of our project will aim to shed light on the multi-faceted issue of garden development (legal, spatial, architectural, financial, etc.) through four levels of analysis: the national-regional scale, the urban region scale, the neighbourhood scale and the micro-scale.

At the national-regional level, research attention should focus on authorities working in the field of planning and land policy. A differentiation has to be made here between “local” land policy and “supra-local” land policy. The first relates to the use of existing national/regional laws by local authorities while the second relates to the action of national or regional authorities when amending their legislation (Comby, 2013).

The urban region scale relates to the level of the job catchment areas. The aim is to identify the localities and the neighbourhoods where densification can be most useful in re-organising functional urban areas. At this level, priority will be given to energy efficiency.

At the neighbourhood scale, specific attention will be paid to suburban locations where previous parcel divisions have already significantly transformed the physical environment. Issues such as population density, traffic movements, noise and townscape will be considered. The operational objective will be to compile “densification methodology guidelines” targeting local planners and decision-makers, to help them judge the desirable evolution of the suburban neighbourhoods they are responsible for. An important issue to consider here is the importance of demolition and high-density dwelling types (apartments).

The micro-scale goes down to the parcel and household level. A key issue relates to household investment choices with regard to the following questions: (i) what are the main reasons inducing owners to divide their plot to create new land supply; (ii) what are the residential preferences pushing households to seek housing constructed under the Bimby development model (Sabatier and Fordin, 2012)? To answer those questions, research methodologies will need to be developed in the different partner regions to achieve comparable results. The issue of planning regulation will also be considered at this micro-scale, looking at procedures and requirements allowing parcel division or land readjustment to be achieved.

## 4 Conclusions

Three main strategies focusing on the renewal of existing Walloon suburban neighbourhoods (building insulation, an increase in built density and demolition / reconstruction) were theoretically assessed in the first part of this paper, finding that, over and above the traditional polarisation of energy-efficiency debates between the “compact city” and the “sprawled city”, a new pragmatic paradigm focused on the sustainability transition of suburban areas by densification can help existing suburban neighbourhoods evolve towards greater energy efficiency, both in buildings and the transport sector. This example also demonstrates the importance of including the impact of location on daily mobility in energy balances. The second part of the paper presented research perspectives discussing a densification of existing suburban areas, outlining the numerous aspects needing to be addressed in a transnational cooperative research project in order to quantitatively strengthen and qualitatively improve suburban densification in Wallonia and elsewhere in Europe.

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## A “triple bind ”: local attitudes to the energy crisis. A theoretical discussion on the situation of low-income households in French periurban neighbourhoods

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### 1 The energy “crisis”: between “systemic crisis” and personally experienced crises<sup>1</sup>

Among other environmental threats, the looming exhaustion of fossil fuels and the climate-related necessity to shift away from them are ringing the alarm bells, warning of the upcoming energy crisis. The characterisation of the term “crisis” is open to opposition, as it focuses the political debate on the necessity and ways to resolve the crisis. Identifying the fault lines underlining the non-sustainability of the current system is all about defining the scope of the negotiations on the changes needed. But first we must look closer at the term “crisis”, looking at how it is used in different contexts. In its medical context, a crisis refers to a phase of severe suffering, symptomatic of a major dysfunction of the body, at the end of which the body will either recover or stop working. In its political context, a crisis refers to a crucial moment where radical decisions have to be taken - decisions that have the potential to split society. Applied to the energy crisis, immediate decisions are needed to avoid a future likely symptomatic crisis. Though a number of people are already facing energy problems, such energy-related sufferings are merely precursors of a far more extensive systemic crisis of a much greater dimension. Though rising energy costs are starting to put pressure on the budgets of low-income households, the size of this cohort - the “fuel poor” - remains relatively small. The symptomatic crisis of an energy shortage threatening the whole of society remains just on the horizon. Though all of these fuel poor, workers losing out in the global competition for energy as well as other climate refugees, are already experiencing a crisis, without any revolt on their part or the emergence of other symptoms, there is little chance of their local crises turning into a major systemic crisis.

As a consequence, the use of the term “crisis” suffers from a twofold discrepancy. On the one hand we have the solutions coming from the so-called experts<sup>2</sup>. These solutions tend to be far-sweeping and step-by-step, and have little impact on the demands of the fuel poor already facing a (specific and urgent) crisis. On the other hand, the imminent crisis forecast by the experts does not tie in with the experience of the “fuel rich”. Our paper focuses on this second discrepancy, i.e. between those predicting the crisis and those not experiencing it, and the need to provide information on its nature and how it will

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<sup>1</sup>An intensification of the “double bind” concept found in psychology. A double bind is an emotionally distressing dilemma in communication in which an individual (or group) receives two or more conflicting messages, in which one message negates the other. This creates a situation in which a successful response to one message results in a failed response to the other (and vice versa), so that the person will automatically be wrong regardless of response. The double bind occurs when the person cannot confront the inherent dilemma, and therefore can neither resolve it nor opt out of the situation.

<sup>2</sup>The term “expert” is used here to designate professionals with specific proven knowledge and personal experience: scientists, engineers, technocrats, urban planners, local officials, journalists, etc. Though the notion of expert can extend to profane expertise, we will stick to its classical use (see Castra 2010).

affect households. We will be focusing on low-income households living in the outer suburbs, termed “periurban” areas in France, as this is where the pressure is already being felt. Indeed, many of these neighbourhoods have already been designated as vulnerable in the face of the energy threat, and a number of their low-income inhabitants are experiencing individual economic difficulties, even resulting in them moving away. These difficulties are greatly impairing their long-term life strategies and having a negative effect on the whole neighbourhood economy. But these constraints are not experienced as an energy crisis, i.e. a crisis whose main grounds are perceived to be energetic processes.

## **2 Resolving the energy “crisis” in neighbourhoods hit by population shrinkage: local and non-local attitudes**

Discourse on energy-related issues differs from one neighbourhood to the next. Housing estates made up of detached houses are a primary concern for experts. Such houses, built before the adoption of the first thermal regulations (1974 in France) are characterised by their particularly low energy efficiency and high car dependency. The planning of energy-efficient neighbourhoods foresees large-scale energy-related refurbishment measures and major innovation in the fields of transportation and energy production, but also major constraints on future construction in these allegedly unsustainable neighbourhoods.

Two further trends hindering the execution of such programmes can be identified in certain neighbourhoods: the economic recession and demographic change in terms of ageing and population shrinkage. These two developments, independent of the future energy crisis, are already evident on both a local and regional scale, and their combination is fuelling various forms of urban decline, though not as much in France as in other European countries, with the exception of the former mining and industrial regions and in small towns (Wolff and al. 2013). In attempting to solve the energy equation in these shrinking areas, energy experts lack the leverage of a dynamic economy and have to adapt to atypical demographic structures.

Considering the economic and demographic crises as parameters of the energy issue is characteristic of a sectorial approach that abstracts from a specific neighbourhood’s most tangible and pressing needs. Giving priority to the upcoming energy crisis and its national and global repercussions is characteristic of the high-handed attitude of experts modelling a neighbourhood without actually living there, and thus ignoring the individual needs of residents, people with deep-going spatial roots resulting from years of residence. Such an attitude contrasts with the priorities of local residents or their elected representatives.

