



/ Ceramics, quality for life /

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# Residential construction works – a win-win situation

The environmental, social and  
employment market policy benefits  
of residential construction in Europe

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Tiles and Bricks Europe

1952–2012



## Housing – a fundamental right ensured by residential construction!

After physical needs such as food, housing – i.e. the existence of accommodation – is among the most important basic needs of human beings. The European Commission describes homelessness as one of the most extreme examples of poverty and social marginalisation. [European Commission (2010), The social situation in the European Union 2009. European Union, Brussels]

In its own initiative report “Towards a European agenda for social housing”, the Committee of the Regions points to the negative effects of poor housing conditions, particularly on health and quality of life and thus on society as a whole.

Housing is therefore a fundamental right that is guaranteed under Article 25 of the UN Declaration of Human Rights and is explicitly recognised by the European Union in Article 34 of the Charter of Fundamental Rights. However, in recent years housing in Europe has become increasingly expensive. There are several different reasons for this: the substantial migration to Europe’s cities and economic centres, the increased demand for real estate as investments and assets, and the reductions in subsidised and social housing construction.

In short, in many regions the existing supply is not enough to cover the increased demand!

At the same time, subsidised residential construction can help to achieve many different political goals of the EU and its member states. It creates jobs and growth and increases energy efficiency and the use of renewable energies. Intelligent residential construction supports successful social integration.

## Are housing costs becoming prohibitive?

1) Source: Savills Research: Spotlight: London’s Housing Supply Summer 2012; Austrian Institute of Economic Research (WIFO), Vienna: Workshop on the Effects of Insufficient Residential Construction Activity in the Austrian States, 9 March 2012; Agency for Housing (Amt für Wohnungswesen) Frankfurt am Main: Report on the Housing Market 2010

2) Source: Wieser, Robert: Stabilising and destabilising factors for the housing markets of the EU-14, Vienna University of Technology, 2011 (EU-14 = DE, Ö, P, I, BE, NL, F, SP, GR, DK, SWE, FIN, GB, IRL)

Affordable accommodation is a rare commodity. Particularly in the major cities of the European Union, housing is scarce and expensive. For example, in London – one of the largest metropolitan areas in Europe – a total of 36,000 new apartments are required as of 2012, but the city and private developers can supply only 20,000. In Vienna, a considerably smaller city, the need for new housing for the same period still amounts to almost 5,000 missing new apartments. In Frankfurt, 2,400 apartments need to be built each year until 2020 to cover the necessary requirements.<sup>1</sup> In 2011, for example, price increases for real estate in the cities were almost double the level of the inflation rate for the EU-27.

Rental growth and inflation rate in the EU in percentage

	Rental growth	Inflation rate
2011	4 %	2.4 %

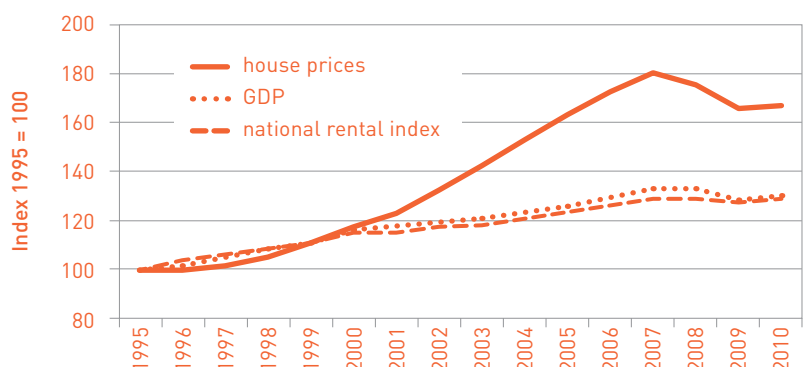
The ongoing effects of the global financial and economic crisis in 2008 and 2009 continue to contribute to making housing more expensive.

Firstly, municipalities and regions have fewer funds at their disposal for residential construction, and secondly, real estate in many cities in the EU is considered as a safe investment, leading to an automatic increase in prices.

The graph below shows the increase in house prices and rents within the EU-14 in the period from 1995 to 2010:

As shown in the graph<sup>2</sup>, since 1995 house prices have gone up by around 70% and rents by more than 30% in the Central and Western European EU member states.