These are experiencing the economic and demographic crises at first hand, without any possibility of substituting their place of residence for abstract spaces. We would like to juxtapose these two attitudes, showing how they lead to different representation and action frameworks, i.e. the three-pillar scheme of sustainable development upheld by the non-local energy experts, and what we term a “triple bind” for local residents. Indeed, the discrepancy between these two attitudes itself constitutes one element of this triple bind.

Our analysis is based on desk and literature research and an interview-based survey. The desk and literature research is used to summarize the multiple discourses on peri-urban neighbourhoods, allowing us to characterize the non-local attitude of the experts, the media and urban elites on the concept of sustainable development and its application to energy issues in a periurban context (first part). Our desk research also reveals a counter-expert discourse strengthening the attitude of local residents with regard to the desirability and legitimacy of a periurban / semi-rural way of life. This discourse results in our defining a “triple bind” experienced by local households (second part). Based on the secondary exploitation of a survey on the daily life and the long-term prospects of peri-urban neighbourhoods (Motte-Baumvol and al. 2012), these households are looked at in greater detail. Using a semi-structured questionnaire, we interviewed 28 low-income households in periurban neighbourhoods in the east of Paris and in the east of Dijon in Burgundy. In this paper, we will be summarising the local context of the constraints faced by such households - termed the “triple bind” - in the form of extracts from interviews upon which these first findings are based.

### **3 “Sustainable development” versus the periurban energy threat**

Despite a lot of criticism and the existence of alternative paradigms, the three-pillar concept of sustainable development, pushed by international environmental organisations, has established itself as the main way of analysing the energy crisis. The 2008 peak in fuel prices and the 2013 national debate on the energy transition saw energy regaining its place as a significant crisis factor, in the ambiguous sense of forecast dysfunctions calling for immediate decisions. The overall restructuring of ways of generating, distributing and using energy impacts the whole of any industrialised society on account of the massive investment volumes needing to be financed. However, the debate goes beyond technical and economic considerations. Large numbers are being encouraged to invest in energy-related refurbishment and to adapt to new technologies, from “eco-gestures” to acceptance of the nuclear risk, via the transformation of the landscape. In addition, energy increasing use boosts GHG emissions, the ecological threat with the widest media coverage. Social and environmental issues thus enter the economic debate. The three pillars of sustainable development then provide the energy crisis with an allegedly adequate ontology - i.e. certain actors and subjects as non-negotiable entities (Wallenborn 2008). As with the global negotiations on mitigating and adapting to climate change, the public debate on energy is structured around the three pillars of sustainable development: competitiveness, i.e. the economic growth of political regions and industrial sectors; well-being, i.e. social acceptance by each social group and the conservation of natural resources and conditions of life for future generations, i.e. environmental protection as defined by its eco-spokespeople (including current and future climate refugees). More specifically, the energy debate<sup>3</sup> focuses on three issues: energy efficiency investments as stimulus policy, decarbonising against climate change and the fight against fuel poverty.

The result is that, in the current negotiations on the energy crisis, a large number of play-

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<sup>3</sup> See : Conseil national du débat (2013), Synthèse des travaux du débat national sur la transition énergétique de la France, présentée par le Conseil national du débat, 18 juillet 2013, 32 p. URL: [http://www.transition-energetique.gouv.fr/sites/default/files/synthese\\_dnte\\_18\\_juillet\\_2013.pdf](http://www.transition-energetique.gouv.fr/sites/default/files/synthese_dnte_18_juillet_2013.pdf)

ers, including the expert elites based in city centres and with little empathy for periurban life, are showing media concern for periurban households, stamping them as major energy consumers that are unfit for energy efficiency, GHG emitters and potential fuel poor.

Ridden with conflict, this concern clearly puts the blame for national or global vulnerability on the periurban population - a cohort emitting twice as much CO<sub>2</sub> for commuting as their urban counterparts (Levy and Le Jeannic 2011). This finding has much more symbolic power than any other moderating measures, such as taking all forms of travel (including long distance travel) into account or differentiating more between the types of spaces considered<sup>4</sup>. Insisting solely on commuter travel would be justified by its locally restricted nature<sup>5</sup>. Sparsely populated regions will find it very difficult to adapt to energy scarcity, and will in the long run become unsustainable. This damning conclusion however takes neither possible radical changes in the business landscape nor the deployment of new “energy geographies” (Bridge and al. 2013) into account. The latter refer to sparsely populated areas with the potential to achieve a certain energy efficiency (autonomy) and other advantages out of the reach of urban agglomerations (Ménard 2011).

Analyses of periurban energy performance do not all focus on the threat they constitute. Looked at from a more benevolent perspective, other experts point to the vulnerability of periurban households, focusing on their financial expenditure and looking at the share of their budgets earmarked for energy and their exposure to any rise in energy prices (Motte-Baumvol and al. 2012 ; Desjardins 2013). Translated into the use of local subsidies to each needy household and not into a condemnation of their choice of residence (Rosales-Montano 2010), such an approach extends the concept of energy precariousness to the whole range of energy consumption, whether used at home (Devalière 2009) or in commuting. However, travel intensity does not necessarily constitute a socio-economic problem. The more tenuous relationship between mobility indicators and a situation of energy poverty leads us to attach more weight to energy vulnerability factors instead of to non-existing personal indicators of energy poverty (Jouffe and Massot 2013). While the fight against energy poverty in the field of housing lends itself to individualised subsidies, the scale of energy vulnerability is calculated at a territorial level. However, flexibilisation of the labour market and the trend towards new family constellations constitute non-territorial factors of much greater weight than a household's expenditure on fuel for commuting. Forward-looking energy scenarios would similarly identify further destabilising interdependencies outside the scope of a given territory (Barthe and Milian 2012; Chancel and Saujot 2013; Theys and Vidalenc 2013). Instead of these analytic approaches, the benevolent approach to fighting energy vulnerability plays a major role in condemning certain territories - i.e. periurban and rural areas -, giving priority to energy transition investments targeting densely populated areas such as suburban neighbourhoods more easy to reach by public transport.

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<sup>4</sup> For instance, a resident of a non-Paris suburb or even of a small town will emit practically the same amount of CO<sub>2</sub> (1.4 - 1.5 t) for local travel as a resident of such periurban or rural areas (1.5 - 1.8 t), with the exception of those living on the outskirts of major metropolitan regions (with more than 0.5 million inhabitants) (2 t). In the same vein, anyone not living in Paris itself (1.3 t), in the centre of a large metropolis (1.5 t) or on the outskirts thereof (2.8 t) will normally emit 1.7 - 2.2 tonnes of CO<sub>2</sub> equivalents for local and long-distance travel (Longuar and al. 2010). Sparsely populated areas remain the ones with the highest energy consumption, in a relation of 1 to 1.3.

<sup>5</sup> For some 50% of periurban or rural households there is no alternative to using a car to get to work, as opposed to 30% of households in provincial suburbs, 20% of city centre households and 10% in the Paris metropolis (Bleuze and al. 2009).

The way of life practiced by periurbanites would thus seem to constitute a threat, both for others and for the residents themselves. These warnings in the field of energy are part of a discourse criticising such areas more generally. The academic and expert debate comes up with a modulated condemnation of urban sprawl, ranging from the unchallengeable hegemony of density (Lévy 2012) to the innovative capacity of “inter-territorial spaces” (Vanier 2012) in the “emerging city” (Charmes and Léger 2009). Though periurban areas show great (Cailly and Dodier 2007) and often virtuous diversity (Hilal and al. 2012) and yet are not that different from urban ones (Charmes 2007), negative attitudes would seem to dominate among planning specialists who seem united in praising the virtues of urban density. This discourse and its various regulatory facets centre on condemning cars as the root evil of periurban and urban spatial management in terms of sealing the soil, congestion, the lack of road safety, noise and air pollution (FNAU and GART 2002). The elites in the major cities promote large-scale planning with themselves at the centre. This automatically leads them to reject the less dense forms of periurban settlement planned at a local scale (Charmes 2009).

Both elites and planners level criticism at periurban forms of living, upholding the three pillars of sustainable development. In terms of financial and environmental cost, objective weaknesses and risks (e.g. the lower thermal efficiency of a detached house, the costs of urban networks, the level of soil sealing due to houses and roads) provide sufficient ammunition to the technocrats (Calvet 2010). Complementing all this, social criticism of periurban life focuses on the highly publicised though contested extreme right-wing political leanings of periurbanites (Ripoll and Rivière 2007), as well as on a clustering of the wealthy (Charmes 2009), segregation of the poor (Cartier and al. 2009) and the confinement/isolation of vulnerable households (Rougé 2007). Finally, a certain traditionalism in the photos taken of such neighbourhoods helps spread such criticism of the periurban way of life. Apart from aerial photos showing the lack of land planning, the photos tend to highlight a priori negative aspects: rows and rows of houses all looking the same, soulless areas and no signs of life (Bardot and Devisme 2013). Related to energy in a broad sense, the widespread criticism of the periurban way of life upholds the three dimensions of sustainable development as three constraints putting a damper on the periurban lifestyle and its use of energy: ecological limits (sealing of the soil, energy wastage, car-related pollution), economic constraints (car dependency costs, congested centres, residential captivity), and social fragmentation (social grouping, the lack of solidarity, and segregation or even confinement).

#### **4 From the expert counter-discourse on “near-the-city rural life”**

At the same time, several stakeholders - experts but also periurbanites - are promoting a pro-rural discourse legitimising a periurban territory in its spatial forms and lifestyles. The stigmatisation of periurban lifestyles by experts is being contradicted by a similarly expert discourse focused on its social legitimacy. This counter-discourse is based on local subjectivity and alternative contexts objectivising sustainability. Residents naturally side with this counter-discourse with a view to consolidating local attitudes in the face of the “triple bind” constraints.

This alternative view is upheld by stakeholders similar to those condemning the prevalent

view and by everyone planning, designing or using such neighbourhoods. The alternative discourse centres on house ownership as a normal and legitimate aspiration, even if it means using a car to access high density areas (Bossé, Devisme and Dumont 2007). Household rationality is put forward to underline the individual and collective virtues of these spaces (including such often unrecognised aspects as the urbanity and social life in shopping malls). Moreover, such rationality is upheld by social logic in itself grounded in material infrastructures and which continue to fostering the joint development of periurban lifestyles and forms. The legitimization of periurbanite decisions can thus be seen as a reminder of the power or inevitability of this form of spatial development. The conclusion of this discourse is that it is impossible to return to city-dwelling, an impossibility compensated by specific innovation in periurban spaces (Charmes and Léger 2009).

Legitimation of a periurban lifestyle as a major trend in the transformation of our cities (Donzelot 2004) is based on the spatial and demographic quantification of neighbourhoods designated as periurban (Charmes 2009). But it is also supported by the spread of its lifestyle and values beyond the borders of such neighbourhoods. For instance, the majority of French households are owner-occupiers (58.6% in 2012 according to a National Institute of Statistics and Economic Studies / INSEE survey) and two-thirds live in private accommodation (INSEE, 2013). Indeed, to this day people setting up home in a periurban single-family house enjoy a social status based on aptitudes acquired in similar residential situations and in line with a widespread model of upward socio-residential mobility (Debroux 2013). Although high priority is attached to owner-occupancy, other criteria also exist (Bonnet 2013). Above all, home-ownership is favoured on account of the independence it provides in the face of social change (Raymond and al. 2002 [1966]). Looked at from the perspective of residents, the normative value of this type of housing seems to be associated with the equilibrium it confers, offering spatial privacy and the benefit of easy accessibility to both the city and the surrounding countryside (Cailly 2007). The value of such a residential situation is seen independently of any ecological criteria (ibidem), as is the case of the home's day-to-day energy consumption (Flamand and Roudil 2013). In addition, the cost of periurban mobility is not taken into account when considering residential strategies and does not seem to be an item of discussion once a household has moved in. Indeed, the environmental effect of such mobility has little impact on the value associated with the dwelling (Baudelle and al. 2004).

Faced with an energy crisis defined under the premises of sustainable development, the discourse in favour of a periurban lifestyle puts forward innovative technological measures and marginal modifications to periurban spatial forms as solutions. The effort needed to counteract the negative aspects of periurban life can thus contribute to giving some legitimacy back to such neighbourhoods<sup>6</sup>. The residents of such neighbourhoods have difficulty regarding themselves as periurbanites, preferring to qualify themselves as having a rural identity and way of life (Charmes 2009). The authors of this counter-discourse on periurban spaces use the term "rurban" (or even "peri-rural") to describe

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<sup>6</sup> As witnessed by the call for research proposals launched by the Plan Urbanisme Construction Architecture in 2011 under the title "Du périurbain à l'urbain" (From the periurban to the urban) (URL: [http://rp.urbanisme.equipement.gouv.fr/puca/consultations/AO\\_Periurbain\\_2011.pdf](http://rp.urbanisme.equipement.gouv.fr/puca/consultations/AO_Periurbain_2011.pdf)) or the second meetings of the Forum des Vies Mobiles (2013) under the title "Réhabiliter le périurbain. Comment vivre et bouger durablement dans ces territoires?" (Revitalising periurban neighbourhoods: Sustainable forms of living and mobility) (URL: <http://fr.forumviesmobiles.org/meeting/2013/07/04/sous-stereotypes-et-representations-quelle-realite-parle-t-1001>)

them, in an attempt to conceptually disassociate them from urbanites in line with such objective characteristics as the fact that one-third of periurbanites do not actually work in the city statistically defining their periurban status (ibidem). In addition to this attempt to reclassify periurban life, the technical effort of relative conformation claims to stand up for a lifestyle demonstrating a capacity to improve and innovate, thus somewhat dampening the assessments of experts. But the main force of this counter-discourse lies in the combination of two powerful socio-historical processes. On the one hand, home-ownership offers households a form of security, while on the other hand it well suits an affluent society dependent on the development of resource-consuming activities. A periurban way of life - or rather a rural life close to the city - is thus seen in a perspective diametrically opposite to the expert discourse: far from being vulnerable, such a lifestyle guarantees security; such neighbourhoods are not unsustainable fringes but centres of an unsustainable economy.