Indices of average house prices, GDP and rents in the EU-14



**Strong growth of cities**

In addition to the strong demand for real estate as financial instruments, the metropolitan regions and major cities in Europe are constantly growing. More and more people are moving to cities. By 2030, as much as 60% of the world’s population will live in cities.

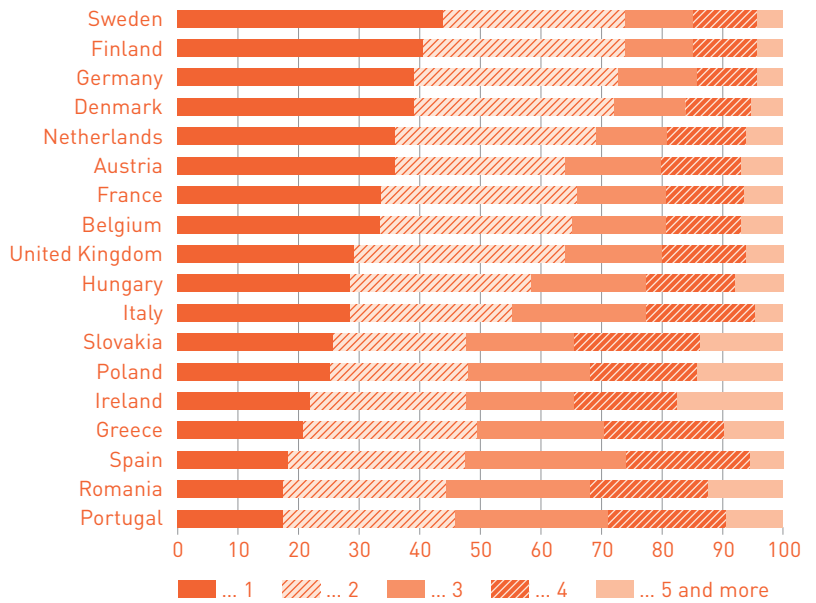
Most European cities are not able to provide enough accommodation to cover this rapid growth. Already, more than 17% of Europeans live in overcrowded housing conditions. In segments of the population at risk of poverty, this proportion is as high as 30%.

Overcrowding housing conditions in Europe <sup>3</sup>		
	Population at risk of poverty <sup>4</sup>	Total population
EU-27	30.0	17.7
Euro zone	23.0	11.4
Romania	64.8	55.3
Poland	64.9	49.1
Italy	35.9	23.3
France	27.7	9.6
UK	15.7	7.2

Percentages of the specific population that live in overcrowded housing conditions

This is exacerbated by the fact that, as a result of socio-demographic developments, traditional forms of housing are not able to cover the needs of future generations. The number of individuals and single parents is increasing, particularly in major urban areas. While the number of people per household is falling, the size of houses and apartments is steadily increasing. Greater prosperity is leading, among other things, to a desire for more living space. The proportion of one- and two-person households in the European Union is already very high. Speculative investment leading to apartment vacancies also contributes to reducing the supply. This combination of factors leads to a considerable rise in rents and purchase prices for housing in the major urban areas.

**Household sizes in percent (2008)<sup>5</sup>**



In 2009, over 12% of the population of the EU-27 were spending 40% or more of their household income on housing. In some EU countries, this even applies to considerably more people. For example, in Denmark and Greece this is the case for a good quarter of the population, and in the UK it applies to approximately 15%.

**Fundamental right to housing in danger**

This dangerous trend can be countered by municipalities and regions only by means of targeted subsidies for residential construction. In cities where public-sector residential construction by public authorities and not-for-profit developers accounts for a higher share than private-sector residential construction, increases in rents and property prices are much less pronounced. At the same time, subsidised residential construction can create a larger supply that helps lessen the consequences of the substantial migration.

<sup>3</sup>) Overcrowded housing is defined here as a ratio of more than two people per room together with one of the following features: leaking roof, no bath/shower, no toilet inside the house, not enough light

<sup>4</sup>) Population with less than 60% of the median income (Source: Eurostat 2009)

<sup>5</sup>) Source: Housing Statistics in the European Union 2010

**Europe needs to act now**

To ensure that the situation on the housing markets at least does not worsen, political measures by the European Union are urgently required.