## 5 To the “triple bind” experienced by households

The expert discourse on the unsustainability of periurban lifestyles and the counter-discourse put forward by other experts and the periurbanites themselves symbolically define two opposing and contradictory forces weighing down on each and every periurban household. From the perspective of cash-strapped households living in periurban neighbourhoods, these forces add to economic constraints to constitute a local “triple bind”, reflecting the three pressures put forward by non-local experts in their definition of sustainable development. The interviews we conducted with residents confirm the pertinence of this “triple bind” as a very much local attitude.

These pressures have no effect whatsoever on the “financial constraints” facing households, especially those having to make do on low incomes: the high cost of energy and resources in general, coupled with a possible loss of neighbourhood attractiveness as shops and services move away, and declining property values leading to residential captivity. To satisfy their health and social needs, periurban households have to deal with various material, financial and physiological constraints. In particular, elderly people on low pensions are threatened physically, financially and socially, becoming increasingly isolated. The sum total of these material constraints (old-age dependency, financial precariousness, social isolation, etc.) acquires an added dimension when living in a low-density, car-dependent, periurban neighbourhood. Periurban low-income households tend to give this material viability and its translation in budgetary terms priority, far more so than any ecological considerations, as reflected in the interviews with residents:

*“It’s quite political [car sharing], I don’t think it’s that common these days. Not at all. I don’t think people think: Well, Let’s take just one car instead of two, we won’t be causing so much pollution. What I think they’ll be saying is: With fuel prices this high, it’s an interesting option. I think that’s how people think.”* Vincent, 58 years old, married, foreman, has lived on the outskirts of Dijon since 1983.

The primacy of economic constraints tends to keep the expert discourse in perspective and to disqualify any management of the energy crisis not taking account of them.

## 6 Social experience and ethics of dwelling

Besides the undeniable material constraint, symbolic forces in the two opposing discourses on periurban life totally replace the two other pressures, i.e. ecological and social ones. The “ecological limits” upheld by sustainable development do not appear as such to the households in question, being seen instead as intangible and fundamentally abstract, as they are associated with a global environment defined by experts. The ecological limits are not seen in themselves but via a discourse on ecological requirements coming from experts - as illustrated by the following extracts from our interviews:

*“We never got used to it... apart from using the school bus when we were younger ... [my husband] had a motor bike... Personally I took the bus until I was 20 to get to school... But after that, ... never again! That’s not right, I suppose.”*

### **But why isn’t it right?**

*„I’m not green, but... It’s not green. They keep on telling us: Take the bus, use public transport.“* Céline, 34 years old, married, 3 children, child-minder, has lived on the outskirts of Dijon since she was a child.

The experts and other participants in this ecological discourse usually live in the same urban areas as those where the technocratic institutions, government agencies, political decision-making centres, universities and mass media are to be found. These are areas where not many members of the lower-income socio-professional categories live, in contrast to the periurban areas where they are over-represented (Mischi 2013). Moreover, the in-migration of skilled members of the middle classes into periurban neighbourhoods may possibly see such people taking up positions of power in local politics. By doing so, they will be usurping the power of the local working classes, a number of whom were entitled to participate in local politics on account of their local roots (ibidem). Local residents’ spatial distance to the urban experts, and in many cases their social distance to local experts, comes on top of their cultural distance to every kind of technocratic expertise. The ecologists’ call for an abstract environment that has nothing at all in common with the actual experience of low-income periurbanites is not even mediated by their social experience.

Similarly, the counter-discourse focusing on the desirability of living in a periurban / semi-rural area acts as a substitute for the spectre of “social disintegration” threatening urbanity and democracy. Periurbanites value their housing situation in that it provides a framework for positive experiences, not solely corresponding to a model of upward socio-residential mobility (Debroux 2013). In contrast to the supposed confinement in spaces without any urbanity, such a housing situation can be seen as supporting a truly social experience at a local level, as explained by one resident:

*“We know all our neighbours here. It’s a village. OK, once you’ve got to know them, you get on well with them or you don’t get on well with them. But that’s a different matter. The main thing is that one knows one’s neighbours, that one knows three-quarters of the village’s inhabitants. Perhaps you might not have noticed it because you’re only passing through, but this is a village where even people who don’t know each other greet you in the street. You can walk down the street, you meet people, you pass the time of day,*

*even if you don't know each other, even if they don't know you whether you live here or elsewhere ... This is especially the case when the sun is shining. But it's something that really struck us when we first moved here, even coming from Maisons-Alfort. People there were like robots, walking with their eyes glued to their feet, whereas people here, they stop and say 'hello'. [...] What we also liked here was the fact that we were seen as individuals, not just one more resident in an apartment block, one more inhabitant of the city. Here, each one feels that one fully is a person."* Anna, 41 years old, married, 2 children, housewife, has lived in the periurban Seine-et-Marne area since 1998.

Similarly, participation in local community and political life allows specific recognition totally distinct from business and urban life (Debroux 2013). This positive experience also has a social dimension when the periurban housing situation becomes a way of adjusting social interaction to different spatial scales, ranging from privacy to accessibility (Cailly 2007). The downside of this discourse in favour of periurban / semi-rural life is the requirement to fit in with the norms common to such neighbourhoods and shaped by local and social experience.

The two discourses affect households in two related symbolic dimensions: the norms dictated by social experience are boosted by the discourse in favour of periurban life, while the ecological demands come up against an ethical dimension basically built on social experience in the face of material needs. This ethical dimension is thus influenced by the immediate environment with its socio-historical ramifications, acting both as the setting for a resident's social life and as an economic resource, as a forest may be. Far from the abstract environment that exists behind an electricity socket or a filling station, the environmental ethics involved in living in a periurban and/or rural setting often reveal a sensitive and common-sense relationship to nature (Charmes and Léger 2009 ; Blanc 2010), as illustrated by the following extracts from our interviews:

*"In addition, there's the nature surrounding us. With woods right next to us, we can take the dog out for a walk, or go for a cycle ride without any ado. And then there's the aspect that the kids don't grow up surrounded by concrete and can cycle to school without a problem".* Anthony, 40 years old, married, 3 children, policeman, has lived in the periurban region east of Paris since 1998.

*"No one will ever go back. People don't want to go back because you can really get ahead here. Because they've been raised in an atmosphere of getting on in life, with all facilities available. And there are so many people who can't have their wood cabin with a garden. Just imagine what would happen if each of the 8 million Parisians had his own wood cabin and a garden. We would need acres and acres of land. 8 million gardens .... it's just not possible. In the US you've got cities with 16 - 18 million inhabitants - you just can't let everyone have their own wood cabin in a garden. It's impossible. OK, we've got our own garden. But we are fortunate. [...] Myself, I'm a great fan of ecology, I love living out in the country. But you wouldn't find me living like an Amish ... I like to be able to watch TV ... surf the Web [...] You know, so much is spoken about ecology, but at some stage you come to a point of no return."* Vincent, 58 years old, married, a foreman, has lived on the outskirts of Dijon since 1983.