- ❗ Official recognition of subsidised and social housing construction as a service of general economic interest
- ❗ Support and advice for national residential construction policy by the EU
- ❗ Stimulation of residential construction through expansion and integration of EU programmes
- ❗ Opening of the structural funds for all residential construction (renovation and new construction) on the condition of climate protection
- ❗ More funding for research in the field of residential construction

## Residential construction brings a variety of benefits

<sup>1)</sup> Source: Eurostat 2009; Communication from the Commission to the European Parliament and the Council: Strategy for the sustainable competitiveness of the construction sector and its enterprises

<sup>2)</sup> Source: FWC Sector Competitiveness Studies N° B1/ ENTR/06/054 – Sustainable Competitiveness of the Construction Sector; source: 73rd Euroconstruct Conference – London, June 2012

Planning and construction of housing in its wide variety of forms has long been a driver of innovation and a guarantee of safe, skilled jobs. Throughout Europe, close to 20 million people work in around three million companies in the construction industry, generating approximately 10% of GDP. Around four million people are employed in the residential construction sector. Furthermore, the construction industry is one of the largest processors of semi-finished products and raw materials. This means that it is very significant economically, with an enormous influence on the entire economic output of the EU.<sup>1</sup>

Between 2000 and 2007, the number of employees in Europe's construction industry grew by between 3% and 4%. However, the international financial and economic crisis, which was partly triggered by a real estate bubble has led to a significant downturn. The 2007 levels are unlikely to be reached again in the next few years.<sup>2</sup>

Due to the increased standards required of residential property construction, extremely highly-skilled jobs are created along the entire value chain. Training of specialist employees with regard to new building materials and systems and sustainable and economic construction means that the proportion of unskilled workers is steadily decreasing.

Furthermore, statistics from Eurostat show that residential construction generates revenues of more than €150,000 per employee per year on average in the EU-27 (as of 2009).

### Residential construction is innovative

The efficiency, quality, sustainability and not least the lifespan of a property has become the subject of sharper focus in recent years. This has given rise to new jobs, particularly in the very important field of research and development.

As a result, innovations are constantly being developed in construction:

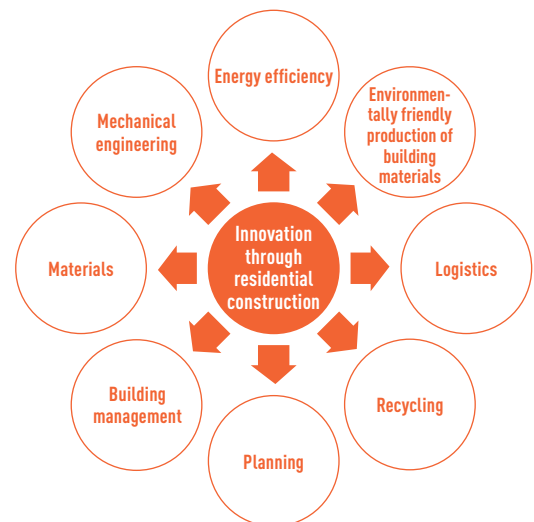


photo: Markus Esser

New products, methods and services are developed throughout the whole area of residential construction, with extensive synergies with other industries.

Successful progress and innovation can also be seen in the area of energy efficiency and energy policy change that is so important for the EU's climate targets:



photo: Philippe van Gelooven

- Low-energy and nearly zero-energy building techniques are now used not just for residential construction but also for commercial properties.
- Thermally active building systems can decrease heating and cooling costs.
- Modern building systems and building management tools can decrease energy and operation costs and also increase comfort for the residents.
- Solar heating, photovoltaics, geothermal energy and combined heat and power generation turn residential houses into decentralised energy producers that – if optimally located and comprehensively equipped – feed more energy into the grid than they consume.

These innovations can be applied far beyond the scope of residential construction and create high-quality jobs, not just in related sectors.

#### Residential construction promotes integration

New social issues can be dealt with by means of intelligent residential construction.

Newly constructed districts within close proximity of the centre served by a broader range of modes of transport is one answer to the growing congestion in major urban areas. This creates modern, intelligent districts: “smart cities” that set a new standard for urban housing.

Multi-generational houses help meet the challenges of an ageing population. Access to adequate accommodation and improved housing conditions improves citizens’ quality of life, health and thus also their satisfaction. Residential construction is also an integral part of the infrastructure tasks of municipalities and regions.