The three mainly material constraints of sustainable development thus leave room for another kind of “triple bind” from a household perspective:

- in the field of material needs: rising energy prices threatening the whole economy, or even the survival, of a neighbourhood,
- in the field of social experience: the social need to adhere to periurban / semi-rural norms, and
- in the field of ethics of dwelling: ecological requirements on behalf of an abstract environment.

At the end of the day, the reality of this “triple bind” results in tensions between urbanites and periurbanites, between experts and laypersons, between inhabitants with local attitudes and the others. These tensions between subjectivities require to look subjectively at the energy crisis, on top of looking at it from the normative and objective perspective of sustainable development. In attempting to impose non-negotiable expertise, sustainable development loses the legitimacy it has gained through inter-institutional negotiation. Generally speaking, it would seem difficult for any household to see any sense in participating - in a role upholding for instance the social dimension - in a form of sustainable development totally outside its experience. Seen in a more pragmatic light, a household will as far as possible shape the material, social and ethical dimensions of the energy crisis and its associated constraints to its own needs and experience.

## **7 Reflecting on local attitudes to this “triple bind” as a trigger to initiate local action**

The “triple bind” weighing down on the low-income residents of periurban neighbourhoods similarly constrains households living in declining neighbourhoods and more particularly those concurrently confronted with low energy efficiency, recession, population ageing and shrinkage. Such constraints - not just financial but also demographic - correspond to the severest material pressures experienced by periurban households, and can lead to households considering moving away from the neighbourhood as a final solution symbolising failure. Out-migration and population shrinkage constitute the two sides - one individual, the other collective - of the same coin, an extreme situation that residents will do everything to avoid. And when they are forced to move away, they avoid moving to densely populated areas, preferring instead to move to close-by secondary centres, allowing them to maintain their proximity to support networks (Motte-Baumvol 2007). A periurban lifestyle, defined by material needs and social experience, takes little account of ecological requirements (Moussaoui 2007), apart from rare activist positions (Flamand and Roudil 2013), for the most part adopted when survival is at stake. This finding related to individuals (Bartiaux and al. 2006) seems also collectively applicable to shrinking cities (Gamberini 2011).

Without excluding the possibility of a common appropriation of economic, social and ecological stakes by residents and actors<sup>7</sup>, the “triple bind” seems to be a more relevant

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<sup>7</sup> See Issue No. 75 (2013/3) of *Mouvements, La transition, une utopie concrète?*. URL : <http://www.cairn.info/revue-mouvements-2013-3.htm>. Consulted on 16 January 2014.

framework than sustainable development for understanding the priorities attached to the measures taken by residents, local authorities and their officials, whether elected or not. The adoption of such an attitude is a great help in taking seriously the legitimacy of the subjective discourses of local residents, valuing their knowledge of the neighbourhood and their ways of doing things (Flamand and Roudil 2013) and freeing up their innovativeness in the face of the uncertainties voiced by the experts. Looking at things from a local perspective is a way to prevent the experts neutralising the logic - and thus the action - of local residents. In the face of the wide gap between experts and local residents, the institutional transformation of the technical infrastructures of everyday life puts greater priority on achieving the passive support of users, something which is proving to be a problem (Brice and al. 2012). Nevertheless their active participation is *a sine qua non* for any eco-mutation of their lifestyles.

The multiplication of subjective statements on the energy crisis and its concrete constellations is helping promote environmental justice, acknowledging the diversity of lifestyles and fostering the autonomy of local neighbourhoods. In particular, it can help protect the “fuel-poor” from a symbolic, or even material, vulnerability vis-à-vis technocratic institutions (Laurent 2011; Walker and Day 2012). Elected local government officials are well-placed to defend recognition of such neighbourhood diversity, though local public measures tend to stifle local creativity through an overdose of technical, sectorial and normative management (Angot 2013). Reconciling the voices heard and charting different paths to achieve certain ecological goals are a further possibility open to local communities (Bourez and al. 2013), the main partners for satisfying the material needs of local residents, building up social experience and consolidating ethics of dwelling.

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## **Build In My Back Yard experiments (BIMBY) – from noticing the benefits for everyone to a negotiated urban planning. Redensification of detached housing areas in the Eure Department (Upper Normandie), a negotiated utopia?**

**Michel Rousset, CAUE de l'Eure, Evreux**

*„La réduction de l'habitat à un produit financier est le couronnement d'un saccage, voire d'un anéantissement dans les esprits de ce qu'est véritablement l'habiter dans la plénitude de ses dimensions ontologique et anthropologique.“*

*(„The reduction of housing environment to a financial product is the crowning of a devastation, even a destruction in the spirits of what it is really living in the plenitude of its entire ontological and anthropological dimensions.“)*

Jean Paul LOBES, Treaty of wild architecture, Manifest for a situated architecture, Editions du Sextant, October 2010.

### **1 Presentation of CAUE27**

The CAUE27 (Council of architecture, urban planning and environment of the Eure department) is a French association which gives advices, raises awareness, supplies information and leads trainings about architecture, urban planning and landscape to regional authorities, public administration, clients, professionals and private individuals. It acts on the scale of a department. Its mission also includes the development of the participation of the public. As structure of public interest, it is mainly funded by a tax on building permissions.

### **2 The BIMBY actions conducted by CAUE27**

The “Build In My Backyard” (BIMBY) research program concerned the potential of densification and regeneration of suburban areas with the prospect limiting the urban sprawl. It aimed in particular at defining the conditions of development of a new offer of residences within districts of habitat mainly made up of houses, without to modify the nature of these neighbourhoods.

Mainly financed by the National Agency of Research (ANR), the program was controlled by the Normandy Center of Technical Studies of the Equipment (CETE) . It joined together the Ile-de-France CETE, research laboratories (LATTIS and RIVES), schools of architecture (ENSA 3 Marseilles and Paris Belleville), the Rouen-Elbeuf-Austreberthe urban community (CREA), the Saint-Quentin-in-Yvelines community (CASQY) and the CAUE27.



Figure 1: Idealized vision of the operations of thickening

In this program, the mission assigned to CAUE27 included two tasks. These tasks will be presented in the following two chapters (chapter 2.1, 2.2). The CAUE27 completed its action with an exhibition (chapter 2.3).

### 2.1 Managing a future scenario with tools of urban planning

The first task of the mission entrusted to the CAUE27 consisted in the study of legal tools and favourable governance procedures to the detached housing areas regeneration. For this mission, CAUE27 engaged the consulting society Logiville (Thierry Vilmin), which is specialised in socio-economic aspects of urban development. The study of the legislative texts, the observation of the current practices and the conversations with the local actors allowed to define recommendations on subjects so varied as the regulation of town planning, the plots divisions or consolidations, or the housing estates.