Policies that pursue the goal of social integration cannot do without subsidised residential construction as a necessary element.

#### Residential construction supports rural development

An important role is played by the construction of detached houses and high-density housing (e.g. terraced houses) in rural areas. Here, social building activity is largely carried out by the owners themselves or with the help of neighbours. Residential construction and contemporary forms of housing development help counteract migration to the cities.

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Brick buildings provide a high quality of living because brick is a natural, mineral-based building material that does not emit any toxic substances. Furthermore, brick-built structures can regulate interior humidity, while their thermal mass reduces the risk of overheating in summer.

## Residential construction is sustainable

The EU has set itself ambitious targets for climate protection. These can be achieved only through a joint effort by all sectors, consumers and industry.

To this end, the EU develops new directives and requirements in all policy areas, such as the EU 2020 targets that define the EU climate and energy policy up to 2020:

- 20% reduction in greenhouse gas emissions
- 20% increase in the share of renewable energies
- 20% increase in energy efficiency

By 2050, the European Commission would even like to achieve a reduction in greenhouse gas emissions of 80% to 95% as compared to 1990.<sup>1</sup> For instance, according to the EU Commission the construction industry plays an important role in achieving the long-term targets for greenhouse gas reduction.<sup>2</sup>

The construction industry and the residential construction sector are affected by these EU targets in many different ways: in the production of building materials, the use of renewable energy sources, and energy-efficient design and equipment used in the buildings themselves. In these ways, energy-efficient residential construction can make a major contribution on the part of industry and consumers to achieving the EU climate and energy targets.

These environmental policy goals of the EU can be achieved only through a joint effort by the public and the private sector. Private residential construction alone is not able to achieve this if the state does not provide the necessary guiding effect. Though subsidised residential construction, the state can also act in a guiding role to enable residential construction to contribute to achieving the targets set out in the EU 2020 and 2050 strategy documents

### Residential construction supports energy policy change

Through the use of solar heating, photovoltaics, geothermal energy and combined heat and power generation, residential and commercial buildings can become decentralised energy producers.

Renewable energies are now standard in residential construction.

Modern planning and logistics processes save already considerable energy and building material resources in the construction phase already.

### Building renovation as a contribution to climate protection

Renovation of existing residential properties also makes a significant contribution to climate protection.

Thermal renovation reduces considerably the energy requirements and thus the CO<sub>2</sub> emissions of existing residential buildings. Besides this, thermal renovation can also provide a significant economic boost, particularly for small and medium-sized companies.

Using improved building materials when renovating residential and commercial buildings can generate major savings.

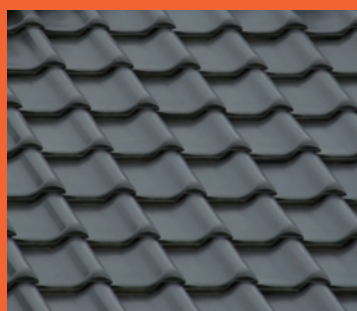
In specific economically viable cases, the demolition and replacement of residential buildings that are no longer suitable for their purpose may represent an economically and environmentally sensible alternative to renovation. The existing infrastructure can be better utilised in this case and does not need to be manufactured anew. Therefore the thermal renovation and the conversion of a building should be treated equally as demolition and rebuilding. Structural funds for energy efficient renovation should be open for energy efficient new construction in the case of rebuilding.<sup>3</sup>

<sup>1</sup>) Source: Low carbon economy roadmap 2050

<sup>2</sup>) Source: Communication from the Commission to the European Parliament and the Council: Strategy for the sustainable competitiveness of the construction sector and its enterprises

<sup>3</sup>) Source: Hafner, Dietmar (ed.): Residential construction in Germany – 2011. Modernisation or replacement of existing housing stock. Arbeitsgemeinschaft für zeitgemäßes Bauen e.V. (Working Group for Modern Construction), Kiel (2011)

## Construction and renovation with ceramic building materials



The specialisation of brick and tile products creates perfect solutions for all building components and applications: e.g. roof tiles, facing bricks, pavers, high insulating clay blocks, acoustic blocks, seismic clay blocks and brick ceilings.

- Ceramic products boast several functional, aesthetic and economic advantages.