### 2.2 Managing local experiments

The second task was the implementation of in situ experiments. The experiments had three objectives:

- create a common project capable of combining the general interest and particular projects
- define the conditions for the realization of an adapted urban project of densification, in particular the necessary professional evolutions
- draw up methods to create a favourable common culture for the development of such a project

To work on these objectives, three engineering consulting firms were engaged: Métropole-Architecture-Paysage, Boidot-Robin-Architectes and Les ateliers d'Avre et Iton. From May to November 2012, the projects were carried out in four municipalities in the Eure department, with kind cooperation of the following municipalities: Heudebouville, Les Andelys, Pont-Audemer and Saint-Aquilin-de-Pacy.

### 2.3 Exploitation of experiments

After this work, the CAUE27 realised of its own initiative an exposure named: "Which development for detached housing estates?" It presented the CAUE27's point of view on densification of detached housing areas. This exhibition had three aims:

- attract the attention of the visitor on questions which seemed unavoidable for us in the precedent reflection
- implement any kind of public policy that is aimed on the densification of detached housing estates
- try out the innovations proposed by CAUE27 had to be proven, regarding to laws and rules as well as on aspects of governance.

The exposure presents the crucial factors of the four experiments undertaken in the Eure department.

The CAUE27 encourages on a national level the network of CAUEs that are interested in densification of detached housing areas and in the inhabitants participation.

The complete action plan is available on the homepage of CAUE27 ([www.caue27.fr](http://www.caue27.fr)).

## 3 Position of CAUE27 with regard to a BIMBY "short path"



BIMBY, "I build in my back yard" is not a isolated project. It is connected to "you contribute to the arrival of new inhabitants", to "he helps us to build in our backyards" and to "together, we create the neighbourhood of tomorrow".

We are far from promoting a short path in our approach! We recommend always a patient construction and a permanent renovation of the links between owners in an area, politicians and professional urban planners.

Figure 2: Poster of the exposure made by the CAUE27

The experiments led during the research and, now, the accompaniment of the local approaches make it possible to our team to unceasingly renew our advices and our proposals for a method :

- How are detached housing areas developing under the pressure of the real estate market?
- Which mutation should be the objective for detached housing areas?
- Which role is assigned to the local community to support the initiatives of the inhabitants?

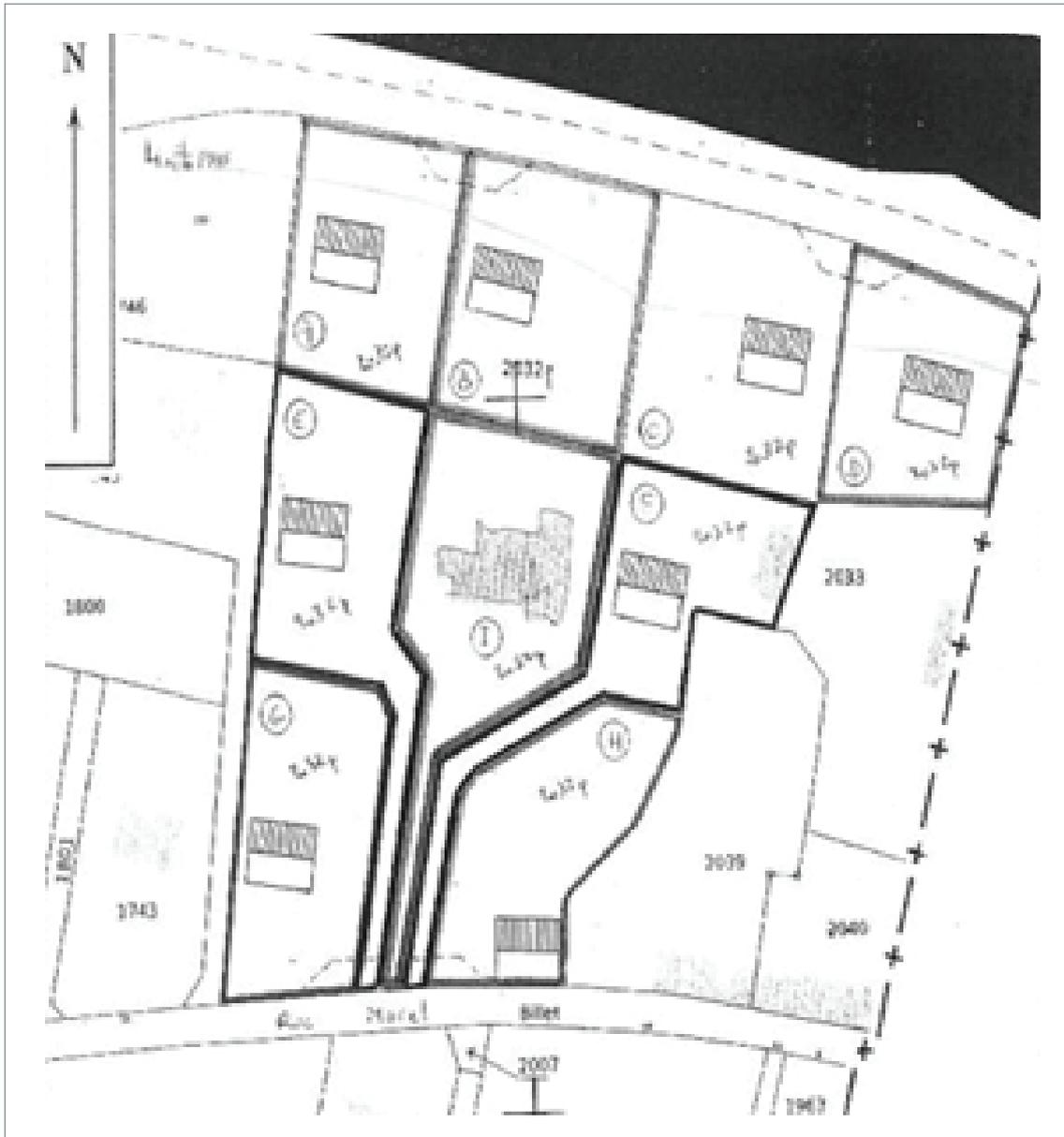


Figure 3 : Not controlled operations of thickening, Illustration of the risk of low urban quality that not controlled operations of thickening can generate

The following chapters deal with cautions and limitations of the BIMBY approach (chapter 3.1-3.3) and propose further action plans for a more successful implementation (chapter 3.4- 3.6).

### 3.1 Limitations of a parcel approach supported by bimby.fr

Cut up a plot in sections may disrupt the urban structure and lead to the formation of a low urban quality neighbourhood. This precaution is, from our point of view, not sufficiently developed in the Bimby approach.

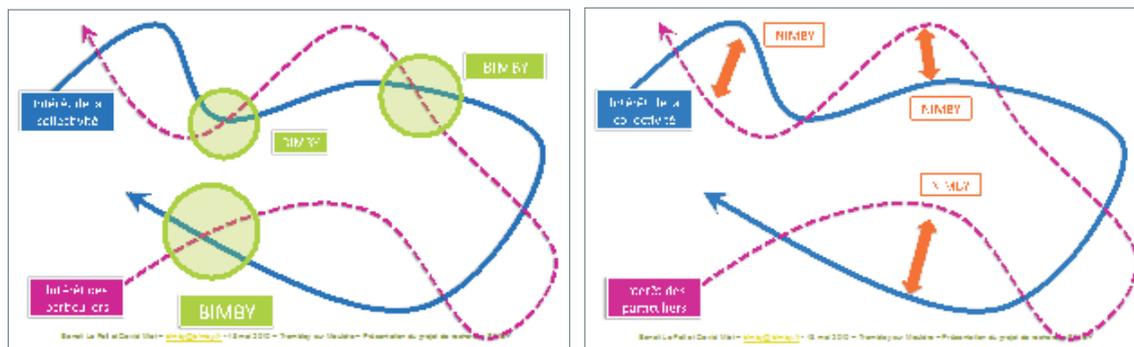


Figure 4 and 5: Scheme of the harmonisation of the interests of the stakeholders

### 3.2 Short cut of a statistical and economic approach supported by bimby.fr

The calculation of the BIMBY managers suggests that if every year, on a national scale, one percent of the detached houses terrains is divided for the construction of a new residential building, it would be equal to the annual construction of detached houses, without any urban expansion. But does this assumption, so tempting is it, guarantee a sustainable development for our territories ?

The economical motivation of an owner invited to sell two goods separately (his house and a part of his land property) does not lead to a project shared by his neighbourhood. This is why a sustainable development needs shared projects and common culture.



Figure 6: Axe Seine and Grand Paris, designed by Antoine Grumbach. The four sites selected for the experimentations integrate in the territories with specific challenges put forward by Grumbach study

### 3.3 Limitations of a selective approach on a harmonisation of interests

The managers of BIMBY represent harmonisation of the interests of the stakeholders of densification as the fruit of the intersection of the interests of every stakeholder. The CAUE27 is convinced that the connection links between the individuals interests and the general interest are not created by fortune. They rather can be favoured by negotiations and by the search of a common interest which is carried by the new inhabitants of an area.

### 3.4 Interest of a localised urban observation

In a first step, CAUE27 identified in the Eure department 15 detached housing areas whose densification may be relevant, with regard to the characteristics of the proximity of the infrastructure and the services. An analysis of the local real estate market and the work performed by the Marseille school of architecture has permitted us to distinguish the areas which are worth a profound reconversion to change the environment from those which can be made denser without changing the environment (10 to 25 houses per hectare are acceptable). Then CAUE27 favoured the experiments which were taken on the sites impacted by the department projects of Axe Seine and Grand Paris, designed by Antoine Grumbach.

### 3.5 Management of real estate action plans is a fundamental aspect of the process of the densification of detached housing estates

The examples of punctual densification that show that cutting micro-plots is needed to construct within separate limits are numerous.

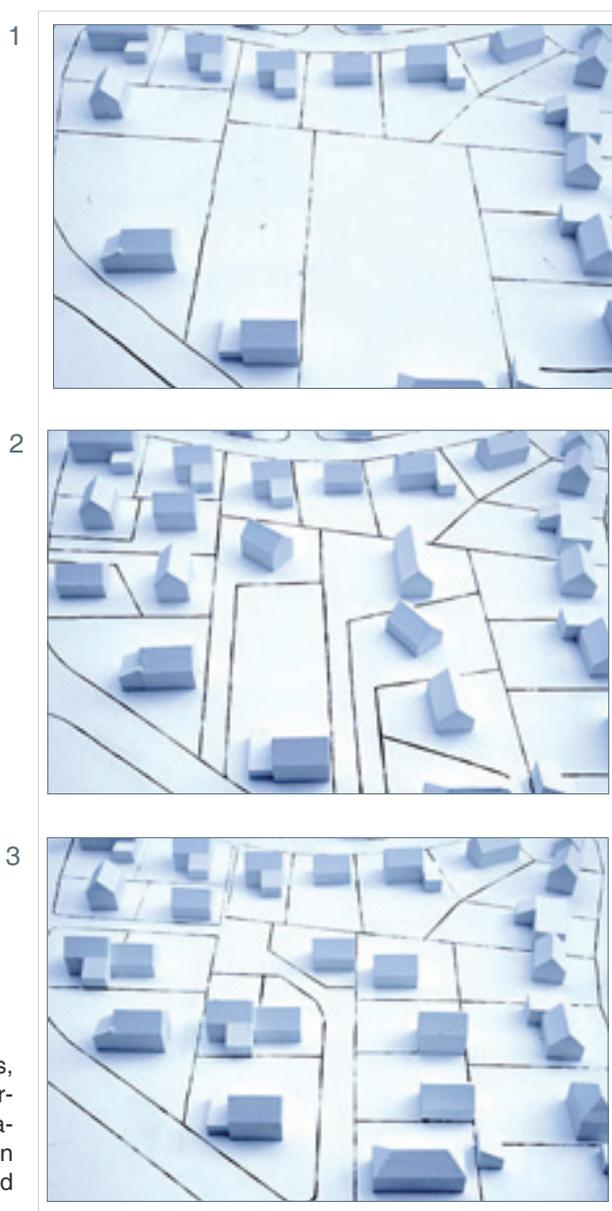


Figure 7: Illustration of possible evolutions, evolutions for the heart of not built neighbourhood (1). By juxtaposition of individual operations (2) or in a global operation realized within the framework of an AFU (3). Model produced by the CAUE27



Figure 8: Stitching parcels in the Boro-way, Multiple layers of extensively repaired and patched fabrics held together by thousands of stitches transformed into something precious and valuable

The divisions of plots only justified by the financial challenges of the owners showed up its limits many times : multiplication of the access on the streets, destruction of the environment and the biotopes within the area, parcels cut out in thin straps. Cut plots do not have anything uncommon with urban project that carries an identity and a certain quality of usage.

### **3.6 Towards a Boro-bimby: from promoting the benefits of everyone towards coordinating construction of urban planning for a neighbourhood**

The experiments in the department of Eure showed up an interest to stitch the original parcels, more than to divide them into pieces.

The Japanese farmers used to repair their kimono by adding a piece of another kimono. This traditional technique shows a local culture that treats its resources with respect and honours objects of daily life. "Boro" is the given name for "material of life".

Densification of detached housing areas gives the opportunity to stitch parcels in the Boro-way. The role of the urban planner is essential in this process. That is why the CAUE27 proposes in particular to change the function of the French Association Foncière Urbaine (AFU), an association joining together of the property owners in order to reorganize the plots and to finance the equipments, so that it becomes more efficient in this goal. (The AFU has fallen out of use for the last 20 years in France.)

## **4 The Boro-Bimby experiments: principles of negotiated densification**

The following part deals with a combination of different interests (chapter 4.1) and defines three research questions to succeed in the “Boro-Bimby” approach (chapter 4.2).

### **4.1 Passing from the hazardous connection of two interests (private and general) to a combination of three interests (private, general and collective)**

The CAUE27 is convinced that the links between individual and general interests are not the result of fortune. They can be favoured through cooperation and through searching a collective interest of the inhabitants of the area. With the image of the Japanese Boro, the CAUE27 has tried to reveal the collective interest of the inhabitants to recycle their quarter.