## Subsidised residential construction benefits citizens

Subsidising residential construction directly benefits citizens. The free market alone cannot meet the requirements for affordable housing. Therefore, state subsidies for residential construction are not subject to the strict EU competition laws and subsidy criteria and have been exempted from the notification duty, although residential construction is not yet recognised as a service of general economic interest. However, the public sector has the opportunity to exert additional guiding influence with the tool of residential construction subsidies.

Intelligently subsidised residential construction has a socially integrative effect: such projects can lead to successful integration of very different population groups and social strata in urban areas, preventing both the creation of ghettos and a disproportionate increase in prices in certain districts.

The subsequent costs resulting from such situations are generally much more expensive for the state.

### Steering instrument for municipalities

Subsidised and social residential construction enables municipalities to construct carbon-neutral properties throughout the area and to revitalise existing ones through renovation.



photo: Hubaer Kuster

The increased use of and demand for technologies that enhance energy efficiency and contribute to environmental protection also makes these cheaper and more attractive for the private market. Demand for pioneering technologies is stimulated further – with a positive effect on growth and employment.

Particularly with regard to climate protection and energy policy change, municipalities and cities can apply subsidised residential construction for steering purposes and formulate award criteria.

The economic effects of subsidised residential construction pay off for municipalities. For instance, the construction industry generates approximately €150,000 per employee per year on average in Europe.<sup>1</sup>

As such, the return in taxes and to the social systems more than covers the expenses for the public sector.

Residential construction therefore assists with the long-term economic recovery.

<sup>1</sup>) Source: Eurostat 2009

- Resource-efficient ceramic building materials can be manufactured safely, easily, quickly and cheaply and have an excellent environmental assessment, particularly due to their durability.
- Ceramic building materials are regional products: brickworks mostly process local raw materials such as clay and sand. Due to the fact that the quarries and the production sites are generally close to each other, the transportation routes are short.
- Ceramic products are sustainable over their entire lifecycle: from production, over their useful life and through to recycling. Many ceramic building products (e.g. clay roof tiles) can be reused after a building is demolished.
- The overall energy efficiency of buildings is optimised over their entire lifecycle in the context of holistic house concepts.
- With intelligent roofing solutions consisting of long-lasting clay roof tiles and the latest insulating materials, buildings can be renovated to be energy efficient. The same effect can be achieved with insulating materials and facing bricks.
- The ecological compatibility of bricks and roof tiles has been proven over centuries of experience and use.
- In addition, building with bricks and tiles offers an excellent basis for a healthy indoor air quality.



photo: Enrico Cano

## Residential construction in Europe needs political support

In Europe, residential construction rightly comes under the scope of subsidiarity. Municipal and regional decision-making levels are much better able to assess, estimate and thus meet the local conditions and requirements.

However, European policies have an influence on residential construction. Meaningful energy efficiency requirements influence the costs for residential construction in the whole of Europe.<sup>1</sup>

Targeted stimulation programmes for residential construction can make a significant contribution to achieving major political objectives of the EU:

- Economic stability
- Growth and employment
- Climate protection
- Social integration

This does not require any changes to European policies, but simply adjustments and coordination. The key requirements are as follows:

- Official recognition of subsidised and social housing construction as a service of general economic interest
- EU support and advice for national residential construction policy
- Stimulation of residential construction through expansion and integration of EU programmes
- Opening of the structural funds for all residential construction (renovation and new construction) on the condition of climate protection
- More funding for research in the field of residential construction

<sup>1</sup>) Source: EPBD Directive 2010/313/EU

## Housing in Europe in figures and percentages

70%

increase of house prices since 1995

Housing is becoming increasingly expensive: Since 1995, house prices have gone up by around 70% and rents by more than 30%.



houses expenses are spiralling

Housing expenses per household are spiralling: More than 12% spend almost half of their disposable income on housing alone.



overcrowded housing

In European cities, over 17% of the population live in overcrowded housing conditions and in segments of the population at risk of poverty this applies to more than 30% – in Poland, the proportion is almost 65%.



socio-demographic change

As a result of socio-demographic developments, traditional housing is in increasingly short supply: The proportion of one- and two-person households is more than 50% on average.

20 million people

impact of construction sector

The economic significance of the construction sector is enormous: 20 million people work in over three million companies in the construction industry, including some four million employees in residential construction. Residential construction generates revenues of €150,000 per employee per year in the whole of the EU.