The experimentations had the objectives :

- to define a collective regeneration project of the detached houses areas based on something else than parcel cut ;
- to secure the control of the urban, social and architectural work adapted to this process

The specific “Boro” approach of the CAUE27 is to construct and connect three types of interests: the general interest of the communal authority, the collective interest of the inhabitants of the area and the individual interests of the owners.

### **4.2 Focusing the research on three questions**

To advance on the way towards a negotiated densification with local actors (politicians and inhabitants), who are not experts of urban planning, the CAUE27 asked three questions to the urban planners.

- Which common culture for common action ? Or : what is negotiated ?
- Which base of references for the common action ? Or : What to negotiate?
- Which technical and political governance ? Or : How to negotiate?

These three questions aim to define new professional practices which are adapted to the prefiguration, the implementation and the management of the initiated negotiations with a collective of inhabitants and a local collective.

To be possible, this negotiation with the capacity to act for everyone must be transparent. To be accepted, it has to be based on a shared project. Finally it must be accompanied and supported to be operational. These three conditions are not present in this type of urban space. Meet these favorable conditions forces to develop a special attention.

## 5 The four experimental sites

In the following, the four municipalities which were chosen as experimental sites will be presented (chapter 5.1 - 5.4).

### 5.1 St-Aquilin-de-Pacy

St-Aquilin-de-Pacy is a municipality with less than 1,000 inhabitants. The municipality gave up the urbanization of an agricultural field and searched the best way to satisfy the expectations of inter-municipal level about new building areas.



Figure 9: The experimental site of St-Aquilin-de-Pacy

### 5.2 Les Andelys

Les Andelys is a municipality with 10,000 inhabitants. The municipality looked for a possibility to connect a council house area with its centre. The single family house area is situated between them.



Figure 10: The experimental site of Les Andelys

### 5.3 Pont-Audemer

Pont-Audemer is a municipality with less than 10,000 inhabitants. The municipality has delivered construction permits to build some houses in a quarter very near to its centre. It is wondering the consequences such evolutions might have.



Figure 11: The experimental site of Pont-Audemer

### 5.4 Heudebouville

Heudebouville is a municipality with less than 1,000 inhabitants. The municipality raises the densification question related to the extension of an old farmhouse. In this context the municipality has accepted to think about densification of its single family house areas.



Figure 12: The experimental site of Heudebouville





<h1 style="margin: 0;">SOMMAIRE</h1> <p style="margin: 20px 0 0 0;">Introduction page 6</p>		<p><b>EDWARD AUX MAINS D'ARGENT</b> Réalisateur <b>Tim Burton</b></p> <p style="text-align: right;">p 8</p>		<p><b>JE VAIS BIEN, NE T'EN FAIS PAS</b> Réalisateur <b>Philippe Lioret</b></p> <p style="text-align: right;">p 10</p>
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Figure 15: Illustration of the compendium of works featuring housing estates

## Advice of CAUE27

To elaborate a common culture is probably an educative step that has to be constructed on time to adapt the cultural contributions on the local stakes. The implementation of such a dynamic is difficult if it is not supported by local stakeholders. The CAUEs network may act as referents for this type of action and facilitate its implementation.

### 6.2 Which common base for the negotiation?

The negotiations about the transformation of the area have to find a shared base. This base is necessarily to create orientations shared by the local collectivity and the inhabitants of the neighborhood. What goods, what products, what services can be exchanged or negotiated ? Negotiation about urban rules is not part of French tradition, but it is possible to establish a market place for services and goods for architecture (e.g. thermal insulation, houses extension) and urban planning (e.g. building land).

Collective interest permits to mobilize many initiatives. A cooperative unifies the initiatives and enables the exchange of goods and services. This is the “market place” that enables the engagement of every stakeholder.



Figure 16: Residents taking part in a workshop, they are discussing the future development of their neighbourhood

Three objectives of actions can be defined:

A first axis common to much of town planners is the interest for landscape preservation and hence the usage that is induced: watercourse, gentle circulation, excursions, services, et cetera. This attachment leads common, inhabitants and owners to defined together the acceptable conditions for the densification of their neighborhood.

A second more innovative base lays in the Co-operative Company of Collective Interest (French: SCIC). It is a non profit community in which craftsmen, owners and future inhabitants can exchange goods and services. For instance, to re-arrange public spaces, improve the energy consumption of a detached house or finance its own works through the selling of the part of the plot become possible.

A third axis: The social fact clarified for all, by the revelation of the diversity of the ways of living ; to live in a district. Then the question of the global manners to act on the space one and the social one of the district is asked.

### Advice of CAUE27

As one could expect, the base of the united actions is not based on the conjunction of private interests (to develop its good) with the general interest of sustainable development. The action plans can conduct to an internal dynamic of inhabitants, proposed by local authorities and accompanied by adapted measures. In this case, the form of organization and the way of project management are important. Negotiations require a complete approach:

- Proceed the definition of final objectives of the common project by requesting the stakeholders
- Identify action scenarios and usable tools
- Appeal to the management of the projects and to the organization of the actors network (shared governance)

## 7 Conclusion

Which concrete action plans can be proposed to official stakeholders to act in favour of a negotiated urban planning in detached housing areas ?

The Schémas de Cohérence territoriale (as known as SCoT), a document of planning on a supra communal scale, gives an orientation for selected detached housing areas with regard to their geographic situation and service facilities for inhabitants.

Initiation of a sense of togetherness of the inhabitants and offering adaptable engineering (cultural, architectural, social, urban, financial, technical).

Implementation of a permanent hearing to catch up “small urban initiatives”. Enable the exchange and progressive construction of projects in an area.

Exchanging services, real estates,... in the spirit of recycling the Japanese “material of life”. Implementation of the administration of this Boro-bimby in a Co-operative Company of Collective Interest (SCIC), a market place for goods and services between stakeholders of the project, to construct the necessary urban patchwork.

Identification of legal requirements, of the real estate and fundraising tools that are adapted to the local situation (PLU, AFU, etc.,...) at the same time as usable tools for densification and adapted tools for the common elaboration of the shared densification in a housing area.

Contribution of a local authority (in a larger scale than the city/village) which supplies a part of the fundraising for the participative processes, the initial study and the support of collective projects of the inhabitants, particularly in the first moments of negotiation.

## Outlook

The presented contributions provide an overview of current research into detached housing as well as various developments and approaches in different European countries. The workshop can be seen as a kick-off event for further cooperation between the participating researchers in the field of mature housing estates.

A follow-up event took place in November 2013 at Saxion University of Applied Sciences in Deventer (the Netherlands), bringing together the researchers from the initial workshop and a number of new participants. During the event, researchers discussed ways of applying for a grant for a European research project (funded by e.g. INTERREG NWE, Horizon 2020 or similar programmes).

The next meeting in January 2014 at La Defense in Paris (France) dealt with developing a set of indicators enabling comparisons between the different countries. The following workshop, scheduled to take place at the University of Liège (Belgium) in April 2014, is currently under preparation.

Further participants, whether just interested in the topic or willing to cooperate in the project, are warmly welcome.

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# Single Family Housing Estates of the Post-War Era – a Comparison of Opportunities and Risks

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